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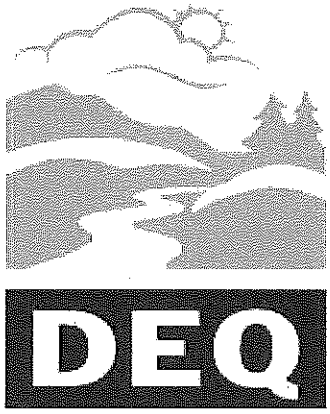
OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS 08/22/1997



State of Oregon
Department of Environmental Quality

A G E N D A

ENVIRONMENTAL QUALITY COMMISSION MEETING

August 22, 1997
DEQ Conference Room 3A
811 S. W. Sixth Avenue
Portland, Oregon

Notes:

Because of the uncertain length of time needed for each agenda item, the Commission may deal with any item at any time in the meeting. If a specific time is indicated for an agenda item, an effort will be made to consider that item as close to that time as possible. However, scheduled times may be modified if otherwise agreeable with participants. Anyone wishing to listen to the discussion on any item should arrive at the beginning of the meeting to avoid missing the item of interest.

Public Forum: The Commission will break the meeting at approximately **11:30 a.m.** for the Public Forum if there are people signed up to speak. The Public Forum is an opportunity for citizens to speak to the Commission on environmental issues and concerns not a part of the agenda for this meeting. The public comment period has already closed for the Rule Adoption items and, in accordance with ORS 183.335(13), no comments can be presented to the Commission on those agenda items. Individual presentations will be limited to 5 minutes. The Commission may discontinue this forum after a reasonable time if an exceptionally large number of speakers wish to appear.

The Meeting Will Begin at 9:00 a.m.

A. **Approval of Minutes**

B. **Approval of Tax Credits**

C. †**Rule Adoption**: Adoption of the Air Contaminant Discharge Permit Fee Increase

D. †**Rule Adoption**: Adoption of the Revision of Requirements for Construction or Reconstruction of Major Stationary Hazardous Air Pollutant Sources

E. †**Rule Adoption**: Adoption of the Wastewater Hardship Grant Program

F. **Action Item**: Issuance of Pollution Control Bonds

G. **Action Item**: Reconsideration of Petition by JELD-WEN, INC for Declaratory Ruling Concerning Availability of Sewer as Defined in OAR 340-71-160(5)(f)

H. **Action Item**: Contested Case Hearing in the Matter of RMAC International Inc., Don C. Weege and John R. Spencer, Case No. SWWT-NWR-95-060

I. **Action Item**: Request for Increase Mass Load Limits in City of Brookings NPDES Permit

J. **Informational Item**: Total Dissolved Gas (TDG) Update

K. **Work Session**: Umatilla Chemical Depot Permit Modification

L. **Commissioners' Report**

M. **Director's Report**

†Hearings have already been held on the Rule Adoption items and the public comment period has closed. In accordance with ORS 183.335(13), no comments can be presented by any party to either the Commission or the Department on these items at any time during this meeting.

The Commission will have lunch at 12:00 noon. No Commission business will be discussed.

The Commission has set aside October 2-3, 1997, for their next meeting. This meeting will be held in LaGrande, Oregon.

Copies of staff reports for individual agenda items are available by contacting the Director's Office of the Department of Environmental Quality, 811 S. W. Sixth Avenue, Portland, Oregon 97204, telephone 229-5395, or toll-free 1-800-452-4011. Please specify the agenda item letter when requesting.

If special physical, language or other accommodations are needed for this meeting, please advise the Director's Office, (503)229-5395 (voice)/(503)229-6993 (TTY) as soon as possible but at least 48 hours in advance of the meeting.

August 6, 1997

Approved_____
Approved with Corrections ✔

Minutes are not final until approved by the EQC

Environmental Quality Commission
Minutes of the Two Hundred and Sixty-First Meeting

July 17, 1997
Regular Meeting

The Environmental Quality Commission meeting was convened at 9:25 a.m. on Thursday, July 17, 1997, at the Department of Environmental Quality, 811 SW Sixth Ave., Portland, Oregon. The following members were present:

Carol Whipple, Vice-Chair
Linda McMahan, Member
Tony Van Vliet, Member

Also present were Larry Knudsen, Assistant Attorney General, Oregon Department of Justice; Langdon Marsh, DEQ Director; and other staff.

Note: Staff reports presented at this meeting, which contain the Department's recommendations, are on file in the Office of the Director, 811 SW Sixth Avenue, Portland, Oregon 97204. Written material submitted at this meeting is made a part of the record and is on file at the above address. These written materials are incorporated in the minutes of the meeting by reference.

Vice-Chair Carol Whipple called the meeting to order.

A. Approval of Minutes

The minutes of the June 5, 1997 regular meeting were reviewed. Commissioner Van Vliet moved that the minutes be approved as written. Commissioner McMahan seconded the motion. The motion was carried by three "yes" votes.

B. Rule Adoption Amending Oregon Hazardous Waste Administrative Rules for Generator and Treatment, Storage and Disposal Fees, Generator Certification Requirements, Late Fee Billing Procedures and Federal Rules

Mary Wahl, Waste, Management and Clean-up Administrator, and Anne Price, Manager, Hazardous Waste Policy and Program Development, presented the proposed rulemaking to the Commission. The rulemaking raised generator and treatment, storage and disposal facility compliance determination fees; deleted certain generator requirements to qualify for the fee limit; clarified late fee billing procedures; and adopted federal hazardous waste regulations, including modification of the federal munitions rule, through June 6, 1997. Specifically, the Department modified the munitions rule by limiting incineration of munitions at the Umatilla Chemical Depot to only those inventoried as of February 12, 1997. There was no public comment on the rulemaking at the meeting. Commissioner McMahan moved to approve the proposed amendments. Commissioner Van Vliet seconded the motion and it was carried with three "yes" votes.

C. Rule Adoption for Solid Waste Rules Composting Operations

Mary Wahl introduced the draft solid waste rules relating to composting operations. She summarized the work done by the compost work group and DEQ staff in developing the draft rules, incorporating public comment and conducting hearings and information meetings. She introduced Lauren Ettlin, lead staff on the project. The Commissioners were given a one-page memo regarding revisions to the staff report. These changes would be included in the rules submitted to the Secretary of State, if approved by the Commissioners.

An EQC work session regarding these rules was held on April 18, 1997. Speakers at the work session included Dave Johnson, president of the Oregon Broiler Growers Association; Glenn Zimmerman, Chairman of the Compost Council of Oregon; and Chuck Craig, Administrator at the Oregon Department of Agriculture. The Commissioners indicated they wanted to know what had happened since the work session and how things had been worked out regarding composting of dead chickens.

Commissioner Van Vliet had directed staff at the work session to look once again at "grandfathering in" of existing composters. Composters had requested "grandfathering in" so they could avoid scrutiny for land use by their local governments. Commissioner Van Vliet wanted to know if there were options DEQ could consider. Solid waste managers met to discuss this topic and decided "grandfathering in" was not appropriate. The reason given was it was not appropriate for DEQ to make decisions regarding land use - this was a decision appropriate for local government. Assistant Attorney General, Larry Edelman, and DEQ's local government coordinator indicated DEQ does not have authority to "grandfather in" so facilities can avoid land use scrutiny. Although DEQ does not have authority to "grandfather in" existing facilities, they did have authority to do other things that would assist composters with the land use process. These items are listed in the EQC staff report on page 4.

Regarding the composting of dead chickens, DEQ met with interested farmers, the Oregon Department of Agriculture (ODA) and OSU Extension Service staff to discuss this issue. Eventually a plan was developed which allows for an exemption from DEQ's solid waste rules for composting of dead chickens at agricultural composting operations when a composting management plan is in place. The plan must meet criteria for environmental and human health protections, be approved by ODA and implemented by the composter in order for the exemption to apply. A memorandum of agreement between DEQ and ODA, describing who is responsible for which tasks, is being written and should be completed in the next few months.

Commissioner Van Vliet made a motion to adopt the rules and the memo relating to the rule revisions. Commissioner McMahan seconded the motion and it was carried with three "yes" votes.

D. Rule Adoption Amending Solid Waste Rules for Local Government Municipal Landfill Financial Assurance and Delayed Effective Date of Requirements for Certain Very Small Landfills

Bill Bree, Manager of the Solid Waste Policy and Program Division; Barrett MacDougall, Office of Finance; and Jacquie Moon, Solid Waste Division, presented this agenda item. The rule amendments were incorporating the Environmental Protection Agency (EPA) regulations relating to financial assurance into Oregon rules. Staff noted that the rule amendment met, but did not exceed, EPA's regulations. Commissioner Whipple asked why it was environmentally necessary to apply new cost discounting requirements to municipal solid waste (MSW) landfills, but not to non-municipal solid waste landfills. Staff noted EPA's regulations covered MSW landfills, but did not cover non-municipal solid waste landfills. Commissioner McMahan made a motion to adopt the rules. Commissioner Van Vliet seconded the motion and it was carried by three "yes" votes.

E. Petition by Jeld-Wen, Inc. for Declaratory Ruling Concerning Availability of Sewer as Defined in OAR 340-71-160(5)(f)

Dick Nichols, Water Quality Manager from the Bend office, presented the issue on behalf of the Department, with assistance from Larry Knudsen of the Department of Justice(DOJ). The Petitioner was represented by Jay Waldron, an attorney with Schwabe, Williamson and Wyatt. Betty Dickson spoke as *City* Counselor to the City of Klamath Falls.

The Commission was being asked whether they would accept the petition, and if so whether they would want to conduct the Hearing or designate a Hearings Officer. The Department recommended the Commission accept the petition and appoint a Hearings Officer.

JELD-WEN, INC (JWI), a wood products manufacturing complex near Klamath Falls, Oregon has a failing drainfield for their septic system. A sanitary sewer owned by the City of Klamath Falls is adjacent to JWI, and the City of Klamath Falls has indicated JWI may connect to the sewer if the JWI complex is annexed into the City of Klamath Falls. ORS 454.655(4) regarding permits for septic systems states that "no permit shall be issued if a community or area-wide sewerage system is available...." Petitioner asserts that the requirement for annexation means that a sewerage system is NOT available and asked for a declaratory ruling from the Commission on the meaning of "availability" as stated in the statute and in the rule.

The Commission was advised by Larry Knudsen of DOJ that if the Commission chooses not to accept the petition, any legal action pursued by the Petitioner will go to Circuit Court, and the Commission will have no involvement in resolution of the issue. If the Commission accepts the Petition, further litigation would be through the Court of Appeals, and the Commission would be involved in resolution of the issue.

After much discussion, a motion was made by Commissioner Van Vliet, seconded by Commissioner McMahan, to deny the petition. Prior to a vote being taken, the Director, Langdon Marsh, asked the Commission whether they might want to consider waiting until the August meeting to take action, since two Commissioners were not present. Commissioners Van Vliet and McMahan indicated they would be willing to set aside their motion and second for a vote at the next meeting, but Commissioner Van Vliet indicated that he would like each Commissioner to state for the record what their vote would have been. Larry Knudsen advised that it was allowable to do so.

Commissioner Van Vliet stated that he would have voted to deny the petition, Commissioner McMahan stated that she did not know how she would vote, and Commissioner Whipple stated that she would have voted to accept the petition. The motion was set aside for action at the August EQC meeting.

F. Total Dissolved Gas (TDG) Update

Margaret Filardo, Fish Passage Center; Mark Schneider, National Marine Fisheries Service; Kirk Beinengen, Oregon Department of Fish & Wildlife; and Gene Foster, Oregon Department of Environmental Quality presented the update.

Gene Foster reported that the Columbia River flows have moderated and total dissolved gas levels (TDG) and biological signs are within the EQC waiver for TDG. Margaret Filardo presented information showing spill, TDG levels, and incidence of gas bubble disease signs in fish for 1996 and to date for 1997. The graphs showed that high levels of gas bubble disease signs were high when there was high spill and high TDG and gas bubble disease signs were low when TDG was low. Commissioner Van Vliet expressed concern about high flows leading to large spill volumes due to exceedance of the hydraulic

capacity of the dams. Mark Schneider stated the fish agencies, U.S. Army Corps of Engineers (COE), and the water quality regulatory agencies (including DEQ) have been meeting with the COE discussing the COE's gas abatement plan and the potential structural modifications to reduce TDG during high flows and high spills. Commissioner Whipple asked about the biological monitoring and whether dead fish had been observed. Margaret Filardo stated that dead fish have been observed in the smolt monitoring but whether mortality was due to TDG, descaling or other factors could not be determined.

G. Healthy Streams Partnership Report

Russell Harding, Manager of the Watershed/Basin Division, presented an information report to the Commission in which he outlined the Healthy Streams Partnership. The report contained details of the Partnership agreement and principles, its relationship to Senate Bill 1010 agricultural water quality management plans, and the Legislative oversight committee that will oversee the Oregon Plan.

The Department's priorities for the next two years are: TMDLs will be completed for the Klamath, Grande Ronde, Umatilla and Columbia Slough; and Basinwide TMDLs will be developed for the Umpqua and Rogue basins and the Tillamook sub-basin.

Harding characterized the relationship between the Healthy Streams Partnership and the Coastal Salmon Restoration Plan as being separate, but overlapping in many areas. Clearly, the Partnership applies to eastern Oregon whereas the Coastal Salmon plan does not. He committed to keeping the Commission informed as this process develops.

Commissioner Whipple explained that there was still a great deal of opposition to the Partnership around the state, but pledged the Commission's support for the work the Department will be doing. Commissioner Van Vliet asked about the amount of time required to report to the Legislative Oversight Committee. Director Marsh responded that the Committee had not required much time to date.

H. Legislative and Budget Update

A summary of the bills the Department of Environmental Quality followed during the 1997 Legislative session was presented by Carolyn Young, Assistant to the Director. Helen Lottridge, Administrator of the Management Services Division, discussed the final budget approved by the 1997 Legislature.

The following item was added to the agenda:

Temporary Rule Adoption of a Permit Fee Schedule for the Water Quality Industrial Permitting Program

Martin Loring, Manager of the Community Assistance Section of the Water Quality Division, presented a proposal for a temporary rule to modify the fee schedule for Water Quality Industrial Permits found in OAR 340-45-075. Loring explained the emergency creating the need for a temporary rule.

The Water Quality Industrial Permit Schedule found in OAR 340-45-075 was adopted by the EQC in 1994. It increased permit fees for industrial sources by about 100%, but it does not reflect the fees actually charged. The reason for this is the 1995 Legislature rolled back the fee increase by about two-thirds, and established a new fee schedule in the Department's 1995-97 budget. Action by the 1997 Legislature increased the rolled back industrial permit fees by about 20% but did not establish a new fee

schedule in the Department's 1997-99 budget. This leaves permit fees lower than those found in OAR 340-45-075, but higher than the schedule in the 1995-97 budget. Since that budget ended June 30, 1997, and since there is no fee schedule in the 1997-99 budget, the fee schedule in OAR needs to be modified to accurately reflect the fees charged to the regulated community. Since time did not permit a permanent rulemaking, a temporary rule was developed for the Commission's consideration.

After discussion, Commissioner Van Vliet moved adoption of the statement of need and emergency justification for the temporary rule and approval of the temporary rule amending the Water Quality Industrial Permit fee schedule found in OAR 340-45-075. The motion was seconded by Commissioner McMahan and was passed by three "yes" votes.

I. Commissioner's Report

Commissioner McMahan reported. She is the Department representative to the Tualatin Valley Water Quality Advisory Committee for the Oregon Community Foundation that distributes funds to improve water quality in the Tualatin Basin. At their meeting this Spring they gave out grants of slightly more than $200,000. A number of the grants were for educational activities.

Carol Whipple serves as the EQC representative on the Governor's Watershed Enhancement Board. They had 272 applications for grants and funded close to $5.4 million on projects the year.

J. Director's Report

Recent incidents at the chemical weapons facility at Tooele, Utah, have raised questions and concerns about operating safety and adherence to proper procedures. In addition, concerns also have grown regarding emergency prepared for chemical leaks at Umatilla. To bring all these issues to the table for discussion, the Governor's office has organized a meeting for July 28 that will bring DEQ together with the Army, the Umatilla facility contractor Raytheon, Oregon Emergency Management officials and congressional representatives. This will provide DEQ with an excellent opportunity to reinforce the expected permit conditions set forth by the EQC.

The new, enhanced testing equipment installation is nearly complete at the Sherwood VIP station and will be up and running for voluntary testing at the new Sunset station between Beaverton and Hillsboro by early October. We have yet to build the additional stations, but expect to have all in place to start mandatory enhanced testing by February, 1998.

Two agency staff were recognized. Last week a letter was received from Department of Corrections Director, David Cook, thanking all involved DEQ staff, and Joni Hammond and Jim Van Domelen by name, for their assistance in dealing with wastewater treatment issues associated with the Snake River Correctional Institution in Ontario. This was a long and difficult process which highlighted DEQ staff skills at finding solutions.

There being no further business, the meeting was adjourned at 2:25 p.m.

Environmental Quality Commission

☐ Rule Adoption Item
X Action Item
☐ Information Item

Agenda Item B
August 22, 1997 Meeting

Title:
Approval of Tax Credit Applications

Summary: Staff recommends approval of the following tax credits:

1	**Pollution Prevention**		**$ 25,087**
0	**Reclaimed Plastics**		**$ 0**
28	**Pollution Control**		**$7,848,221**
9	Air Quality	$6,255,451	
2	Water	$ 119,691	
2	Solid Waste	$ 131,775	
15	Storage Tanks	$1,341,304	
29	**Tax Credits for Approval**		**$7,873,308**

2	**Discussion issues**
0	**Applications for pre-certification**
0	**Request for certificate transfer**
2	**Certificates for revocation**
0	**Requests for extension of time to file**

Approve issuance of tax credit certificates for the applications presented in Attachment A of the staff report.

Maggie Vandehey — Report Author
Division Administrator
Langdon Marsh — Director

August 11, 1997
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†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon

Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item B, August 22, 1997 EQC Meeting
Approval of Tax Credit Applications

Statement of the Need for Action

This staff report presents the staff analysis of pollution control facilities tax credit applications and the Department's recommendation for Commission action on these applications.

The following is a summary of the applications presented in this report:

Applications for Pollution Prevention Pilot Program: Air Quality

All equipment is used in the normal course of doing business. However, the owners would not have replaced their existing systems at this time or with this particular equipment had it not been required by the National Emission Standards for Hazardous Pollutants (NESHAP) and to avoid monitoring and record-keeping requirements.

TC No.	Applicant	Description of Facility	Certified Cost		Certificate Value
4736	Warn Industries, Inc.	Aqueous parts cleaning system - a replacement system using 1,1,1-trichloroethane, a halogenated solvent.	$25,087		$ 12,544
	1	**Total Prevention**	**$25,087**		**$ 12,544**

Applications for Pollution Control Facilities Tax Credit

TC No.	Applicant	Description of Facility	Certified Cost	% Allocable	Certificate Value
Pollution Control: Air					
4598	Coulson Investment Co.	Sole Purpose: Carter-Day baghouse 144-RJ-120 baghouse	$46,273	100%	$ 23,137
4627	The Boeing Co.	Principal Purpose: 1 packed bed/fiber mesh scrubber - removes chromic acid mist. Sole Purpose: 2 packed bed scrubbers using alkaline liquor - 1 removes cyanide gases and mist and the other removes acid and alkaline gases and mist	$716,413	100%	$ 358,207
4729	Roseburg Forest Products	Principal Purpose: Eight GeoEnery International Corporation wet electrostatic precipitators	$4,993,023	100%	$ 2,496,512
4744	Steven J. Rohner	Field Burning: John Deere 8300, 200hp tractor, Case IH 7500, 6 bottom plow	121,750	45	$27,394
4752	Greg's Auto Service	CFC: Principal Purpose -automobile air conditioner refrigerant recycling equipment	$3,090	100%	$ 1,545
4754	Columbia Steel Casting Co., Inc.	Sole Purpose - Wheelabrator fabric filter baghouse, model 6D-112-AC	$44,900	100%	$ 22,450
4767	Estergard Farms	Field Burning: 22' x 100' x 240' steel storage building to store grass seed straw	$185,734	100%	$ 92,867
4768	United Disposal Services, Inc.	CFC: Principal Purpose refrigerator, freezers and air conditioner refrigerant recovery unit	$957	100%	$ 479
4770	Oregon Metallurgical Corp.	Sole Purpose - model 4PC 144, serial no. 47-96-1526 fabric filter baghouse	$143,311	100%	$ 71,656
	9	**Sub-Total Air**	**$6,255,451**		**$ 3,094,244**
Pollution Control: Water					
4735	Jubitz Corporation	Sole Purpose: two oil-water separators, one 2,690 gallon oil-water separator system preceded by a 4,000 gal concrete vault holding tank, one 1,000 gallon oil-water separator, electrical controls, valves, pipe fittings, sump pump and catch basin	$37,678	100%	$ 18,839

TC No.	Applicant	Description of Facility	Certified Cost	% Allocable	Certificate Value
4766	Robert C. Vandehey Farm	Principal Purpose: Rainy season animal waste treatment system. 60' diameter/16' deep concrete above ground storage tank, concrete apron, transfer pump, sump pump, waste transfer piping, associated electrical controls & dry stack area	$82,013	100%	$ 41,007
	2	**Sub-Total Water**	**$119,691**		**$59,846**

Pollution Control: Solid Waste

4765	United Disposal Services, Inc.	Sole Purpose: Ten 20-yard drop boxes- serial numbers 9220 through 9229	$24,589	100%	$ 12,295
4809	D & O Garbage Service, Inc.	Sole Purpose: Two 1996 International Model 4700 trucks, serial #1HTSCAAN1TH244555 & #1HTSCAAN1TH244556 with modifications for on-route recycling.	$107,186	100%	$ 53,593
	2	**Sub-Total Solid Waste**	**$131,775**		**$ 65,888**

Pollution Control: Underground Storage Tanks

4700	W.J.Wren & W.H. Wren, Partners	Three doublewall fluid containment tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, monitoring wells, oil/water separators, sumps, automatic shutoff valves and Stage I and II vapor recovery equipment.	$96,647	77%	$ 37,209
4721	Mark B. Arnett	Two doublewall fluid containment tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, line leak detection, monitoring wells, sumps, Stage I vapor recovery	$116,937	93%	$ 54,376
4723	John A. Carson	Four doublewall fluid containment tanks, doublewall Fiberglass clad steel tanks, doublewall flexible plastic piping, tank gauge system, spill containment basins, monitoring wells, sumps and Stage II vapor recovery equipment	$185,291	96%	$ 88,940
4725	Sheldon Oil Company	3 fiberglass tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, turbine leak detectors, overfill alarm, automatic shutoff valves	$48,149	100%	$ 24,075

TC No.	Applicant	Description of Facility	Certified Cost	% Allocable	Certificate Value
4728	Norm Poole Oil, Inc.	2 plastic coated steel tanks (one has two compartments, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, sumps	$117,488	87%	$ 51,107
4733	Cain Petroleum Inc.	3 doublewall fiberglass jacketed steel tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, sumps, automatic shutoff valves, oil/water separators, Stage II vapor recovery equipment	$157,739	90%	$ 70,983
4746	Sunset Fuel Company	Doublewall flexible plastic piping, cathodic protection-steel tank, spill containment basins, tank gauge system, overfill alarm, leak detection, monitoring wells, oil/water separators, sumps, automatic shutoff valves, Stage I&II vapor recovery equipment.	$96,557	100%	$ 48,279
4755	Tee to Green II, Inc.	Three steel underground storage tanks with epoxy lining	$22,149	100%	$ 11,075
4763	Willamette Industries, Inc.	One doublewall aboveground dike tank	$47,858	100%	$ 23,929
4772	Hawk Oil Company	4 doublewall fiberglass tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, line/turbine leak detectors, monitoring wells, sumps, automatic shutoff valves, oil/water separators, Stage I&II vapor recovery	$124,716	83%	$ 51,757
4773	May-Slade Oil Co.	Doublewall flexible plastic piping, spill containment basins, automatic tank gauge system, sumps and secondary containment for four aboveground storage tanks	$42,943	100%	$ 21,472
4778	Cain Petroleum Inc.	Cathodic protection/epoxy lining-3 steel tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, turbine leak detection, monitoring wells, sumps, automatic shutoff valves, Stage I&II vapor recovery	$146,957	99%	$ 72,744
4779	Edward Jean Plume	One double walled plastic coated steel tank with three compartments, double wall flexible plastic piping, spill containment basin, monitoring system, overfill alarm, sumps and automatic shutoff.	$39,426	100%	$ 19,713
4780	Howard J. Winterbottom	2 fiberglass tanks (one has two compartments), doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, sumps, monitoring well, automatic shutoff valves	$67,289	93%	$ 31,289
4788	Donaldson's Chevron Service	Three steel underground storage tanks with epoxy lining and fiberglass piping.	$31,158	100%	$ 15,579

	15	Sub-Total Underground Storage Tanks	$1,341,304		$622,525
	28	Pollution Control Total	$7,848,221		$3,842,502
	29	**All Tax Credits 8/22/97 EQC**	**$7,873,308**		**$ 3,855,045**

- All dollar amounts rounded to nearest whole dollar.
- Certificate value - facility cost X percent allocable X 50%

Certificate Revocation

Application No. 4700 contains some components certified on April 16, 1991, under Certificate No. 2502. Considering ORS 468.155(2), the applicant is eligible for the remaining tax credit for the replaced components but is not entitled the remaining tax credit for components removed from service. Revocation of Certificate No. 2502 and issuance of a certification of the facility represented on Application No. 4700 should coincide. A copy of the certificate is presented in Attachment B of the Department Staff Report.

Application No. 4746 contains some components certified on June 14, 1991, under Certificate No. 2546. Considering ORS 468.155(2), the applicant is eligible for the remaining tax credit available for the replaced components. Revocation of Certificate No. 2546 should coincide with issuance of a certification of the facility represented on Application No. 4746. A copy of the original certificate is presented in Attachment B of the Department Staff Report.

Background and Discussion of Issues

Insignificant Contributions. Tax credit application numbers 4627 (The Boeing Company) and 4729 (Roseburg Forest Products Co.) represent a more stringent interpretation of ORS 468.155 than the Department has been using to determine eligible facility costs. ORS 468.155 (2)(d) excludes "... *Any distinct portion of a pollution control facility that makes an insignificant contribution to the principal or sole purpose of the facility...*" from the definition of a pollution control facility. The rule, OAR 340-16-025(3), parrots OAR 468.155.

"Would the pollution control benefit be compromised without this expenditure?" replaces the more liberal test question, "Was this expenditure necessary for the installation of the pollution control facility?"

Lighting fixtures, lights, lamps, sprinkler systems, stairs, catwalks, platforms, handrails, and any engineering and labor costs associated with the installation of these items are ineligible costs because they make an insignificant contribution to the control, reduction or elimination of pollution. The Department recognizes costs of this nature are incurred because they are part of the cost of building a sound, clean, safe and pleasing working environment. However, under the pollution control facility program, they do not directly contribute to pollution control benefit and are ineligible for the purpose of reducing the applicant's tax liability.

Applications Over $250,000. The Department has discontinued the practice of assigning all applications with a facility cost over $250,000 to accounting firms under contract with the Department. Applications over $250,000 presented in this Action Item were accompanied by a certified public accountant's certification of cost and those costs were reviewed by the Department.

OAR 340-16-030(d) states "...Certification of the actual cost of the claimed facility must be documented by a certified public accountant for facilities with a claimed facility cost over $20,000." The Department will rely on the applicant's CPA's certification of cost to meet the intent of the rule rather than incur the expense of the second CPA's review.

Conclusions

The recommendations for action on the attached applications are consistent with statutory provisions and administrative rules related to the pollution control, pollution prevention and reclaimed plastic product tax credit programs.

Recommendation for Commission Action

The Department recommends the Commission approve certification for the tax credit applications as presented in Attachment A of the Department Staff Report. The Department recommends the Commission specifically approve the more stringent interpretation of ORS 468.155 (2)(d) exemplified in tax credit application numbers 4627 and 4729.

The Department recommends the Commission revoke Certificate No. 2502 (Application No. 3394) issued on April 16, 1991 as presented in Attachment B of the Department Staff Report. A portion of the previously certified facility was replaced before certificate expiration, another portion is no longer in service. The revocation coincides with the approval of tax credit Application No. 4700.

The Department recommends the Commission revoke Certificate No. 2546 (Application No. 3429) issued on June 14,1991, as presented in Attachment B of the Department Staff Report. The previously certified facility was replaced before certificate expiration. The revocation coincides with the approval of tax credit Application No. 4746.

Intended Follow-up Actions

Notify applicants of Environmental Quality Commission actions.

Attachments

A. Pollution Control Tax Credit Application Review Reports
B. Certificates for Revocation

Reference Documents (available upon request)

1. ORS 468.150 through 468.190.
2. OAR 340-16-100 through 340-16-125.
3. OAR 340-16-005 through 340-16-050.
4. ORS 468.925 through 468.965.
5. OAR 340-17-010 through 340-17-055.

Approved:

Section: Manager Budget

Division:

Report Prepared By: Margaret Vandehey
Phone: (503) 229-6878
Date Prepared: August 11, 1997

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Attachment A

Pollution Control Tax Credit Application Review Reports

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. APPLICANT

1.1 Company Address — Coulson Investment Company
19740 SW 48th Street
Tualatin, Oregon 97062

1.2 Company Operations. The applicant owns and operates Bilet Products Company Inc., a dimensional lumber remanufacturing plant located at 1050 NE Oregon Street, Sherwood, Oregon.

2. DESCRIPTION OF AIR POLLUTION CONTROL FACILITY

2.1 Control Facility Description. The claimed facility includes a primary cyclone, a Carter-Day model 144-RJ-120 baghouse, a blower, and truck (sawdust) bin with associated ductwork. The cyclone/baghouse/relay methodology makes up one integral air pollution control system that is commonly used in the wood products industry to control emissions of particulate matter (sawdust and shavings) from saws, chippers, planers and other woodworking machines.

System Specifications. The cyclone is 28' 7-1/2" in height, including an airlock, and 9'6" in diameter. The truck bin is 41' 5-1/4" in height, for a total structural height of 70' 0-3/4". Based on information in Exhibit B to the Application, the #60 fan is understood to be rated at 15 horsepower, providing a maximum airflow rate of up to 46,000 ACFM. The Carter-Day 144-RJ-120 baghouse contains 3,825 square feet of fabric surface, resulting in a maximum air-to-fabric ratio of 12.0.

Control System Operations. Particulate matter (sawdust, wood shavings, etc.) are transported from the point of generation in the plant by a high-velocity air exhaust and largely removed from the exhaust by a cyclonic collector and deposited in the truck bin. The exhaust from the cyclone then passes through the Carter-Day baghouse where fine particulate matter is removed. The baghouse continuously cleans itself and the fine particulate matter is relayed back to the cyclone where some additional fine particulate matter falls through the airlock into the truck bin.

Particulate Control Results. Prior to the installation of the claimed equipment, as much as 10% of the sawdust generated from the woodworking machines was being released from the previous control system (smaller cyclone) to the atmosphere, with another 30% being left on the ground at the source. Because of the amount of fugitive sawdust, neighbors were complaining about the sawdust being blown into their yards, and employees were required to wear facemasks and goggles when working in the subject areas. This claimed facility allows for the recovery of substantially all of the material which was formerly emitted to the air. The amount recovered annually is estimated to be 90 cubic yards per year. The complaints from the neighbors have been eliminated as a result of the installation of the subject control equipment.

2.2 Claimed Facility Cost. The Applicant claimed the cost of the claimed facility as $99,950.

2.3 Useful Life of the Facility. 10 Years

3. REFERENCE INFORMATION

3.1 Tax Credit Application. Application for Final Certification of a Pollution Control Facility for Tax Relief Purposes Pursuant to ORS 468.155 et seq. (the Application) from Coulson Investment Company to ODEQ dated December 30, 1995 and received at ODEQ on March 6, 1996.

3.2 Correspondence between Mr. David Kauth and Mr. William Blakeslee. Mr. David Kauth, P.E. of ODEQ to Mr. William Blakeslee, President of Coulson Investment Company, dated June 12, 1996, requesting additional information relating to the Application.

3.3 Correspondence with Mr. Les Shields. Mr. Les Shields, Controller of Bilet Products Company, Inc. to David Kauth, P.E. of ODEQ, dated July 12, 1996, transmitting additional information regarding the Application.

4. PROCEDURAL REQUIREMENTS

4.1 Oregon Revised Statues (ORS). Tax credit issues for the claimed facility are governed by Oregon Revised Statutes (ORS) 468.150 through 468.190 "Pollution Control Facility Tax Credit" and Oregon Administrative Rules (OAR) Chapter 340, Division 16 "Pollution Control Tax Credits."

4.2 Oregon Administrative Rules (OAR). The claimed facility met the statutory deadline specified in OAR 340-16-020(1)(b). Construction and installation of the claimed facility was substantially completed on September 15, 1995. The Application was received by ODEQ on March 6, 1996. ODEQ requested additional information on April 17, 1996 and June 12, 1996. Additional information was dated July 12, 1996, and received by ODEQ on July 25, 1996. At that time the Application was considered complete.

5. APPLICATION EVALUATION

5.1 Facility Eligibility. The facility would be eligible for tax credit if: 1) the principal purpose of the facility is to comply with a requirement imposed by the Department of Environmental Quality (DEQ), the U.S. Environmental Protection Agency (U.S. EPA), or regional air pollution authority to prevent, control or reduce air, water, or noise; or 2) if the sole purpose of the facility is to prevent, control or reduce a substantial quantity of air, water or noise pollution or solid or hazardous waste or to recycle or provide for the appropriate disposal of used oil (OAR 340-16-025).

Sole Purpose. Based on the information provided in the Coulson Investment Company's Tax Credit Application only a portion of the entire control system would be eligible for tax credit. Because the subject cyclone processes a range of wood particle sizes, such as wood shavings, chips, and sawdust particles, the operation of the cyclone would be considered material handling, and therefore, the sole purpose of operating the cyclone is not to prevent, control or reduce substantial air emissions. As a result, the cyclone is not eligible for tax credit.

Similar to the cyclone, the truck bin and the #60 fan (15 horsepower) would be part of a system that would be considered material handling, and therefore, the sole purpose of the truck bin and the #60 fan is not to prevent, control or reduce substantial air emissions. As a result, the truck bin and the #60 fan is not eligible for tax credit.

With regard to the baghouse, because the sole purpose of the Carter-Day 144-RJ-120 baghouse is to remove the remaining fine particulate matter (i.e., particulate less than 75 microns) from the exhaust stream, the baghouse would be eligible for tax credit. Emission reduction of particulate matter by the facility accomplishes the elimination of air contaminants as defined in ORS 468A.005.

5.2 Eligible Cost Findings. Based on the information provided in the Coulson Investment Company's Tax Credit Application the cost of the claimed facility is $99,950. However, since the cyclone, truck bin, and #60 fan are not eligible for the tax credit, the facility cost has been adjusted to indicate the value of the eligible pieces of control equipment (i.e., Carter-Day baghouse). The applicant could not determine the cost of the baghouse because many of the installed costs for the system (baghouse, fan, cyclone, and truck bin) were received as combined costs that the applicant could not separate to determine the installed cost for the baghouse alone. Therefore, the adjusted cost is based on a ratio of the following purchased cost estimates for the four major equipment items obtained from the *Plant Design and Economics for Chemical Engineers, Third Edition*:

Equipment Item		Purchased Cost Estimate
Baghouse		$50,000
Cyclone		$8,000
Fan		$20,000
Truck Bin		$30,000
	Total	$108,000

Therefore; the estimated adjusted cost of the pollution control facility (i.e. Carter-Day baghouse) is the ratio of the estimated purchased cost ratio times the claimed facility cost, which is $50,000/$108,000 x $99,950 = $46,273. In order to determine the percent of the cost of the pollution control facility allocable to pollution control, the following factors were considered:

ORS 468.190(1)(a) "If applicable, the extent to which the facility is used to recover and convert waste products into a salable or usable commodity."

The claimed facility recovers wood waste (sawdust, chips, shavings, etc.) as a salable or usable commodity. The applicant will receive an annual revenue from the sale of the recovered wood waste in the amount of $583. Assuming a 90% control efficiency by the cyclone, the recovery attributable to the baghouse is estimated to be $58 per year.

ORS 468.190(1)(b) "The estimated annual return percent on the investment in the facility."

The Applicant states that savings have resulted from the claimed facility. These savings claimed from a reduction in cleanup labor ($13,650 per year) and reduced dumpster disposal charges ($2,000 per year) are included in the definition of "Gross Annual Income" at ORS 340-16-030(1)(e). However the reduction in cleanup labor and associated dumpster charges is attributable to the new cyclone and truck bin, not the baghouse. Therefore, the total of savings and revenue attributable to the baghouse is $58 per year.

ORS 468.190(1)(c) "If applicable, the alternative methods, equipment and costs for achieving the same pollution control objective."

Fabric filtration was the only method considered. Fabric filtration is technically recognized as an acceptable method of removing particulate matter from exhaust of woodworking operations.

ORS 468.190(1)(d) "Any related savings or increase in costs which occur or may occur as a result of the installation of the facility."

Savings for the entire system include reduced dumpster charges. Estimated savings plus revenue would be $58 per year. The applicant claimed that the total annual operating cost for the facility was $7,677. However, the applicant did not properly account for electrical costs by not multiplying the monthly electrical cost ($400) by twelve months. Therefore, the applicant claimed operating cost should have been $12,077 per year. Of these claimed operating costs, only the bag cleaning costs and a portion of the electrical and maintenance costs are attributable to the baghouse. Assuming one quarter of the electrical costs and one half of the maintenance costs are attributable to the baghouse, the annual operating cost for the baghouse is estimated to be $5,052 per year; resulting in net annual cost of $4,994 per year.

ORS 468.190(1)(e) "Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or appropriately disposing of used oil."

Based on information supplied by the Applicant and consideration of costs attributable to the baghouse, the following changes should be made to Section V of the Application in lines (1)d.1 through (1)d.5:

	Year	Gross Annual Income	Annual Operating Expense	Annual Cash Flow
1.	1996	$58	$5,052	$-4,994
2.	1997	$58	$5,052	$-4,994
3.	1998	$58	$5,052	$-4,994
4.	1999	$58	$5,052	$-4,994
5.	2000	$58	$5,052	$-4,994

Their is no Return on Investment (ROI) for this facility, therefore, the cost of the claimed facility properly allocable to pollution control is 100% of the adjusted cost of the pollution control facility (i.e. $46,273).

6. Summation

6.1 The claimed facility was constructed in compliance with the regulatory deadlines at ORS 468.165(6) and OAR 340-16-020(1)(b).

6.2 The baghouse portion of the claimed facility is eligible for final tax credit certification in that the sole purpose of the baghouse is to prevent, control or reduce a substantial quantity of air pollution.

6.3 The claimed facility complies with applicable Chapters of ORS and OAR, and minimizes emissions to the atmosphere of particulate matter.

6.4 The facility cost which is properly allocable to pollution control is $46,273 and 100% of the facility cost is allocable to pollution control.

ASPEN ENVIRONMENTAL GROUP
William Walters
Air Quality Engineer

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

1.1 The Boeing Company
Fabrication Division, Boeing of Portland
Post Office Box 3707
Seattle WA 98124-2207

1.2 The applicant owns and operates an aircraft metal parts manufacturing and finishing operation located at 19000 Sandy Blvd., Gresham, Oregon.

1.3 This Tax Credit Application was made for an air pollution control facility.

2. Description of Air Pollution Control Facility

2.1 The claimed facility consists of three scrubbers. The first scrubber is a packed bed/fiber mesh scrubber for the removal of chromic acid mist from metal finishing operations. The second scrubber is a packed bed scrubber using an alkaline scrubber liquor for the removal of cyanide gases and mist from metal finishing operations. The third scrubber is a packed bed scrubber using an alkaline scrubber liquor for the removal of acid and alkaline gases and mist from metal finishing operations.

2.2 The cost of the claimed facility is $1,269,494.

2.3 The Applicant stated that the useful life of the pollution control facility is ten years.

3. Documents Relied On

3.1 Application for Final Certification of a Pollution Control Facility for Tax Relief Purposes Pursuant to ORS 468.155 et seq. (the Application) from The Boeing Company to ODEQ dated June 11, 1996. The application includes a facility cost certification/review by Deloitte & Touche, L.L.P., Certified Public Accountants, dated February 28, 1996. Other documents include a copy of the Air Contaminant Discharge Permit 26-2204 issued by the ODEQ to The Boeing Company, dated October 26, 1993; and a copy of ODEQ's approval dated October 7, 1996, of The Boeing Company's Notice of Intent to Construct a plating shop and wastewater pretreatment system, received at ODEQ June 29, 1996.

4. Procedural Requirements

4.1 Tax credit issues for the claimed facility are governed by Oregon Revised Statutes (ORS) 468.150 through 468.190 "Pollution Control Facility Tax Credit" and Oregon Administrative Rules (OAR) Chapter 340, Division 16 "Pollution Control Tax Credits."

4.2 The claimed facility met the statutory deadline specified in OAR 340-16-020(1)(b). Construction and installation of the claimed facility was substantially completed on May 20, 1995. The Application was received by ODEQ on June 14, 1996. ODEQ, through its contractor Cascade Earth Sciences, Ltd. and subcontractor Clean Air Solutions, Inc., requested additional information on August 15, 1996 which was received by the subcontractor on November 12, 1996. At that time the Application was considered complete.

5. Evaluation of Application

5.1 In accordance with OAR 349-16-025(1)(a), the equipment of the claimed facility used for capture, air handling, and scrubbing of chromic acid mist exhausts is eligible because the principle purpose of this portion of the facility is to comply with U.S. EPA NESHAPS requirements for the control of hexavalent chrome emissions from chrome plating operations. In accordance with OAR 349-16-025(1)(b), the equipment of the claimed facility used for capture, air handling, and scrubbing of cyanide and acid/alkali exhausts is eligible because the sole purpose of this portion of the facility is to prevent, control or reduce a substantial quantity of air pollution, accomplished by the use of air cleaning devices as defined in ORS 468.275. Emission reduction of acid, alkaline and cyanide-bearing gases by the facility accomplishes the elimination of air contaminants as defined in ORS 468A.005.

5.2 The capture, air handling and scrubbing portion of the claimed facility controls gaseous and mist emissions from metal plating and finishing processes. It consists of the following three systems:

5.2.1 Chromic Acid Mist Removal System

This part of the claimed facility includes a Met-Pro Model F103-123 HM scrubber. The material of construction is Type I polyvinyl chloride. The scrubber itself has dimensions of 10 feet 3 inches x 6 feet 3 inches with a footprint of about 64 square feet. The packed bed uses Jaeger #1 polypropylene Tri-Pack. The coalescing and demisting pads are polypropylene fiber. The airflow rate is 31,005 actual cubic feet per minute at a pressure drop of 4.5" water column. A removal efficiency for hexavalent chromium-bearing mist of greater than 99.9 percent is guaranteed by the equipment vendor, Met-Pro Corp., Duall Division.

5.2.2 Cyanide System

This part of the claimed facility includes a Met-Pro Model F102-45 scrubber. The material of construction is Type II polyvinyl chloride. The scrubber itself has dimensions of 3 feet 9 inches x 3 feet 1 inch with a footprint of about 12

square feet. The packed bed uses Jaeger #1 polypropylene Tri-Pack. The scrubber uses an 8" chevron-type demister. The airflow rate is 6,866 ACFM at a pressure drop of 2" water column. Removal efficiency for cyanide-bearing gases is 98 percent is guaranteed by the equipment vendor, Met-Pro Corp., Duall Division.

5.2.3 Acid/Alkali System

This part of the claimed facility includes a Met-Pro F103-179 scrubber. The material of construction is Type II polyvinyl chloride. The scrubber itself has dimensions of 14 feet 11" x 6 feet 1 inch with a footprint of about 91 square feet. The packed bed uses Jaeger #1 polypropylene Tri-Pack. The scrubber uses an 8" chevron-type demister. The airflow rate is 49,999 ACFM at a pressure drop of 2" water column. Removal-efficiency for acid and alkaline gases is 98 percent is guaranteed by the equipment vendor, Met-Pro Corp., Duall Division.

5.3 Eligible Cost Findings

The claimed cost of the pollution control facility is $1,269,494. Several items listed in the cost summary do not significantly contribute to pollution control (ORS 468.155(d)). Additionally, other cost items are considered to be part of the facilities start-up costs, which are not eligible costs. The costs items, presented in Exhibit C of Boeing's tax credit application, that are not part of the pollution control facility are as follows:

Total Claimed Facility Cost	$1,269,494
Ineligible Line Item	Cost
Fire Protection	$42,218
Quality Plan, Testing and Inspection	$12,434
Air Balancing	$5,404
Lighting	$15,034
Labor Fringe Benefits (est. @20%)	$24,651
Building 85-105 Expansion	$453,340
Total	$553,081
Total Eligible Facility Cost	**$716,413**

The fire protection system and lighting do not significantly contribute to the sole purpose of the pollution control facility. The quality plan, testing and inspection and air balancing are considered part of the facility start-up costs and are therefore not allocable. While the indirect labor cost from shop employees is considered an allocable part of the construction cost; the fringe benefits, estimated at 20% of the total $123,256 claimed, are not allocable. The Building 85-105 expansion is not necessary for the pollution control system operation; therefore, it does not significantly contribute to the sole purpose of the pollution control facility. Therefore, the total adjusted pollution control facility cost is $1,269,494 - $553,081 = $716,413. In order to determine the percent of the adjusted cost estimate of this pollution control facility allocable to pollution control, the following factors were considered:

5.3.1 ORS 468.190(1)(a) "If applicable, the extent to which the facility is used to recover and convert waste products into a salable or usable commodity." The claimed facility does not recover or convert waste products into a salable or usable commodity.

5.3.2 ORS 468.190(1)(b) "The estimated annual return percent on the investment in the facility." The Applicant states that there is neither revenue nor savings from the facility, therefore there is no return on the investment in the claimed facility.

5.3.3 ORS 468.190(1)(c) "If applicable, the alternative methods, equipment and costs for achieving the same pollution control objective." Exhaust gas scrubbing was the only method considered for removal of cyanide-bearing gases and alkaline/acid gases. Dry scrubbing was the only method considered for removal of chromic acid mist. Exhaust gas scrubbing is technically recognized as an acceptable method of removing these pollutants from the exhaust of the metal plating and finishing operations.

5.3.4 ORS 468.190(1)(d) "Any related savings or increase in costs which occur or may occur as a result of the installation of the facility." The applicant has stated that there are no savings, but rather in increase in operating costs due to chemical and electrical utility usage.

5.3.5 ORS 468.190(1)(e) "Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or appropriately disposing of used oil." During this review, attention was given to any other possible benefits derived by the applicant by the installation of the claimed facility. Information supplied in ODEQ's approval of Boeing's Notice of Intent to Construct indicated that the claimed facility meets the requirements of best available control technology (BACT) for hazardous air pollutants and maximum achievable control technology (MACT) for hexavalent chromium for the chromium NESHAP. The professional opinion of the reviewer is that any other benefit to the applicant by the installation of the claimed facility such as reduced worker exposure to chemical compounds is strictly incidental and would have occurred regardless of the choice of air pollution capture and removal technology.

5.4 Because there are no recovery costs or cost savings due to the pollution control facility, the cost of the claimed facility properly allocable to pollution control is estimated to be 100% of the adjusted cost of the pollution control facility (i.e. $716,413).

6. Summation

6.1 The claimed facility was constructed in compliance with the regulatory deadlines at ORS 468.165(6) and OAR 340-16-020(1)(b).

6.2 The capture, air handling and scrubbing portion of the claimed facility is eligible for final tax credit certification in that the principal purpose of the Chromic Acid Mist Removal System and the sole purpose of the Cyanide System and Acid/Alkali System are to prevent control or reduce a substantial quantity of air pollution.

6.3 The claimed facility complies with applicable Chapters of ORS and OAR, and minimizes emissions to the atmosphere of particulate matter, mists and gaseous pollutants.

6.4 The eligible facility cost is $716,413 and 100% of that cost is allocable to pollution control.

7. Director's Recommendation

Based upon the findings in this report, the Director recommends a Pollution Control Facility Certificate bearing the cost of $716,413 with 100% of the cost allocated to pollution control, be issued to The Boeing Company for the facility claimed in Tax Credit Application No. 4627.

ASPEN ENVIRONMENTAL GROUP
William Walters
Air Quality Engineer
7/18/97

DEQ
Maggie Vandehey
7/18/97

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

W. J. Wren & W. H. Wren, Partners
P O Box 160
Redmond, OR 97756

The applicant owns and operates a retail gas station and minimart at 109 SW 6th St., Redmond, OR 97756, Facility No. 6814.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I and II vapor recovery equipment.

This application involves prior tax credit TC-3394 issued 4/26/91. Adjustments made pursuant to ORS 468.155 are summarized in Section 2 below.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are three doublewall fluid containment tanks, doublewall flexible plastic piping, tank gauge system, overfill alarm, spill containment basins, monitoring wells, sumps, oil/water separator, automatic shutoff valves and Stage I and II vapor recovery equipment.

Claimed facility cost $97,601
(Accountant's certification was provided)

The Department concludes that the eligible facility cost for the project is $96,647. This represents a net decrease of $954 from the applicant's claimed cost of $97,601 due to the following adjustments:

(1) the subtraction of $954 from the combined costs claimed for corrosion protected piping, spill containment basins, monitoring wells, automatic shutoff valves, stage I & II vapor recovery equipment and related installation because this equipment is considered to be a replacement of similar equipment claimed in prior tax credit TC-3394 and therefore is eligible only for the amount remaining on that tax credit.

Note: Prior tax credit TC-3394 will be revoked along with any remaining credit for equipment not replaced and no longer in use.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on January 29, 1996 and placed into operation on February 1, 1996. The application for certification was submitted to the Department on November 12, 1996, and was considered to be complete and filed on November 13, 1996, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall fluid containment tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, overfill alarm, sumps, oil/water separator and automatic shutoff valves.

3) For leak detection - Tank gauge system and monitoring wells.

In addition, the following was installed to reduce air quality emissions:

1) For VOC reduction - Stage I and II vapor recovery equipment.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

   The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

   There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

   The applicant did not indicate if alternative methods were available. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

   The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

   There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Flexible plastic piping	$ 921 (2)	100% (1)	$ 921
Fluid containment tanks	43,872	50	21,936
Spill & Overfill Prevention:			
Spill containment basins	294 (2)	100	294
Sumps	778	100	778
Overfill alarm	492	100	492
Automatic shutoff valves	558 (2)	100	558
Oil/water separator	2,138	100	2,138
Leak Detection:			
Automatic tank gauge	5,637	90%	5,073
Monitoring wells	112 (2)	100	112
VOC Reduction:			
Stage I & II vapor recovery	1,058 (2)	100	1,058
Labor, material, misc parts	40,787	100	40,787
Total	$96,647	77%	$74,147

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank system by using a formula based on the difference in cost between the protected tank system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $43,872 and the bare steel system is $21,936, the resulting portion of the eligible tank system cost allocable to pollution control is 50%.

(2) Some adjustment for prior tax credit remaining (see Section 2).

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 77%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $96,647 with 77% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4700.

Barbara J. Anderson
(503) 229-5870
July 2, 1997

Application No. TC-4721

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Mark B. Arnett
3715 SW 36th
Redmond, OR 97756

The applicant owns and operates a retail gas station at 722 N. 6th, Redmond, OR 97756, Facility ID No. 8403.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I vapor recovery.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are two fiberglass fluid containment tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, line leak detectors, sumps, monitoring wells and Stage I vapor recovery.

Claimed facility cost $116,937
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on June 1, 1996 and placed into operation on June 1, 1996. The application for certification was submitted to the Department on January 21, 1997, and was considered to be complete and filed on February 21, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air.

This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Fiberglass fluid containment tanks and doublewall flexiblic plastic piping.

2) For spill and overfill prevention - Spill containment basins, sumps, overfill alarm.

3) For leak detection - Tank gauge system, line leak detectors and monitoring wells.

In addition, the following equipment was installed to reduce air quality emissions:

1) For VOC reduction - Stage I vapor recovery.

The Department concludes that the costs claimed by the applicant ($116,937) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant chose the most cost effective alternative. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Fiberglass tanks and flexible plastic piping	$16,150	52% (1)	$8,398
Spill & Overfill Prevention:			
Spill containment basins	580	100	580
Sumps	2,130	100	2,130
Overfill alarm	350	100	350
Leak Detection:			
Automatic tank gauge	5,195	90% (2)	4,676
Line leak detectors	558	100	558
monitoring wells	138	100	138
VOC Reduction:			
Stage I vapor recovery	1,200	100	1,200
Labor, material, misc parts	90,636	100	90,636
Total	$116,937	93%	$108,666

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $16,150 and the bare steel system is $7,800, the resulting portion of the eligible tank and piping cost allocable to pollution control is 52%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 93%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $116,937 with 93% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4721.

Barbara J. Anderson
(503) 229-5870
June 5, 1997

Application No. TC-4723

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

John A. Carson
740 North Shore Road
Lake Oswego, OR 97034

The applicant owns and operates a retail gas station and cardlock at 9920 NE Sandy Blvd., Portland, OR 97220, Facility No. 6371.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage II vapor recovery equipment.

This application involves prior tax credit TC-3165 issued 6/29/90. Adjustments made pursuant to ORS 468.155 are summarized in Section 2 below.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are four doublewall fiberglass clad steel tanks, doublewall flexible plastic piping, tank gauge system, spill containment basins, monitoring wells, sumps and Stage II vapor recovery equipment.

Claimed facility cost $225,429
(Accountant's certification was provided)

The Department concludes that the eligible facility cost for the project is $185,291. This represents a net decrease of $40,138 from the applicant's claimed cost of $225,429 due to the following adjustments:

(1) the subtraction of $40,138 from the combined costs claimed for corrosion protected tanks, spill containment basins and an automatic tank gauge system because this equipment is considered to be a replacement of similar equipment claimed in prior tax credit TC-3165 and therefore is eligible only for the amount remaining on that tax credit.

Note: Prior tax credit TC-3165 will be revoked along with any further credit remaining for equipment not replaced and no longer in use.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on December 1, 1995 and placed into operation on January 1, 1996. The application for certification was submitted to the Department on January 23, 1997, and was considered to be complete and filed on February 13, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall fiberglass clad steel tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins and sumps.

3) For leak detection - Tank gauge system and monitoring wells.

In addition, the following was installed to reduce air quality emissions:

1) For VOC reduction - Stage II vapor recovery equipment.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not indicate if alternative methods were available. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Flexible plastic piping	$101,200	93% (1)	$94,116
Corrosion protection-tanks	11,061 (2)	100	11,061
Spill & Overfill Prevention:			
Spill containment basins	647 (2)	100	647
Sumps	7,304	100	7,304
Leak Detection:			
Automatic tank gauge	2,542 (2)	100%	2,542
Monitoring wells	1,747	100	1,747
VOC Reduction:			
Stage II vapor recovery	22,675	100	22,675
Labor, material, misc parts	38,115	100	38,115
Total	$185,291	96%	$178,207

(1) The Department has determined the percent allocable on the cost of a corrosion protected piping system by using a formula based on the difference in cost between the protected piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $101,200 and the bare steel system is $7,544, the resulting portion of the eligible piping cost allocable to pollution control is 93%.

(2) Some adjustment for prior tax credit remaining (see Section 2).

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air.

This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 96%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $185,291 with 96% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4723.

Barbara J. Anderson
(503) 229-5870
July 10, 1997

Application No. TC-4725

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Sheldon Oil Company
2801 Third Street
Tillamook, OR 97141

The applicant owns and operates a retail gas station at 34995 Brooten Road, Pacific City, OR 97135, Facility ID No. 5740.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are three fiberglass tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, turbine leak detectors and automatic shutoff valves.

Claimed facility cost $48,149
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on December 1, 1995 and placed into operation on December 1, 1995. The application for certification was submitted to the Department on February 3, 1997, and was considered to be complete and filed on February 21, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal

Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Fiberglass tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins and automatic shutoff valves.

3) For leak detection - Tank gauge system and turbine leak detectors.

The Department concludes that the costs claimed by the applicant ($48,149) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant indicated that the most cost effective alternative was chosen. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Fiberglass tanks and flexible plastic piping	$24,209	100%	$24,209
Spill & Overfill Prevention:			
Spill containment basins	660	100	660
Automatic shutoff valves	193	100	193
Leak Detection:			
Automatic tank gauge	7,785	100	7,785
Turbine leak detectors	814	100	814
Labor, material, misc. parts	14,488	100	14,488
Total	$48,149	100%	$48,149

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $48,149 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4725.

Barbara J. Anderson
(503) 229-5870
June 5, 1997

Application No. TC-4728

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Norm Poole Oil, Inc.
P O Box 309
Ontario, OR 97914

The applicant owns and operates a retail gas station and convenience store at 2609 SW 4th Ave., Ontario, OR 97914, Facility ID No. 9872.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are two plastic coated steel tanks (one tank has two compartments), doublewall flexible plastic piping, tank gauge system with overfill alarm, spill containment basins and sumps.

Claimed facility cost $117,488
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on May 25, 1996 and placed into operation on May 25, 1996. The application for certification was submitted to the Department on February 6, 1997, and was considered to be complete and filed on February 21, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility

qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Plastic coated steel tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, sumps and an overfill alarm.

3) For leak detection - Tank gauge system (including lines and turbine).

The Department concludes that the costs claimed by the applicant ($117,488) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant chose the most cost effective alternative. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Plastic coated steel tanks & flexible plastic piping	$32,034	54% (1)	$17,298
Spill & Overfill Prevention:			
Spill containment basins and sumps	10,418	100	10,418
Leak Detection:			
Automatic tank gauge system with alarm	8,712	90% (2)	7,841
Labor, material, misc parts	66,324	100	66,324
Total	$117,488	87%	$101,881

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $32,034 and the bare steel system is $14,653, the resulting portion of the eligible tank and piping cost allocable to pollution control is 54%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 87%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $117,488 with 87% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4728.

Barbara J. Anderson
(503) 229-5870
June 5, 1997

Application No. 4729

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. **Applicant**

Roseburg Forest Products Co.
P.O. Box 1088
Roseburg, OR 97470

The applicant owns and operates a particleboard plant in Dillard, Oregon.

Application was made for tax credit for an air pollution control facility.

2. **Description of Facility**

The claimed facility consists of eight wet electrostatic precipitators (ESP) manufactured by GeoEnergy International Corporation International Corporation installed to control particulate and blue smoke emissions from particleboard furnish dryers 1 through 8. The emissions after the installation of the claimed facility are less than 0.02 grains/dscf and the blue smoke has been eliminated.

Claimed Facility Cost:	$4,993,023
Ineligible Costs	$313,300
Eligible Facility Cost	$4,186,022

Accountant's Certification was provided.

The applicant indicated the useful life of the facility is 10 years.

3. **Procedural Requirements**

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

Installation of the facility was substantially completed in September of 1996 and placed into operation in September of 1996. The application for final certification was

received by the Department on February 6, 1997. The application was found to be complete on May 7,1997, within two years of substantial completion of the facility.

4. Evaluation of Application

a. Rationale For Eligibility

The claimed facility is eligible because the principal purpose of the facility is to comply with the requirements imposed by the applicant's Air Contaminant Discharge Permit (ACDP) number 10-0063. The applicant is required to keep particulate emissions below 0.1 grains/dscf and limit opacity to no more than 20% for more than three minutes in any one hour. This is in accordance with OAR Chapter 340, Division 21, rule 015 and 030. The emission reduction is accomplished by the removal of air contaminants as defined in ORS 468A.005.

The air pollution control facility consists of eight wet electrostatic precipitators installed on particleboard furnish dryers 1 through 8. Each of the dryers have a Model 1013-202 or 1013-189 GeoEnergy wet ESP. The dryer exhaust flow rates into the wet ESPs range from 27,000 to 53,300 scfm. The claimed facility also consists of interconnecting ducting, ESP wash system and water collection, structural supports, concrete foundations, related electrical distribution and controls. The applicant claims the reductions in particulate emissions are 637 bone dry tons per year.

According to a Department of Environmental Quality Source Inspection report dated September 11, 1996, the eight new wet ESPs were installed and in operation.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

A portion of the waste product is converted into a salable or usable commodity consisting of waste particulate matter that is recovered from the eight ESPs by a water wash. The material is dried and burned as hog fuel. Based on the applicant's claimed reduction of particulate, the approximate amount of recovered hog fuel is 637 bone dry tons per year.

The applicant estimates the value of the recovered hog fuel to be $7,960.

2) The estimated annual percent return on the investment in the facility.

The applicant indicates in the application that there is no income or savings from the facility, so there is no return on the investment.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant considered a Regenerative Thermal Oxidizer. This system was not chosen due to the added NO, emissions, fire danger and higher operating costs.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The annual savings in hog fuel is $7,960. The average annual cost of maintaining and operating the claimed facility is $231,432.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air pollution.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention,, control or reduction of pollution. The principal purpose of the facility is to reduce a substantial quantity of air pollution.

The actual cost of the facility properly allocable to pollution control as determined by using this factor or these factors is 100%.

5. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for final tax credit certification in that the principal purpose of the facility is to comply with requirements to control air pollution. The requirements are imposed by the applicant's Air Contaminant Discharge Permit issued by the Department of Environmental Quality.

c. The facility complies with Department statutes and permit conditions.

d. The portion of the facility cost that is properly allocated to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $4,186,022 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. 4729

Dennis E. Cartier
SJO Consulting Engineers, Inc.
May 28,1997

Maggie Vandehey
DEQ
July 3, 1997

Application No. TC-4733

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Cain Petroleum Inc.
2624 Pacific Ave.
Forest Grove, OR 97116

The applicant owns and operates a retail gas station at 8710 SW Hall Blvd., Beaverton, OR 97008, Facility ID No. 1341.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage II vapor recovery equipment.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are three doublewall fiberglass jacketed steel tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, sumps, automatic shutoff valves and Stage II vapor recovery equipment.

Claimed facility cost $157,739
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on March 2, 1995 and placed into operation on March 2, 1995. The application for certification was submitted to the Department on February 19, 1997, and was considered to be complete and filed on February 21, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall fiberglass jacketed steel tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, overfill alarm, sumps and automatic shutoff valves.

3) For leak detection - Automatic tank gauge system.

In addition, the following equipment was installed to reduce air quality emissions:

1) For VOC reduction - Stage II vapor recovery equipment.

The Department concludes that the costs claimed by the applicant ($157,739) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant chose the methods considered the most cost effective. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Doublewall fiberglass jacketed steel tanks and doublewall flexible plastic piping	$38,835	64% (1)	$24,854
Spill & Overfill Prevention:			
Spill containment basins	1,856	100	1,856
Sumps	2,960	100	2,960
Automatic shutoff valves	326	100	326
Overfill alarm	219	100	219
Leak Detection:			
Automatic tank gauge	11,636	90% (2)	10,472
VOC Reduction:			
Stage II vapor recovery	13,273	100	13,273
Labor, material, misc parts	88,634	100	88,634
Total	$157,739	90%	$142,594

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $38,835 and the bare steel system is $14,013, the resulting portion of the eligible tank and piping cost allocable to pollution control is 64%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 90%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $157,739 with 90% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4733.

Barbara J. Anderson
(503) 229-5870
June 6, 1997

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Jubitz Corporation
Jubitz Truck Stop
10210 N. Vancouver Way
Portland, OR 97217

The applicant owns and operates a truck stop in Portland, Oregon which is used for servicing and fueling both gasoline and diesel powered vehicles.

Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The facility being claimed consists of two oil-water separators; one 2,690 gallon oil-water separator system preceded by a 4,000 gallon concrete vault holding tank, one 1000 gallon oil-water separator, associated electrical controls, valves, pipe fittings, sump pump, and catch basins.

Claimed Facility Cost: $37,678
(Accountant's Certification was provided).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met statutory deadline in that installation of the facility was substantially completed on March 14, 1995 and the application was found to be complete on February 27, 1997, within 2 years of substantial completion of the facility.

4. Evaluation of Application

a. Eligibility

The facility is eligible because the sole purpose of the facility is to control water pollution. This control is accomplished by the redesign to eliminate industrial waste as defined in ORS 468B.005.

Prior to the installation of the claimed facility, any oil spills that would have occurred from the truck fueling stations could enter the storm drains and find it's way to public waters of the state.

b. Percentage of Facility Cost Allocable to Pollution Control

The only factor considered in the determination of the percentage of the facility cost allocable to pollution control was the ratio of time the facility was used for pollution control (*ORS 468.190(3)*). The Department did not consider the following factors found in ORS 468.190(1):

ORS 468.190(1)(a)	The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.
ORS 468.190(1)(b)	The estimated annual percent return on the investment in the facility.
ORS 468.190(1)(c)	The alternative methods, equipment and costs for achieving the same objective.
ORS 468.190(1)(d)	Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.
ORS 468.190(1)(e)	Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for tax credit certification in that the sole purpose of the facility is to control a substantial quantity of water pollution and accomplishes this purpose by the redesign to eliminate industrial waste as defined in ORS 468B.005.

c. The facility complies with DEQ statutes and permit conditions.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $37,678.00 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. 4735.

Dewey W. Darold, R.S.
(503) 229-5189
July 17, 1997

Application No. 4736

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT
POLLUTION PREVENTION PILOT PROGRAM

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1. Applicant

Warn Industries, Inc.
13270 SE Pheasant Ct.
Milwaukie, Oregon 97222

The applicant owns and operates a parts cleaning facility at 13270 SE Pheasant Ct., Milwaukie, Oregon for cleaning metal parts in the manufacturing process.

Application was made for tax credit for an air pollution prevention facility.

2. Description of Facility

The claimed facility is an aqueous cleaning system which was installed as a replacement for a system using buckets of 1,1,1-trichloroethane, a halogenated solvent, for parts cleaning. The new cleaning process eliminates the use, and emission to the atmosphere, of 1,1,1-trichloroethane from this process.

Claimed Facility Cost: $ 25,087

3. Procedural Requirements

The facility is governed by ORS 468A.095 through 468A.098, and by OAR Chapter 340, Division 16.

The facility met all regulatory deadlines in that:

Installation of the facility was substantially completed on January 13, 1997. The application for final certification was received by the Department on March 3, 1997. The application was found to be complete on June 6, 1997, within one year of installation of the facility.

4. Evaluation of Application

Rationale For Eligibility

(1) The facility is eligible because it meets the requirement of avoiding the National Emission Standard for Hazardous Air Pollutants (NESHAP), specifically 40 CFR 63.460 to 63.469 national emission standards for halogenated solvent cleaning.

The facility was installed between January 1, 1996 and December 31, 1999.

The facility does not qualify for a pollution control tax credit under ORS 468.165 and 468.170.

(2) The applicant installed an aqueous parts cleaner as a replacement for their batch cold cleaning process.

(3) The facility is not required to register under the Clean Air Act Title III National Emissions Standards for Hazardous Air Pollutants, but replaces a facility which was subject to registration.

5. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for final tax credit certification in that it meets the definition of a pollution prevention facility for this pilot program.

c. The applicant indicated that the tax credit program was not a determining factor in installing this equipment.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Prevention Facility Certificate bearing the cost of $ 25,087 be issued for the facility claimed in Tax Credit Application No. T-4736.

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State of Oregon
Department of Agriculture

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Steven J. Rohner
31868 Peoria Rd
Albany OR 97321

The applicant owns and operates a grass seed farm operation in Linn County, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Facility

The equipment described in this application is located at 31868 Peoria Rd, Albany, Oregon. The equipment is owned by the applicant.

John Deere 8300, 200hp tractor	$107,550
Case IH 7500, 6 bottom plow	$ 14,200

Claimed equipment cost: $121,750
(Accountant's Certification was provided.)

3. Description of Farm Operation Plan to Reduce Open Field Burning.

The applicant has 700 acres of perennial grass and 400 acres of annual grass under cultivation. Prior to using alternative methods to field sanitization by fire, the applicant open field burned as many acres as the smoke management program and weather permitted.

In recent years, the applicant baled off the bulk straw and flail chopped the remaining stubble on his perennial fields. With the purchase of the tractor and plow, he will now be able to flail chop, plow and harrow and roll the acreage in annual ryegrass as an alternative to open field burning.

4. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16. The equipment has met all statutory deadlines in that:

Purchase of the equipment was substantially completed on January 16, 1997. The application was submitted on March 21, 1997; and the application for final certification was found to be complete on April 1, 1997. The application was filed within two years of substantial completion of the equipment.

5. Evaluation of Application

a. The equipment is eligible under ORS 468.150 because the equipment is an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468A.005; by reducing the maximum acreage to be open burned in the Willamette Valley as required in OAR 340-26-013; and, the facility's qualification as a "pollution control facility", defined in OAR 340-16-025(2)(f) A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the equipment is used to recover and convert waste products into a salable or usable commodity.

   The equipment does not recover or convert waste products into a salable or usable commodity.

2. The estimated annual percent return on the investment in the equipment.

   There is no annual percent return on the investment as applicant claims no gross annual income.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

   The method chosen is an accepted method for reduction of air pollution. The method is one of the least costly, most effective methods of reducing air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

   There is an increase in operating costs of $1,200 to annually maintain and operate the equipment. These costs were considered in the return on investment calculation.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air pollution.

The established average annual operating hours for tractors is set at 450 hours. To obtain a percent allocable to pollution control, the annual operating hours per implement used in reducing acreage open field burned is as follows:

Implement	Acres Worked	Machinery Capacity	Annual Operating Hours
Plow	300	7	43
Harrow & Roller	900	7	129
Total Annual Operating Hours			172

The total annual operating hours of 172 divided by the average annual operating hours of 450 produces a percent allocable of 38%.

Equipment	Claimed Cost	Percent Allocable	Cost Allocable
John Deere Tractor	$107,550	38%	$40,869
Case IH Plow	$14,200	100%	$14,200
Total	$121,750	45%	$55,069

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 45%.

6. Summation

a. The equipment was constructed in accordance with all regulatory deadlines.

b. The equipment is eligible under ORS 468.150 as an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution as defined in ORS 468A.005

c. The equipment complies with DEQ statutes and rules.

d. The portion of the equipment that is properly allocable to pollution control is 45%.

7. The Department of Agriculture's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $121,750, with 45% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number 4744.

Jim Britton, Manager
Smoke Management Program
Natural Resources Division
Oregon Department of Agriculture
(503) 986-4701
FAX: (503) 986-4730

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Sunset Fuel Company
P O Box 42287
Portland, OR 97242

The applicant owns and operates a retail gas station at 6230 SW Macadam, Portland, OR 97201, Facility No. 8111.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I and II vapor recovery equipment.

This application involves prior tax credit TC-3429 issued in 1991. Adjustments made pursuant to ORS 468.155 are summarized in Section 2 below.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are doublewall flexible plastic piping, cathodic protection on steel tanks, tank gauge system, overfill alarm, spill containment basins, line/turbine leak detectors, monitoring wells, sumps, automatic shutoff valves and Stage I and II vapor recovery equipment.

Claimed facility cost $89,169
(Accountant's certification was provided)

The Department concludes that the eligible facility cost for the project is $96,557. This represents a net increase of $7,388 from the applicant's claimed cost of $89,169 due to the following adjustments:

(1) the subtraction of $10,322 from the claimed costs of the tank gauge system, four of the eight spill containment basins claimed, overfill alarm and related installation because this equipment replaced equipment claimed in prior tax credit TC-3429 and therefore is

eligible only for the amount remaining on that tax credit;

(2) the addition of $17,710 to carryover the amount remaining on epoxy tanklining claimed on prior tax credit TC-3429 that is still in use.

Note: Prior tax credit TC-3429 will be revoked.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on March 1, 1997 and placed into operation on March 1, 1997. The application for certification was submitted to the Department on March 25, 1997, and was considered to be complete and filed on April 8, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall flexible plastic piping and cathodic protection on steel tanks.

2) For spill and overfill prevention - Spill containment basins, overfill alarm, sumps and automatic shutoff valves.

3) For leak detection - Tank gauge system, line/turbine leak detectors, and monitoring wells.

In addition, the following was installed to reduce air quality emissions:

1) For VOC reduction - Stage I and II vapor recovery equipment.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant considered the methods chosen to be the most cost-effective. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Doublewall fiberglass pipe	$1,500	74% (1)	$1,110
Cathodic protection	4,347	100	4,347
Spill & Overfill Prevention:			
Spill containment (4 basins)	1,030	100	1,030
Spill containment (4 basins)	990 (2)	100	990
Sumps	3,200	100	3,200
Overfill alarm	72 (2)	100	72
Automatic shutoff valves	411	100	411
Leak Detection:			
Automatic tank gauge	2,770 (2)	100	2,770
Line/turbine leak detectors	5,706	100	5,706
monitoring wells	480	100	480
VOC Reduction:			
Stage I & II vapor recovery	2,672	100	2,672
Labor, material, misc parts	55,672	100	55,672
Prior Tax Credit Carryover:			
Epoxy tanklining	17,710 (2)	100	17,710
Total	$96,557	100%	$96,170

(1) The Department has determined the percent allocable on the cost of a corrosion protected piping system by using a formula based on the difference in cost between the protected piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $1,500 and the bare steel system is $394, the resulting portion of the eligible piping cost allocable to pollution control is 74%.

(2) Prior tax credit remaining (see Section 2).

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $96,557 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4746.

Barbara J. Anderson
(503) 229-5870
June 30, 1997

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Greg's Auto Service
440 SW Wake Robin
Corvallis, OR 97333

The applicant owns and operates a retail auto repair shop in Corvallis, Oregon. The applicant is also the owner and operator of the air pollution control facility described in this report.

2. Description of Facility

The equipment controls air contaminants by recycling automobile air conditioner refrigerants instead of discharging to the atmosphere. Equipment includes dual 1/3 HP compressors, pump, filters, hoses, scale, two manifold gauge sets and two tanks. It rids the spent coolant of oil, excess air, water, acids and contaminant particles.

The recharge capability of this equipment makes an insignificant contribution to pollution control (ORS 469.155(2)(d)). The Department's standard reduction for recharge capabilities is $700.

Under ORS 468.190(3), if the facility cost does not exceed $50,000 the applicant does not have to consider factors specified in ORS 469.190(1). The applicant reduced the facility cost based on factors specified in ORS 469.190(1).

The applicant adequately documented the facility cost.

Claimed Facility Cost	$1,895
Invoiced Facility Cost	$3,790
Recharge Capabilities	-700
Adjusted Facility Cost	$3,090

The useful life of the facility is 5 years as represented by the manufacturer.

3. Procedural Requirements

ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16 governs the procedures for issuing a Pollution Control Facility Tax Credit Certificate.

The applicant purchased the facility on July 29, 1996, and placed it into operation on September 1, 1996. The applicant submitted the application for final certification to the Department on April 15, 1997, within two years of substantial completion of the facility. The Department found the application to be complete on May 21, 1997.

4. Evaluation of Application

a. Facility Eligibility

The equipment is an eligible facility because the principal purpose of the facility is to comply with the requirements of OAR 340-22-405 to 415, Control Ozone Depleting Chemicals, to recycle air conditioning refrigerants. This equipment captures and recycles contaminants that would otherwise be released to the atmosphere, as defined in ORS 468.275.

Underwriters Laboratory (UL) certified the equipment as meeting the requirements and specifications of UL1963 and the Society of Automotive Engineers (SAE) standards, J2210, or other requirements and specifications determined by the Department as being equivalent.

b. Percentage of Facility Cost Allocable to Pollution Control

The only factor considered in the determination of the percentage of the facility cost allocable to pollution control was the ratio of time the facility was used for pollution control (*ORS 468.190(3)*). The Department did not consider the following factors found in ORS 468.190(1):

ORS 468.190(1)(a)	The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.
ORS 468.190(1)(b)	The estimated annual percent return on the investment in the facility.
ORS 468.190(1)(c)	The alternative methods, equipment and costs for achieving the same objective.
ORS 468.190(1)(d)	Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.
ORS 468.190(1)(e)	Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

The percentage of the facility cost properly allocable to pollution control determined by using these factors is 100%.

5. Summation

a. The applicant submitted the application in accordance with all regulatory deadlines.

b. The facility is eligible for tax credit certification in that the principal purpose of the facility is to reduce air pollution.

c. The facility complies with DEQ statutes and rules.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Considering the Department's findings, the Director recommends a Pollution Control Facility Certificate bearing the facility cost of $3,090 with 100% of the cost allocated to pollution control, be issued to Greg's Auto Service for the facility claimed in Tax Credit Application No. 4752.

Maggie Vandehey, 229-6878
June 26, 1997

Application No. 4754

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Columbia Steel Casting Co., Inc.
PO Box 83095
Portland, OR 97283

The applicant recycles scrap steel to manufacture alloy steel castings to be sold primarily as replacement parts for industrial machinery such as rock crushers and mining equipment.

Application was made for tax credit for an air pollution control facility installed at the applicant's Portland facility, 10425 N. Bloss Avenue.

2. Description of Facility

The claimed facility is a fabric filter baghouse dust collector installed to control airborne particulate emissions from the shot blast cleaning machine which was installed at the same time.

Claimed Facility Cost: $ 44,900

Accountant's Certification was provided.

The applicant indicated that the useful life of the facility is seven years.

3. Procedural Requirements

The facility is governed by Oregon Revised Statutes (ORS) 468.150 through 468.190, and by Oregon Administrative Rules (OAR) Chapter 340, Division 16.

The facility met all statutory deadlines in that:

Installation of the facility was substantially completed on November 30, 1995 and placed into operation on March 9, 1994. The application for final certification was received by the State of Oregon, Department of Environmental Quality (Department) on April 18, 1997, within two years of substantial completion of the facility. The application was found to be complete on June 2, 1997.

4. Evaluation of Application

a. Rationale For Eligibility

The facility is eligible because the sole purpose of the Wheelabrator model 6D-112-AC baghouse is to control air pollution. The emission reduction is accomplished by the removal of air contaminants prior to exhausting to the ambient atmosphere as defined in ORS 468A.005

The claimed facility was installed to control the emissions from the shot blast cleaning operation which was installed at the same time. Only the baghouse facility is being claimed as a pollution control facility.

The applicants estimates the control efficiency of the baghouse at 99 percent or better, which correlates to approximately 15 tons per year of reduced particulate emissions.

b. Percentage of Facility Cost Allocable to Pollution Control

The only factor considered in the determination of the percentage of the facility cost allocable to pollution control was the ratio of time the facility was used for pollution control *(ORS 468.190(3))*. The Department did not consider the following factors as set out in ORS 468.190(1):

ORS 468.190(1)(a)	The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.
ORS 468.190(1)(b)	The estimated annual percent return on the investment in the facility.
ORS 468.190(1)(c)	The alternative methods, equipment and costs for achieving the same objective.
ORS 468.190(1)(d)	Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.
ORS 468.190(1)(e)	Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for final tax credit certification in that the sole purpose of the facility is to control air pollution.

c. The facility complies with the Department statutes and rules, and permit conditions.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings it is recommended that a Pollution Control Facility Certificate bearing the cost of $44,900 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. 4754.

DPK: DEQ:AQ June 2, 1997

Application No. TC-4755

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Tee to Green II, Inc.
P O Box 174
Pilot Rock, OR 97868

The applicant owns and operates a retail gas station at 785 Albany St., Elgin, OR 97827, Facility ID No. 81.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are the application of epoxy lining in three underground storage tanks.

Claimed facility cost $22,149
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on March 14, 1997 and placed into operation on March 14, 1997. The application for certification was submitted to the Department on April 22, 1997, and was considered to be complete and filed on June 25, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air.

This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Epoxy lining in three underground storage tanks.

The Department concludes that the costs claimed by the applicant ($22,149) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant indicated that the most cost effective alternative was chosen. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Epoxy lining in three underground storage tanks	$18,297	100%	$18,297
Labor and material	3,852	100	3,852
Total	$22,149	100%	$22,149

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $22,149 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4755.

Barbara J. Anderson
(503) 229-5870
June 25, 1997

Application No. TC-4763

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Willamette Industries, Inc.
1300 SW Fifth Avenue, Suite 3800
Portland, OR 97201

The applicant owns and operates a logging facility at 85647 Hwy 99 South, Eugene, OR 97405, Facility ID No. 11425.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are the installation of one doublewall aboveground dike tank.

Claimed facility cost (Accountant's certification was provided)	$47,858

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on April 30, 1995 and placed into operation on April 30, 1995. The application for certification was submitted to the Department on April 28, 1997, and was considered to be complete and filed on April 29, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air.

This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall aboveground dike tank.

The Department concludes that the costs claimed by the applicant ($47,858) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant indicated that the most cost effective alternative was chosen. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Doublewall aboveground dike tank	$5,625	100%	$5,625
Labor and material	42,233	100	42,233
Total	$47,858	100%	$47,858

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $47,858 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4763.

Barbara J. Anderson
(503) 229-5870
June 5, 1997

Application TC-4765

STATE OF OREGON
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. **Applicant**

United Disposal Service, Inc.
2215 N Front Street
Woodburn, Oregon 97071

The applicant operates a solid waste collection and recycling service in Marion, Clackamas and Washington Counties.

Application is for a pollution control facility tax credit certification.

2. **Description of Facility**

The facility consists of ten 20 yard drop boxes, serial # 9220 to 9229.

Total cost claimed is $24,589

Invoices and copies of checks documenting the cost of the facility were provided.

3. **Procedural Requirements**

The facility is governed by ORS 468.150 - 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

a. The facility purchased, installed and placed into operation on September 20, 1996.

b. The application for tax credit was submitted to the Department on May 2. 1997, within two years of substantial completion of the facility.

4. **Evaluation of Application**

a. The sole purpose of the facility is to prevent or reduce a substantial amount of solid waste. This prevention or reduction uses a material recovery process which obtains useful material from material that would otherwise be solid waste, pursuant to Oregon Administrative Rule 340-16-025(1)(b) and (2)(d). The drop boxes will be located at recycling service customer sites to recycle waste cardboard that would otherwise be disposed of as solid waste.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility is used 100% of the time for recycling, a material recovery process.

2) The estimated annual percent return on the investment in the facility.

A) The applicant has claimed a facility cost of $24,589.
The Department has identified no ineligible costs relating to the facility.

B) Annual Percentage Return on Investment

The facility falls under the provisions of ORS 468.190(3). The portion of the actual cost properly allocable to pollution control is calculated as the proportion that the ratio of the time the facility is used for recycling bears to the entire time the facility is used for any purpose. The facility is used 100% of the time as part of a material recovery process so the portion of cost properly allocable is 100%.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. **Summation**

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for tax credit certification in that the sole purpose of these drop boxes is recycling of a material that would otherwise be disposed of as solid waste.

c. The facility complies with DEQ statutes and permit conditions.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. **Director's Recommendation**

Based upon the findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $24,589 with 100% allocable to pollution control be issued for the facility claimed in Tax Credit Application TC-4765.

William R. Bree
TAX\TC4765RR.STA
(503) 229-6046
May 8,1997

Application No. T- 4766

State of Oregon
Departmental of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Robert C. Vandehey Farm
16509 NW Sellers Road
Banks, OR 97106

The applicant owns and operates a commercial dairy and crop farm in Banks Oregon.

Applicant was made for tax credit for a water pollution control facility.

2. Description of Facility

The claimed facility consists of an above ground 60 foot diameter by 16 foot deep reinforced concrete storage tank, a concrete apron, transfer pump, sump pump, waste transfer piping, associated electrical controls and covered dry stack area.

Claimed Facility Cost: $82,013.00
(Accountant's Certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met statutory deadline in that construction of the facility was substantially completed on August 15, 1995, application was submitted on May 5, 1997, and found to be complete on July 21, 1997 -- within 2 years of substantial completion of the facility.

4. Evaluation of Application

a. Eligibility

The facility is eligible because the principal purpose of the facility is to comply with a requirement imposed by the Department of Environmental, to control water pollution. This control is accomplished by the use of an

animal waste treatment system which provides storage of animal wastes during the rainy season.

Prior to the construction of the claimed facility animal wastes were stored in an undersized lagoon which had an occasional seep during the rainy season.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into salable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no return on investment for the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

No other alternatives were considered.

4) Any related savings or increases in costs which occur or may occur as a result of the installation of the facility.

There are no savings or increase in costs as a result of construction of the facility.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

a. The facility was considered in accordance with all regulatory deadlines.

b. The facility is eligible for the tax credit certification in that the principal purpose of the facility is to control a substantial quantity of water pollution.

c. The facility complies with DEQ statutes and rules.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility certificate bearing the cost of $82,013.00 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T- 4766.

Dewey W. Darold, R.S.
503-229-5189
July 21, 1997

State of Oregon
Department of Agriculture

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Estergard Farms
32022 Priceboro Drive
Harrisburg, OR 97446

The applicant owns and operates a grass seed farm operation in Linn County, Oregon.

Application was made for tax credit for an air pollution control facility.

2. Description of Claimed Facility

The facility described in this application is a 22' x 100' x 240' steel structure grass straw storage building, located 4.5 miles east of Harrisburg, Oregon on Priceboro Drive. The land and the buildings are owned by the applicant.

Claimed facility cost: $185,734.12
(Accountant's Certification was provided.)

3. Description of Farm Operation Plan to Reduce Open Field Burning.

The applicant has 1,550 perennial acres and 650 annual acres under grass seed cultivation. In the recent past, the applicant open field burned as many acres as the smoke management program and weather permitted.

The applicant states that while there are more uses for grass seed straw that was once burned in the fields, the straw is only good as long as it remains dry. This facility provides Estergard Farms the opportunity to store the straw until it can be utilized and insures the services of the custom baler removing the straw from the fields in a timely manner.

4. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16. The facility has met all statutory deadlines in that:

Construction of the facility was substantially completed on September 5, 1996. The application for final certification was found to be complete on June 9, 1997. The application was filed within two years of substantial completion of the facility.

5. Evaluation of Application

a. The facility is eligible under ORS 468.150 because the facility is an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468A.005; by reducing the maximum acreage to be open burned in the Willamette Valley as required in OAR 340-26-013; and, the facility's qualification as a "pollution control facility", defined in OAR 340-16-025(2)(f) (A), "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

  The facility promotes the conversion of a waste product (straw) into a salable usable commodity by providing protection from inclement weather.

- The estimated annual percent return on the investment in the facility.

  There is no annual percent return on the investment as applicant claims no gross annual income.

- The alternative methods, equipment and costs for achieving the same pollution control objective.

  The method chosen is an accepted method for reduction of air pollution. The method is one of the least costly, most effective methods of reducing air pollution.

- Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

  There is an increase in operating costs of $300 to annually maintain and operate the facility. These costs were considered in the return on investment calculation.

- Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air pollution.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of air pollution.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

6. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible under ORS 468.150 as an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution as defined in ORS 468A.005

c. The facility complies with DEQ statutes and rules.

d. The portion of the facility that is properly allocable to pollution control is 100%.

7. The Department of Agriculture's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $185,734, with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application Number TC-4767.

Jim Britton, Manager
Smoke Management Program
Natural Resources Division
Oregon Department of Agriculture
PH: (503) 986-4701
FX: (503) 986-4730

JB:rc
Wed, Jul 23, 1997

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

United Disposal Services, Inc.
2215 N Front Street
Woodburn, OR 97071

The applicant owns and operates a residential, commercial and industrial solid waste and recycling collection firm. The applicant is also the owner and operator of the air pollution control facility described in this report.

2. Description of Facility

The facility is a refrigerant recovery unit. The unit (model 600 OZsaver Light, stock # H85-326, serial # 934365) removes freon from refrigerators, freezers and air conditioners. The unit is belt driven and powered by a ½ HP ac electrical motor.

The useful life of the facility is 5 years as represented by the manufacturer.

Claimed Facility Cost: $957
(The facility cost is documented.)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

Installation of the facility was substantially completed on August 6, 1996. The facility was placed into operation on August 10, 1996. The application for final certification was submitted to the Department on May 21, 1997, within two years of substantial completion of the facility. The application was found to be complete on June 3, 1997.

4. Evaluation of Application

a. The facility is eligible because the sole purpose of the facility is to reduce air pollution. This reduction is accomplished by capturing and/or recycling air contaminants, as defined in ORS 468.275.

The unit is certified by Underwriters Laboratory (UL) as meeting the requirements and specifications of UL1963 and the Society of Automotive Engineers (SAE) standards, J2210, or other requirements and specifications determined by the Department as being equivalent.

b. Percentage of Facility Cost Allocable to Pollution Control

The only factor considered in the determination of the percentage of the facility cost allocable to pollution control was the ratio of time the facility was used for pollution control *(ORS 468.190(3))*. The Department did not consider the following factors found in ORS 468.190(1):

ORS 468.190(1)(a)	The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.
ORS 468.190(1)(b)	The estimated annual percent return on the investment in the facility.
ORS 468.190(1)(c)	The alternative methods, equipment and costs for achieving the same objective.
ORS 468.190(1)(d)	Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.
ORS 468.190(1)(e)	Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

The percentage of the facility cost properly allocable to pollution control determined by using these factors is 100%.

5. Summation

a. The applicant submitted the application in accordance with all regulatory deadlines.

b. The facility is eligible for tax credit certification in that the sole purpose of the facility is to reduce air pollution.

c. The facility complies with DEQ statutes and rules.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon the Department's findings, the Director recommends a Pollution Control Facility Certificate bearing the cost of $957 with 100% of the cost allocated to pollution control, be issued to United Disposal Services, Inc. for the facility claimed in Tax Credit Application No. 4768.

Maggie Vandehey, 229-6878
June 26, 1997

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Oregon Metallurgical Corporation
530 West 34th Avenue
Albany, OR 97321

The applicant produces titanium and zirconium metal and alloys in a variety of product forms. The casting division uses zirconium and titanium and alloys of these metals to cast a variety of specialty metal parts..

Application was made for tax credit for an air pollution control facility installed at the applicant's Albany facility, 530 West 34th Avenue.

2. Description of Facility

The claimed facility is a fabric filter baghouse which controls particulate emissions from various previously controlled processes in addition to the torch cutting and mold knockout areas. The new baghouse replaces two previously existing baghouses which had exceeded their useful life, and collect additional emissions which were previously uncontrolled.

Claimed Facility Cost: $ 143,311

Accountant's Certification was provided.

The applicant indicated that the useful life of the facility is ten years.

3. Procedural Requirements

The facility is governed by Oregon Revised Statutes (ORS) 468.150 through 468.190, and by Oregon Administrative Rules (OAR) Chapter 340, Division 16.

The facility met all statutory deadlines in that:

Installation of the facility was substantially completed on September 15, 1996 and placed into operation on the same date. The application for final certification was received by the State of Oregon, Department of Environmental Quality (Department) on May 29, 1997, within two years of substantial completion of the facility. The application was found to be complete on June 2, 1997.

4. Evaluation of Application

a. Rationale For Eligibility

The facility is eligible because the sole purpose of the model 4PC 144, Serial No. 47-96-1526 baghouse is to control particulate emissions to the ambient air. The emission reduction is accomplished by the removal of air contaminants prior to exhausting to the ambient atmosphere as defined in ORS 468A.005

The claimed facility was installed to control the emissions from the Mold preparation router, driller, sander; mold knockout area; mold recycle system crusher; mold recycle screen, storage bins and torch cutting station.

The applicants estimates the control efficiency of the baghouse at better than 99 percent.

b. Eligible Cost Findings

In determining the percentage of the certified facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

The annual operating expenses exceed income from the facility, so there is no return on investment.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not consider alternative methods to control particulate emissions. The selected baghouse provides an optimum of equipment flexibility and maintenance, and other operating costs.

4) Related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant estimates the average annual operating cost of the facility for the next five years to be $21,402 per year.

5) Other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air pollution.

None

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

a. The facility was constructed in accordance with all regulatory deadlines.

b. The facility is eligible for final tax credit certification in that the sole purpose of the facility is to control air pollution.

c. The facility complies with the Department statutes and rules, and permit conditions.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings it is recommended that a Pollution Control Facility Certificate bearing the cost of $143,311 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. 4770.

DPK: DEQ:AQ June 2, 1997

Application No. TC-4772

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Hawk Oil Company
P O Box 1388
Medford, OR 97501-0103

The applicant owns and operates a retail gas station at 1068 S. Riverside, Medford, OR 97501, Facility ID No. 2427.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I and Stage II vapor recovery piping.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are four doublewall fiberglass tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, line and turbine leak detectors, sumps, monitoring wells, oil/water separator, automatic shutoff valves and Stage I and II vapor recovery piping.

Claimed facility cost $124,716
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on September 25, 1996 and placed into operation on September 25, 1996. The application for certification was submitted to the Department on June 2, 1997, and was considered to be complete and filed on June 5, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall fiberglass tanks and doublewall flexiblic plastic piping.

2) For spill and overfill prevention - Spill containment basins, sumps, overfill alarm, automatic shutoff valves and an oil/water separator.

3) For leak detection - Tank gauge system, line and turbine leak detectors and monitoring wells.

In addition, the following equipment was installed to reduce air quality emissions:

1) For VOC reduction - Stage I vapor recovery and Stage II vapor recovery piping.

The Department concludes that the costs claimed by the applicant ($124,716) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant chose the most cost effective alternative. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Doublewall fiberglass tanks and flexible plastic piping	$45,331	59% (1)	$26,745
Spill & Overfill Prevention:			
Spill containment basins	1,974	100	1,974
Sumps	1,906	100	1,906
Overfill alarm	759	100	759
Automatic shutoff valves	1,794	100	1,794
Oil/water separator	2,208	100	2,208
Leak Detection:			
Automatic tank gauge	10,423	90% (2)	9,381
Line/turbine leak detectors	1,568	100	1,568
monitoring wells	68	100	68
VOC Reduction:			
Stage I & II vapor recovery	1,035	100	1,035
Labor, material, misc parts	55,560	100	55,560
Total	$124,716	83%	$102,998

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $45,331 and the bare steel system is $18,382, the resulting portion of the eligible tank and piping cost allocable to pollution control is 59%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 83%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $124,716 with 83% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4772.

Barbara J. Anderson
(503) 229-5870
June 5, 1997

Application No. TC-4773

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

May-Slade Oil Co.
865 S. Spring Street
Klamath Falls, OR 97601

The applicant owns and operates a gasoline service station, convenience store and carwash at 3320 Washburn Way, Klamath Falls, OR 97601.

Application was made for a tax credit for a water pollution control facility.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are doublewall flexible plastic piping, automatic tank gauge system, spill containment basins, sumps and secondary containment for four aboveground storage tanks.

Claimed facility cost $42,843
(Accountant's certification was provided)

The Department concludes that the eligible facility cost for the project is $42,943. This is a difference of $100 from the applicant's claimed cost of $42,843 due to a math error discovered on the applicant's tax credit application.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on August 15, 1995 and placed into operation on August 16, 1995. The application for certification was submitted to the Department on June 4, 1997, and was considered to be complete and filed on June 6, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the sole purpose of the facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water or air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to federal requirements, the applicant installed:

1) For corrosion protection - Doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, sumps, secondary containment and automatic shutoff valves.

3) For leak detection - Automatic tank gauge system.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not indicate that alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.
There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Doublewall flexible plastic piping	$16,744	100%	$16,744
Spill & Overfill Prevention:			
Spill containment basins	2,131	100	2,131
Automatic shutoff valves	4,256	100	4,256
Sumps	8,160	100	8,160
Secondary containment	10,752	100	10,752
Leak Detection:			
Automatic tank gauge	900	100	900
Total	$42,943	100%	$42,943

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to information provided by the applicant.

b. The facility is eligible for tax credit certification in that the sole purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water or air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $42,943 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4773.

Barbara J. Anderson
(503) 229-5870
June 6, 1997

Application No. TC-4778

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Cain Petroleum Inc.
2624 Pacific Avenue
Forest Grove, OR 97116

The applicant owns and operates a retail gas station at 3520 SW Cedar Hills Blvd., Beaverton, OR 97005, Facility ID No. 1902.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I and Stage II vapor recovery equipment.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are epoxy lining and cathodic protection on three steel tanks, doublewall flexible plastic piping, spill containment basins, tank gauge system, overfill alarm, turbine leak detectors, sumps, monitoring wells, automatic shutoff valves and Stage I and II vapor recovery equipment.

Claimed facility cost $147,354
(Accountant's certification was provided)

The Department concludes that the eligible facility cost for the project is $146,957. This is a difference of $397 from the applicant's claimed cost due to an addition error by the applicant.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on June 16, 1995 and placed into operation on June 16, 1995. The application for certification was submitted to the Department on June 13, 1997, and was considered to be complete and filed on June 13, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Epoxy lining and cathodic protection on three steel tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, sumps, overfill alarm and automatic shutoff valves.

3) For leak detection - Tank gauge system, turbine leak detectors and monitoring wells.

In addition, the following equipment was installed to reduce air quality emissions:

1) For VOC reduction - Stage I vapor recovery and Stage II vapor recovery equipment.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant chose the most cost effective alternative. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Epoxy tanklining and cathodic protection	$24,800	100% (1)	$24,800
Flexible plastic piping	10,300	92	9,476
Spill & Overfill Prevention:			
Spill containment basins	1,420	100	1,420
Sumps	3,000	100	3,000
Overfill alarm	300	100	300
Automatic shutoff valves	828	100	828
Leak Detection:			
Automatic tank gauge	8,000	90% (2)	7,200
Turbine leak detectors	1,083	100	1,083
monitoring wells	250	100	250
VOC Reduction:			
Stage I & II vapor recovery	13,157	100	13,157
Labor, material, misc parts	83,819	100	83,819
Total	$146,957	99%	$145,333

(1) The Department has determined the percent allocable on the cost of a corrosion protected piping system by using a formula based on the difference in cost between the protected piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $10,300 and the bare steel system is $820, the resulting portion of the eligible piping cost allocable to pollution control is 92%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 99%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $146,957 with 99% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4778.

Barbara J. Anderson
(503) 229-5870
June 25, 1997

Application No. TC-4779

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Edward Jean Plume
P O Box 35
Trail, OR 97541

The applicant owns and operates a retail gas station and grocery store at 24231 Hwy 62, Trail, OR 97541, Facility ID No. 4115.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are one doublewall plastic coated steel tank (with 3 compartments), doublewall flexible plastic piping, spill containment basins, interstitial monitoring system, overfill alarm, sumps and automatic shutoff valves.

Claimed facility cost $39,426
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on March 1, 1996 and placed into operation on March 1, 1996. The application for certification was submitted to the Department on June 13, 1997, and was considered to be complete and filed on July 1, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Doublewall plastic coated steel tank and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, overfill alarm, sumps and automatic shutoff valves.

3) For leak detection - Interstitial monitoring system.

The Department concludes that the costs claimed by the applicant ($39,426) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant indicated that the most cost effective alternative was chosen. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Plastic coated steel tanks and flexible plastic piping	$11,304	100%	$11,304
Spill & Overfill Prevention:			
Spill containment basins	600	100	600
Automatic shutoff valves	200	100	200
Sumps	932	100	932
Overfill alarm	277	100	277
Leak Detection:			
Interstitial monitoring	814	100	814
Labor, material, misc. parts	25,299	100	25,299
Total	$39,426	100%	$39,426

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $39,426 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4779.

Barbara J. Anderson
(503) 229-5870
July 1, 1997

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Howard J. Winterbottom
dba H & H Auto
P O Box 286
Mosier, OR 97040

The applicant owns and operates a retail gas station at 1202 1st Ave., Mosier, OR, 97040, Facility No. 8173.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

The applicant received a 75% not to exceed $75,000 essential services grant through DEQ's Underground Storage Tank Financial Assistance Program for some of the expenses claimed in this tax credit application (see Section 2).

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are two fiberglass tanks (one has two compartments) and doublewall flexible plastic piping, spill containment basins, tank gauge system with overfill alarm, sumps, monitoring well and automatic shutoff valves.

Claimed facility cost $67,289
(Accountant's certification was provided)

The above claimed facility cost was obtained by applying the Department's tax credit/grant reduction methodology to a total eligible facility cost of $134,109. The Department concurs that $67,289 is the actual facility cost to the applicant pursuant to Oregon Administrative Rule 340-172-020(7)(b)(E).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on August 30, 1996 and placed into operation on August 30, 1996. The application for certification was submitted to the Department on June 13, 1997, and was considered to be complete and filed on June 23, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Fiberglass tanks and doublewall flexible plastic piping.

2) For spill and overfill prevention - Spill containment basins, overfill alarm, sumps and automatic shutoff valves.

3) For leak detection - Tank gauge system and monitoring well.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

   The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

   There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

   The applicant considered the methods chosen to be the most cost-effective. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

   The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

   There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Fiberglass tanks and doublewall flexible plastic piping	$8,099	43% (1)	$3,483
Spill & Overfill Prevention:			
Spill containment basins	430	100	430
Automatic shutoff valves	228	100	228
Sumps	339	100	339
Leak Detection:			
Tank gauge system w/alarm	3,078	90 (2)	2,770
Monitoring wells	57	100	57
Labor and materials	55,058	100	55,058
Total	$67,289	93%	$62,365

(1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is $16,141 and the bare steel system is $9,161, the resulting portion of the eligible tank and piping cost allocable to pollution control is 43%.

(2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

a. The facility was constructed in accordance with all regulatory requirements.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air.

This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules.

d. The portion of the facility cost that is properly allocable to pollution control is 93%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $67,289 with 93% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4780.

Barbara J. Anderson
(503) 229-5870
June 23, 1997

Application No. TC-4788

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Donaldson's Chevron Service
P O Box 369
Prairie City, OR 97869

The applicant owns and operates a retail gas station at 114 NE Front, Prairie City, OR 97869, Facility ID No. 1235.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are epoxy lining and fiberglass piping on three steel underground storage tanks.

Claimed facility cost $31,158
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on April 30, 1996 and placed into operation on April 30, 1996. The application for certification was submitted to the Department on June 27, 1997, and was considered to be complete and filed on July 3, 1997, within two years of the completion date of the project.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

To respond to Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

1) For corrosion protection - Epoxy lining and fiberglass piping on three steel tanks.

The Department concludes that the costs claimed by the applicant ($31,158) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not indicate that any alternative methods were available. The methods chosen are acceptable for meeting the requirements of federal regulations.

4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
Fiberglass piping	$1,577	100%	$1,577
Epoxy tank lining	24,091	100	24,091
Labor, material, misc parts	5,490	100	5,490
Total	$31,158	100%	$31,158

5. Summation

a. The facility was constructed in accordance with all regulatory requirements according to signed statements made by the installation service provider and/or owner.

b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

c. The facility complies with DEQ statutes and rules in that the appropriate compliance documents relating to the project have been submitted.

d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $31,158 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4788.

Barbara J. Anderson
(503) 229-5870
July 3, 1997

STATE OF OREGON
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

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1. **Applicant**

D&O Garbage Service, Inc.
PO Box 3967
Salem, Oregon 97302

The applicant operates solid waste collection and recycling service in Marion County. Application is for a pollution control facility tax credit certification.

2. **Description of Facility**

The facility consists of two 1996 International Model 4700 trucks serial numbers 1HTSCAAN1TH244555 and 1HTSCAA3TH244556 with modifications for on-route recycling. This application does not include that portion of the trucks which was certified as a reclaimed plastic tax credit investment under application TC 4353.

Total Facility Cost	$ 161,604
Reclaimed plastic tax credit value	54,418
Total cost claimed is	$107,186

Invoices, copies of checks, and an independent accountant's statement documenting the cost of the facility were provided.

3. **Procedural Requirements**

The facility is governed by ORS 468.150 - 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

a. The facility placed into operation on January 15, 1996.
b. The application for tax credit was submitted to the Department on July 25, 1997, within two years of substantial completion of the facility.

4. Evaluation of Application

a. The sole purpose of the facility is to prevent or reduce a substantial amount of solid waste. This prevention or reduction uses a material recovery process which obtains useful material from material that would otherwise be solid waste, pursuant to Oregon Administrative Rule 340-16-025(1)(b) and (2)(d). The truck is used to collect recyclable material from residential customers in Salem. This material would otherwise be disposed of as solid waste.

b. Eligible Cost Findings
In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility is used 100% of the time for recycling, a material recovery process.

2) The estimated annual percent return on the investment in the facility.

A) Facilities Integral to the Applicant's business:
The claimed facility is not integral to the applicant business. The applicant's business is the collection and disposal of garbage. The applicant is providing recycling service as required by the local government franchise

B) Actual cost of the claimed facility:
The applicant has claimed a facility cost of $107,186. The Department has identified no ineligible costs relating to the facility.

C) Useful life:
The applicant has claimed a useful life of 7 years.

D) Annual Percentage Return on Investment:
The average annual cash flow for the facility is negative. A negative cash flow results in a 0% annual percentage return on investment and therefore 100% of the facility cost is properly allocable to pollution control.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. **Summation**

a. The facility was constructed in accordance with all regulatory deadlines.
b. The facility is eligible for tax credit certification in that the sole purpose of these trucks is recycling of a material that would otherwise be disposed of as solid waste.
c. The facility complies with DEQ statutes and permit conditions.
d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. **Director's Recommendation**

Based upon the findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of $107,186 with 100% allocable to pollution control be issued for the facility claimed in Tax Credit Application TC-47xx.

William R. Bree
TAX\TC47xxRR.STA
(503) 229-6046
July 25, 1997

Attachment B

Certificates for Revocation

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

Certificate No. 2502
Date of Issue 4/26/91
Application No. T-3394

POLLUTION CONTROL FACILITY CERTIFICATE

Issued To:	Location of Pollution Control Facility:
Sixth Street Shell W. J. Wren & Wm. H. Wren P.O. Box 175 Redmond, OR 97756	109 S. Sixth St. Redmond, Oregon

As: ( )Lessee (x)Owner

Description of Pollution Control Facility: Installation of fiberglass piping, cathodic protection, spill containment basins, line leak detectors, float vent valves, monitoring wells and Stage I and II vapor recovery piping and equipment.

Type of Pollution Control Facility:
( )Air ( )Noise (x)Water ( )Solid Waste ( )Hazardous Waste ( )Used Oil

Date Facility was Completed: 10/30/89 Placed into Operation: 10/30/89

Actual Cost of Pollution Control Facility: $ 23,106.00

Percent of Actual Cost Properly Allocable to Pollution Control: 95%

Based upon the information contained in the application referenced above, the Environmental Quality Commission certifies that the facility described herein was erected, constructed or installed in accordance with the requirements of subsection (1) of ORS 468.165, and is designed for, and is being operated or will operate to a substantial extent for the purpose of preventing, controlling or reducing air, water or noise pollution or solid waste, hazardous wastes or used oil, and that it is necessary to satisfy the intents and purposes of ORS Chapters 454, 459, 467 and 468 and rules adopted thereunder.

Therefore, this Pollution Control Facility Certificate is issued this date subject to compliance with the statutes of the State of Oregon, the regulations of the Department of Environmental Quality and the following special conditions:

1. The facility shall be continuously operated at maximum efficiency for the designed purpose of preventing, controlling, and reducing the type of pollution as indicated above.
2. The Department of Environmental Quality shall be immediately notified of any proposed change in use or method of operation of the facility and if, for any reason, the facility ceases to operate for its intended pollution control purpose.
3. Any reports or monitoring data requested by the Department of Environmental Quality shall be promptly provided.

NOTE: The facility described herein is not eligible to receive tax credit certification as an Energy Conservation Facility under the provisions of Chapter 512, Oregon Law 1979, if the person issued the Certificate elects to take the tax credit relief under ORS 316.097 or 317.072.

Signed: _____

Title: William P. Hutchison, Jr., Chairman

Approved by the Environmental Quality Commission on the 26th day of April, 1991.

IGC\MY101417.C(8) PCFCERT.MSD (3/91)

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

Certificate No. 2546
Date of Issue 6/14/91
Application No. T-3429

POLLUTION CONTROL FACILITY CERTIFICATE

Issued To:	Location of Pollution Control Facility:
Sunset Fuel Company, Inc. P.O. Box 42287 Portland, OR 97242	6230 SW Macadam Portland, OR

As: ( )Lessee (x)Owner

Description of Pollution Control Facility:

Installation of epoxy lining in four steel tanks, spill containment basins, tank monitor and overfill alarm.

Type of Pollution Control Facility:
( )Air ( )Noise (x)Water ( )Solid Waste ( )Hazardous Waste ( )Used Oil

Date Facility was Completed: 11/16/90 Placed into Operation: 11/16/90

Actual Cost of Pollution Control Facility: $62,369.00

Percent of Actual Cost Properly Allocable to Pollution Control: 99%

sed upon the information contained in the application referenced above, the Environmental Quality mission certifies that the facility described herein was erected, constructed or installed in accordance with the requirements of subsection (1) of ORS 468.165, and is designed for, and is being operated or will operate to a substantial extent for the purpose of preventing, controlling or reducing air, water or noise pollution or solid waste, hazardous wastes or used oil, and that it is necessary to satisfy the intents and purposes of ORS Chapters 454, 459, 467 and 468 and rules adopted thereunder.

Therefore, this Pollution Control Facility Certificate is issued this date subject to compliance with the statutes of the State of Oregon, the regulations of the Department of Environmental Quality and the following special conditions:

1. The facility shall be continuously operated at maximum efficiency for the designed purpose of preventing, controlling, and reducing the type of pollution as indicated above.
2. The Department of Environmental Quality shall be immediately notified of any proposed change in use or method of operation of the facility and if, for any reason, the facility ceases to operate for its intended pollution control purpose.
3. Any reports or monitoring data requested by the Department of Environmental Quality shall be promptly provided.

NOTE: The facility described herein is not eligible to receive tax credit certification as an Energy Conservation Facility under the provisions of Chapter 512, Oregon Law 1979, if the person issued the Certificate elects to take the tax credit relief under ORS 316.097 or 317.072.

Signed: _____

Title: William P. Hutchison, Jr., Chairman

Approved by the Environmental Quality Commission on the 14th day of June, 1991.

MY101556.B

Environmental Quality Commission

☒ Rule Adoption Item
☐ Action Item
☐ Information Item

Agenda Item C
August 22, 1997 Meeting

Title:

Air Contaminant Discharge Permit Fees

Summary:

Projections of workload within the Air Contaminant Discharge Permit program greatly underestimated the number of sources subject to these requirements following implementation of the federal operating permit program. In order to maintain the same level of service and program improvements an increase in the fees charged to sources was proposed to support the workload demands. The original proposal called for a 40 percent increase in fees but was modified following Legislative consideration and review of the request in the Department's budget.

Department Recommendation:

The Commission adopt the rules/rule amendments regarding Air Contaminant Discharge Permit fees to raise fees in all categories by 30 percent.

Report Author | Division Administrator | Director

7/31/97

Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon
Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh

Subject: Agenda Item C, Air Contaminant Discharge Permit Fees, EQC Meeting August 22, 1997

Background

On February 19, 1997, the Director authorized the Air Quality Division to proceed to a rulemaking hearing on proposed rules which would increase the fees charged to industrial sources under the Air Contaminant Discharge Permit program.

Pursuant to the authorization, hearing notice was published in the Secretary of State's Bulletin on May 1, 1997. The Hearing Notice and informational materials were mailed to the mailing list of those persons who have asked to be notified of rulemaking actions, to current holders of air contaminant permits and to a mailing list of persons known by the Department to be potentially affected by or interested in the proposed rulemaking action on April 28, 1997

Public Hearings were held May 27 in Medford, May 28 in Bend, May 29 in Portland with Robert Durham, Bonnie Hough and Audrey O'Brien, respectively, serving as Presiding Officers. Written comment was received through July 21, 1997. The comment period had been extended from the original closing date of May 30, 1997 to accommodate comments based upon the Legislature's review of the Department's budget. The Presiding Officer's Report (Attachment C) summarizes the oral testimony presented at the hearing and lists all the written comments received. (A copy of the comments is available upon request.)

Department staff have evaluated the comments received (Attachment D). Based upon that evaluation, modifications to the initial rulemaking proposal are being recommended by the Department. These modifications are summarized below and detailed in Attachment E.

The following sections summarize the issue that this proposed rulemaking action is intended to address, the authority to address the issue, the process for development of the rulemaking proposal including alternatives considered, a summary of the rulemaking proposal presented for public hearing, a summary of the significant public comments and the changes proposed in response to

those comments, a summary of how the rule will work and how it is proposed to be implemented, and a recommendation for Commission action.

Issue this Proposed Rulemaking Action is Intended to Address

The Department has been conducting an industrial permitting program for air quality since 1972. The program from its inception has been supported in part by fees paid by the affected industrial and commercial sources. Federal grants and legislatively appropriated general funds have made up the bulk of the financial support. In recent years, however, revenues from these two sources have been declining. The Department has responded with a combination of management actions including fee increases and implementing program efficiencies.

Prior to the beginning of the last biennium the Department had prepared a program scope that accommodated the declining revenues as well as the projected smaller program that would occur as Title V, the federal operating permit program, was fully implemented. Staff and resource had been taken out of ACDP because of the anticipated decline. However the actual number of sources still subject to ACDP requirements proved to be higher than projected. The Department responded by reassigning existing staff to address the workload. This reassignment could only be temporary as it drew financial support from other, needed air quality programs. Although fee revenue would increase as a result of the larger than expected number of sources, fees have typically paid for less than half of the program's costs, leaving a permanent shortfall which could not be filled by otherwise declining levels of general and federal funding. This fee increase is proposed so that current levels of service and quality within the permit program can be maintained.

Relationship to Federal and Adjacent State Rules

There are no specific federal requirements related to funding of state authorized permit programs. However, the air contaminant discharge permit program is a part of our federal commitment to enhance air quality in Oregon, as reflected in our state implementation plan (SIP). Adequate staffing and revenues are needed to develop and write permits and inspect sources for compliance with permit conditions in order to meet clean air goals outlined in the SIP.

Authority to Address the Issue

The Commission has authority to address this issue under Oregon Revised Statutes (ORS) 468.065 and 468A.040.

Process for Development of the Rulemaking Proposal (including Advisory Committee and alternatives considered)

A formal advisory committee had not been convened for this action. However beginning last winter briefings have been arranged on several occasions for members of the regulated community, to advise them of the need and the Department's proposed action. The Department solicited opinions from those persons at these briefings. This fee increase was also a part of the Governor's recommended budget for FY 97-99 and was subject to public hearings and review by the Oregon Legislature.

The Department considered other alternatives including:

1. Maintaining current FTE commitment to permitting at the expense of area and mobile source work. Attainment and maintenance plans would not be initiated and/or completed as a result. Air quality goals will be delayed and constraints on economic activity will continue.
2. Moving current FTE out of ACDP to mobile and area source work.
Service levels within the permit program would decline to unacceptable levels. The permit backlog will increase to levels that likely cannot be managed well with the remaining staff. The Department will lose the ability to promise a time certain to sources for permit issuance. This affects sources' ability to implement business plans ultimately creating an unnecessary cloud on Oregon's business climate.

Summary of Rulemaking Proposal Presented for Public Hearing and Discussion of Significant Issues Involved.

The rulemaking prepared for public comment proposed to increase the fees associated with air contaminant permits across the board by 40 percent. The Department has been criticized in the past for running the program with a large backlog of uncompleted permit actions. This proposal was intended to provide the financial support necessary to keep the permit backlog to acceptable levels and to maintain other program functions needed to achieve environmental goals. Discussion was expected to center on whether the increase was justified in light of expected program and environmental impacts if program resources were reduced.

Summary of Significant Public Comment and Changes Proposed in Response

The majority of public response was opposed to the fee increase although there were some expressions of support. Critics of the fee increase questioned whether the demonstrated need was a short term effect related solely to the startup of Title V, whether the proposed staffing levels were required and whether program efficiencies or reductions in program complexity have been adequately considered. Opponents also pointed out that the fee increase would have an adverse

impact on public facilities budgets and business operations. Comments were also made generally about the structure of the fee table, that the breakdown among categories didn't make sense or appear to be reflective of workload, environmental impact or other readily identifiable values.

Department staff are recommending that the overall fee increase be reduced to match the levels approved by the Oregon Legislature after their review of the issues involved. The Department recognizes that the fee structure, which has not functionally changed since it was first adopted over twenty years ago, could be modified with positive effects for sources, program staff and the environment. The Department would propose that any reconsideration of the fee table consider balancing various values such as support of the environmental mission, be equitable, simple and understandable, streamline the process, require low level of discretion to apply and provide stable program funding. This process will require extensive discussion to adequately complete, more time than is available here. This review would rely extensively on the participation of the regulated community.

Summary of How the Proposed Rule Will Work and How it Will be Implemented

The rule change is proposed to become effective on October 1. Sources are billed 30 days prior to their anniversary date for annual fees, so sources with billing dates before October 1st will not be immediately affected. Existing sources are typically notified 60 days in advance of their anniversary date but because of the proximity of the Commission meeting date to the October 1 effective date, sources with payment due in October will receive their notice 30 days prior. The revised schedule of fees will affect new sources with billing dates due after October 1st.

Recommendation for Commission Action

It is recommended that the Commission adopt the rules/rule amendments regarding Air Contaminant Discharge Permit fees as presented in Attachment A-2 of the Department Staff Report as an amendment to the State Implementation Plan. The recommendation is that changes to fee table be adopted as modified, for an across the board increase in all fee categories by 30 percent.

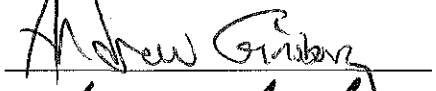
Attachments

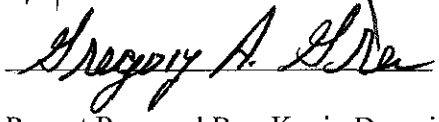
A. Rule (Amendments) Proposed for Adoption
B. Supporting Procedural Documentation:
   1. Legal Notice of Hearing
   2. Fiscal and Economic Impact Statement
   3. Land Use Evaluation Statement
   4. Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements
   5. Cover Memorandum from Public Notice
C. Presiding Officer's Report on Public Hearing
D. Department's Evaluation of Public Comment
E. Detailed Changes to Original Rulemaking Proposal made in Response to Public Comment
F. Rule Implementation Plan

Reference Documents (available upon request)

Written Comments Received (listed in Attachment C)

Approved:

Section: 

Division: 

Report Prepared By: Kevin Downing

Phone: 503 229-6549

Date Prepared: 8/11/97

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7/23/97

DIVISION 20
General Air Pollution Control Regulations

State of Oregon Clean Air Act Implementation Plan
340-020-0047

(1) This implementation plan, consisting of Volumes 2 and 3 of the State of Oregon Air Quality Control Program, contains control strategies, rules and standards prepared by the Department of Environmental Quality and is adopted as the state implementation plan (SIP) of the State of Oregon pursuant to the federal Clean Air Act, Public Law 88-206 as last amended by Public Law 101-549.

(2) Except as provided in section (3) of this rule, revisions to the SIP shall be made pursuant to the Commission's rule-making procedures in Division 11 of this Chapter and any other requirements contained in the SIP and shall be submitted to the United States Environmental Protection Agency for approval.

(3) Notwithstanding any other requirement contained in the SIP, the Department is authorized to submit to the Environmental Protection Agency any permit condition implementing a rule that is part of the federally- approved SIP as a source-specific SIP revision after the Department has complied with the public hearings provisions of 40 CFR 51.102 (July 1, 1992).

[NOTE: Revisions to the State of Oregon Clean Air Act Implementation Plan become federally enforceable upon approval by the United States Environmental Protection Agency. If any provision of the federally approved Implementation Plan conflicts with any provision adopted by the Commission, the Department shall enforce the more stringent provision.]

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS Ch. 468 & 468A
Stats Implemented: ORS 468.020 & 468A.025
Hist.: DEQ 35, f. 2-3-72, ef. 2-15-72; DEQ 54, f. 6-21-73, ef. 7-1-73; DEQ 19-1979, f. & ef. 6-25-79; DEQ 21-1979, f. & ef. 7-2-79; DEQ 22-1980, f. & ef. 9-26-80; DEQ 11-1981, f. & ef. 3-26-81; DEQ 14-1982, f. & ef. 7-21-82; DEQ 21-1982, f. & ef. 10-27-82; DEQ 1-1983, f. & ef. 1-21-83; DEQ 6-1983, f. & ef. 4-18-83; DEQ 18-1984, f. & ef. 10-16-84; DEQ 25-1984, f. & ef. 11- 27-84; DEQ 3-1985, f. & ef. 2-1-85; DEQ 12-1985, f. & ef. 9-30-85; DEQ 5- 1986, f. & ef. 2-21-86; DEQ 10-1986, f. & ef. 5-9-86; DEQ 20-1986, f. & ef. 11-7-86; DEQ 21-1986, f. & ef. 11-7-86; DEQ 4-1987, f. & ef. 3-2-87; DEQ 5-1987, f. & ef. 3-2-87; DEQ 8-1987, f. & ef. 4-23-87; DEQ 21-1987, f. & ef. 12-16-87; DEQ 31-1988, f. 12-20-88, cert. ef. 12-23-88; DEQ 2-1991, f. & cert. ef. 2-14-91; DEQ 19-1991, f. & cert. ef. 11-13-91; DEQ 20-1991, f. & cert. ef. 11-13-91; DEQ 21-1991, f. & cert. ef. 11-13-91; DEQ 22-1991, f. & cert. ef. 11-13-1991; DEQ 23-1991, f. & cert. ef. 11-13-91; DEQ 24- 1991, f. & cert. ef. 11-13-91; DEQ 25-1991, f. & cert. ef. 11-13-91; DEQ 1- 1992,f. & cert. ef. 2-4-92; DEQ 3-1992, f. & cert. ef. 2-4-92; DEQ 7-1992, f. & cert. ef. 3-30-92; DEQ 19-1992, f. & cert. ef. 8-11-92; DEQ 20-1992, f. & cert. ef. 8-11-92; DEQ 25-1992, f. 10-30-92, cert. ef. 11-1-92; DEQ 26-1992, f. & cert. ef. 11-2-92; DEQ 27-1992, f. & cert. ef. 11-12-92; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 8-1993, f. & cert. ef. 5-11-93; DEQ 12- 1993, f. & ef. 9-24-93; DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 15-1993, f. & cert. ef. 11-4-93; DEQ 16-1993, f. & cert. ef. 11-4-93; DEQ 19-1993, f. & cert. ef. 11-4-93; DEQ 1-1994, f. & cert. ef. 1-3-94; DEQ 5-1994, f. & ef. 3-21-94; DEQ 14-1994, f. & ef. 5-31-94; DEQ 15-1994, f. 6-8-94 & ef. 7- 1-94; DEQ 22-1994, f. & ef. 10-14-94; DEQ 24-1994, f. & ef. 10-28-94; DEQ 25-1994, f. & ef. 11-2-94; DEQ 32-1994, f. & ef. 12-22-94; DEQ 1-1995, f. 1-10-95 & ef. 5-1-95; DEQ 4-1995, f. & ef. 2-17-95; DEQ 7-1995, f. & ef. 3-19-95; DEQ 9-1995, f. & ef. 5-1-95; DEQ 10-1995, f. & ef. 5-1-95; DEQ 12- 1995, f. & ef. 5-25-95; DEQ 13-1995, f. & ef. 5-25-95; DEQ 14-1995, f. & ef. 5-25-95; DEQ 17-1995, f. & ef. 7-12-95

DIVISION 28

~~SPECIFIC AIR POLLUTION CONTROL RULES FOR CLACKAMAS, COLUMBIA, MULTNOMAH, AND WASHINGTON COUNTIES~~ STATIONARY SOURCE AIR POLLUTION CONTROL AND PERMITTING PROCEDURES

Fees and Permit Duration
340-028-1750

(1) All persons required to obtain a permit shall be subject to a three part fee consisting of a uniform non-refundable filing fee of $~~75~~98, an application processing fee, and an annual compliance determination fee which are determined by applying Table 4, Part II. The amount equal to the filing fee, application processing fee, and the annual compliance determination fee shall be submitted as a required part of any application for a new permit. The amount equal to the filing fee and the application processing fee shall be submitted with any application for modification of a permit.

(2) The fee schedule contained in the listing of air contaminant sources in Table 4 shall be applied to determine the fees for ACDP user fees (Table 4, Part I.) and ACDP fees (Table 4, Part II.) on a Standard Industrial Classification (SIC) plant site basis.

(3) Modifications of existing, unexpired permits which are instituted by the Department or Regional Authority due to changing conditions or standards, receipts or additional information, or any other reason pursuant to applicable statutes and do not require refiling or review of an application or plans and specifications shall not require submission of the filing fee or the application processing fee.

(4) Applications for multiple-source permits received pursuant to OAR 340-028-1730 shall be subject to a single $~~75~~98 filing fee. The application processing fee and annual compliance determination fee for multiple-source permits shall be equal to the total amounts required by the individual sources involved, as listed in Table 4.

(5) The annual compliance determination fee shall be paid at least 30 days prior to the start of each subsequent permit year. Failure to timely remit the annual compliance determination fee in accordance with the above shall be considered grounds for not issuing a permit or revoking an existing permit.

(6) If a permit is issued for a period less than one (1) year, the applicable annual compliance determination fee shall be equal to the full annual fee. If a permit is issued for a period greater than 12 months, the applicable annual compliance determination fee shall be prorated by multiplying the annual compliance determination fee by the number of months covered by the permit and dividing by twelve (12).

(7) In no case shall a permit be issued for more than ten (10) years, except for synthetic minor source permits which shall not be issued for more than five (5) years.

(8) Upon accepting an application for filing, the filing fee shall be non-refundable.

(9) When an air contaminant source which is in compliance with the rules of a permit issuing agency relocates or proposes to relocate its operation to a site in the jurisdiction of another permit issuing agency having comparable control requirements, application may be made and approval may be given for an exemption of the application processing fee. The permit application and the request for such fee reduction shall be accompanied by:

(a) A copy of the permit issued for the previous location; and

(b) Certification that the permittee proposes to operate with the same equipment, at the same production rate, and under similar conditions at the new or proposed location. Certification by the agency previously having jurisdiction that the source was operated in compliance with all rules and regulations will be acceptable should the previous permit not indicate such compliance.

(10) If a temporary or conditional permit is issued in accordance with adopted procedures, fees

submitted with the application for an ACDP shall be retained and be applicable to the regular permit when it is granted or denied.

(11) All fees shall be made payable to the permit issuing agency.

(12) Pursuant to ORS 468A.135, a regional authority may adopt fees in different amounts than set forth in Table 4 provided such fees are adopted by rule and after hearing and in accordance with ORS 468.065(2).

(13) Sources which are temporarily not conducting permitted activities, for reasons other than regular maintenance or seasonal limitations, may apply for use of a modified annual compliance determination fee in lieu of an annual compliance determination fee determined by applying Table 4. A request for use of the modified annual compliance determination fee shall be submitted to the Department in writing along with the modified annual compliance determination fees on or before the due date of the annual compliance determination fee. The modified annual compliance determination fee shall be ~~$385~~539.

(14) Owners or operators who have received Department approval for payment of a modified annual compliance determination fee shall obtain authorization from the Department prior to resuming permitted activities. Owners or operators shall submit written notification to the Department at least thirty (30) days before startup specifying the earliest anticipated startup date, and accompanied by:

(a) Payment of the full annual compliance determination fee determined from Table 4 if greater than six (6) months would remain in the billing cycle for the source, or

(b) Payment of 50% of the annual compliance determination fee determined from Table 4 if six (6) months or less would remain in the billing cycle.

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-020-0047.]

Statutory Authority: ORS 468.020

Stat. Implemented: 468A.

Hist.: DEQ 47, f. 8-31-72, ef. 9-15-72; DEQ 63, f. 12-20-73, ef. 1-11-74; DEQ 107, f. & ef. 1-6-76; Renumbered from 340-020-0033.12; DEQ 125, f. & ef. 12-16-76; DEQ 20-1979, f. & ef. 6-29-79; DEQ 11-1983, f. & ef. 5-31-83; DEQ 6-1986, f. & ef. 3-26-86; DEQ 12-1987, f. & ef. 6-15-87; DEQ 17-1990, f. & cert. ef. 5-25-90; AQ 4-1992, f. & ef. 12-2-91; AQ 1-1993, f. & ef. 3-9-93; Renumbered from OAR 340-020-0165; AQ 9-1993, f & ef. 9-24-93; AQ 11-1993 Temp., f. & ef. 11-2-93; DEQ 13-1994, f. & ef. 5-19-94; DEQ 21-1994, f. & ef. 10-14-94; DEQ 22-1994, f. & ef. 10-14-94; DEQ 22-1995, f. & ef. 10-6-95

TABLE 4
AIR CONTAMINANT SOURCES AND ASSOCIATED FEE SCHEDULE
(340-028-1750)

PART I.

Note: Fees in (A) through (H) are in addition to any other applicable fee.

A.	Late Payment a) 8 - 30 days b) > 30 days	 $200 $400
B.	Ambient Monitoring Network Review	~~$900~~1,170
C.	Modeling Review	~~$2000~~2,600
D.	Alternative Emission Control Review	~~$1500~~1,950
E.	Non-technical permit modification (name change, ownership transfer, and similar)	~~$50~~65

TABLE 4 AIR CONTAMINANT SOURCES AND ASSOCIATED FEE SCHEDULE (340-028-1750) PART I.		
Note: Fees in (A) through (H) are in addition to any other applicable fee.		
F.	Initial Permitting or Construction a) Complex b) Moderately Complex c) Simple	 $~~22,000~~28,600 $~~10,000~~13,000 $~~2,000~~2,600
G.	Elective Permits - Synthetic Minor Sources a) Permit Application or Modification b) Annual Compliance Assurance	 $1,900 $1,000
H.	Filing	$~~75~~98

TABLE 4
AIR CONTAMINANT SOURCES AND
ASSOCIATED FEE SCHEDULE
(340-028-1750)

PART II.

Note: Persons who operate boilers shall include fees as indicated in Items 58, 59, or 60 in addition to fees for other applicable source categories.

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
1.	Seed cleaning and associated grain elevators in special control areas, commercial operations only	0723	~~616~~801	~~939~~1,221
2.	Reserved			
3.	Flour and other grain mill products and associated grain elevators in special control areas a) 10,000 or more tons/year b) Less than 10,000 tons/year	2041	 ~~2002~~2,603 ~~1540~~2,002	 ~~1848~~2,402 ~~793~~1,031
4.	Cereal preparations and associated grain elevators in special control areas	2043	~~2002~~2,603	~~1332~~1,732

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
5.	Blended and prepared flour and associated grain elevators in special control areas a) 10,000 or more tons/year b) Less than 10,000 tons/year	2045	~~2002~~2,603 ~~1540~~2,002	~~1332~~1,732 ~~770~~1,001
6.	Prepared feeds for animals and fowl and associated grain elevators in special control areas a) 10,000 or more tons/year b) Less than 10,000 tons/year	2048	~~2002~~2,603 ~~1232~~1,602	~~1848~~2,402 ~~1455~~1,892
7.	Beet sugar manufacturing	2063	~~2618~~3,403	~~9171~~11,922
8.	Animal reduction facilities a) 10,000 or more tons/year input b) Less than 10,000 tons/year input	2077	~~2464~~3,203 ~~1848~~2,402	~~2957~~3,844 ~~1602~~2,083
9.	Coffee roasting, 30 tons/year or more roasted product	2095	~~1232~~1,602	~~1209~~1,572
10.	Sawmills and/or planing mills a) 25,000 or more bd. ft./shift finished product or 10 or more employees per shift b) Reserved	2421, 2426	~~1232~~1,602	~~1848~~2,402
11.	Reserved			
12.	Reserved			
13.	Millwork (including kitchen cabinets and structural wood members) 25,000 or more bd. ft./ shift input or 10 or more employees per shift	2431, 2434, 2439	~~924~~1,201	~~1455~~1,892
14.	Plywood manufacturing and/or veneer drying a) 25,000 or more sq. ft./hr., 3/8" basis finished product b) 10,000 or more but less than 25,000 sq. ft./hr., 3/8" basis finished product c) Less than 10,000 sq. ft./hr., 3/8" basis finished product	2435, 2436	~~3850~~5,005 ~~2772~~3,604 ~~924~~1,201	~~3727~~4,845 ~~2518~~3,273 ~~1332~~1,732
15.	Reserved			
16.	Wood preserving (excluding waterborne)	2491	~~1540~~2,002	~~1478~~1,921

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
17.	Particleboard manufacturing (including strandboard, flakeboard, and waferboard) a) 10,000 or more sq. ft./hr., 3/4" basis finished product b) Less than 10,000 sq. ft./hr., 3/4" basis finished product	2493	~~3850~~5,005 ~~1848~~2,402	~~4389~~5,706 ~~2094~~2,722
18.	Hardboard manufacturing (incuding fiberboard) a) 10,000 or more sq. ft./hr., 1/8" basis finished product b) Less than 10,000 sq. ft./hr., 1/8" basis finished product	2493	~~3850~~5,005 ~~1848~~2,402	~~3604~~4,685 ~~1848~~2,402
19.	Battery separator manufacturing	2499	~~1540~~2,002	~~3203~~4,164
20.	Furniture and fixtures a) 25,000 or more bd. ft./shift input or 10 or more employees per shift b) Reserved	2511	~~924~~1,201	~~1455~~1,892
21.	Pulp mills, paper mills, and paperboard mills a) Kraft, sulfite, & neutral sulfite only b) Other - 100 tons or more of emissions	2611, 2621, 2631	~~7700~~10,010 ~~7700~~10,010	~~15947~~20,731 ~~15947~~20,731
22.	Building paper and building-board mills	2621, 2493	~~1232~~1,602	~~1209~~1,572
23.	Alkalies and chlorine mfg. a) High cost b) Low cost	2812	~~3773~~4,905 ~~2156~~2,803	~~4235~~5,506 ~~3180~~4,134
24.	Calcium carbide manufacturing a) High cost b) Low cost	2819	~~4043~~5,256 ~~2310~~3,003	~~4235~~5,506 ~~3180~~4,134
25.	Nitric acid manufacturing a) High cost b) Low cost	2819	~~2695~~3,504 ~~1540~~2,002	~~2133~~2,773 ~~1602~~2,083
26.	Ammonia manufacturing a) High cost b) Low cost	2819	~~2695~~3,504 ~~1540~~2,002	~~2464~~3,203 ~~1848~~2,402
27.	Industrial inorganic and organic chemicals manufacturing (not elsewhere included) a) High cost b) Low cost	2819, 2851, 2869	~~3504~~4,555 ~~2002~~2,603	~~3018~~3,923 ~~2272~~2,954

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
28.	Synthetic resin manufacturing a) High cost b) Low cost	2821	~~2695~~3,504 ~~1540~~2,002	~~2464~~3,203 ~~1848~~2,402
29.	Charcoal manufacturing	2861	~~2156~~2,803	~~3850~~5,005
30.	Pesticide manufacturing	2879	~~3850~~5,005	~~15947~~20,731
31.	Petroleum refining a) Refining, general b) Asphalt production by distillation	2911	~~7700~~10,010 ~~1540~~2,002	~~15947~~20,731 ~~1848~~2,402
32.	Reserved			
33.	Asphalt blowing plants	2952	~~1540~~2,002	~~2395~~3,114
34.	Asphaltic concrete paving plants a) Stationary b) Portable	2951	~~770~~1,001 ~~770~~1,001	~~909~~1,182 ~~1155~~1,502
35.	Asphalt felts or coating	2952	~~770~~1,001	~~1386~~1,802
36.	Rerefining of lubricating oils and greases, and reprocessing of oils and solvents for fuel	2992	~~1386~~1,802	~~1725~~2,243
37.	Glass container manufacturing	3221	~~1540~~2,002	~~2272~~2,954
38.	Cement manufacturing	3241	~~4928~~6,406	~~11681~~15,185
39.	Concrete manufacturing, including redimix and CTB	3271, 3272, 3273	~~308~~400	~~493~~641
40.	Lime manufacturing	3274	~~2310~~3,054	~~1209~~1,572
41.	Gypsum products	3275	~~1232~~1,602	~~1332~~1,732
42.	Rock crusher a) Stationary b) Portable	1442, 1446, 3295	~~693~~901 ~~693~~901	~~909~~1,182 ~~1155~~1,502
43.	Steel works, rolling and finishing mills, electro-metallurgical products	3312, 3313	~~3850~~5,005	~~3180~~4,134
44.	Incinerators a) 250 or more tons/day capacity or any off-site infectious waste incinerator b) 50 or more but less than 250 tons/day capacity c) 2 or more but less than 50 tons/day capacity d) Crematoriums and pathological waste incinerators, less than 2 tons/day capacity e) PCB and/or other hazardous waste incinerator	4953	~~184802~~4,024 ~~4620~~6,006 ~~770~~1,001 ~~770~~1,001 ~~184802~~4,024	~~79621~~0,351 ~~241~~83,143 ~~939~~1,221 ~~939~~1,221 ~~79621~~0,351

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
45.	Gray iron and steel foundries, malleable iron foundries, steel investment foundries, steel foundries (not elsewhere classified) a) 3,500 or more tons/year production b) Less than 3,500 tons/year production	3321, 3322, 3324, 3325	 ~~3850~~5,005 ~~924~~1,201	 ~~2787~~3,623 ~~1455~~1,892
46.	Primary aluminum production	3334	~~7700~~10,010	~~15947~~20,731
47.	Primary smelting of zirconium or hafnium	3339	~~7700~~10,010	~~15947~~20,731
48.	Primary smelting and refining of ferrous and nonferrous metals (not elsewhere classified) a) 2,000 or more tons/year production b) Less than 2,000 tons/year production	3331, 3339	 ~~3850~~5,005 ~~770~~1,001	 ~~6899~~8,969 ~~2664~~3,463
49.	Secondary smelting and refining of nonferrous metals, 100 or more tons/year metal charged	3341	~~1848~~2,402	~~1848~~2,402
50.	Nonferrous metal foundries, 100 or more tons/year metal charged	3363, 3364, 3365, 3366, 3369	~~924~~1,201	~~1602~~2,083
51.	Reserved			
52.	Galvanizing and pipe coating (excluding all other activities)	3479	~~770~~1,001	~~1209~~1,572
53.	Battery manufacturing	3691	~~924~~1,201	~~1602~~2,083
54.	Grain elevators, intermediate storage only, located in special control areas (not elsewhere classified) a) 20,000 or more tons/year grain processed b) Less than 20,000 tons/year grain processed	4221	 ~~1386~~1,802 ~~770~~1,001	 ~~2518~~3,273 ~~1209~~1,572
55.	Electric power generation* a) Wood or coal fired, 25 MW or more b) Reserved c) Oil or natural gas fired, 25 MW or more	4911	 ~~308004~~0,040 ~~2772~~3,604	 ~~15947~~20,731 ~~3850~~5,005

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
56.	Fuel burning equipment for gas production and/or distribution, 10 million or more Btu/hr. heat input	4922, 4925		
	a) Natural gas transmission		~~2926~~3,804	~~1848~~2,402
	b) Natural gas production and/or mfg.		~~2926~~3,804	~~1848~~2,402
57.	Terminal elevators primarily engaged in buying and/or marketing grain, in special control areas	5153		
	a) 20,000 or more tons/year grain processed		~~3850~~5,005	~~3180~~4,134
	b) Less than 20,000 tons/year grain processed		~~1078~~1,401	~~1209~~1,572
58.	Fuel burning equipment within the boundaries of the Portland and Medford-Ashland Air Quality Maintenance Areas, Salem Area Transportation Study Boundary, and Grants Pass, Klamath Falls, and LaGrande Urban Growth Areas **, ***, ****	4961		
	a) Residual or distillate oil fired, 250 million or more Btu/hr. heat input		~~2464~~3,203	~~2418~~3,143
	b) Residual or distillate oil fired, 10 or more but less than 250 million Btu/hr. heat input		~~1540~~2,002	~~1332~~1,732
	c) Reserved			

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
59.	Fuel burning equipment within the boundaries of the Portland and Medford-Ashland Air Quality Maintenance Areas, Salem Area Transportation Study Boundary, and Grants Pass, Klamath Falls, and LaGrande Urban Growth Areas **, ***, ****	4961		
	a) Wood or coal fired, 35 million or more Btu/hr. heat input		~~2464~~3,203	~~2418~~3,143
	b) Wood or coal fired, less than 35 million Btu/hr. heat input		~~616~~801	~~1332~~1,732
60.	Fuel burning equipment outside the boundaries of the Portland and Medford-Ashland Air Quality Maintenance Areas, Salem Area Transportation Study Boundary, and Grants Pass, Klamath Falls, and LaGrande Urban Growth Areas **, ***, ****	4961		
	All oil fired 30 million or more Btu/hr. heat input, and all wood and coal fired 10 million or more Btu/hr. heat input		~~1540~~2,002	~~1332~~1,732
61.	Sources installed in or after 1971 not listed herein which would emit 5 or more tons/yr. PM_{10} in a PM_{10} nonattainment area, or 10 or more tons/yr. of any air contaminants in any part of the state. This includes but is not limited to particulates, SO_X, or Volatile Organic Compounds (VOC), if the source were to operate uncontrolled	any		
	a) High cost		~~13860~~18,018	~~9856~~12,813
	b) Medium cost		~~3850~~5,005	~~1725~~2,243
	c) Low cost		~~924~~1,201	~~739~~961

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
62.	Sources installed in or after 1971 not listed herein which would emit significant malodorous emissions, as determined by Departmental review of sources which are known to have similar air contaminant emissions. a) High cost b) Medium cost c) Low cost	any	 ~~13860~~18,018 ~~3850~~5,005 ~~924~~1,201	 ~~9856~~12,813 ~~1725~~2,243 ~~739~~961
63.	Sources not listed herein for which an air quality problem is identified by the Department or which are not otherwise required to obtain a permit a) High cost b) Medium cost c) Low cost	any	 ~~13860~~18,018 ~~3850~~5,005 ~~924~~1,201	 ~~9856~~12,813 ~~1725~~2,243 ~~739~~961
64.	Bulk gasoline plants regulated by OAR 340-022-0120 *****	5171	~~616~~801	~~793~~1,031
65.	Bulk gasoline terminals *****	5171	~~6160~~8,008	~~2664~~3,463
66.	Liquid storage tanks, 39,000 gallons or more capacity, regulated by OAR 340-022-0160 (not elsewhere included) *****	5169, 5171	~~308~~400/tank	~~547~~711/tank
67.	Can or drum coating ***** a) 50,000 or more units/month b) Less than 50,000 units/month	3411, 3412	 ~~924~~12,012 ~~616~~801	 ~~4782~~6,217 ~~1063~~1,382
68.	Paper or other substrate coating *****	2672, 3861	~~924~~12,012	~~4782~~6,217
69.	Coating flat wood regulated by OAR 340-022-0200 *****	2435	~~3080~~4,004	~~1602~~2,083
70.	Surface coating, manufacturing ***** a) 100 or more tons VOC/yr. b) 10 or more but less than 100 tons VOC/yr. c) Less than 10 tons VOC/yr. (at sources' request)	any	 ~~3080~~4,004 ~~924~~1,201 ~~308~~400	 ~~2125~~2,763 ~~1063~~1,382 ~~447~~581
71.	Flexographic or rotogravure printing, 60 or more tons VOC/yr. per plant *****	2754, 2759	~~3465~~4,505	~~3080~~4,004
72.	Reserved			

No.	Air Contaminant Source	Standard Industrial Classification Number (Reference Only)	Application Processing Fee	Annual Compliance Determination Fee
73.	Sources subject to NESHAPS rules (except demolition and renovation)	any	~~616~~801	~~770~~1,001
74.	Sources requiring toxic air pollutant review, including Maximum Available Control Technology (MACT), (not elsewhere classified)	any	~~1540~~2,002	~~1478~~1,921
75.	Soil remediation plants a) Stationary b) Portable	1799	 ~~1540~~2,002 ~~1540~~2,002	 ~~1455~~1,892 ~~1848~~2,402

* Excluding hydro-electric and nuclear generating projects.

** Including co-generation facilities of less than 25 megawatts.

*** Legal descriptions and maps of these areas are on file in the Department.

**** Fees will be based on the total aggregate heat input of all fuel burning equipment at the site.

***** Permits for sources in categories 64 through 71 are required only if the source is located in the Portland AQMA, Medford-Ashland AQMA, or Salem SATS.

NOTICE OF PROPOSED RULEMAKING HEARING

Department of Environmental Quality

OAR Chapter 340-28-1750

DATE:	**TIME:**	**LOCATION:**
May 27, 1997	1:30 PM	Medford City Hall Room 340 411 W 8th Medford, Oregon
May 28, 1997	1:30 PM	DEQ - Eastern Region Office 2146 NE 4th, #104 Bend, Oregon
May 29, 1997	1:30 PM	DEQ - Northwest Region Office Conference Room A, 4th floor 2020 SW 4th Avenue Portland, Oregon

HEARINGS OFFICER(s): John Becker, Bonnie Hough, Kevin Downing

STATUTORY AUTHORITY: ORS 468.065; 468A.040
or **OTHER AUTHORITY:**
STATUTES IMPLEMENTED:

ADOPT:

AMEND: OAR 340-28-1750

REPEAL:

RENUMBER:
(prior approval from Secretary of State REQUIRED)

AMEND & RENUMBER:
(prior approval from Secretary of State REQUIRED)

√ This hearing notice is the initial notice given for this rulemaking action.
☐ This hearing was requested by interested persons after a previous rulemaking notice.
☐ Auxiliary aids for persons with disabilities are available upon advance request.

SUMMARY:

This proposal would raise the fees charged to industrial sources subject to air contaminant discharge permit requirements under state statute and rules by 40%. Industrial sources subject to federal operating permit requirements and fees associated with these permit requirements are not part of this rulemaking. Sources in Lane County are not affected by this rulemaking as they are regulated by the Lane Regional Air Pollution Authority. This proposed rule will be submitted to the US Environmental Protection Agency as revisions to the State Implementation Plan, which is a requirement of the Clean Air Act.

LAST DATE FOR COMMENT: May 30, 1997 5:00PM

AGENCY RULES COORDINATOR:	Susan M. Greco, (503) 229-5213
AGENCY CONTACT FOR THIS PROPOSAL:	Kevin Downing
ADDRESS:	811 S. W. 6th Avenue Portland, Oregon 97204
TELEPHONE:	503 229-6549/1-800-452-4011

Interested persons may comment on the proposed rules orally or in writing at the hearing. Written comments will also be considered if received by the date indicated above.

Susan Greco — Signature

4/16/97 — Date

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Air Contaminant Discharge Permit Fees

Fiscal and Economic Impact Statement

Introduction

- This rulemaking as proposed will raise fees for sources subject to Air Contaminant Discharge Permit requirements. Fees will be increased in all current categories by 40%. It is anticipated that the total fees assessed by this increase will average $1,174,440 in a biennium.

General Public

No direct fiscal impacts.

Small Business

Fees are assessed based on the appropriate Standard Industrial Classification (SIC) code that describes the operation of the business. The fee table was originally established to reflect the workload associated with permitting sources within each industrial category and this, in turn, is somewhat related to the size of the operation. Within certain SIC codes the fee also varies according to the size of the operation. Because the fees are based on SIC code and amount of material produced, the size of the source based on number of employees is not material to the fee structure. Otherwise, the impacts are as outlined for large businesses.

Examples of emission sources that could be found at smaller operations and the effect of the fee increase are: annual fees for rock crushers would increase from $909 to $1,273; annual fees for a boiler would increase from $1,332 to $1,865.

Large Business

As noted in the rule, all sources required to obtain a permit shall be subject to a filing fee, and application processing fee and an annual compliance determination fee. The filing fee is uniform for all sources and is nonrefundable. Application and annual fees are assessed based on Table 4 and are based on the Standard Industrial Classification numbers appropriate to the permitted operation. Application and filing fees are paid upon initial application and every subsequent renewal, typically

five years. Annual compliance determination fees are paid each year. Minimal sources will pay an amount equal to the annual fee once every five years.

Some representative impacts would be: Annual fees for sawmills would increase from $1,848 to $2,587; annual fees for stationary rock crushers would increase from $909 to $1,273; annual fees for concrete manufacturing would increase from $493 to $690.

The biennial impact for all business sources due to this increase will be $1,137,075.

Local Governments

Elementary and high schools, road departments, animal control agencies and sewerage agencies are examples of some of the local government entities required to have air permits. Typically these entities are required to have permits because of emissions from boilers. The annual fees for a boiler source would increase from $1,332 to $1,865. Some of these entities are required to have permits because of emissions from asphalt plants or rock crushers. Annual fees for these sources would change from $909 to $1273.

The biennial impact for all local government sources due to this increase is expected to be $14,630. The average increase would be $305.

State Agencies

- DEQ
  - FTEs 8
  - Direct Revenues $1,012,564
  - Direct Expenses $1,012,564
  - Indirect Revenue $161,876
  - Indirect Expenses $161,876

Other Agencies; Some state agencies are subject to permitting requirements if their facility or operations fall within the SIC codes outlined in the rule. These include, for example, Oregon State Correctional Facilities, Oregon State University, Portland State University, Eastern Oregon State University, Western Oregon State University, Southern Oregon State University, Fairview Training Center and the Highway Division. Most of these sources are required to have permits because of emissions from boilers or asphalt plants and rock crushers. Examples of those fee increases are detailed above.

The biennial impact for all state government sources due to this increase will be $5,728. The average increase per source would be $382.

Assumptions

The assumptions used are outlined above.

Housing Cost Impact Statement

The Department has determined that this proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Air Contaminant Discharge Permit Fees

Land Use Evaluation Statement

1. Explain the purpose of the proposed rules.

This proposal would raise the fees charged to industrial sources subject to permit requirements under state statute and rules. Industrial sources subject to the federal operating permit requirements and fees associated with those program requirements are not part of this rulemaking.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?

Yes_X_ No ___

a. If yes, identify existing program/rule/activity:

The rules affect the Air Contaminant Discharge Permit program, which is included in OAR 340-28-1700 to 1770.

Current DEQ policy requires that the land use planning official from the appropriate local government with jurisdiction review and approve a "Land Use Compatibility Statement" for each permit application before DEQ issues the permit.

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes_X_ No_____ (if no, explain):

c. **If no, apply the following criteria to the proposed rules.**

In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

3. **If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.**

Not applicable.

Gregory A. Gra
Division

Intergovernmental Coord.

4/15/97
Date

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Air Contaminant Discharge Permit Fees

Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements.

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

There are no specific federal requirements related to funding of state authorized permit programs. However, the air contaminant discharge permit program is a part of our federal commitment to enhance air quality in Oregon, as reflected in our state implementation plan (SIP). Adequate staffing and revenues are needed to develop and write permits and inspect sources for compliance with permit conditions in order to meet clean air goals outlined in the SIP.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

Not applicable

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

Not applicable

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. With the proposed staffing levels supported by the revenue generated by ACDP permit fees the Department will be able to provide permittees with certainty in regard to when new permits can be issued. Staff will also have the time to adequately prepare and review supporting permit documentation. This will ensure a clearer definition of what

constitutes compliance for Department staff, the source and the public. Staff will also be able to spend more time with sources providing them with technical and regulatory information about how program requirements will affect them. Sources will then be able to evaluate their operations so that environmental compliance can be achieved with minimal cost
or upset to business plans.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

Not applicable

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Not applicable

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes, all sources within the same industry categories will be paying the same fees. All categories will be increased by the same percentage.

8. Would others face increased costs if a more stringent rule is not enacted?

Possibly, if delays in permitting result in lost business opportunities and if reduced technical assistance results in inappropriate environmental planning and investment.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

No

10. Is demonstrated technology available to comply with the proposed requirement?

Not applicable

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

The proposed rule will not have a direct effect on pollution prevention but, as described earlier, will allow for sufficient staff to be deployed in the program so that workload demands do not preclude the opportunity to evaluate pollution prevention opportunities or propose cost effective environmental gains.

State of Oregon
Department of Environmental Quality **Memorandum**

Date: May 1, 1997

To: Interested and Affected Public

Subject: Rulemaking Proposal and Rulemaking Statements - Air Contaminant Discharge Permit Fees

This memorandum contains information on a proposal by the Department of Environmental Quality (Department) to adopt new rules/rule amendments regarding - Air Contaminant Discharge Permit (ACDP) fees. Pursuant to ORS 183.335, this memorandum also provides information about the Environmental Quality Commission's intended action to adopt a rule.

This proposal would raise the fees charged to industrial sources subject to ACDP permit requirements under state statute and rules. Industrial sources subject to the federal operating permit requirements (Title V) and fees associated with those program requirements are not part of this rulemaking. Sources in Lane County are not affected by this rulemaking as they are regulated by the Lane Regional Air Pollution Authority.

The Department has the statutory authority to address this issue under Oregon Revised Statutes (ORS) 468.065 and 468A.040.

What's in this Package?

Attachments to this memorandum provide details on the proposal as follows:

Attachment A The official statement describing the fiscal and economic impact of the proposed rule. (required by ORS 183.335)

Attachment B A statement providing assurance that the proposed rules are consistent with statewide land use goals and compatible with local land use plans.

Attachment C Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements.

Attachment D The actual language of the proposed rule (amendments).

Hearing Process Details

The Department is conducting public hearings at which comments will be accepted either orally or in writing. The hearings will be held as follows:

Date: May 27, 1997
Time: 1:30 PM
Place: Medford City Hall
Room 340
411 W 8th
Medford, Oregon

Date: May 28, 1997
Time: 1:30 PM
Place: DEQ - Eastern Region Office
2146 NE 4th, #104
Bend, Oregon

Date: May 29, 1997
Time: 1:30 PM
Place: DEQ - Northwest Region Office
Conference Room A, 4th floor
2020 SW 4th Avenue
Portland, Oregon

Deadline for submittal of Written Comments: 5:00 PM, May 30, 1997

The following will be Presiding Officers at the hearings:

Medford	John Becker
Bend	Bonnie Hough
Portland	Kevin Downing.

Written comments can be presented at the hearing or to the Department any time prior to the date above. Comments should be sent to: Department of Environmental Quality, Attn.: Kevin Downing, Air Quality Division, 811 S.W. 6th Avenue, Portland, Oregon 97204.

In accordance with ORS 183.335(13), no comments from any party can be accepted after the deadline for submission of comments has passed. Thus if you wish for your comments to be considered by the Department in the development of these rules, your comments must be received prior to the close of the comment period. The Department recommends that comments be submitted as early as possible to allow adequate review and evaluation.

What Happens After the Public Comment Period Closes

Following close of the public comment period, the Presiding Officer will prepare a report which summarizes the oral testimony presented and identifies written comments submitted. The Environmental Quality Commission (EQC) will receive a copy of the Presiding Officer's report. The public hearing will be tape recorded, but the tape will not be transcribed.

The Department will review and evaluate the rulemaking proposal in light of all information received during the comment period. Following the review, the rules may be presented to the EQC as originally proposed or with modifications made in response to public comments received.

The EQC will consider the Department's recommendation for rule adoption during one of their regularly scheduled public meetings. The targeted meeting date for consideration of this rulemaking proposal is July 17-18, 1997. This date may be delayed if needed to provide additional time for evaluation and response to testimony received in the hearing process.

You will be notified of the time and place for final EQC action if you present oral testimony at the hearing or submit written comment during the comment period. Otherwise, if you wish to be kept advised of this proceeding, you should request that your name be placed on the mailing list by contacting Kevin Downing at (503) 229-6549.

Background on Development of the Rulemaking Proposal

Why is there a need for the rule?

The Department is requesting an increase in ACDP fees in order to maintain adequate staffing in the program. These staff develop, review and issue air pollution permits that are timely, accurate and effective. Businesses place a high value on permit timeliness that, in turn, allows for and supports realistic business planning. Permit writing itself must be undertaken with adequate resources to allow a thorough and accurate depiction of a source's operation and pollution controls. In this way the permit will provide the required environmental protection while presenting a clearer definition of compliance for Department staff, the source and the public. In recent years the program has encountered increased demands on workload and resources that compromise the Department's ability to meet these demands. These pressures include declining revenue, increasing number of sources, changes in the level of effort and complexity associated with permitting and enhanced levels of service requested by the sources.

The Department has been implementing an industrial air quality permit program since 1972. The program from its inception has been supported in part by fees paid by the affected industrial and commercial sources. Federal grants and legislatively appropriated general funds have made up the bulk of the financial support. In recent years, however, revenues from these two sources have been declining.

In 1995 the Department began phased implementation of the Title V operating permit program as required by the 1990 amendments to the Clean Air Act (CAA). It was expected that the number of sources in the ACDP program would decrease because some of them would be subject to Title V requirements. Instead, the number of ACDP sources had increased over the next two years from what had been projected. This was primarily due to sources taking advantage of options created by the Department to stay out of the more stringent Title V permit program.

At the same time that the number of sources in the ACDP program increased, the Department reduced the turnaround time in completing permit actions. Figure 1 shows that the number of days between permit application filing and issuance of the permit has declined. The increased number of sources, along with the reduction in turnaround time, has led to an increase in the number of permit actions in the ACDP program as shown in Figure 2.

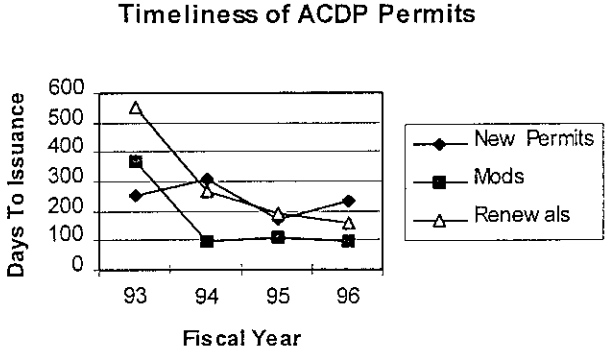

Figure 1

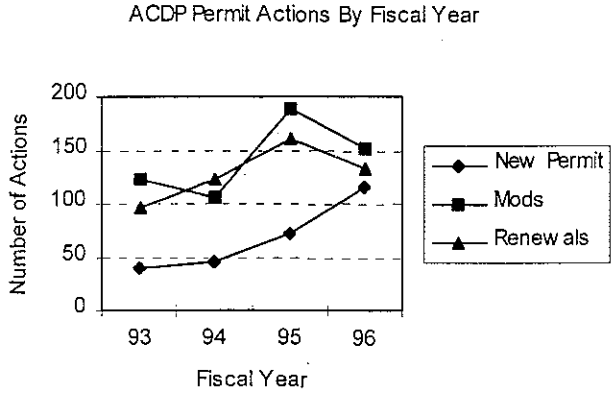

Figure 2

In addition to the increase in the number of permit actions, the workload to issue each permit has increased. This added workload per permit was mainly due to increased pre-application technical assistance, improvements in the clarity and completeness of the permits, and increased public involvement.

The increase in pre-application technical assistance is needed to determine which sources are eligible for the ACDP program and which are subject to the Title V operating permit program. This includes determining if a source emits hazardous air pollutants (HAPs) and the potential to

emit HAPs, and determining potential to emit criteria pollutants. This activity results in a substantial workload in the ACDP program that was not needed before the Title V operating permit program was established.

DEQ has also taken steps to make the permits more clear, complete and practically enforceable. Permits had been written with general language allowing for some flexibility in interpretation and enforcement, but with subsequently more uncertainty and confusion for the source and the public as to what constituted compliance. In addition, permits had focused on the primary applicable requirements, but had not included all applicable requirements and compliance determination methods for each requirements. Permits and permit review reports are now much more detailed and clear, making understanding the permits easier for the source and the general public. However, this clarity and completeness has cost more staff time in preparing permits.

The number of permit actions that go to a public hearing has also increased in recent years with a subsequent increase in staff time associated with each permit action. Environmental groups and concerned citizens have expressed more interest in having their issues addressed and desire more input into the permitting process for sources in their neighborhoods.

In order to meet the increased workload from more permit actions and more effort required per permit, the Department temporarily reassigned 8 FTE from other work to the ACDP program. This reassignment of staff has been paid for by deferring area source work typically associated with the preparation of maintenance plans for nonattainment areas. Deferral of this work is no longer feasible as the impacts on human health and restraints on economic activity in these areas becomes more pronounced over time without this planning effort. The backlog in ACDP permit processing will rebuild to earlier levels without additional revenues for the needed effort.

In order to minimize fee increases, DEQ has found and implemented other efficiencies. These have proven effective and allowed the Department to ask for a smaller fee increase than would otherwise be required to maintain the level of service. Some of these efforts include regionalization of the program, allowing staff and sources the opportunity to work more closely together; dedicating staff to air quality issues rather than assigning them as generalists across all waste control programs; and periodic housekeeping of rule language.

Certain other activities that have initially caused more work will ultimately produce workload savings as they are fully implemented. These include improvements to the permit review report and clarification of permit conditions. The Department has a number of other permit streamlining options under consideration and will implement those as they are reviewed for appropriateness and effectiveness. Again, each of these actions will initially require staff time to develop and implement.

How was the rule developed

The Department conducted an internal review of staffing levels needed to meet program goals. This was prepared as a budget request proposal and submitted to the Department of Administrative Services and the Governor's office for review. The request was approved for inclusion within the Governor's requested budget for the Department. The Legislative Assembly will schedule hearings to review this and other budget options as part of its agency review in the 1997 legislative session. The budget preparation and request documents were the sole documents relied upon in the development of this proposal.

No formal advisory group was used to develop this rulemaking proposal, however the Department provided briefings to industry trade groups and representatives of industries subject to permitting to solicit their feedback and input for this proposal.

Copies of the documents relied upon in the development of this rulemaking proposal can be reviewed at the Department of Environmental Quality's office at 811 S.W. 6th Avenue, Portland, Oregon 11th floor. Please contact Joyce Sturdevant at 503 229-5464 for times when the documents are available for review.

Whom does this rule affect including the public, regulated community or other agencies, and how does it affect these groups?

The proposed rule will increase the fees paid by air pollution sources subject to ORS 468.065 permitting requirements and required to have an ACDP permit under OAR 340-28-1750 Table 4. Generally, sources that emit at least 5 to 10 tons and less than 100 tons per year of criteria pollutants are required to have an ACDP permit. Fees paid by these sources when they apply for, modify, maintain or renew their permit will increase by about 40 percent as a result of the proposed rule. The ACDP program primarily affects industrial facilities; however, some of the sources affected by this rule include state agencies, state universities, school districts and county road departments and are subject to the same requirements and fees as other similar sources in their standard industrial category. The proposed rule will not directly affect the general public.

How will the rule be implemented

The rule will be implemented through the ACDP program and become effective on October 1, 1997. Permit actions initiated on or after that date will be subject to the new rates. Invoices due on or after that date will also be subject to the new rates established in OAR 340-28-1750 Table 4. This will allow renewal notices, which are currently sent out 60 days in advance of the due date, to be sent to sources with correct invoice amounts.

Are there time constraints

The revenues from this proposal are to fund existing staff. Therefore the rule should be adopted and implemented as soon as possible to the start of the next budget cycle, the 1997-99 biennium, to avoid disruption of staffing and workload.

Contact for more information

If you would like more information on this rulemaking proposal, or would like to be added to the mailing list, please contact:

Kevin Downing
Air Quality Division
Department of Environmental Quality
811 S.W. 6th Avenue
Portland, Oregon 97204

Phone: 503 229-6549
Email: Kevin.Downing@state.or.us

Attachment C

State of Oregon
Department of Environmental Quality

Memorandum

Date: July 22, 1997

To: Environmental Quality Commission

From: Robert Durham, Bonnie Hough, Audrey O'Brien
Presiding Officers

Subject: Hearings Report for Air Contaminant Discharge Permit Fees

Three hearings were held to accept testimony on proposed rules that will raise the fees charged to industrial sources subject to air pollution permitting requirements.

On May 27, 1997 a public hearing was held in Medford at the Medford City Hall, Room 340, 411 W 8th Street. Two persons attended the hearing and both presented oral testimony. No written testimony was provided.

On May 28, 1997 a public hearing was held in Bend at the DEQ Regional Office, 2146 NE 4th Street. One person attended the hearing and no testimony was provided.

On May 29, 1997 a public hearing was held in Portland at the DEQ Regional Office, 2020 SW 4th Avenue. One person attended the hearing and provided oral and written testimony.

The public comment period was initially scheduled to close on May 30, 1997 but was extended until July 21, 1997.

The following report provides a summary of written and oral comments made, including written comments received outside of the public hearings. Seventeen persons submitted additional written testimony outside of the public hearings. Persons making comments are identified by a code which is keyed to the entries in the Testimony Reference table.

Testimony References
Public Testimony Given in Medford

No.	Oral Testimony	Written Testimony	Name and Affiliation
M1	YES	NO	Myra Erwin 300 Grandview Dr. Ashland Sierra Club
M2	YES	NO	Wally Skyrman 4588 Pacific Hwy N Central Point Coalition to Improve Air Quality

Public Testimony Given in Bend

No.	Oral Testimony	Written Testimony	Name and Affiliation
			None

Public Testimony Given in Portland

No.	Oral Testimony	Written Testimony	Name and Affiliation
P1	YES	YES	Jonathan Schlueter 200 Market Street Suite 1730 Portland Pacific Northwest Grain & Feed Association

Public Written Testimony Received

No.	Name and Affiliation	No.	Name and Affiliation
W1	Forest J. Lane P.O. Box 1379 Bellevue, WA Lakeside Industries	W4	Dave Goodin 242 Homedale Road Klamath Falls Sturdi-Craft
W2	Robert Orken P.O. Box 11263 Portland Anodizing Inc.	W5	M. Bits Klemm Coquille Coos County Highway Department
W3	John Loosley P.O. Box 1427 Roseburg Roseburg Paving Co.	W6	Theodore K. Running 34685 Riverside Drive Albany Riverside Pet Crematory

No.	Name and Affiliation	No.	Name and Affiliation
W7	Charles Carlson P.O. Box 344 Moro Mid Columbia Producers, Inc.	W13	Roger Richter 9570 SW Beaverton Hillsdale Hwy. Beaverton United Soil Recycling
W8	Neil Rensvold Three Riverway, Suite 1200 Houston, TX Enerfin Resources Company	W14	Lynn Herbert P.O. Box 7 Riddle Herbert Lumber Co.
W9	Martha Cacho P.O. Box 152 Redmond Redmond Tallow Co.	W15	John Ledger 1149 Court St. NE Salem Associated Oregon Industries
W10	Kathleen Hitchborn 2604 13th Ave. Forest Grove	W16	Kevin Godbout Corporate Headquarters Tacoma, WA Weyerhaeuser
W11	John Hayworth P.O. Box 264 Harrisburg Hayworth Seed Warehouse, Inc.	W17	Ron Gibson P.O. Box 400 Rogue River Bristol Silica and Limestone
W12	Mike E. McHaney P.O. Box 427 Condon Gilliam County Road Department		

Comments on Air Contaminant Discharge Permit Fee Rules

Testimony Summary/Issues	Whose Comment
1. Commentors oppose the proposed fee increase.	P1, W1, W2, W3, W4, W5, W6, W7, W8, W9, W11, W12, W13, W14, W15, W16, W17
2. Commentors support the proposed fee increase.	M1, M2, W10
3. The rulemaking request should be reduced to meet the level of funding for the program determined by the Oregon Legislature.	W15, W16
4. The government should abide by the will of the people and do more with less as we have to in the private sector.	W4, W12, W13, W14
5. The justification for increased workload demand focuses on elements that appear to be part of the initial application process. As a result the Department should increase the application fees and not the annual compliance determination fees. Fees associated with aspects of the program other than permitting should not be raised. Information submitted by the Department indicate that permit modifications have been 50 to 100 percent greater in number than new permits. Permitting activities which are requiring greater involvement from the Department should be allocated a greater share of the fee increase.	W3, W14, W15
6. The ACDP program should, by definition, be simpler and less costly to administer than the Title V program. Increasing complexity in the program is driven primarily by the Department's decision to make the program more complex and before adopting any significant rate increases serious reconsideration should be given to the need for the complexity.	W15, W16
7. Short term increases in permitting activity as a result of Title V "opt-out" do not justify long term funding increases. Department initiatives to increase clarity and completeness of the permit should also produce efficiencies that will obviate the need for additional staff. Once this bulge of new permits has been processed, perhaps renewals can be staggered to balance renewal work over time.	W1
8. The Department should ensure to ACDP holders that these fees do not support Title V program activities.	W2

9. W2

What does the Department consider adequate staffing in the program? The Department should describe the barometers of performance that are or are not being met so that a clearer evaluation of the need can be made.

10. W2

The Department should further document the effects of past strategies that improved efficiency. What, quantitatively, are the increased demands in the program?

11. W15

The Department reports that there has been an increase in the number of permit actions that are going to public hearing. Statistical information about the number of permits that go to hearing and the extent of the Department's costs related to the hearings process should be provided.

12. W5, W9

Revenue should be raised by increasing penalties for sources not in compliance.

13. W2

The Department should request increases in federal and state funding to support the program.

14. P1, W8

The Department, in apparently relying on antiquated emission figures (AP-42) for grain elevators is regulating sources that other states have determined need not be regulated down to the level of throughput contained in the department's rules.

15. P1, W8

The proposed rule disproportionately burdens grain elevators based on the amount of their emissions in comparison to total emissions statewide.

16. W11, W13

Commentors believe that other similar sources of air pollution are not regulated and therefore are not subject to permit fees. This inequity places the commentor's businesses at an economic disadvantage. For instance, a commentor believes not all seed warehouses are under permit. Another commentor noted that his soil remediation facility is required to have an air permit while petroleum contaminated soils can otherwise be disposed of in landfills with no regulation of fugitive emissions.

17. W5, W12

Measure 47 will have a negative fiscal impact on budgets for public entities subject to permitting requirements resulting in a shift from one public pocket to another. Counties are limited to 3% annual increases in revenues by Measure 47 so this increase will pose a significant burden.

18. P1, W5, W6, W7, W8, W9, W13, W17

Raising the fees will have a negative impact on maintaining budgets, business costs and/or competitiveness in interstate markets or reduce ability to make capital investments in the business. Oregon's fees are much higher than are charged for similar operations in other states. Comparisons should be made to other state's fee structures.

19. W1

Differentiation between simple, moderately complex and complex categories in determining Initial Permitting Fees should not be left to the subjective judgment of staff.

20. W1

There appears to be an arbitrary relationship between the Application Processing Fee and the Annual Compliance Determination Fee. For some industrial categories the annual fee is greater than the application fee and in other categories the reverse is true. The charges are presumably connected to staff time but there appears to be no systematic pattern throughout the Table.

21. P1, W7, W8

In establishing the rates in the fee table the Department should consider the comparative size of the facilities, volumes of product produced, handled or processed, control measures that may already be in place and/or quantity of emissions produced.

22. W13, W15, W16

The Department should establish an outside advisory group to review staffing needs in the permit program.

Response to Comments on Air Contaminant Discharge Permit Fee Rules

Testimony Summary/Issues **Whose Comment**

1. P1, W1, W2, W3, W4, W5, W6, W7, W8, W9, W11, W12, W13, W14, W15, W16, W17
Commentors oppose the proposed fee increase.

2. M1, M2, W10
Commentors support the proposed fee increase.

3. W15, W16
The rulemaking request should be reduced to meet the level of funding for the program determined by the Oregon Legislature.

The Department agrees with the comment and will adjust the proposal accordingly.

4. W4, W12, W13, W14
The government should abide by the will of the people and do more with less as we have to in the private sector.

The fee increase is meant to maintain existing staff in the face of an increasing workload, which is, itself, a reflection of changes in statutory direction, evolving professional standards in air pollution control, increasing public demand for involvement in permit decisions and demands for better service from a larger than anticipated pool of sources. The public notice staff report outlines a number of steps that the Department has undertaken to absorb this increased demand without resorting to revenue increases. The Department is prepared to continue this commitment with a review of program operations in the coming year. Increasing the fees has neither been the primary or the sole response the Department has pursued in maintaining program effectiveness.

5. W3, W14, W15
The justification for increased workload demand focuses on elements that appear to be part of the initial application process. As a result the Department should increase the application fees and not the annual compliance determination fees. Fees associated with aspects of the program other than permitting should not be raised. Information submitted by the Department indicate that permit modifications have been 50 to 100 percent greater in number than new permits. Permitting activities which are requiring greater involvement from the Department should be allocated a greater share of the fee increase.

Most of the increased workload the Department has experienced in recent years has come from the permitting process. However the increasing complexity of permits has also caused an increase in the complexity of the inspection and compliance process. Both components, permitting and compliance, are parts of an integrated program which are supported by

revenue from both initial and annual fees. Shifting the support of the program primarily to application processing fees would burden the smaller sources with a substantial charge on a periodic basis which would make it difficult for them to make payments out of their operating revenues and not their reserves. This would also increase the variability of the revenue stream the Department receives and make program management unnecessarily difficult.

A comparison of the number of modifications to new permit actions and its effect on workload and revenue cannot be made strictly on the basis of the raw numbers. Fees are assessed for modifications of permits as well as new permits. Fees charged for modifications are lower than for new permits but modifications do not require as much time to complete, on the average, as do new permits. A strict accounting may indicate some discrepancy in workload impact and revenue but no available analysis would justify making the change.

6. W15, W16

The ACDP program should, by definition, be simpler and less costly to administer than the Title V program. Increasing complexity in the program is driven primarily by the Department's decision to make the program more complex and before adopting any significant rate increases serious reconsideration should be given to the need for the complexity.

Changes made to the permitting process reflect a variety of demands from the Legislature, the business community and the public to make the program more environmentally effective and responsive to the source's and the public's needs. The Department is responding to each of these influences as it implements the permit program.

As noted in the staff report some of the increasing work is associated with Title V but is based on the need to effectively and accurately discriminate between those sources that are subject to Title V and those subject to ACDP requirements. This analysis will often indicate that a source is best served by a synthetic minor classification which can save the source financial and staff resources which would otherwise be required of a full fledged Title V source.

Other changes to the program have come from an evolution in thinking based upon experience. Earlier permits were often written so that the definition of compliance was unclear, leaving the permit relatively difficult to enforce. This hampered both the source's ability and desire to comply with environmental regulations and the Department's ability to fairly enforce those requirements.

Because Title V is a complex program it is erroneous to assert that ACDP has to be a simple program. For many years ACDP was the state's permit program and had to accommodate permitting of a wide range of sources and effectively still must respond to that challenge. Sources ranging from rock crushers to sawmills to computer chip fabrication facilities are covered by ACDP permits. ACDP, however, still remains a

relatively simpler and cheaper program to administer than Title V. Biennial costs for Title V are $6.4 million for 140 sources; ACDP biennial costs are $6.8 million for over 1,000 sources. A Title V permit will be 20 to 96 pages long; an ACDP permit will be 2 to 15 pages. This proposed increase will not markedly alter that relationship.

7. W1

Short term increases in permitting activity as a result of Title V "opt-out" do not justify long term funding increases. Department initiatives to increase clarity and completeness of the permit should also produce efficiencies that will obviate the need for additional staff. Once this bulge of new permits has been processed, perhaps renewals can be staggered to balance renewal work over time.

The need for the staffing levels requested in the ACDP program are due to three causes: Loss of staff and general fund revenue in ACDP when Title V program began phased implementation, greater than expected number of sources subject to ACDP permitting requirements, evolving nature of air pollution control policy leading to increasing complexity in the permitting/compliance process. Some of these influences are short term and can be met through management adjustments. However others of these effects are long term and continuing.

As Title V was ramping up, the Department projected the size of each permitting program and the number of staff needed to provide adequate support. We had projected a reduction in the number of sources and the size of the staff in the ACDP program. As a result of Legislative direction both staff and general fund support were reduced for the ACDP program. However the source volume has remained about the same. The Department, responding to the workload demand, reassigned existing staff to respond. The workload is not expected to significantly decline with the mature implementation of Title V.

The suggestion to manage workload by staggering renewal times is already effectively done within the program. The demand for new permits is largely a function of the business cycle. As the economy grows and businesses begin or expand their operations they typically require new permits at those times. There is little that the Department can do to control these factors. Renewal permitting is driven by the timing of the original permit action and is thus staggered through any given five year period, the standard term for permits. Workload associated with renewals is also managed within the program to moderate times of high demand. Renewals are considered a lower priority workload and work on them may be deferred in light of more pressing demands to develop new permits.

8. W2

The Department should ensure to ACDP holders that these fees do not support Title V program activities.

The Clean Air Act mandates that Title V fees pay for 100% of the Title V costs and cannot be used for other program efforts. The Department has established management and accounting procedures to differentiate between activities and charges associated with the

air contaminant discharge permit program and the Title V permit program. Although staff persons may have work assignments in both programs they are required to monitor and report the time spent in each program separately.

9. W2

What does the Department consider adequate staffing in the program? The Department should describe the barometers of performance that are or are not being met so that a clearer evaluation of the need can be made.

The Department currently has two performance measures that have been used to assess production in the air permit program: timeliness of permits and number of scheduled inspections completed. We have seen improvements in these measures in recent years but we are still short of the goals established for these measures.

For permit timeliness the goal is to have 90% of all permits issued within 120 days. Even though performance has improved over the last several years (see Figure 1 in the staff report) the percentage of permits meeting the goal is 56%. The program target for compliance inspections is to make 100% of scheduled inspections. The most current data show that the Department is making 93% of scheduled inspections.

These data reflect the current staffing levels. Reductions in fee revenues will necessarily result in further setbacks to meeting these program targets barring any further efficiencies which can be identified and implemented. The ability to meet program goals will be a function of reduced source workload (apparently unlikely), increased staffing (also considered unlikely) and/or improvements in program efficiencies, which is an approach the Department is continuing to explore.

The Department intends to develop additional performance measures in the coming months in cooperation with the regulated community.

10. W2

The Department should further document the effects of past strategies that improved efficiency. What, quantitatively, are the increased demands in the program?

The Department has not tracked the implementation of various efficiency strategies in detail. To do so would require establishing and analyzing fine scale accounting systems which would consume extraordinary amounts of staff time. The program has instead chosen to focus on program outputs as a feedback tool. So, while it is difficult to document the effect of various strategies, overall permit processing time has been reduced even as the overall number of permit actions and the complexity of the permits has increased. Similarly in the compliance portion of the program, the percentage of scheduled inspections has increased even with the number and complexity of inspections increasing.

11. W15

The Department reports that there has been an increase in the number of permit actions that are going to public hearing. Statistical information about the number of permits that go to hearing and the extent of the Department's costs related to the hearings process should be provided.

The ACDP rules outline a two stage public involvement process for permit actions involving public notice and public hearings. The Department is required to place on public notice all new permits, significant modifications, construction/operation changes that alter the PSEL and renewals. These notices may progress to a public hearing if requested by 10 persons or organizations representing 10 or more persons. In the past biennium there were 231 permit actions requiring public notice. Additional public hearings were arranged for 39 permit actions.

Each public notice and hearing requires staff and management time to prepare and review the notice; prepare the mailing to the interested persons list; respond to requests for public review of the file; track and respond to all comments received; incorporate any changes to the permit; issue the report and mail to all persons who expressed an interest. If a public hearing has been requested then another public notice and press release is prepared using many of the steps outlined above. Other steps need to be completed in the hearing process: a newspaper advertisement is filed; hearing location is secured; hearing is held (typically in the evening); oral comments are transcribed; all written and oral comments from the hearing and notice are compiled and evaluated; hearings officer report is prepared and distributed to persons with an interest in the matter; technical review of the permit and comments which had been made; any changes are incorporated into the permit.

The Department doesn't track the time specifically associated with the public notice process. To provide some perspective however we estimate that for one facility with a PSD permit, where we received over 400 written comments and 51 verbal comments in 2 nights of hearings, that over 800 hours of staff time was consumed in the public hearing process by itself. This represents a high end of the range.

12. W5, W9

Revenue should be raised by increasing penalties for sources not in compliance.

The Legislature has imposed restrictions on the use of penalty fines that would rule out this suggestion. Any civil penalty the Department assesses and collects is deposited into the common school fund. This has been done to avoid any conflict of interest for the program. The fines are meant as penalties for documented infractions of environmental protection rules rather than a method for the Department to raise revenues for its programs.

13. W2

The Department should request increases in federal and state funding to support the program.

Since the 1989-1990 budget cycle general fund support of all Departmental programs has declined by 35%. Given the current demands within the state budget, the prospects for increased general fund support of Department programs is not indicated. While there was a momentary increase in Federal funds for air quality control following adoption of the Clean Air Act Amendments Federal support for air quality programs has declined 18% since FY 1995. In recent years Congress has been approving smaller appropriations for air quality programs because they view the act as essentially implemented. The Department has joined with other states to request maintenance of these appropriations but the effort has not met with great success. In short, there is little prospect of securing additional funds from these other sources.

14. P1, W8

DEQ, in apparently relying on antiquated emission figures (AP-42) for grain elevators, is regulating sources that other states have determined do not need to be regulated at the throughput thresholds contained in the Department's rules.

The Department recognizes that there have been potential flaws in the AP-42 published emission factors. These factors were recently subject to an interim revision by EPA which the Department accepts absent more accurate source specific emission factors. The commentor notes that several other states have set thresholds significantly higher then those contained in Oregon's Table 4. The thresholds accepted by these other states were for purposes of determining a grain elevator's Potential to Emit (PTE) for Title V purposes. Table 4 determines both who is subject to the state permitting program (ACDP) and the fees that should be paid and does not affect whether a source is subject to Title V, which has different procedures and a different fee structure.

Furthermore this rulemaking is concerned with the level of the fees and does not address which sources are subject to the program.

15. P1, W8

The proposed rule disproportionately burdens grain elevators based on the amount of their emissions in comparison to total emissions statewide.

Table 4, in determining what fees should be paid by a source required to have a permit, is not based on the relative emissions from that source. While the federal Title V program is significantly more emission fee based, the ACDP fee table has historically been based on the required effort the Department undertakes in all areas of the program including permitting, inspection time and compliance determination. The Department recognizes that, since the level of effort required is not proportional to the amount of emissions, this will lead to smaller sources paying relatively more fees per ton of emissions. The Department has committed to a rulemaking process to investigate further the issue of the

equity between source categories in the fees charged under Table 4 and encourages the commentor to participate in this process.

16. W11, W13

Commentors believe that other similar sources of air pollution are not regulated and therefore are not subject to permit fees. This inequity places the commentor's businesses at an economic disadvantage. For instance, a commentor believes not all seed warehouses are under permit. Another commentor noted that his soil remediation facility is required to have an air permit while petroleum contaminated soils can otherwise be disposed of in landfills with no regulation of fugitive emissions.

The Department is committed, to the extent that our resources allow, to identify and require controls on sources of air pollution according to the statutes and rules that govern our operation. While staff are not always available to independently locate pollution sources because of other workload demands, the Department does follow up on complaints and suggestions by the public regarding polluting facilities and welcomes this input. This can be addressed by working with the appropriate regional office of DEQ.

Regarding the seed warehouses: A number of these facilities may not require permits. The rules state that permits are required for commercial seed cleaners in Special Control areas. Farmers who grow and sell their seed and do their own cleaning are not required to have a permit.

Regarding the soil remediation facilities: Municipal Solid Waste Landfills are subject to a New Source Performance Standard (NSPS) that was issued early last year as well as the "potential to emit" threshold for regulation under the Clean Air Act. In Oregon there are seven landfills that are large enough to be subject to the NSPS and the respective control requirements. The bulk of the landfills in the state are much smaller and our data indicate that annual VOC emissions are less than 7 TPY and are therefore not subject to regulation. We would be willing to review any data available that quantifies VOC emissions from contaminated soil, used as daily cover, at different depths, since soil is continually covered over each day by additional waste, to determine if these smaller facilities should also be controlled.

17. W5, W12

Measure 47 will have a negative fiscal impact on budgets for public entities subject to permitting requirements resulting in a shift from one public pocket to another. Counties are limited to 3% annual increases in revenues by Measure 47 so this increase will pose a significant burden.

The Department has been subject to reductions in general fund support of its budget since 1990. However, this proposal is not an attempt to compensate for those budgetary losses. As outlined elsewhere there have been other, more direct impacts on program scope and financing that have led to the current need.

Although there is no denial that this proposed increase will have an impact on tight budgets, the average increase for local governments in the annual fee is expected to be less than $270. This amount should be able to be accommodated within the budgets of these entities.

18. P1, W5, W6, W7, W8, W9, W13, W17

Raising the fees will have a negative impact on maintaining budgets, business costs and/or competitiveness in interstate markets or reduce ability to make capital investments in the business. Oregon's fees are much higher than are charged for similar operations in other states. Comparisons should be made to other state's fee structures.

Each state's permit fee is a reflection of its permit program scope and decisions made at that level on how to fund it. The scale and intensity of Oregon's program is a result of 20+ years of scrutiny and review by the Department, EPA, the business community, the public and the Legislature. Each state makes their own determination and also makes choices on how to pay for that effort. Funding may be allocated in differing amounts from permit and registration fees, federal grants and state taxes in a way that would affect the amount contributed by permitted sources. It is therefore difficult to compare program fees across state lines in any meaningful way.

While these fees do represent an expense to be borne their relative significance to the cost of controlling emissions and other business costs is slight and the impact on interstate competitiveness is small.

19. W1

Differentiation between simple, moderately complex and complex categories in determining Initial Permitting Fees should not be left to the subjective judgment of staff.

The Department has a history of interpreting these terms that guide the establishment of fees. Nevertheless, the Department recognizes the need to clarify these terms in rule and intends to address this in a future rulemaking.

20. W1

There appears to be an arbitrary relationship between the Application Processing Fee and the Annual Compliance Determination Fee. For some industrial categories the annual fee is greater than the application fee and in other categories the reverse is true. The charges are presumably connected to staff time but there appears to be no systematic pattern throughout the Table.

The fee table used in the ACDP program has been in place since the program began in the early 1970s. It was crafted in a way to vary the fees assessed based on the industrial activity and, in some cases, the volume of throughputs. Although this Table has worked well over the years, both staff and sources have raised questions about the structure that merit further investigation into better alternatives. The Department will begin a review process later this year to explore proposals for alternative fee structures.

21. P1, W7, W8

In establishing the rates in the fee table the Department should consider the comparative size of the facilities, volumes of product produced, handled or processed, control measures that may already be in place and/or quantity of emissions produced.

See comment and reply above. The Department does recognize that the rationale for the level of distinction between categories may need updating and that other restructurings of the fee table may make more sense from economic, environmental and public policy perspectives.

Any attempt to revise the Table will, in itself, raise a number of substantive policy issues that cannot be addressed within the timing requirements and narrow notice of this rulemaking. The Department is committed to addressing these matters and will coordinate with the regulated community in the coming year to explore other options.

22. W13, W15, W16

The Department should establish an outside advisory group to review staffing needs in the permit program.

The Department is also committed to working with the regulated community to evaluate the operation of the Air Contaminant Discharge Permit program as a whole. We anticipate the charge to this group to recommend efficiencies that could be implemented while still meeting program goals and to establish performance measures to be used to evaluate programmatic and operational effectiveness. This program has been successful in being able to resolve the pressing problems associated with industrial air pollution for which it was established over twenty years ago. However the program has matured enough so that we believe that a thorough review would be productive particularly if resource efficiencies can be identified that could be redirected to more pressing, contemporary air quality problems.

Attachment E

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Air Contaminant Discharge Permit Fees

Changes to Original Proposal Made In Response to Public Comment

Based upon the review and hearings conducted by the Oregon Legislature the proposed increase in fees has been scaled back. The increase in fees will be 30 percent over the current fees.

The original proposal included increases in the synthetic minor fees. These fees are accounted for within the Title V operating permit program, so they are not part of the ACDP program and therefore not within the scope of this rulemaking. No increase is proposed for these fees.

The title of the Division was changed to reflect a more accurate description of the contents of Division 28. The Department had originally proposed this change in the title when rules for stationary sources were originally consolidated into Division 28 in 1993. Apparently the action was not filed properly with the Secretary of State at the time.

Attachment F

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Air Contaminant Discharge Permit Fees

Rule Implementation Plan

Summary of the Proposed Rule

This proposal will increase all fees in all fee categories associated with the Air Contaminant Discharge Permit program by 30%. Sources subject to this program are those that emit between 5 and 99 tons per year of regulated air pollutants or are otherwise listed in Table 4. Larger emitters are subject to the federal operating permit program rules and pay fees associated with that program.

Proposed Effective Date of the Rule

October 1, 1997

Proposal for Notification of Affected Persons

All current permit holders have been notified of the proposal. Those persons who have commented on the rule change will receive a copy of this report. Current regulated sources whose fees become due on or after October 1, 1997 will be notified of the appropriate amount to pay at least 30 days in advance of the due date. New sources entering the program or sources seeking approval for modifications after October 1 will be notified at the time they prepare to submit the appropriate materials to the Department to begin processing their request.

Proposed Implementing Actions

Invoices are prepared centrally within the program so all modifications to the billing system will be made there. Copies of the adopted rule will be posted to all regional offices and distributed to permit staff. Since the fee structure will not be changing except for the dollar amounts assessed no additional training is anticipated for staff or sources.

Proposed Training/Assistance Actions

None is necessary as the fee table has been in place for years and the change affects only the dollar values assessed for each category.

Environmental Quality Commission

☒ Rule Adoption Item
☐ Action Item
☐ Information Item

Agenda Item D
August 22, 1997 Meeting

Title:

Revision of Requirements for Construction or Reconstruction of Stationary Hazardous Air Pollution Sources.

Summary:

The Department is proposing to adopt by reference new federal rules covering the case-by-case emission limitations for new and reconstructed major sources of hazardous air pollutants. These new rules are mandatory components of the Clean Air Act Title V Federal Permit Operating Program and provide a transitional measure to ensure that facilities adequately protect the public from toxic air pollutants until EPA issues Maximum Achievable Control Technology (MACT) standards for the affected facilities in question. New and reconstructed industrial facilities that are affected by these rules are those that have the potential to emit one or more of the 188 listed hazardous air pollutants in the amounts of 10 tons/year or greater for a single pollutant or 25 tons/year or greater for a combination of pollutants.

Department Recommendation:

The Department recommends that the Commission adopt these rules/rule amendments regarding OAR Chapter 340 Division 32 as presented in Attachment A of the Department Staff Report.

Report Author John Kinney | Division Administrator Gregory A. Green | Director Langdon Marsh

Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon

Department of Environmental Quality Memorandum

Date: 08/11/97

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item D , EQC Meeting August 22, 1997

Statement of Purpose

Adoption by reference of new federal rules covering the case-by case emission limitations for new and reconstructed major sources of hazardous air pollutants. Also, a revision to existing portions of OAR Chapter 340 Division 32 to achieve conformity with these new rules.

Background

On April 8 , 1997, the Director authorized the Air Quality Division to proceed to a rulemaking hearing on proposed rules which would adopt by reference newly promulgated federal National Emission Standards for Hazardous Air Pollutants (NESHAPs).

Pursuant to the authorization, hearing notice was published in the Secretary of State's Bulletin on May 1, 1997. The Hearing Notice and informational materials were mailed to the mailing list of those persons who have asked to be notified of rulemaking actions, and to a mailing list of persons known by the Department to be potentially affected by or interested in the proposed rulemaking action on April 18, 1997.

A Public Hearing was held May 23, 1997 with Gerry Ebersonle serving as Presiding Officer. Written comment was received through May 23, 1997 . The Presiding Officer's Report (Attachment C) summarizes the oral testimony presented at the hearing and lists all the written comments received. (A copy of the comments is available upon request.)

Department staff have evaluated the comments received (Attachment D). Based upon that evaluation, modifications to the initial rulemaking proposal are being recommended by the Department. These modifications are summarized below and detailed in (Attachment E).

The following sections and attachment F summarize the issue that this proposed rulemaking action is intended to address, the authority to address the issue, the process for development of the rulemaking proposal including alternatives considered , a summary of the rulemaking proposal presented for public hearing a summary of the significant public comments and the changes proposed in response the those comments, a summary of how the rule will work, how it is proposed to be implemented, and a recommendation for the Commission.

Authority of the Commission with Respect to the Issue

ORS 468.020 and ORS 468A.310

Alternatives and Evaluation

These new rules are mandatory components of the Clean Air Act Title V Federal Operating Permit Program. Therefore, the only identified alternative would be to defer program development and implementation to the federal government.

Summary of Public Input Opportunity

The proposed rulemaking together with supporting information was mailed to those people known by the Department to be interested in all rulemaking, together with those Oregon industrial sources thought to be potentially impacted by this rulemaking. A public hearing was advertised in the Oregonian, was subsequently held in Portland on May 23, 1997.

Intended Future Actions

The Department intends to conduct internal training for Air Quality Division staff during October, 1997. Additionally, the Department will continue to develop the case-by-case MACT program as prescribed by the new federal rule within the 18 month allowed time period.

Department Recommendation

DEQ recommends that the Commission adopt these rules/rule amendments regarding OAR Chapter 340 Division 32 as presented in Attachment A of the Department Staff report.

Attachments

A. Rule (Amendments) Proposed for Adoption
B. Supporting Procedural Documentation:
    1. Legal Notice of Hearing
    2. Fiscal and Economic Impact Statement
    3. Land Use Evaluation Statement
    4. Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements
    5. Cover Memorandum from Public Notice
C. Presiding Officer's Report on Public Hearing
D. Department's Evaluation of Public Comment
E. Detailed Changes to Original Rulemaking Proposal made in Response to Public Comment.
F. Summary of Rule Adoption
G. Rule Implementation Plan
H. (Other Attachments as appropriate)

Reference Documents (available upon request)

Written Comments Received (Listed in Attachment D)

Approved:

Section: Gregg E. Fande

Division: _____

Report Prepared By: John Kinney

Phone: 503.229.6819

Date Prepared: August 1, 1997

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Attachment A
Amending Oregon Hazardous Air Pollutant Rules
Rule Amendments Proposed for Adoption
EQC Agenda Item
August 22, 1997

_The following new and existing rules are proposed for adoption or revision:

Division 32

HAZARDOUS AIR POLLUTANTS

Definitions

340-032-0120 As used in this Division:

(1) "Accidental Release" means an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.

(2) "Act" and "FCAA" mean the Federal Clean Air Act, Public Law 88-206 as last amended by Public Law 101-549.

(3) "Actual Emissions" means the mass emissions of a pollutant from an emissions source during a specified time period.

(a) Actual emissions shall equal the average rate at which the source actually emitted the pollutant and which is representative of normal source operation. Actual emissions shall be directly measured with a continuous monitoring system or calculated using a material balance or verified emission factor in combination with the source's actual operating hours, production rates and types of materials processed, stored, or combusted during the specified time period.

(b) For any source which had not yet begun normal operation in the specified time period, actual emissions shall equal the potential to emit of the source.

(c) For purposes of OAR 340-032-0300 through OAR 340-032-0380 actual emissions shall equal the actual rate of emissions of a pollutant, but does not include excess emissions from a malfunction, or startups and shutdowns associated with a malfunction.

(4) "Area Source" means any stationary source which has the potential to emit hazardous air pollutants but is not a major source of hazardous air pollutants.

(5) "Artificially or Substantially Greater Emissions" means abnormally high emissions such as could be caused by equipment malfunctions, accidents, unusually high production or operating rates compared to historical rates, or other unusual circumstances.

(6) "Base Year Emissions" for purposes of Early Reductions only (OAR 340-032-0300), means actual emissions in the calendar year 1987 or later.

(7) ~~(7)~~ "Commission" means the Oregon Environmental Quality Commission.

(8) "Construct a major Source" means

To fabricate, erect, or install at any greenfield site a stationary source or group of stationary sources which is located within a contiguous area and under common control and which emits or has the potential to emit 10 tons per year oaf any HAPs or 25 tons per year of any combination of HAP, or

■ To fabricate, erect, or install at any developed site a new process or production unit which in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, unless the process or production unit satisfies criteria I through vi of this paragraph:

(i) All HAP emitted by the process or production unit that would otherwise be controlled under the requirements of this subpart will be controlled by emission control equipment which was previously installed at the same site as the process or production unit;

(ii) (A) The permitting authority has determined within a period of 5 years prior to the fabrication, erection, or installation of the process or production unit that the existing emission control equipment represented the best available control technology (BACT), lowest achievable emission rate (LAER) under 40 CFR part 51 or 52, toxics-best available control technology (T-BACT) or MACT abased on State air toxic rules for the category of pollutants which includes those HAP to be emitted by the process or production unit; or

(B) The permitting authority determines that the control of HAP emissions provided by the existing equipment will be equivalent to that level of control currently achieved by other well-controlled similar sources (i.e., equivalent to the level of control that would be provided by a current BACT, LAER, T_BACT, or State air toxic rule MACT determination);

(iii) The permitting authority determines that the percent control efficiency for emission of HAP from all sources to be controlled by the existing control equipment will be equivalent to the percent control efficiency provided by the control equipment prior to the inclusion of the new process or production unit;

(iv) The permitting authority has provided notice and an opportunity for public comment concerning its determination hat criteria in paragraphs (i), (ii), and (iii) of this definition apply and concerning the continued adequacy of any prior LAER, BACT, T-BACT, or State air toxic rule MACT determination;

(v) If any commenter has asserted that a prior LAER, BACT, T-BACT, or State air toxic rule MACT determination is no longer adequate, the permitting authority has determined that the level of control required by that prior determination remains adequate; and

(vi) Any emission limitations, work practice requirements, or other terms and conditions upon which the above determinations by the permitting authority are predicated will be construed by the permitting authority as applicable requirements under section 504(a) and either have been incorporated into any existing title V permit for the affected facility or will be incorporated into such permit upon issuance.

(8) "Department" means the Department of Environmental Quality.

(9) "Director" means the Director of the Department or Regional authority, and authorized deputies or officers.

(10) "Early Reductions Unit" means a single emission point or group of emissions points defined as a unit for purposes of an alternative emissions limit issued under OAR 340-032-0300 through 340-032-0380.

(11) "Effective Date of the Program" means the date that the EPA approves the Oregon Title V Operating Permit program submitted by the Department on a full or interim basis. In case of a partial approval, the "effective date of the program" for each portion of the program is the date of EPA approval of that portion.

(12) "Emission" means a release into the atmosphere of any regulated pollutant or air contaminant.

(13) "Emissions Limitation" and "Emissions Standard" mean a requirement adopted by the Department or regional authority, or proposed or promulgated by the Administrator of the EPA, which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.

(14) "Emissions Unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant.

(a) A part of a stationary source is any machine, equipment, raw material, product, or by-product that produces or emits air pollutants. An activity is any process, operation, action, or reaction (e.g., chemical) at a stationary source that emits air pollutants. Except as described in subsection (d) of this section, parts and activities may be grouped for purposes of defining an emissions unit provided the following conditions are met:

(A) The group used to define the emissions unit may not include discrete parts or activities to which a distinct emissions standard applies or for which different compliance demonstration requirements apply; and

(B) The emissions from the emissions unit are quantifiable.

(b) Emissions units may be defined on a pollutant by pollutant basis where applicable.

(c) The term "emissions unit" is not meant to alter or affect the definition of the term "unit" for purposes of Title IV of the FCAA.

(d) Parts and activities shall not be grouped for purposes of determining emissions increases from an emissions unit under OAR 340-028-1930 , 340-028-1940, or 340-028-2270, or for purposes of determining the applicability of a New Source Performance Standard (NSPS).

(15) "EPA" means the Administrator of the United States Environmental Protection Agency or the Administrator's designee.

(16) "EPA Conditional Method" means any method of sampling and analyzing for air pollutants which has been validated by the EPA but which has not been published as an EPA reference method.

(17) "EPA Reference Method" means any method of sampling and analyzing for an air pollutant as described in **40 CFR Part 60, 61, or 63** (July 1, 1993).

(18) "Equipment leaks" means leaks from pumps, compressors, pressure relief devices, sampling connection systems, open ended valves or lines, valves, connectors, agitators, accumulator vessels, and instrumentation systems in hazardous air pollutant service.

(19) "Existing Source" means any source, the construction of which commenced prior to proposal of an applicable standard under sections 112 or 129 of the FCAA.

(20) "Facility" means all or part of any public or private building, structure, installation, equipment, or vehicle or vessel, including but not limited to ships.

(21) "Fugitive Emissions" means emissions of any air contaminant that escape to the atmosphere from any point or area that is not identifiable as a stack, vent, duct or equivalent opening.

(22) "Generally Available Control Technology (GACT)" means an alternative emission standard promulgated by EPA for non-major sources of hazardous air pollutants which provides for the use of control technology or management practices which are generally available.

(23) "Hazardous Air Pollutant" (HAP) means an air pollutant listed by the EPA pursuant to section 112(b) of the FCAA or determined by the Commission to cause, or reasonably be anticipated to cause, adverse effects to human health or the environment.

(24) "High-Risk Pollutant" means any air pollutant listed in Table 2 of OAR 340-032-0340 for which exposure to small quantities may cause a high risk of adverse public health effects.

(25) "Major Source" means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The EPA may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

(26) "Manufacture" as used in OAR 340-032-0240 means to produce, prepare, compound, or import a substance. This includes the coincidental production of a substance as a byproduct or impurity.

(27) "Maximum Achievable Control Technology (MACT)" means an emission standard applicable to major sources of hazardous air pollutants that requires the maximum degree of reduction in emissions deemed achievable for either new or existing sources.

~~(28) "Modification" means any physical change in, or change in the method of operation of, a major source that increases the actual emissions of any HAP emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.~~

~~(29)~~ (28) "New Source" means a stationary source, the construction of which is commenced after proposal of a federal MACT or the effective date of this Division, whichever is earlier.

~~(30)~~ (29) "Not Feasible to Prescribe or Enforce a Numerical Emission Limit" means a situation in which the Department determines that a pollutant or stream of pollutants listed in OAR 340-032-0130 cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any state or federal law or regulation; or the application of measurement technology to a particular source is not practicable due to technological or economic limitations.

~~(31)~~ (30) "Person" means the United States Government and agencies thereof, any state, individual, public or private corporation, political subdivision, governmental agency, municipality, industry, co-partnership, association, firm, trust, estate, or any other legal entity whatsoever.

~~(32)~~(31) "Potential to Emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the EPA. This section does not alter or affect the use of this section for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder. Secondary emissions shall not be considered in determining the potential to emit of a source.

~~(33)~~(32) "Process" as used in OAR 340-032-0240 means the preparation of a substance, including the intentional incorporation of a substance into a product after its manufacture, for distribution in commerce.

~~(33)~~ (33) "Reconstruct a Major Source" means the replacement of components at an existing process or production unit that in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, whenever: the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable process or production unit; and; it is technically and economically feasible for the reconstructed major source to meet the applicable maximum achievable control technology emission limitation for new sources established under 40 CFR Part 63 Subpart B.

(34) "Regional Authority" means Lane Regional Air Pollution Authority.

(35) "Regulated Air Pollutant" as used in this Division means:
  (a) Any pollutant listed under OAR 340-032-0130 or OAR 340-032-5400; or
  (b) Any pollutant that is subject to a standard promulgated pursuant to Section 129 of the Act.

(36) "Secondary Emissions" means emissions from new or existing sources which occur as a result of the construction and/or operation of a source or modification, but do not come from the source itself. Secondary emissions shall be specific, well defined, and quantifiable, and impact the same general area as the source associated with the secondary emissions. Secondary emissions may include but are not limited to:
  (a) Emissions from ships and trains coming to or from a facility;
  (b) Emissions from offsite support facilities which would be constructed or would otherwise increase emissions as a result of the construction of a source or modification.

(37) "Section 111" means that section of the FCAA that includes standards of performance for new stationary sources.

(38) "Section 112(b)" means that subsection of the FCAA that includes the list of hazardous air pollutants to be regulated.

(39) "Section 112(d)" means that subsection of the FCAA that directs the EPA to establish emission standards for sources of hazardous air pollutants. This section also defines the criteria to be used by EPA when establishing the emission standards.

(40) "Section 112(e)" means that subsection of the FCAA that directs the EPA to establish and promulgate emissions standards for categories and subcategories of sources that emit hazardous air pollutants.

(41) "Section 112(n)" means that subsection of the FCAA that includes requirements for the EPA to conduct studies on the hazards to public health prior to developing emissions standards for specified categories of hazardous air pollutant emission sources.

(42) "Section 112(r)" means that subsection of the FCAA that includes requirements for the EPA promulgate regulations for the prevention, detection and correction of accidental releases.

(43) "Section 129" means that section of the FCAA that requires EPA to promulgate regulations for solid waste combustion.

(44) "Solid Waste Incineration Unit" as used in this Division shall have the same meaning as given in Section 129(g) of the FCAA.

(45) "Stationary Source":

(a) As used in OAR 340-032-0100 through 340-032-5000 and 340-032-5500 through 340-032-5650 means any building, structure, facility, or installation which emits or may emit any regulated air pollutant.

(b) As used in OAR 340-032-5400 means any buildings, structures, equipment, installations, or substance emitting stationary activities:

(A) That belong to the same industrial group;

(B) That are located on one or more contiguous properties;

(C) That are under the control of the same person (or persons under common control); and

(D) From which an accidental release may occur.

(46) "Use" as used in OAR 340-032-0240 means the consumption of a chemical that does not fall under the definitions of "manufacture" or "process". This may include the use of a chemical as a manufacturing aid, cleaning or degreasing aid, or waste treatment aid.

Stat. Auth.: ORS Ch. 468 & 468A
Hist.: DEQ 13-1993, f. & ef. 9-24-93; DEQ 18-1993, f. & ef. 11-4-93; DEQ 24-1994, f. & ef. 10-28-94; DEQ 22-1995, f. & ef. 10-6-95

Emissions Limitation for New and Reconstructed Major Sources
340-032-0500

(1) Federal MACT. Any person who proposes to construct a major source of HAP after an applicable emissions standard has been proposed by the EPA pursuant to Section 112(d), Section 112(n), or Section 129 of the FCAA shall comply with the requirements and emission standard for new sources when promulgated by EPA.

(2) State MACT. Any person who proposes to construct or reconstruct a major source of hazardous air pollutants before MACT requirements applicable to that source have been proposed by the EPA and after the effective date of the program shall comply with new and reconstructed source MACT requirements ~~determined by the Department on a case-by-case basis.~~ of 40 CFR Part 63 Subpart B.

~~(a) In establishing a state MACT the Department shall require the maximum degree of reduction in emissions of hazardous air pollutants (including a prohibition on such emissions, where achievable) that the Department, taking into consideration the cost of achieving such emission reductions, and any non-air quality health and environmental impacts and energy requirements, determines is achievable through application of processes, methods, systems, or techniques including, but not limited to, emissions reduction measures that:~~

~~(A) Reduce the volume of, or eliminate emissions of, HAP through process changes, substitution of materials or other modifications;~~

~~(B) Enclose systems or processes to eliminate emissions;~~

~~(C) Collect, capture or treat HAP emissions when released from the process, stack, storage or fugitive emissions point;~~

~~(D) Are design, equipment, work practice, or operational standards, including requirements for operator training or certification; or~~

~~(E) Are a combination of the above.~~

~~(b) The owner or operator of the proposed major source must demonstrate to the Department that the source shall achieve at least the maximum degree of emissions reduction that is achieved in practice by the best controlled similar source.~~

~~(c) If, after a permit has been issued, the EPA promulgates a MACT standard applicable to a source which is more stringent than the one established pursuant to this section, the Department shall revise the permit upon the next renewal to reflect the standard promulgated by the EPA. The source shall be given a reasonable time to comply, but no longer than 8 years after the standard is promulgated.~~

~~(d) The Department shall not establish a case-by-case state MACT:~~

~~(A) For new solid waste incineration units where an emissions standard will be established for these units by the EPA pursuant to Section 111 of the FCAA. These sources are subject to applicable emissions standards under OAR Chapter 340, Division 025.~~

~~(B) For new major HAP sources where an emissions standard or alternative control strategy will be established by the EPA pursuant to Section 112(n) of the FCAA.~~

(3) Compliance schedule. The owner or operator of ~~the proposed major source must demonstrate to the Department that the source will achieve the required emissions limitation prior to commencing operation.~~ a new or reconstructed source must demonstrate to the Department that it can comply with the required emission limitation by performing the performance test required by 40 CFR Part 63 Subpart A within 180 days after startup.

~~(4) Residual emissions.~~

~~(a) The owner or operator of the proposed major source shall assess whether its residual emissions of each listed HAP, after complying with any emissions limitation in section (1) or (2) of this rule, would be less than the de minimis quantity listed in Table 1 of OAR 340-032-0130. This requirement shall apply only to increases in emissions from the new emissions units.~~

~~(b) If the residual emissions of any listed HAP exceeds the de minimis quantity for that HAP then the owner or operator of the source shall notify the Department when applying for a construction permit which of the following options the owner or operator chooses for addressing residual emissions:~~

~~(A) Propose additional emissions reduction measures to reduce residual HAP emissions that, if approved by the Department, shall be included as permit terms or conditions;~~

~~(B) Provide an air quality analysis to the Department showing impacts from residual emissions; or~~

~~(C) Propose no additional emissions reduction measures and will provide additional information when requested, for the Department to evaluate the source's residual emissions.~~

~~(c) The Department may request additional information from the owner or operator. The information requested shall be necessary for determining additional control measures or for conducting an air quality analysis. The Department shall determine, prior to issuance of an construction permit, if residual emissions have been adequately addressed to protect public health and the environment and may propose rule making to require additional emission reduction measures on a case-by-case basis.~~

~~(d) Additional emissions reduction measures may include:~~

~~(A) Those listed in subsection 2(a) of this rule regardless of cost;~~

~~(B) Equipment shutdown or additional controls on other emissions units within the facility; or~~

~~(C) Reductions in releases to other environmental media.~~

~~(e) When applying for an Oregon Title V Operating Permit the source shall notify the Department if its actual emissions exceed the estimate of residual emissions and the de minimis quantities. The Department shall then determine if residual emissions have been adequately addressed or whether additional emissions reductions measures are needed for the operating permit according to subsections 4(b), (c), and (d) of this rule.~~

Stat. Auth.: ORS Ch. 468 & 468A
Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 22-1995, f. & ef. 10-6-95

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OAR 340-032-3020 through 4490 [Reserved]

~~***Requirements for Modifications of Existing Major Sources***~~
~~340-032-4500~~

~~(1) After the effective date of the program, no person may modify a major source of HAP in such a way as to start emitting or increase potential emissions of any HAP by more than its de minimis quantity listed in Table 1 (OAR 340-032-0130) without applying the *MACT emissions limitation* for that source category.~~

~~(2) Where no applicable emissions limitation has been promulgated by the EPA and adopted as a rule within this Division, the Department shall determine on a case-by-case basis whether the Emissions Limitation for New Major Sources (OAR 340-032-0500(2)) or the Emissions Limitation for Existing Major Sources (OAR 340-032-2500(2)) applies to the modified emissions unit.~~

~~(3) Residual emissions.~~

~~(a) The owner or operator of the proposed major source shall assess whether its residual emissions of each listed HAP, after complying with any emissions limitation in section (1) or (2) of this rule, would be less than the de minimis quantity listed in Table 1 of OAR 340-032-0130. This requirement shall apply only to increases in emissions from the modified emissions units.~~

~~(b) If the residual emissions of any listed HAP exceeds the de minimis quantity for that HAP then the owner or operator of the source shall notify the Department when applying for a construction permit which of the following options the owner or operator chooses for addressing residual emissions:~~

~~(A) Propose additional emissions reduction measures to reduce residual HAP emissions that, if approved by the Department, shall be included as permit terms or conditions;~~

~~(B) Provide an air quality analysis to the Department showing impacts from residual emissions; or~~

~~(C) Propose no additional emissions reduction measures and will provide additional information when requested, for the Department to evaluate the source's residual emissions.~~

~~(c) The Department may request additional information from the owner or operator. The information requested shall be necessary for determining additional control measures or for conducting an air quality analysis. The Department shall determine, prior to issuance of a construction permit, if residual emissions have been adequately addressed to protect public health and the environment and may propose rule making to require additional emission reduction measures on a case by case basis.~~

~~(d) Additional emissions reduction measures may include:~~

~~(A) Those listed in OAR 340-032-0500(2)(a) regardless of cost;~~

~~(B) Equipment shutdown or additional controls on other emissions units within the facility; or~~

~~(C) Reductions in releases to other environmental media.~~

~~(e) When applying for an Oregon Title V Operating Permit the source shall notify the Department if its actual emissions exceed the estimate of residual emissions and the de minimis quantities. The Department shall then determine if residual emissions have been adequately addressed or whether additional emissions reductions measures are needed for the operating permit according to subsections 4(b), (c), and (d) of this rule.~~

Stat. Auth.: ORS Ch. 468 & 468A
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Table 1
List of Hazardous Air Pollutants
~~and de minimis Emissions Rates~~
(OAR 340-032-0130)

CAS Number	Chemical Name	~~de minimus Emissions Rate (tons/yr)~~
75070	Acetaldehyde	~~9.0~~
60355	Acetamide	~~**~~
75058	Acetonitrile	~~10.0~~
98862	Acetophenone	~~1.0~~
53963	2-Acetylaminofluorene	~~**~~
107028	Acrolein	~~0.04~~
79061	Acrylamide	~~0.02~~
79107	Acrylic acid	~~**~~
107131	Acrylonitrile	~~0.3~~
8107051	Allyl chloride	~~1.0~~
92671	4-Aminobiphenyl	~~**~~
62533	Aniline	~~1.0~~
90040	o-Anisidine	~~**~~
1332214	Asbestos	~~**~~
71432	Benzene (including benzene from gasoline)	~~2.0~~
92875	Benzidine	~~0.0003~~
98077	Benzotrichloride	~~0.006~~
100447	Benzyl chloride	~~0.1~~
92524	Biphenyl	~~10.0~~
117817	Bis(2-ethylhexyl)phthalate (DEHP)	~~5.0~~
542881	Bis(chloromethyl)ether	~~0.0003~~
75252	Bromoform	~~10.0~~
106990	1,3-Butadiene	~~0.2~~
156627	Calcium cyanamide	~~10.0~~
~~105602~~	~~Caprolactam~~	~~10.0~~
133062	Captan	~~10.0~~
63252	Carbaryl	~~10.0~~
75150	Carbon disulfide	~~1.0~~
56235	Carbon tetrachloride	~~1.0~~
463581	Carbonyl sulfide	~~5.0~~
120809	Catechol	~~5.0~~
133904	Chloramben	~~**~~
57749	Chlordane	~~0.05~~
7782505	Chlorine	~~0.1~~
79118	Chloroacetic acid	~~0.1~~
532274	2-Chloroacetophenone	~~0.6~~
108907	Chlorobenzene	~~10.0~~
510156	Chlorobenzilate	~~0.4~~
67663	Chloroform	~~0.9~~

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CAS Number	Chemical Name	~~de minimis Emissions Rate (tons/yr)~~
107302	Chloromethyl methyl ether	~~0.1~~
126998	Chloroprene	~~10.0~~
19773	Cresols/Cresylic acid (isomers and mixture)	~~1.0~~
95487	o-Cresol	~~1.0~~
108394	m-Cresol	~~1.0~~
106445	p-Cresol	~~1.0~~
98828	Cumene	~~10.0~~
94757	2,4-D, salts and esters	~~10.0~~
3547044	DDE	~~0.2~~
334883	Diazomethane	~~**~~
132649	Dibenzofurans	~~**~~
96128	1,2-Dibromo-3-chloropropane	~~0.008~~
84742	Dibutylphthalate	~~10.0~~
106467	1,4-Dichlorobenzene(p)	~~3.0~~
91941	3,3-Dichlorobenzidene	~~0.2~~
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	~~0.06~~
542756	1,3-Dichloropropene	~~1.0~~
62737	Dichlorvos	~~0.2~~
111422	Diethanolamine	~~5.0~~
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)	~~**~~
64675	Diethyl sulfate	~~**~~
119904	3,3-Dimethoxybenzidine	~~5.0~~
60117	Dimethyl aminoazobenzene	~~1.0~~
119937	3,3-Dimethyl benzidine	~~0.008~~
79447	Dimethyl carbamoyl chloride	~~**~~
68122	Dimethyl formamide	~~**~~
57147	1,1-Dimethyl hydrazine	~~0.008~~
131113	Dimethyl phthalate	~~10.0~~
77781	Dimethyl sulfate	~~0.1~~
534521	4,6-Dinitro-o-cresol, and salts	~~0.1~~
51285	2,4-Dinitrophenol	~~1.0~~
121142	2,4-Dinitrotoluene	~~**~~
123911	1,4-Dioxane (1,4-Diethyleneoxide)	~~6.0~~
122667	1,2-Diphenylhydrazine	~~0.09~~
106898	Epichlorohydrin (l-Chloro-2,3-epoxypropane)	~~2.0~~
106887	1,2-Epoxybutane	~~**~~
140885	Ethyl acrylate	~~1.0~~
100414	Ethyl benzene	~~10.0~~
51796	Ethyl carbamate (Urethane)	~~**~~
75003	Ethyl chloride (Chloroethane)	~~10.0~~
106934	Ethylene dibromide (Dibromoethane)	~~0.1~~

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CAS Number	Chemical Name	~~de minimis Emissions Rate (tons/yr)~~
107062	Ethylene dichloride(1,2-Dichloroethane)	~~0.8~~
107211	Ethylene glycol	~~5.0~~
151564	Ethylene imine (Aziridine)	~~**~~
75218	Ethylene oxide	~~0.2~~
96457	Ethylene thiourea	~~0.6~~
75343	Ethylidene dichloride (1,1-Dichloroethane)	~~1.0~~
50000	Formaldehyde	~~2.0~~
76448	Heptachlor	~~0.02~~
118741	Hexachlorobenzene	~~0.04~~
87683	Hexachlorobutadiene	~~0.9~~
77474	Hexachlorocyclopentadiene	~~0.1~~
67721	Hexachloroethane	~~5.0~~
822060	Hexamethylene-1,6-diisocyanate	~~5.0~~
680319	Hexamethylphosphoramide	~~**~~
110543	Hexane	~~10.0~~
302012	Hydrazine	~~0.004~~
7647010	Hydrochloric acid	~~10.0~~
7664393	Hydrogen fluoride (Hydrofluoric acid)	~~0.1~~
123319	Hydroquinone	~~10.0~~
78591	Isophorone	~~10.0~~
58899	Lindane (all isomers)	~~0.05~~
108316	Maleic anhydride	~~1.0~~
67561	Methanol	~~10.0~~
72435	Methoxychlor	~~10.0~~
74839	Methyl bromide (Bromomethane)	~~10.0~~
74873	Methyl chloride (Chloromethane)	~~10.0~~
71556	Methyl chloroform (1,1,1-Trichloroethane)	~~10.0~~
78933	Methyl ethyl ketone (2-Butanone)	~~10.0~~
60344	Methyl hydrazine	~~0.06~~
74884	Methyl iodide (Iodomethane)	~~1.0~~
108101	Methyl isobutyl ketone (Hexone)	~~10.0~~
624839	Methyl isocyanate	~~0.1~~
80626	Methyl methacrylate	~~10.0~~
1634044	Methyl tert butyl ether	~~10.0~~
101144	4,4-Methylene bis(2-chloroaniline)	~~**~~
75092	Methylene chloride (Dichloromethane)	~~10.0~~
101688	Methylene diphenyl diisocyanate (MDI)	~~0.1~~
101779	4,4-Methylenedianiline	~~**~~
91203	Naphthalene	~~10.0~~
98953	Nitrobenzene	~~1.0~~
92933	4-Nitrobiphenyl	~~5.0~~

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CAS Number	Chemical Name	~~de minimis Emissions Rate (tons/yr)~~
100027	4-Nitrophenol	~~5.0~~
79469	2-Nitropropane	~~0.007~~
684935	N-Nitroso-N-methylurea	~~**~~
62759	N-Nitrosodimethylamine	~~0.001~~
59892	N-Nitrosomorpholine	~~**~~
56382	Parathion	~~0.1~~
82688	Pentachloronitrobenzene (Quintobenzene)	~~0.3~~
87865	Pentachlorophenol	~~0.7~~
108952	Phenol	~~0.1~~
106503	p-Phenylenediamine	~~10.0~~
75445	Phosgene	~~0.1~~
7803512	Phosphine	~~5.0~~
7723140	Phosphorus	~~0.1~~
85449	Phthalic anhydride	~~5.0~~
1336363	Polychlorinated biphenyls (Aroclors)	~~0.009~~
1120714	1,3-Propane sultone	~~**~~
57578	beta-Propiolactone	~~0.1~~
123386	Propionaldehyde	~~5.0~~
114261	Propoxur (Baygon)	~~5.0~~
78875	Propylene dichloride (1,2-Dichloropropane)	~~1.0~~
75569	Propylene oxide	~~10.0~~
75558	1,2-Propylenimine (2-Methyl aziridine)	~~**~~
91225	Quinoline	~~0.006~~
106514	Quinone	~~5.0~~
100425	Styrene	~~1.0~~
96093	Styrene oxide	~~**~~
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	~~0.0000006~~
79345	1,1,2,2-Tetrachloroethane	~~0.3~~
127184	Tetrachloroethylene (Perchloroethylene)	~~10.0~~
7550450	Titanium tetrachloride	~~0.1~~
108883	Toluene	~~10.0~~
95807	2,4-Toluene diamine	~~0.02~~
584849	2,4-Toluene diisocyanate	~~0.1~~
95534	o-Toluidine	~~**~~
8001352	Toxaphene (chlorinated camphene)	~~0.06~~
120821	1,2,4-Trichlorobenzene	~~10.0~~
79005	1,1,2-Trichloroethane	~~1.0~~
79016	Trichloroethylene	~~10.0~~
95954	2,4,5-Trichlorophenol	~~**~~
88062	2,4,6-Trichlorophenol	~~6.0~~
121448	Triethylamine	~~10.0~~

Attachment A
Amending Oregon Hazardous Air Pollutant Rules
Rule Amendments Proposed for Adoption
EQC Agenda Item
August 22, 1997

CAS Number	Chemical Name	~~de minimis Emissions Rate (tons/yr)~~
1582098	Trifluralin	~~9.0~~
540841	2,2,4-Trimethylpentane	~~5.0~~
108054	Vinyl acetate	~~**~~
593602	Vinyl bromide	~~1.0~~
75014	Vinyl chloride	~~0.2~~
75354	Vinylidene chloride (1,1-Dichloroethylene)	~~0.4~~
1330207	Xylenes (isomers and mixture)	~~10.0~~
95476	o-Xylenes	~~10.0~~
108383	m-Xylenes	~~10.0~~
106423	p-Xylenes	~~10.0~~
0	Antimony Compounds	~~5.0~~
0	Arsenic Compounds (inorganic including arsine)	~~0.005~~
0	Beryllium Compounds	~~0 .008~~
0	Cadmium Compounds	~~0.01~~
0	Chromium Compounds	~~5.0~~
0	Cobalt Compounds	~~5.0~~
0	Coke Oven Emissions	~~0.03~~
0	Cyanide Compounds	~~5.0~~
0	Glycol ethers	~~5.0~~
0	Lead Compounds	~~0.6~~
0	Manganese Compounds	~~0.8~~
0	Mercury Compounds	~~5.0~~
0	Fine mineral fibers	~~**~~
0	Nickel Compounds	~~1.0~~
0	Polycyclic Organic Matter	~~**~~
0	Radionuclides (including radon)	~~**~~
0	Selenium Compounds	~~1.0~~

~~** The Department will determine a de minimis value on a case-by-case basis.~~

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

*1 X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)2

*2 Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR' where
n = 1, 2, or 3
R = alkyl or aryl groups
R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH)n-OH. Polymers are excluded from the glycol category.

*3 Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

*4 Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100-C.

*5 A type of atom which spontaneously undergoes radioactive decay.

Stat. Auth.: ORS 468 & 468A
Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93

NOTICE OF PROPOSED RULEMAKING HEARING

Department of Environmental Quality

OAR Chapter 340-Division 32

DATE: May 23, 1997 TIME: 1:00 PM **LOCATION: 811 SW Sixth Avenue, Portland, OR Room 3A**

HEARINGS OFFICER(s): Jerry Ebersole

STATUTORY AUTHORITY: ORS 468.020, ORS 468A.310

AMEND: OAR 340-032-0500 and OAR 340-032-4500

X This hearing notice is the initial notice given for this rulemaking action.
X Auxiliary aids for persons with disabilities are available upon advance request.

SUMMARY: DEQ's rulemaking proposes an adoption by reference of new federal regulations, and modifications of existing rules to achieve conformity with the new federal rule. This rule addresses newly constructed and reconstructed major hazardous air pollutant sources where no NESHAP standard has been established. New and reconstructed sources will be subject to stringent air pollution control requirements referred to as "case-by case MACT". MACT means the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source. Sources will be subject to these emission standards upon startup.

LAST DATE FOR COMMENT:	May 23, 1997 at 5:00 PM
AGENCY RULES COORDINATOR:	Susan M. Greco, (503) 229-5213
AGENCY CONTACT FOR THIS PROPOSAL:	John M. Kinney (503) 229-6819
ADDRESS:	811 S. W. 6th Avenue Portland, Oregon 97204
TELEPHONE:	1-800-452-4011

Interested persons may comment on the proposed rules orally or in writing at the hearing. Written comments will also be considered if received by the date indicated above.

Susan M. Greco
Signature

4/14/97
Date

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for

NESHAP ADOPTION

Fiscal and Economic Impact Statement

Introduction

This rulemaking will adopt by reference newly available federal regulations addressing new major hazardous air pollutant source and reconstructed hazardous air pollutant sources. These federal regulations will require ODEQ determination of maximum achievable control technology (MACT) at new and reconstructed major HAP sources on a case-by-case basis where no applicable emission limitation has been established by the Environmental Protection Agency. After January 27,1997 a new or reconstructed major HAP source must meet these technology requirements before beginning operation.

General Public

This amendment to OAR 340 Division 32 may increase costs for large businesses. The increased costs may be passed on to the general public.

Small Business

As this proposed rulemaking is limited to major HAP sources, and reconstructions of major HAP sources, there are no known fiscal or economic impacts affecting Oregon's small business community. A revised fiscal and economic analysis will be performed at such time as the Department considers the regulation of area sources in addition to major industrial sources.

Large Business

Large businesses in source categories without an established MACT standard, which are also major sources (e.g. potential annual emissions greater than or equal to 10 tons of a single 112(b)

pollutant, or a combined potential annual emission of greater than or equal to 25 tons of a combined 112(b) emission) will be subject to these rules.

Large direct costs may be associated with this rule, for those sources requiring newly purchased pollution control equipment or re-engineered process and production configurations to meet the required MACT emission limitation. These costs are attributable to DEQ's implementation of new federal rules, not as a result of an Oregon specific regulatory action.

Local Governments

As there are no local governments known to engage in any industrial activities at major source levels, there is assumed to be no impact or associated cost of this rulemaking on local government. Local governments are already required to provide land use compatibility determinations with each Oregon air quality permit, implying there will be no new costs associated with the implementation of these rules.

State Agencies

The Oregon Department of Environmental Quality, and Lane Regional Air Pollution Authority will be most directly impacted by this new Division 32 regulation. These agencies will be required to identify affected new and reconstructed major sources, and place MACT specific requirements in the source's Oregon air quality permit. There will also be an on-going workload associated with compliance and enforcement associated with this standard. However, these costs, implementing FTE, and sustaining revenue, have previously been forecast and accounted for in the demonstrations associated with the Department's Title V program. In summary, costs associated with this rule represent continuing costs, not newly created costs.

Assumptions

This analysis assumes that sources are in compliance with existing state and federal rules. Sources which are not in compliance may be subject to additional costs due to an expected increase in compliance assurance activities.

Housing Cost Impact Statement

Attachment B-2
Amending Oregon Hazardous Air Pollutant Rules
Fiscal and Economic Impact
EQC Agenda Item D
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The Department has determined that this proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.

Attachment B-3
Amending Oregon Hazardous Air Pollutant Rules
EQC Agenda Item D
August 22, 1997

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for

NESHAP ADOPTION

Land Use Evaluation Statement

1. Explain the purpose of the proposed rules.

The Department proposes to adopt new rules, and to modify existing rule in OAR 340 Division 32 for hazardous air pollutants (HAPs). These rules propose to adopt by reference EPA's rules for new and reconstructed major HAP sources. These rules will be limited to only major HAP and reconstructed HAP sources as defined at OAR 340-032-0120. These rules will be implemented through the Department's Oregon Title V Operating Permit Program.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?

Yes _X__ No____

a. If yes, identify existing program/rule/activity:

The issuance of air permits has been determined to be a DEQ land use program. The proposed standards will be implemented

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes_X___ No_____ (if no, explain):

3. **If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.**

Division	Intergovernmental Coord.	Date
	Robert Cox	8/11/97

Attachment B-4
Amending Oregon Hazardous Air Pollutant Rules
EQC Agenda Item D
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Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements.

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

Yes. These are federal requirements that the Department proposes to adopt, unaltered, for new and reconstructed major hazardous air pollutant (HAP) sources. Specifically, these new regulations propose adoption of a process and a procedural format, proscribed by Section 112(g) of the Clean Air Act.

New and reconstructed sources will be subject to stringent air pollution control requirements, referred to a 'case-by-case' MACT. MACT means the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emission that the permitting agency, taking into consideration the cost of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major HAP source. Sources will be subject to these emission limitations upon start-up.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

These new regulations are technology based .

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

Yes. These applicable federal requirements specifically address the control of hazardous air pollutants, which are of concern in Oregon. Data and information representative of human health, the effects of hazardous air pollutants, and emission control technology were considered in the federal process that led to the development of these new rules.

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. These regulations will increase certainty, by expressing directly the obligations of the industrial sources subject to Section 112 of the Clean Air Act, and by aligning Oregon regulatory requirements with newly promulgated federal requirements. The Department is also proposing amendments to the existing structure of Division 32 to more exactly parallel the new federal requirements. Specifically, the amendments would remove the existing Division 32 requirements that address modifications at existing major HAP sources, and impose 'residual emissions' analysis on the emissions of sources after installation of an emission limitation determined through the case-by-case process.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

There is not a timing issue which might justify changing the proposed adoption and implementation time frame. These new regulations are 'applicable requirements' which must be included in the Oregon Title V Operating Permit issued to new and reconstructed major hazardous air pollutant sources after the effective date of the new federal rule; January 27, 1997.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Yes. Control of hazardous air pollutants which also are either particulate matter or VOC will assist the Department's efforts to achieve and maintain National Ambient Air Quality Standards (NAAQS).

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. As these regulations are national in scope, all affected industrial sources will have a similar emission standard, regardless of geographical location.

8. Would others face increased costs if a more stringent rule is not enacted?

No.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

No. As this is an adoption by reference in Division 32, the procedural requirements, including reporting and monitoring, are identical to applicable federal requirements.

10. Is demonstrated technology available to comply with the proposed requirement?

Yes. These regulations impose Maximum Achievable Control Technology (MACT) on the affected new or reconstructed sources. MACT is either the best controlled similar source for new sources, or it represents the top 12% of existing sources for similar reconstructed sources.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

Yes. The proposed requirements will contribute to the prevention of pollution by limiting the emission of listed hazardous air pollutants through the installation and operation of MACT emission controls.

These emission controls are not exclusively 'end-of-pipe', but rather represent a combination of work practices, raw material formulation and usage, operator training, and control device installation.

State of Oregon

Department of Environmental Quality Memorandum

Date: May 25, 1997

To: Environmental Quality Commission

From: Jerry Ebersole, Hearings Officer

Subject: Report of Public Hearing on Proposed Amendments to the Hazardous Air Pollutant Rules

On April 8, 1997, the Director authorized a public hearing to consider amending the hazardous air pollutant rules to adopt by reference the new federal rules governing the case-by-case MACT procedure under Section 112(g) of the Clean Air Act Amendments.

Public notice was published in the May edition of the *Bulletin,* and separately distributed to a Department mailing list of approximately 600 potential interested parties, including the universe of potentially impacted industrial facilities.

On May 23, 1997 the Department held a public hearing at the DEQ Headquarters' building in Portland, Oregon. The hearing began at 1:00 p.m. and officially ended at 1:30 PM . Written comments were received through May 23, 1997.

No oral or written testimony was presented at the hearing.

Additional written comments were received as listed below. The Department's responses to all comments are included in Attachment D in the staff report to the Commission, dated August 22, 1997.

1. Mr. Bernard Bingham, Chesapeake Environmental Group, Inc., 13298 Wildwood Beach Road, Baltimore, Maryland 21221
2. Mr. Tom Wood, Stoel Rives LLP, 900 SW Fifth Avenue, Portland, OR 97204
3. Mr. Kevin Godbout, Weyerhaeuser Inc., Corporate Headquarters, Tacoma, WA 98477
4. Mr. John Ledger, Associated Oregon Industries, 1149 Court Street NE, Salem, OR 97309.
5. Mr. Jon Nelson, City Manager's Office, City of Corvallis, 501 SW Madison, Corvallis, OR

The comments are available upon request, and detailed response to comments is included as Attachment D.

To summarize the most significant comments; most commentors agreed with the proposed rule amendments, and offered additional suggestions to improve clarity and consistency throughout Division 32. No comments were received which opposed the proposed rule amendments.

Attachment D
Amending Oregon Hazardous Air Pollutant Rules
Summary and Evaluation of Comments Received
EQC Agenda Item D
August 22, 1997

State of Oregon
Department of Environmental Quality Memorandum

Date: August 22, 1997

To: Environmental Quality Commission

From: John M. Kinney, Program Operations Section,
Air Quality Division

Subject: Summary and Evaluation of Public Comments Received.

The Department received a total of five written comments pertaining to the Department's proposal to amend Oregon's hazardous air pollutant rules with the adoption by reference of the new federal 112(g) rule. Each public comment and the Department's response is presented below:

Public Comment. Requests confirmation as to the following statements:

- Municipal Solid Waste (MSW) landfills are subject to the NSPS promulgated on March 123, 1996;
- MSW landfill are also potentially subject to OAR 3409-032-0500 and 340-032-0130 provided they exceed the emission limits for 'potential to emit" found in OAR 340-032-0120, Definition 33;
- Oregon DEQ considers all emission from a MSW landfill when determining applicability of the above-noted rules.

Made By: Mr. Bernard Bingham

Department Response: The Department offers the following clarification on these statements. MSW Landfills are required, under the NSPS, to calculate their nonmethane organic compound emission (NMOC) , of which VOC's are included. Large landfills, whose design capacity is greater than 2.5 million Mg and NMOC emissions are in excess of 50 Mg are the only sources required to collect and control gas.

All air emitting sources, landfills included, may be subject to other regulations. A stationary source with a potential annual emission in excess of 10 tpy of an individual 112(b) HAP, or a combined potential annual emission of 25 tpy of any combination of 112(b) HAP, is subject to Title V permitting requirements. However, nearly 90% of NMOC emission from small landfills are less than 7 tpy; of which nearly 80% is estimated to be VOCs. There are no air quality regulations requiring landfills to control for VOC emission resulting from daily cover, other than what would be covered under the NSPS.

Public Comment: The Department should add definitions of the following terms to Division 32:

- Construct a major source
- Reconstruct a major source
- Potential to Emit

Made By: Mr. Tom Wood, and Mr. Kevin Godbout

Department Response:

The Department agrees with the first two of these comments and has added a definitions of "construct a major source" , "reconstruct a major source" to the definitions section of Division 32. With respect to the potential to emit comment, the Department agrees with the comment but has decided to defer amendment of Oregon rules addressing potential to emit until the EPA issues a final potential to emit rulemaking, which is expected in the fall of 1997. Following the federal rulemaking, the Department will initiate rulemaking to ensure conformity between both Divisions 032 and 028 with the federal definition of potential to emit.

Public Comment: The Department should remove the following definitions from the existing definitions section of Division 32, as they have been superseded, or made redundant by the definitions section of the new federal 112(g) rule.

- State MACT
- MACT Demonstration
- Subsequent 112(d) Standards
- Source Categories not Subject to MACT

Department Response - The Department agrees with these comments, and has made the indicated changes in the Division 32 definitions section.

Public Comment: The Department should clarify the date by which a source must be in compliance with a case-by-case MACT determination.

Made By: Mr. Tom Wood

Department Response- After careful consideration, and the sometimes different language addressing this topic at the Part 63 Subpart A 'General Provisions', the Department has amended the existing language at OAR 340-032-130 to explicitly state required compliance within 180 days of startup of a new or reconstructed facility.

Public Comment: The Department should revise its requirements under OAR 340-032-5585 regarding the Radionuclide NESHAP.

Attachment D
Amending Oregon Hazardous Air Pollutant Rules
Summary and Evaluation of Comments Received
EQC Agenda Item D
August 22, 1997

Made By: Mr. Tom Wood

Department Response - The Department recognizes the need to amend Division 32 to reflect the federal program changes. However the original rule mailing and public hearing referenced only the adoption by reference of the new 112(g) rule, and the conformity changes to Division 32. Therefore, the suggested changes to Division 32 addressing radionuclides would be outside the scope of the administrative process, and thus prohibited. The Department will make the suggested changes at the next Division 32 rulemaking, which is expected in the Fall of 1997.

Attachment E
Amending Oregon Hazardous Air Pollutant Rules
EQC Agenda Item D
August 22, 1997

State of Oregon
Department of Environmental Quality Memorandum

Date: **August 22, 1997**

To: Environmental Quality Commission

From: **Gregg E. Lande, Program Operations Section, Air Quality Division**

Subject: Changes to the Original Rulemaking Proposal Made in Response to Public Comment

After consideration of the comments received during the public comment period accompaning this rulemaking, the Department has made several changes to Division 32.

Definitions of the following terms have been added to OAR 340-032-120:

Construct a Major Source - OAR 340-032-0120(8)
Reconstruct a Major Source - OAR 340-032-0120(33)

The following sections of Division 32 have been deleted:

Modification - OAR 340-032-0120(28)
State MACT - OAR 340-032-500(2)(a) through 500(4)(e).
Requirements for Modifications of Existing Major Sources- OAR 340-032-4500\
de minimus emission rates - OAR 340-032-0130

Attachment F
Amending Oregon Hazardous Air Pollutant Rules
EQC Agenda Item D
August 22, 1997

Summary of Federal Rule Proposed for Adoption

Section 112(g)

- Under the Clean Air Act Amendments of 1990, EPA is required to regulate large or "major" industrial facilities that emit one or more of 188 listed hazardous air pollutants (air toxics). Air toxics are those pollutants that are known or suspected of causing cancer or other serious health effects, such as developmental effects or birth defects. On July 16, 1992, EPA published a list of industrial source categories that emit one or more of these hazardous air pollutants. EPA is required to develop standards for listed industrial categories of "major" sources (those that have the potential to emit 10 tons/year or more of a listed pollutant or 25 tons/year or more of a combination of pollutants) that will require the application of stringent controls, known as maximum achievable control technology (MACT).

- The section 112(g) provision is designed to ensure that emissions of toxic air pollutants do not increase if a facility is constructed or reconstructed before EPA issues a MACT or air toxics regulation for that particular category of sources or facilities.

- In effect, the 112(g) provision is a transitional measure to ensure that facilities adequately protect the public from toxic air pollutants until EPA issues a MACT standard that applies to the facility in question.

Background

- EPA proposed the 112(g) regulation in April 1994. EPA delayed issuing the final 112(g) regulation to work out a number of complex issues, including defining construction and reconstruction of major sources, and developing the best way to integrate the program with existing state programs.

- In an effort to address these and other issues, EPA has held extensive meetings and discussions with stakeholders affected by the rule, including those in industry, states, and environmental groups. Based on these discussions, EPA redrafted parts of the proposed 112(g) regulation and issued a draft final rule for public comment in March 1996. EPA believes that the final rule will provide strong environmental protection, while providing flexibility to sources or facilities subject to 112(g).

How the 112(g) regulation has changed since its original proposal

- EPA's final rule substantially streamlines the process it proposed in April 1994 by limiting the 112(g) requirements to the construction of new facilities, and the reconstruction (rebuilding) of large sources of toxic air emissions at existing facilities.

- As with the April 1994 proposal, newly constructed facilities continue to be subject to 112(g) requirements. However, the regulation no longer contains the complex requirements for modifications to existing sources or facilities. An existing facility would only be subject to 112(g) requirements, for example, if it added or rebuilt a large

production line or process that emitted toxic air pollutants above the "major" source threshold (e.g., above 10 tons annually for any single listed pollutant, or above 25 tons annually for a combination of listed pollutants).

- Section 112(g) is primarily a transitional provision designed to operate until EPA issues air toxics or MACT standards. EPA anticipates that most MACT standards will be in place by the year 2000. Therefore, EPA believes that section 112(g) will yield the most public health and environmental benefits by requiring stringent controls on newly constructed or rebuilt large sources of toxic air pollutants (where uncontrolled emissions are likely to be the highest), where an applicable air toxics regulation has yet to be issued.

Main Sections of the Final Rule

- Newly constructed facilities or reconstructed units or sources at existing facilities will be subject to 112(g) requirements if they have the potential to emit hazardous air pollutants (air toxics) in "major" amounts (10 tons or more of an individual pollutant or 25 tons or more of a combination of pollutants). "Reconstruction" is defined as a change that costs 50 percent of the cost of constructing a new unit or source like the one being rebuilt.

- Sources or facilities subject to 112(g) will be subject to stringent air pollution control requirements, referred to as "new source MACT." Under the Clean Air Act, new source MACT control is required to be no less stringent than the best controlled similar source or facility.

- Section 112(g) requirements apply to new major process or production units at existing sites. A new addition qualifies as a discrete process or production unit if the collection of equipment or structures produces an intermediate or final product independently, in substantial degree, from the existing equipment or structures.

- EPA anticipates that the new source MACT requirements will be equally or more stringent than the requirements in the air toxics or MACT standard that EPA will later issue for the industrial source category in question. However, should the new source MACT requirements prove to be less stringent than the air toxics regulation that EPA later issues, the source or facility will be provided additional time to comply with the air toxics or MACT standard.

- EPA's final rule provides an 18-month transition period for states to make adjustments in their programs to comply with 112(g) requirements. For states that are unable to adopt these requirements within the designated time-frame, the EPA has provided two options for review and approval of case-by-case MACT determinations.

Additional Information

- With a computer and a modem this rule can be downloaded from the Clean Air Act Amendments bulletin board under "Recently Signed Rules" on EPA's electronic Technology Transfer Network by calling (919) 541-5742. For further information about how to access the board, call (919) 541-5384. The rule is also listed on EPA's web site, "http://www.epa.gov/oar". For further information about the draft final rule, contact Kathy Kaufman (919-541-0102) of EPA's Office of Air Quality Planning and Standards.

State of Oregon
Department of Environmental Quality Memorandum

Date: August 4, 1997

To: Environmental Quality Commission

From: **Gregg E. Lande**

Subject: 112(g) Implementation Plan

1. The newly adopted federal 112(g) regulations will be implemented through the Oregon Operating Permit and Air Contaminant Discharge Permit Program.

2. AQ Headquarters' staff will present training for all AQ permitting and inspection staff during October, 1997. Training will consist of an illustration of the administrative and technical pathways a new or reconstructed source would follow if subject to the new rules. During this time, Regional AQ offices will also be presented with new sets of AQ permit forms implementing the new case-by-case MACT regulations.

3. The following principal dimensions of the Case-By-Case MACT process can be highlighted :

Region-Source

This relationship is defined by the interaction of the source with the regional permitting personnel, and the section of the new 112(g) rule which outlines the obligation and timelines of the MACT determination process. The source is obligated to supply a complete MACT determination, also incorporating the relevant portions of the Part 63 Subpart A General provisions to the regional office.

Region -HQ

This relationship is defined by the role of HQ in ensuring consistent statewide implementation of the 112(g) rule throughout all regions. A consensus emerged which emphasized the importance of consistency and communication between the region, HQ, and the industrial source.

HQ- EPA

This relationship is defined by HQ obligations with data input into the AFS subsection of the AIRS database. HQ is also charged with the primary responsibility of federal approval of the 112(g) program according to the 18 month timetable outlined in the new federal 112(g) rule.

4. Outreach

AQ will publish and distribute a newsletter outlining the major elements of the new regulation during October, 1997.

State of Oregon
Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh

Subject: Agenda Item E, Wastewater Hardship Grants, EQC Meeting August 22, 1997

Background

On June 3, 1997, the Director authorized the Water Quality Division to proceed to a rulemaking hearing on proposed rules which would implement a program of grants to economically disadvantaged, rural communities without centralized wastewater systems to address wastewater problems.

Pursuant to the authorization, hearing notice was published in the Secretary of State's Bulletin on July 1, 1997. The Hearing Notice and informational materials were mailed to the mailing list of those persons who have asked to be notified of rulemaking actions, and to a mailing list of persons known by the Department to be potentially affected by or interested in the proposed rules on June 25, 1997.

A Public Hearing was held July 28, 1997, at 1:30 p.m. at 2020 S.W. 4th, Portland, in the 4th floor conference room with Richard Santner serving as Presiding Officer. No verbal testimony was given. Written comment was received through August 1, 1997. The Presiding Officer's Report (Attachment C) summarizes the oral testimony presented at the hearing and lists all the written comments received. (A copy of the comments is available upon request.)

Department staff have evaluated the comments received (Attachment D). Based upon that evaluation, several changes to the initial rulemaking proposal are being recommended by the Department (Attachment E).

The following sections summarize the issue that this proposed rulemaking action is intended to address, the authority to address the issue, the process for development of the proposed rules including alternatives considered, a summary of the rulemaking proposal presented for public hearing, a summary of the significant public comments and the changes proposed in response to those comments, a summary of how the rule will work and how it is proposed to be implemented, and a recommendation for Commission action.

Issue this Proposed Rulemaking Action is Intended to Address

The U.S. Environmental Protection Agency (EPA) has made federal grant funds available to the states to implement a program of grants for economically disadvantaged, rural communities that do not have centralized wastewater treatment or collection systems. The grants are to address the wastewater problems, focusing on improving public health and reducing environmental risk. The program is designed to be coordinated with the Clean Water State Revolving Fund (CW SRF) loan program with a 5% match provided by the state. $506,800 in federal funds is available for 1997 with additional funding probable for four more years. With a 5% state match, the total available for 1997 grants will be $532,140.

While the statutes governing the Clean Water State Revolving Fund is broad enough to include the proposed activities, the administrative rules implementing the CW SRF program to do not authorize grants to communities. The proposed rules implement the grant program as described in the federal guidance.

Relationship to Federal and Adjacent State Rules

The proposed rules are more stringent than the federal guidance for the program in one program requirement, i.e., that a Hardship grant and CW SRF loan funding package include at least 15% of the funds in a CW SRF loan. The federal guidance allows the program to make grant and loan packages where the grant is more than 85% of the total funding, but specifies that, in this situation, the grant cannot be managed with the administrative allowance provided for the CW SRF program. (No additional administrative funds are included with the Hardship Grant.) In addition, a community receiving the grant for more than 85% of the total grant and loan package must comply with more stringent federal requirements (e.g., the National Environmental Policy Act and Davis-Bacon prevailing wage rates) than would be imposed through the state CW SRF program. To avoid this situation, the proposed rules require that any funding package include at least 15% in CW SRF loan funds along with the grant funds.

The proposed rules are included in Section 340-54 with the rules administering the Clean Water State Revolving Fund since these programs will be coordinated and administered by the same staff.

Authority to Address the Issue

ORS 468.423 to 468.440

Process for Development of the Rulemaking Proposal (including Advisory Committee and alternatives considered)

Rules were drafted by the Clean Water State Revolving Fund staff based upon the Guidelines for Implementing the Hardship Grant Program for Rural Communities which was published in the Federal Register, Part X, on March 20, 1997. The proposed rules for the Oregon program closely follow the federal requirements. Several changes were made to the original draft in response to a review by Larry Knudsen of the Attorney General's Office.

The proposed rules and procedures for the Wastewater Hardship Grant Program were discussed with the Advisory Committee for the Environmental Partnerships for Oregon Communities Program (EPOC) on May 30, 1997. This committee reflects the same constituency and concerns as the Wastewater Hardship Grant Program, focusing on the infrastructure needs of small communities. The committee had no suggestions for changes to the draft rules but expressed their support for the program and approved the direction the rules take in keeping the program flexible and responsive to the changing needs of the small communities.

At the Hearing Authorization Meeting, the Director and other DEQ administrators suggested the inclusion of selection priority criteria which would encourage involvement with the Department's Environmental Partnerships for Oregon Communities Program (EPOC) and the Self-help approach developed by the Rensselaerville Institute. Discussion with the League of Oregon Cities about the definition for "rural" was also suggested. Subsequent changes were made in the proposed rules to incorporate these suggestions as described below.

Since use of eligibility criteria for the EPOC program would be more restrictive than intended, priority was given to communities working with the EPOC program through technical assistance activities, whether or not the community qualified for full EPOC participation. Use of the Self-help approach was also included in the first priority tier. A second level of priority recognized those communities that have contacted the EPOC program for assistance. This priority system did not exclude any communities from the program but gave preference to those using EPOC and Self-help. The rules included other factors that would be considered in making the final selection of grantees.

A review of the definition of rural communities used by the Department of Land Conservation and Development and a discussion with Joni Low of the League of Oregon Cities resulted in the use of a broad definition of "rural" to include any community with a population of 3,000 or less, which is not within the city limits of another city with a population of more than 3,000. This is the most liberal definition allowed under federal guidance.

Summary of Rulemaking Proposal Presented for Public Hearing and Discussion of Significant Issues Involved.

Under the proposed rules, eligible communities may receive a grant along with a low-interest Clean Water State Revolving Fund (CW SRF) loan to assist in planning, design and construction of wastewater treatment facilities. Training, technical assistance and education on wastewater systems may also be provided to eligible communities.

To be eligible, a community must (1) have a population of 3,000 or less; (2) be "rural" (outside of the city boundaries of a city with a population of more than 3,000); (3) have a per capita income of 80% or less of the national per capita income; (4) have an unemployment rate of at least one percentage point above the national rate; (5) be without a centralized wastewater treatment or collection system; and (6) be an eligible applicant for the Clean Water State Revolving Fund loan program.

Eligible communities would be prioritized into three groups: (1) communities which have received technical assistance from the Department's Environmental Partnerships for Oregon Communities (EPOC) Program and which are using the Self-help approach; (2) communities which have applied for technical assistance from the EPOC Program; and (3) all other communities. Grant funds would be awarded by the Director of the Department based upon the three priority groups and, within each group, other factors, such as total funds available, financial conditions, environmental factors and community support for the project.

The amount of grant funds awarded to each project is limited to the amount needed to make a CW SRF loan affordable, with a maximum grant of 85% of the total grant and loan package.

Summary of Significant Public Comment and Changes Proposed in Response

No verbal testimony was presented at the hearing. Only DEQ staff members attended.

Two letters were received during the Public Comment period. Both were from engineering consultants who work with many wastewater projects, particularly in small communities. Both commenters questioned the fairness and legality of giving preference to projects that are using the Self-help approach and recommended that this element be dropped. One of the commenters also objected to the preference given to communities working with the Environmental Partnerships for Oregon Communities (EPOC) program. The other commenter expressed support of the EPOC program and approved of giving preference to projects working with it.

The legal questions were discussed with Larry Knudsen of the Attorney General's Office. After discussing the options with two Division Administrators and pertinent staff, the proposed rules were

changed to include the use of self-help activities and involvement with the EPOC program in the list of criteria, but the elimination of priority levels based upon these two factors alone.

Eligible projects will be evaluated based upon several facets, as follows.

(1) The merits of the project, including the ranking on the Clean Water State Revolving Fund priority list, public health impacts, and water quality impacts.
(2) The commitment of the community, including community support for the project and technical assistance received through the EPOC program to address wastewater problems.
(3) Financial considerations, including the ability of the community to support the long-term operation, maintenance and replacement costs of the project; other available funding for the project; plans to use self-help activities in completing the project; affordability of the project without grant funds; and the current economic status of the community.

A staff report will recommend the funding of particular projects based upon an evaluation of the criteria for each project and community, the number and dollar amount of applications, and the total amount of grant funds available. The Director will make the final selection of grantees.

Summary of How the Proposed Rule Will Work and How it Will be Implemented

Following adoption of these rules, the Clean Water State Revolving Fund program will mail information and applications for the grant and loan programs to all cities, sanitary districts and other interested parties. Following the application closing date in November or December, applications will be ranked and an Intended Use Plan document prepared. After a thirty-day public review of the Intended Use Plan, it will be submitted to EPA with an application for the federal fiscal years 1997 and 1998 Hardship Grants. A staff report will be prepared evaluating the criteria for the applicant projects and recommending a selection for the Director's consideration given the amount of funds available. When the Hardship Grant awards are received, grants will be awarded to selected communities. This should occur by March 1998.

Recommendation for Commission Action

It is recommended that the Commission adopt the rules regarding the Wastewater Hardship Grant Program as presented in Attachment A of the Department Staff Report.

Attachments

A. Rule Proposed for Adoption
B. Supporting Procedural Documentation:
   1. Legal Notice of Hearing
   2. Fiscal and Economic Impact Statement
   3. Land Use Evaluation Statement
   4. Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements
   5. Cover Memorandum from Public Notice
C. Presiding Officer's Report on Public Hearing
D. Department's Evaluation of Public Comment
E. Detailed Changes to Original Rulemaking Proposal made in Response to Public Comment
F. Advisory Committee Membership and Report
G. Rule Implementation Plan

Reference Documents (available upon request)

Written Comments Received (listed in Attachment C)
EPA: Rural Communities Hardship Grants Program Implementation Guidelines; Notice (Federal Register, Part X, March 20, 1997)

Approved:

Section:

Division:

Report Prepared By: Peggy K. Halferty
Phone: (503) 229-6412
Date Prepared: August 8, 1997

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8/8/97

Wastewater Hardship Grant Program
Proposed Oregon Administrative Rules

340-54-085 Purpose

These rules implement the Wastewater Hardship Grant Program under ORS 468.423-468.440, the Water Pollution Control Revolving Fund. Grants may be awarded to public agencies in combination with Clean Water State Revolving Fund loans for wastewater treatment system improvements in low income, high unemployment, rural communities. Technical assistance is also an option of the program for eligible communities.

340-54-087 Definitions

(1) "CW SRF" means the Clean Water State Revolving Fund, a loan program for water pollution abatement projects administered by the Department under ORS 468.423 through 468.440 (the "Water Pollution Control Revolving Fund") and OAR 340-54-005 through 340-54-080.
(2) "Community" is a group of more than one household.
(3) "Department" means the Oregon Department of Environmental Quality.
(4) "Director" means the Director of the Department of Environmental Quality or the Director's designee.
(5) "EPOC" means the Environmental Partnerships for Oregon Communities Program of the Department.
(6) "Rural" means a community which is not, in whole or in part, within the city limits of a city with a population of more than 3,000.
(7) "Self-help approach" means implementation of the program developed by the Small Towns Environment Program at The Rensselaerville Institute, or a similar program that uses a community's own resources - human, material and financial - to reduce the cost of the project.

340-54-090 Eligibility

(1) Applicants for the Wastewater Hardship Grant Program must meet all of the following criteria:
  (a) be eligible for a Clean Water State Revolving Fund loan.
  (b) apply for a Clean Water State Revolving Fund loan and be on the list of eligible projects in the current Intended Use Plan for the Clean Water State Revolving Fund loan program.
  (c) be a rural community with a population of 3,000 or less.
  (d) have a per capita income of the residents served by the project equal to or less than 80% of the national per capita income of the United States during the same period, based on the last census report or a more recent survey acceptable to the Department.

(e) have an unemployment rate of one or more percentage points above the annual unemployment rate for the United States, based on the last census report or a more recent survey acceptable to the Department.

(f) be without a centralized wastewater collection or treatment system, or need improvements to onsite wastewater treatment systems.

(2) Projects being considered for funding must either improve public health or reduce an environmental risk.

340-54-093 Uses of the Fund

(1) The fund may be used for grants to eligible public agencies for the planning, design and construction of publicly owned treatment works and alternative wastewater systems. Grant-funded project costs must be eligible costs of wastewater system projects under the Clean Water State Revolving Fund program.

(2) The fund may be used for training, technical assistance and education programs relating to the operation and maintenance of wastewater systems. Technical assistance may only be provided to communities that meet all of the eligibility requirements. The primary purpose of technical seminars and other training must be to train eligible communities.

340-54-095 Selection of Grantees

(1) The Director shall award grants to public agencies from among eligible applicants based on a staff report assessing the following factors.

(a) Total amount of grant funds available.

(b) Number of eligible applicants and the cost of proposed projects.

(c) Current economic status of the applicant community.

(d) Availability of other funding for the project, and affordability of the project without Wastewater Hardship Grant funds.

(e) Ability of the community to financially support the long-term operation, maintenance, and replacement costs of the project when completed.

(f) Use of the Self-help approach to leverage the project investment through local contributions and volunteer efforts.

(g) Community support for and involvement in the project.

(h) Technical assistance received from the Department through the Environmental Partnerships for Oregon Communities (EPOC) Program or through a comparable program that helps communities assess and prioritize multiple environmental mandates.

(i) Relative ranking of the project on the Clean Water State Revolving Fund Intended Use Plan Priority List.

(j) Water quality impacts of the project, including receiving waterbody health, applicable watershed plans, applicable Total Maximum Daily Load allocations, salmon recovery efforts in the area, threatened and endangered

species habitat in the area, groundwater management areas, and other environmental concerns.

(k) Public health impacts of the project.

(2) The relative weight given each of the factors in paragraph (1) above and the final selection of the communities to receive Wastewater Hardship Grant funds shall be at the discretion of the Director.

340-54-097 Coordination with Clean Water State Revolving Fund Loans

(1) A Clean Water State Revolving Fund loan for at least 15% of the total grant and loan amount must be executed and loan funds disbursed in coordination with the grant moneys.

(2) The requirement under OAR 340-54-025(1)(b)(C) for a Clean Water State Revolving Fund loan amount to be a minimum of $20,000 may be waived.

(3) The requirement under OAR 340-54-025(4)(b) for Clean Water State Revolving Fund loan allocations to be made in rank order of the Intended Use Plan Priority List will be waived for each project selected for a Wastewater Hardship grant in an amount up to the amount of the grant award.

(4) The grant and loan funding split shall be determined by the Director based upon the grant funds available and the amount of grant assistance that would make the Clean Water State Revolving Fund loan affordable.

(5) Clean Water State Revolving Fund loan fees shall be assessed on the loan portion of the grant and loan package. No fees shall be assessed on the grant.

(6) Moneys for the Wastewater Hardship Grant program shall be maintained in accounts separate from the Clean Water State Revolving Fund.

NOTICE OF PROPOSED RULEMAKING HEARING

Department of Environmental Quality

OAR Chapter 340-54-085 through 340-54-097

DATE:	**TIME:**	**LOCATION:**
July 28, 1997	1:30 p.m.	2020 S.W. 4th, Portland, OR; 4th Floor, Conf. Rm. A/B

HEARINGS OFFICER(s): Richard Santner

STATUTORY AUTHORITY: ORS 468.423 through 468.440
or **OTHER AUTHORITY:**
STATUTES IMPLEMENTED:

ADOPT: XXX

AMEND:

REPEAL:

RENUMBER:
(prior approval from Secretary of State REQUIRED)

AMEND & RENUMBER:
(prior approval from Secretary of State REQUIRED)

☒ This hearing notice is the initial notice given for this rulemaking action.
☐ This hearing was requested by interested persons after a previous rulemaking notice.
☐ Auxiliary aids for persons with disabilities are available upon advance request.

SUMMARY:

The Wastewater Hardship Grant Program is implemented under the new rules. It uses EPA Hardship Grant funds and a 5% state match for grants to small, low income, high unemployment, rural communities lacking centralized wastewater collection or treatment systems. Grants are combined with low-interest Clean Water State Revolving Fund loans to finance wastewater projects, or used to provide technical assistance.

LAST DATE FOR COMMENT: August 1, 1997

AGENCY RULES COORDINATOR: Susan M. Greco, (503) 229-5213
AGENCY CONTACT FOR THIS PROPOSAL: Peggy K. Halferty, CW SRF Coordinator
ADDRESS: 811 S. W. 6th Avenue
Portland, Oregon 97204
TELEPHONE: (503) 229-6412 /1-800-452-4011

Interested persons may comment on the proposed rules orally or in writing at the hearing. Written comments will also be considered if received by the date indicated above.

Susan M. Greco — 6/11/97
Signature — Date

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Wastewater Hardship Grant Program

Fiscal and Economic Impact Statement

Introduction

These rules implement a program that will distribute approximately $500,000 per year to small, rural, low income, high unemployment communities for the planning, design and construction of wastewater treatment systems over the next five years. The grants are combined with low cost loans through the Clean Water State Revolving Fund (CW SRF) Loan Program. Direct benefits are to the communities which receive grant funds in lieu of borrowing for a project. Indirect benefits are to those same communities, and the citizens and small businesses in those communities who may experience economic growth as a result of the centralized wastewater system.

Summary Chart:
Annual Direct Benefits to Small Communities:
FY1998 savings on centralized wastewater facilities = $532,140
Annual Indirect Benefits to Sewer Rate Payers:
FY 1998 Savings in Monthly Rates = $3.32 per month or $38.66 per year for twenty years

General Public

The general public in selected, rural communities with populations of 3,000 or less will benefit directly from improved wastewater treatment systems at less cost than if they were financed by borrowing. Savings will total $532,140 in fiscal year 1998 and additional, similar amounts annually for four more years. The sewer rate payers in those communities will have savings estimated at $3.32 per month or $38.66 per year for a twenty-year period.

Indirectly, these communities will benefit economically from the centralized wastewater system as it allows growth in areas which were limited by failing onsite systems or soils which did not allow additional onsite systems. The community may also benefit from the indirect, long-term economic benefits of correcting and preventing health hazards created by failing onsite systems.

Small Business

Businesses in the small communities receiving the grants will benefit from the economic growth that may accompany the construction of a centralized wastewater system. The Small Businesses will also receive the indirect benefit of the lower sewer charges for the next twenty years.

Large Business

None, unless located in a community of 3,000 or less. However, construction of a centralized wastewater system may make it possible for large businesses to consider locating a facility in a small community that previously lacked the needed infrastructure.

Local Governments

Local governments will avoid incurring debt for the wastewater system projects in the total amount of $532,140 during fiscal year 1998, and additional amounts each year for four more years. The local governments will indirectly benefit from (1) the economic growth which may follow the sewer construction and (2) the economic effects of correcting or preventing the health hazards of failing onsite systems.

State Agencies

- DEQ

- FTE's	0.0 FTE	
- Revenues		$ 0
- Expenses		$ 0

The administrative costs of this program will be funded through the Clean Water State Revolving Fund Program with no increase in staff. Since eligible applicants must also apply for the Clean Water State Revolving Fund loan, current CW SRF staff would be working with the community on the project regardless of its participation in the grant program. After the rule-making process, the increased workload will be minimal.

Involvement of the Environmental Partnerships for Oregon Communities Program (EPOC) as a priority for selecting grant recipients will increase interest in the EPOC program, and may increase workload in that program. However, the number of projects accepted into the program will still be determined by the current staffing.

- Other Agencies

No fiscal impact.

Assumptions

The wastewater projects that receive Hardship Grant funds will be completed even if the grant are not awarded. If the grant funds were not available, the community will borrow the funds to complete the project.

To calculate the savings to the sewer rate payers, it is assumed that the total grant funds are awarded to a single community with 1,000 households or equivalent dwelling units (EDU's).

To calculate the costs that would have been incurred with a loan in the same amount, CW SRF interest rates of 3.87% were assumed with 20-year repayment or an average annual repayment of $38,657 for principal and interest (excluding loan fees). Savings from using grant funds instead of a loan is $38.66 per household or EDU per year, or $3.32 per month. (Other comparable loan programs would have higher interest rates but may allow a longer repayment period.)

Housing Cost Impact Statement

The Department has determined that this proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel. However, this grant program may decrease the amount that would have been charged as a System Development Charge (SDC) by the community if the project had not used the grant funds.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Wastewater Hardship Grant Program

Land Use Evaluation Statement

1. **Explain the purpose of the proposed rules.**

The proposed rules implement a program for small (3,000 or less in population), rural, low income, high unemployment communities that are currently lacking centralized wastewater treatment or collection. The program provides assistance through grants for planning, design and construction of publicly-owned wastewater projects; and for training, technical assistance and education. All applicants must apply for a Clean Water State Revolving Fund (CW SRF) loan and be on the CW SRF Intended Use Plan priority list. All grants are provided with a Clean Water State Revolving Fund (CW SRF) loan for at least 15% of the total grant and loan funds.

2. **Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?**

   Yes__X__ No____

   a. **If yes, identify existing program/rule/activity:**

   The proposed grant program will be administered jointly with the Clean Water State Revolving Fund (CW SRF) loan program which is identified as a land use program in OAR 340-18-030(5)(c). The proposed rule does not change the CW SRF or its rules but is a new component that will be administered with the loan program. All of the rules of the loan program will apply to the grant recipients since they cannot receive a grant without a loan.

   b. **If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?**

   Yes__X__ No_____ (if no, explain):

The proposed rules do not change the rules of the CW SRF program, which requires a Land Use Compatibility Statement (LUCS) as a part of the Final Application Process under OAR 340-54-035(2)(f). This existing rule requiring a LUCS will automatically apply to all grant recipients since a grant is not awarded without a CW SRF loan. The LUCS has been identified under the loan program as appropriate and sufficient to assure that financed wastewater projects meet the land use compliance and compatibility requirements.

c. If no, apply the following criteria to the proposed rules.

In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

3. If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.

Not applicable: The proposed rules will be added to Division 54 after the rules for the Clean Water State Revolving Fund Loan Program. Grant recipients are subject to the land use compliance and compatibility procedures of the loan program.

Division	Intergovernmental Coord.	Date
		6/6/97

Questions to be Answered to Reveal
Potential Justification for Differing from Federal Requirements.

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

Environmental Protection Agency: "Rural Communities Hardship Grants Program Implementation Guidelines; Notice" published in the Federal Register on 3/20/97.

Federal guidelines require that if the Clean Water State Revolving Fund (CW SRF) loan is for less than 15% of the total loan and grant package, then

(a) All of the federal cross-cutter requirements apply to the project, including Davis Bacon wage rates and the National Environmental Protection Act (NEPA) requirements. (These are no longer requirements under the CW SRF loan program.)

(b) The grant cannot be administered with the Clean Water State Revolving Fund administration funds allocated under the CW SRF grants.

The proposed rule requires the loan be at least 15% of the total loan and grant financing package in order to avoid these conditions.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

Neither. Federal requirements specify the criteria for eligible grant recipients and the use of the funds.

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

No. The program was developed without addressing specific concerns in Oregon. Input was submitted during the comment period for the guidelines. On-going communication with EPA is resulting in the consideration of specific situations in the further guidance for the program (Q and A's).

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting

requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. Requiring the loan to be at least 15% of the loan and grant financing package avoids the additional costs of compliance with a number of federal requirements that would otherwise not apply to the project. It also removes the uncertainty over whether or not they apply.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

No.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Not applicable to this program.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. The requirement applies to all eligible projects.

8. Would others face increased costs if a more stringent rule is not enacted?

No. However, the community receiving the grant funds would face increased costs in complying with the federal regulations. DEQ would face finding the funds for administration of the grant from sources other than the federal Clean Water State Revolving Fund grants.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

The proposed rules for the Wastewater Hardship Grant Program are more stringent than the federal guidelines for the program in that the proposed rules require a loan for at least 15% of the loan and grant package. The federal guidelines do not require the loan to be at least 15% of the total but impose restrictions and additional conditions when the loan amount is less.

Requiring the loan to be at least 15% of the total loan and grant will avoid the costs that the communities would incur with the additional federal requirements and will avoid the need to find funds to administer the grant other than the currently available federal Clean Water State Revolving Fund federal grant administration funds.

10. Is demonstrated technology available to comply with the proposed requirement?

Not applicable to this program.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

Not applicable to this program.

State of Oregon
Department of Environmental Quality **Memorandum**

Date: June 25, 1997

To: Interested and Affected Public

Subject: Rulemaking Proposal and Rulemaking Statements - Wastewater Hardship Grant Program

This memorandum contains information on a proposal by the Department of Environmental Quality ("the Department") to adopt new rules regarding the Wastewater Hardship Grant Program. Pursuant to ORS 183.335, this memorandum also provides information about the Environmental Quality Commission's intended action to adopt a rule.

This proposal would allow the Department to make grants and provide technical assistance to severely economically disadvantaged rural communities of 3,000 or less for wastewater projects when the community is lacking a centralized wastewater collection or treatment system. Grants would be made in combination with low-cost Clean Water State Revolving Fund loans.

The Department has the statutory authority to address this issue under ORS 468.423 to 468.440.

What's in this Package?

Attachments to this memorandum provide details on the proposal as follows:

Attachment A The official statement describing the fiscal and economic impact of the proposed rule. (required by ORS 183.335)

Attachment B A statement providing assurance that the proposed rules are consistent with statewide land use goals and compatible with local land use plans.

Attachment C Questions to be Answered to Reveal Potential Justification for Differing from Federal Requirements.

Attachment D The actual language of the proposed rule.

Hearing Process Details

The Department is conducting a public hearing at which comments will be accepted either orally or in writing. The hearing will be held as follows:

Date: July 28, 1997
Time: 1:30 p.m. (beginning with an unrecorded question and answer period)
Place: 2020 S.W. 4th, Portland; 4th Floor, Conference Room A/B

Deadline for submittal of Written Comments: August 1, 1997
Richard Santner will be the Presiding Officer at the hearing.

Written comments can be presented at the hearing or to the Department any time prior to the date above. Comments should be sent to: Department of Environmental Quality, Attn: Peggy Halferty, Water Quality Division, 811 S.W. 6th Avenue, Portland, Oregon 97204.

In accordance with ORS 183.335(13), no comments from any party can be accepted after the deadline for submission of comments has passed. Thus if you wish for your comments to be considered by the Department in the development of these rules, your comments must be received prior to the close of the comment period. The Department recommends that comments are submitted as early as possible to allow adequate review and evaluation of the comments submitted.

What Happens After the Public Comment Period Closes?

Following close of the public comment period, the Presiding Officer will prepare a report which summarizes the oral testimony presented and identifies written comments submitted. The Environmental Quality Commission (EQC) will receive a copy of the Presiding Officer's report. The public hearing will be tape recorded, but the tape will not be transcribed.

The Department will review and evaluate the rulemaking proposal in light of all information received during the comment period. Following the review, the rules may be presented to the EQC as originally proposed or with modifications made in response to public comments received.

The EQC will consider the Department's recommendation for rule adoption during one of their regularly scheduled public meetings. The targeted meeting date for consideration of this rulemaking proposal is August 21-22. This date may be delayed if needed to provide additional time for evaluation and response to testimony received in the hearing process.

You will be notified of the time and place for final EQC action if you present oral testimony at the hearing or submit written comment during the comment period. Otherwise, if you wish to be kept advised of this proceeding, you should request that your name be placed on the mailing list.

Background on Development of the Rulemaking Proposal

Why is there a need for the rule?

The U.S. Environmental Protection Agency has made grant funds available to the states for grants to small, economically disadvantaged, rural communities for wastewater projects in coordination with the existing Clean Water State Revolving Fund Loan Program. The existing rules for the Clean Water State Revolving Fund do not allow for grant awards to communities. The proposed rules add the grant component to the existing wastewater financing program.

How was the rule developed?

The proposed rules were developed by the Clean Water State Revolving Fund staff based upon the Guidelines for Implementing the Hardship Grants Program for Rural Communities published in the Federal Register, Part X on March 20, 1997. The rules for the Oregon program closely follow the federal requirements.

The proposed rules and procedures for the Wastewater Hardship Grant Program were discussed with the Advisory Committee for the Environmental Partnerships for Oregon Communities Program (EPOC) on May 30, 1997. This committee reflects the same constituency and concerns as the Wastewater Hardship Grant Program addresses, focusing on the infrastructure needs of small communities. The committee had no suggestions for changes to the draft rules but expressed their support for the program and approved the direction the rules take in keeping the program flexible and responsive to the changing needs of the small communities. Subsequent changes were made in the selection priority criteria through working with the Department's Director and Division Administrators, and with the League of Oregon Cities.

Copies of the documents relied upon in the development of this rulemaking proposal can be reviewed at the Department of Environmental Quality's office at 811 S.W. 6th Avenue, Portland, Oregon. Please contact Peggy Halferty at (503) 229-6412 for times when the documents are available for review.

Whom does this rule affect including the public, regulated community or other agencies, and how does it affect these groups?

This rule affects low income, small, rural communities without centralized wastewater collection or treatment facilities. Eligible communities may receive a grant along with a low-interest Clean Water State Revolving Fund (CW SRF) loan to assist in planning, design and construction of wastewater treatment facilities. Training, technical assistance and education on wastewater

systems may also be provided to eligible communities. $506,800 in federal funds is available for 1997 with additional funding possible for four more years. With a 5% state match, the total available for 1997 grants will be $532,140.

To be eligible, a community must (1) have a population of 3,000 or less; (2) be "rural" (outside of the city boundaries of another city of 3,000 or more); (3) have a per capita income of 80% or less of the national per capita income; (4) have an unemployment rate of at least one percentage point above the national rate; (5) be without a centralized wastewater treatment or collection system; and (6) be an eligible applicant for the Clean Water State Revolving Fund loan program.

Eligible communities will be prioritized into three groups: (1) communities which have received technical assistance from the Department's Environmental Partnerships for Oregon Communities (EPOC) Program and which are using the Self-help approach; (2) communities which have applied for technical assistance from the EPOC Program; and (3) all other communities.

Grant funds will be awarded by the Director of the Department based upon the three priority groups and, within each group, other factors, such as total funds available, financial conditions, environmental factors and community support for the project. The amount of grant funds awarded is limited to the amount needed to make a CW SRF loan affordable, with a maximum grant of 85% of the total grant and loan package.

How will the rule be implemented?

September 1997:	Department will apply for EPA grant to fund the program; information and preliminary applications will be mailed to all cities, sanitary districts and other interested parties
October-December 1997:	Preliminary applications will be accepted for the Clean Water State Revolving Fund Loan Program and Wastewater Hardship Grant Program
January 1998:	Public review process for the revised Intended Use Plan
February 1998:	Award of first Wastewater Hardship Grants

Are there time constraints?

The 1997 Hardship Grant must be applied for and awarded by March 20, 1999.

Contact for more information

If you would like more information on this rulemaking proposal, or would like to be added to the mailing list, please contact:

Peggy Halferty, Coordinator
Clean Water State Revolving Fund Loan Program
Water Quality Division
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204-1390

Phone: (503) 229-6412
Fax: (503) 229-6037

State of Oregon

Department of Environmental Quality Memorandum

Date: July 30, 1997

To: Environmental Quality Commission

From: Richard Santner, DEQ Northwest Region

Subject: Presiding Officer's Report for Rulemaking Hearing:

Hearing Date and Time: July 28, 1997, beginning at 1:30 PM
Hearing Location: DEQs Northwest Region Office, 2020 S.W. Fourth, Portland

Title of Proposal: Wastewater Hardship Grant Program

The rulemaking hearing on the above titled proposal was opened to the public at 1:30 PM by Department staff.

Other than Department staff, no one arrived at the hearing room; no oral testimony was presented. No written comments were presented. The hearing was declared closed at 2:30 PM.

The time period for receipt of written comments remained open until 5:00 PM, Friday August 1, 1997. The following letters were received.

#1 - Patrick D. Curran, P.E.
Curran-McLeod, In.c.
6655 S.W. Hampton St., Suite 210
Portland, Oregon 97223

#2 - Stephen C. Anderson, P.E.
Anderson-Perry & Associates, Inc.
P.O. Box 1107
La Grande, Oregon 97860-0939

Copies of these letters are available upon request.
Comments are summarized with responses in Attachment D.

Attachment C

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Wastewater Hardship Grant

Department's Evaluation of Public Comment

Two letters were received during the Public Comment period. Both were from engineering consultants who work with wastewater projects in small communities.

COMMENT: One commenter (#1) recommended that the definition of "Community" be more restrictive and limited to cities and sanitary districts.

RESPONSE: The Department does not feel that restriction of eligibility at this level is appropriate. The federal guidelines reference "any community of more than a single household but no more than 3,000 inhabitants..." It is the intent that the proposed rule be similar to the federal guidelines.

COMMENT: One commenter (#1) expressed concern that the definition of "Rural" is too broad.

RESPONSE: The Department considered this issue during the drafting of the rules and chose to keep the definition broad to include as many eligible projects as possible. While the number of possible applicants is quite broad, the number of projects that will actually meet all criteria, apply, and be viable projects is unknown but is suspected to be relatively small.

COMMENT: Two commenters (#1, #2) expressed opposition to the inclusion of the Self-help approach as an element of the project prioritization. One commenter (#1) recommended the reference be deleted or, at least, changed to generic volunteerism. One commenter (#2) recommended it be deleted. Reasons given include the following.

(1) It may be illegal for a state agency to support a particular proprietary program. (#1)
(2) The performance of the Self-help approach program of the Rensselaerville Institute is "far from proven." (#1)
(3) Volunteerism includes problems relating to "insurance liability, personal injury, project control, coordination and design." Communities should not be drawn into this risky situation by the attraction of state grants. (#1)
(4) The Self-help approach is only applicable and effective with certain types of projects. In particular, it is difficult to apply to the construction of a new collection system or a complex treatment facility when the project cannot be done on a "piece-

meal, as-needed" basis. Including this preference is unfair and discriminates against projects that are not appropriate for the Self-help approach. (#1, #2)

(5) It is unfair and discriminatory to use the "Hardship Grant Program as a carrot to force a community to adopt a process where there may not be a 'spark plug' available or widespread council and citizen support of the process." (#2)

RESPONSE: The legality of including the reference to a specific third-party program in the rules was referred to Larry Knudsen at the Attorney General's Office. Mr. Knudsen recommended that the Department expand the description to include similar programs. This was done. In addition, the Department eliminated the overall preference given to self-help projects. It is still one of the criteria considered in the selection process.

The Department recognizes that the use of volunteer labor is a risk and a commitment that not all communities are willing or able to assume. However, supporting projects that use the self-help approach does leverage the investment of grant and loan dollars into more work accomplished, and does indicate that the funds are going to a community that is supportive of the project and willing to make a commitment of their own time and resources. The Department continues to support inclusion of the self-help approach as a major criteria for the selection of projects.

COMMENT: One commenter (#1) expressed opposition to giving preference to projects that are involved with the Environmental Partnerships for Oregon Communities (EPOC) program. The reasons given included that (1) it unfairly discriminates against communities that do not have multiple compliance issues; (2) the EPOC program does not have a statutory or rule base and could be eliminated at any time; and (3) the EPOC program "appears to operate without clear long-term direction and with only cursory technical overview."

Another commenter (#2) supports the involvement of the EPOC program in the priority criteria and has found it to be "a very worthwhile program, allowing the staff of the DEQ and other State agencies to work closely with rural communities in reaching affordable solutions to their problems."

RESPONSE: At the recommendation of Larry Knudsen of the Attorney General's Office, the reference to the EPOC program was expanded to include other similar programs that might exist now or in the future, either through the Department or through other agencies. The Department eliminated the overall preference given to a community working with EPOC, but added it to the list of criteria for consideration in selecting grantees. Involvement in a program of this focus indicates to the Department that the community has prioritized the wastewater problems with any other health and environmental compliance problems, has developed long-term planning, and has made a commitment to the project. The Department does not agree with the specific criticisms of the program.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
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Detailed Changes to Original Rulemaking Proposal In Response to Public Comment

The rules were modified from providing a three-tiered priority system giving preference to projects that use the Self-help approach and receive (or apply for) technical assistance from the Department's Environmental Partnerships for Oregon Communities (EPOC) program to a system of selection based upon the evaluation of a number of factors (including the use of Self-help and EPOC). Another change is added to allow a CW SRF loan in an amount of up to the grant award to be funded without regard to the rank of the project on the Priority List. This corrects an omission in administrative considerations. Two other minor changes were made to increase clarity.

340-54-087(7) Definitions

Recommended: "'Self-help approach' means implementation of the program developed by the Small Towns Environment Program at The Rensselaerville Institute, or a similar program that uses a community's own resources - human, material and financial - to reduce the cost of the project."

Hearing Proposal: "'Self-help approach' means implementation of the program developed by the Small Towns Environment Program at The Rensselaerville Institute to reduce the cost of vital infrastructure projects while increasing community capacity. Using the Self-help approach, communities draw first on their own resources - human, material and financial - to solve local problems."

Reason: to allow for the use of other self-help programs; to increase clarity and reduce redundancy

340-54-090(1)(d) Eligibility

Recommended: "have a per capita income of the residents served by the project equal to or less than 80% of the national per capita income of the United States during the same period, based on the last census report or a more recent survey acceptable to the Department."

Hearing Proposal: "have a per capita income equal to or less than 80% of the national per capita income of the United States during the same period, based on the last census report or a more recent survey acceptable to the Department."

Reason: to increase clarity and consistency with federal guidelines

340-54-095 Selection of Grantees

Recommended:

(1) "The Director shall award grants to public agencies from among eligible applicants based on a staff report assessing the following factors."

[(a) - (f) no change]

"(g) Technical assistance received from the Department through the Environmental Partnerships for Oregon Communities (EPOC) Program or through a comparable program that helps communities assess and prioritize multiple environmental mandates."

[(i) - (k) no change]

Hearing Proposal:

(1) "The Director shall award grants to public agencies from among eligible applicants with priority given in the following sequence.

(a) First priority shall be given to communities which have received technical assistance from the Department's Environmental Partnerships for Oregon Communities Program (EPOC) and which are using the Self-help approach.

(b) Second priority shall be given to communities which have applied for technical assistance from the Department's Environmental Partnerships for Oregon Communities Program (EPOC).

(c) Third priority shall go to all other communities and projects.

(2) Other factors for consideration in selecting grant recipients are the following, listed without regard to priority or relative weight."

[(a) - (j) no change]

Reasons: Use of a particular third-party self-help process as a guideline is legally questionable. Use of the EPOC program as a guideline does not address the issues for the long-term since the current EPOC program could be eliminated or replaced by a similar program with a different title. Use of self-help and EPOC in general terms as priorities for grantee selection leaves the program open to (1) confusion over the requirements to be documented, and (2) self-help proposals that cannot be met during project construction. It adds unnecessary complexity to the selection process without meeting the intent of the original proposal.

340-54-095(2) Selection of Grantees

Recommended: "The relative weight given each of the factors in paragraph (1) above and the final selection of the communities to receive Wastewater Hardship Grant funds shall be at the discretion of the Director."

Hearing Proposal: "The weighting of the factors in paragraph (2) above and the final selection of the communities to receive Wastewater Hardship Grant funds shall be at the discretion of the Director."

Reason: to increase clarity

340-54-097(3) Coordination with Clean Water State Revolving Fund Loans

Recommended: "The requirement under OAR 340-54-025(4)(b) for Clean Water State Revolving Fund loan allocations to be made in rank order of the Intended Use Plan Priority List will be waived for each project selected for a Wastewater Hardship grant in an amount up to the amount of the grant award."

Hearing Proposal: [not included]

Reason: to allow a CW SRF loan of up to the amount of the grant to be packaged with each Wastewater Hardship grant, regardless of the ranking of the project on the Priority List. Additional loan amounts will need to meet the CW SRF program requirements. In most cases, selected projects will qualify for loan funds without using this waiver. This does not limit the amount of the CW SRF loan for projects that rank in the funding range on the Priority List, but does assure that each grant-loan package can include up to 50% loan, if appropriate.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
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Advisory Committee Membership and Report

On Friday, May 30, 1997, the proposed rules were presented and discussed at the Advisory Committee meeting of the Environmental Partnerships for Oregon Communities (EPOC) Program of the Department. The meeting was held at the DEQ Northwest Region Office at 2020 S.W. 4th Avenue in Portland.

Committee Members present:

Chad Olsen, League of Oregon Cities (City Administrator, City of Rainier)
Michelle McClellan, Oregon Environmental Council
Gay Melvin, Oregon Association of Water Utilities (Superintendent, City of Dufur)
Louise Questad, League of Women Voters
Chris Rycewicz, Northwest Environmental Defense Council
Gordon Zimmerman, League of Oregon Cities (City Manager, City of Nyssa)

EPOC/State Agencies present:

Pete Dalke, EPOC, DEQ
Sharon Morgan, EPOC, DEQ
Alan Bogner, EPOC, DEQ
Peggy Halferty, Clean Water State Revolving Fund Loan Program, DEQ
Dave Phelps, Drinking Water Section, Oregon Health Division
Mark Radabaugh, Department of Land Conservation and Development

Report on Presentation of the Wastewater Hardship Grant Draft Rules

The proposed rules and procedures for the Wastewater Hardship Grant Program were described. Issues that were highlighted for discussion are listed below.

1. In order to be "no more stringent" than federal guidelines, should the rules allow for grant only projects without a State Revolving Fund loan? The proposed rules require a loan for at least 15% of the loan-grant package in order to avoid the additional restrictions federally imposed on projects that include a loan for less than 15% of the total. Committee members supported the proposed requirement.
2. Should "rural" be defined more restrictively than proposed? The draft rules defined "rural" to exclude communities within the Standard Metropolitan Statistical Areas of the state. Committee members supported this definition. [It was later changed and is now more liberal.]

3. Should "training, technical assistance and education programs" be included as eligible uses of the funds? Although it is not anticipated that the funds will be used this way, the proposed rules include these activities since they are allowable under the federal guidelines. Changes in funding or length of the program could affect the need for funds for these uses. Committee members supported this use as it could support EPOC activities and technical assistance work done by related agencies. Education programs could be difficult to implement since they would be limited to participation by eligible communities only.
4. Is the repair of on-site systems something that we would want to encourage as a use of the fund? Currently, Oregon does not have on-site districts that establish maintenance schedules and maintain right-of-ways to on-site systems. Under federal guidelines, on-site systems are considered "publicly owned" in this situation and are eligible for funding. The committee had no comment on this idea.

In general, the committee had no suggestions for changes to the draft rules but expressed their support for the program and approved the direction the rules take in keeping the program flexible and responsive to the changing needs of the small communities. It was noted that the limited amount of funds for the program would limit its usefulness.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Wastewater Hardship Grant Program

Rule Implementation Plan

Summary of the Proposed Rule

This rule will implement a program of grants for economically disadvantaged, rural communities to accompany Clean Water State Revolving Fund (CW SRF) loans for wastewater projects.

Proposed Effective Date of the Rule

when approved and filed

Proposal for Notification of Affected Persons

Information on the program will be sent with all Clean Water State Revolving Fund preliminary application packets, which go to all cities, counties and sanitary districts in Oregon. In addition, information will be distributed to all DEQ municipal wastewater compliance staff and to state-wide organizations for newsletters pertaining to municipal infrastructure.

Proposed Implementing Actions

The DEQ will implement the program through the preliminary application process for the Clean Water State Revolving Fund Loan Program with mailings going out as described above. The preliminary application period will be closed in November or December 1997. All projects will be ranked under the CW SRF rules and projects eligible for Hardship Grants identified. This information will be published in the Intended Use Plan and be made available for thirty-day public review. DEQ will then apply for the EPA grant to fund the program. Upon award of the grant, DEQ will establish the Wastewater Hardship Grant fund and transfer the 5% matching funds (about $25,000 for 1997) from funds currently being held in reserve for the CW SRF match requirements. A staff report will evaluate all eligible projects and recommend grant and loan funding based on project criteria, total grant funds available and number and dollar amount of applications. The Director will make the final selection of grantees. Grant projects will be funded and monitored by CW SRF staff in conjunction with the related CW SRF loans.

Proposed Training/Assistance Actions

Training of DEQ staff will occur as a part of the CW SRF training for DEQ staff. Training requirements will be minimal.

State of Oregon
Department of Environmental Quality

Memorandum

Date: August 7, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item F, August 22, 1997, EQC Meeting

Issuance of Pollution Control Bonds

Statement of Purpose

The Department is requesting the commission to adopt a bond issuance resolution authorizing the Department and the State Treasurer to issue and sell not more than $20 million in original principal amount of State of Oregon General obligation Pollution control Bonds and to use the proceeds: 1) To provide the required state match for federal money in the Water Pollution Control Revolving Fund (State Revolving Fund or SRF); and 2) To fund the Department's Orphan Site Cleanup Program.

Background

The Commission has previously authorized the issuance of bonds and use of the proceeds for each of these purposes. The Department sold Orphan Site Bonds in 1992, 1994 and 1995 and SRF match bonds in 1993, 1994 and 1995.

It is the Department's current intent to sell $8 million in SRF match bonds on or about September 16, 1997 with an $8 million Orphan Site sale planned for late Spring or early summer of 1998 and an additional $4 million SRF match sale in September of 1998. The Department of Housing and Community Services is also planning a September 16th bond sale. By combining these two bond issues into a single sale both departments will be able to realize certain economies of scale and minimize overall issuance costs.

Authority of the Commission with Respect to the Issue

The Commission has the authority to authorize the issuance of pollution control bonds and the uses to which the bond proceeds may be put under ORS 468.195 to 468.260 and ORS 468.426(2).

The 1997 legislature provided the Department with $41 million in bond limitation for the 1997 - 1999 biennium and sufficient appropriation to pay debt service on the planned bond issues.

Alternatives and Evaluation

There are really no viable alternatives. The issuance and sale of pollution control bonds is currently the only mechanism available to provide funding for these program activities. Commission action at its August 22, 1997 meeting is necessary to enable the Department to participate in the September 16, 1997 sale. This sale date not only fits the Treasurer's issuance calendar and provides funds to the programs in a timely manner but also enables the Department to share many of the fixed issuance costs with Housing.

Summary of Public Input Opportunity

Since 1971 there has been opportunity for public discussion of this matter at several previous Commission meetings at which the Commission authorized the issuance of bonds and the use of bond proceeds. The most recent of these meetings took place December 11, 1992; October 28, 1993 and November 17, 1995.

Additional public discussion occurred with the Joint Legislative Committee on Ways and Means during the review and approval of the Department's 1997 - 1999 budget (Enrolled House Bill 5016) and adoption of the overall bond limitation bill (Enrolled House Bill 5036)

Conclusions

- The use of bond proceeds is the only mechanism currently available to fund the state match for the SRF and the cleanup of Orphan Sites.
- Pollution control bonds cannot be issued without the approval of the Commission.
- The Commission has the authority to adopt a Resolution authorizing issuance and sale of the bonds and use of the bond proceeds

Intended Future Actions

The Department intends to issue and sell bonds and use the proceeds as outlined above.

Department Recommendation

It is recommended that the Commission accept this report, discuss the matter, adopt the attached form of Resolution and provide advice and guidance to the Department as appropriate.

Attachments

A. Form of Resolution

Reference Documents (available upon request)

1. Statutory Authority
2. Applicable Rule(s)
3. Summary of Previous bond Issues - Amounts and Uses

Approved:

Section: Paul W Langner 8/7/97

Division: Paul W Langner 8/7/97 for Helen Lottridge

Report Prepared By: Barrett MacDougall

Phone: (503) 229-5355

Date Prepared: August 7, 1997

bm:hs

Attachment A.

RESOLUTION AUTHORIZING AND REQUESTING ISSUANCE OF BONDS

Section 1. Findings. The Environmental Quality Commission of the State of Oregon finds:

A. The Department of Environmental Quality (the "Department") is empowered to authorize and request the issuance of general obligation pollution control bonds:

1. To fund the Orphan Site Cleanup program;

2. To fund the State's match for the State Revolving Fund; and,

B. It is now desirable to authorize and request the issuance of general obligation pollution control bonds for these purposes.

C. Oregon Revised Statutes, Section 286.031, provides that all bonds of the State of Oregon shall be issued by the State Treasurer.

Section 2. Resolutions. The Environmental Quality Commission of the State of Oregon hereby resolves:

A. The State Treasurer of the State of Oregon is hereby authorized and requested to issue State of Oregon general obligation pollution control bonds ("Pollution Control Bonds") in amounts which the State Treasurer determines, after consultation with the Director of the Department or the Director's designee, will be sufficient to provide funding for the purposes described in Section 1.A of this resolution, and to pay costs associated with issuing the Pollution Control Bonds. The Pollution Control Bonds shall mature, bear interest, be subject to redemption, be in such series, and otherwise be issued and sold upon the terms established by the State Treasurer after consultation with the Director of the Department or the Director's designee.

B. The Department shall comply with all provisions of the Internal Revenue Code of 1986, as amended (the "Code") which are required for interest on tax-exempt Pollution Control Bonds to be excludable from gross income under the Code, and shall pay any rebates or penalties which may be due to the United States under Section 148 of the Code in connection with the Pollution Control Bonds. The Director of the Department or the Director's designee may, on behalf of the Department, enter into covenants for the benefit of the owners of Pollution Control Bonds to maintain the tax-exempt status of the Pollution Control Bonds.

Section 3. Other Action. The Director of the Department or the Director's designee may, on behalf of the Department, execute any agreements or certificates, and take any other action the Director or the Director's designee reasonably deems necessary or desirable to issue and sell the Pollution Control Bonds and to provide funding for the purposes described in this resolution.

State of Oregon

Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item G, Petition by JELD-WEN, inc. for Declaratory Ruling Concerning Availability of Sewer as Defined in OAR 340-71-160(5)(f), EQC Meeting, August 22, 1997

Statement of Purpose

The Commission needs to decide how it wishes to respond to a petition for declaratory ruling filed by JELD-WEN, inc.

Background

JELD-WEN, inc. (JWi) owns and operates a wood products manufacturing complex near Klamath Falls, Oregon. Sewage generated at the complex is treated and disposed in a large septic tank and drainfield system located on the property of the complex. In early May, 1997, JWi discovered that their drainfield was failing.

Oregon Revised Statute (ORS) 454.655(4), in part, states: "No permit shall be issued if a community or area-wide sewerage system is available which will satisfactorily accommodate the proposed sewage discharge." Oregon Administrative Rule (OAR) 340-71-160(5) states, in part: "Upon receipt of a completed application the Agent shall deny the permit if: (f) A sewerage system which can serve the proposed sewage flow is both legally and physically available." A sanitary sewer owned by the City of Klamath Falls is adjacent to the complex site; therefore, the Department concluded that sewer is physically available. The City of Klamath Falls has indicated that it is willing to allow JWi to connect to this sewer provided JWi meets certain conditions including annexation of the complex site into the City of Klamath Falls. The Department believes that an area-wide sewer is legally available and, therefore, will not authorize JWi to repair its drainfield system, but JWi, instead, must connect to the City of Klamath Falls sewer system.

JWi's position is that, since the City will not allow connection because JWi is outside city limits, sewer is not legally available. JWi has filed its petition, pursuant to OAR 340-11-061 and OAR 137-02-010 to 060, to request the Commission to rule that an area-wide sewer is not available and that DEQ should allow JWi to permanently repair and maintain its drainfield system.

This item was considered at the July 17, 1997 EQC meeting. Commissioner Van Vliet advocated that the Commission deny the petition. Vice-Chair Whipple wanted to accept the petition. Commissioner McMahan was undecided. The Commission decided to forward this item to the August 22, 1997, meeting so that it could be considered by the full Commission membership.

Since the July 17, 1997 EQC meeting, the Department has found that, in January, 1979, the Commission denied a petition for declaratory ruling that concerned the availability of sewer. The petitioner in 1979 sought an interpretation of how the rule applied if the treatment plant serving the area-wide collection system has been cited for permit violations. DEQ and DOJ staff recommended denial of the petition, in part, because the petitioners had incorrectly represented the facts. The Department believes that the 1979 petition is not relevant to the petition filed by JWi.

Authority of the Commission with Respect to the Issue

OAR 340-11-061 and OAR 137-02-010 to 060 provide the Environmental Quality Commission the authority and process for issuing declaratory rulings.

Alternatives and Evaluation

The process for considering a petition for declaratory ruling involves several steps.

ISSUE #1: Whether to accept the petition.

Alternative #1: Deny the petition which precludes the EQC from providing an interpretation of the rule. JWi would then be able to appeal the issue to circuit court.

Alternative #2: Accept the petition.

The Department recommends that the EQC accept the petition. It is appropriate for the EQC to opine on whether the statute and the Commission's rule require connection to an area-wide system even if a city requires annexation as condition of providing service.

If the Commission decides to deny the petition, one of two things is likely to occur. Either the EQC will be presented with the questions later as part of a contested case appeal of an onsite permit denial or the matter will be resolved by a circuit court in a collateral challenge of the statute and rule, or a challenge to the City's annexation requirements. If the matter is to be decided by the Commission in any way, the use of a declaratory ruling appears

to be the most efficient procedure to address the issue because there is no real dispute about the underlying facts. Moreover, the Department believes that it is preferable to have the Commission make the determination rather than a court because this would give the Commission an opportunity to consider the legal questions in the context of the water quality policies at issue. Also, it would give the Commission the ability to frame the legal issue for the appellate courts if the matter is appealed.

If the Commission accepts the petition, it must send notice to the petitioner, interested persons listed in the petition and anyone else that the Commission thinks might be interested. The notice should also provide information about deadlines (for intervention requests and briefs) and procedures to be followed.

ISSUE #2: If accepted, how should the petition be processed?

Alternative #1: Following acceptance of the petition, the Department would notify the petitioner and all interested parties that the petition has been accepted. Interested parties would be given until September 5, 1997 (two weeks after the EQC's August meeting) to submit intervention requests. The EQC could convene a special meeting by telephone to rule on the intervention requests or could delegate this function to the Director or to a Commission member. The petitioner and interested parties would be notified by DEQ of intervention rulings and a deadline of September 19, 1997 (two weeks before the October 3, 1997 meeting) for filing of briefs. The EQC would conduct the hearing itself and render a decision at the October 3, 1997, EQC meeting.

The advantage of this alternative is that the proceeding is concluded relatively quickly. The disadvantage is that the hearing may be fairly lengthy (a couple of hours) and would not have the benefit of a Presiding Officer's summary of the issue and recommendation.

Alternative #2: Following acceptance of the petition, the Department would notify the petitioner and all interested parties that the petition has been accepted. Interested parties would be given until September 12, 1997 (three weeks before the EQC's October meeting) to submit intervention requests. At the October 3, 1997, EQC meeting, the EQC would rule on intervention requests, either select a Presiding Officer or decide to conduct the hearing itself, and set a date for the hearing. If the EQC decides to conduct the hearing itself, it could be held at the November 21, 1997, EQC meeting. If the hearing is to be conducted by a Presiding Officer, it could be scheduled for a time in November with the EQC making a final ruling at the EQC meeting in January, 1998 (tentatively scheduled for Jan 8-9).

The advantages of alternative #2 is that it is not so rushed and does not encumber the Commission with the task of conducting a lengthy hearing. The disadvantage is that it could delay final ruling into early next year.

Delay is probably not significant because the Department has negotiated a Mutual Agreement and Order which allows JWi to install a temporary repair of the drainfield while the issue of connection to sewer is resolved.

The Department recommends that the EQC select alternative #2 as the process for ruling on this petition.

Summary of Public Input Opportunity

To this point, there has been no public input. The process for a declaratory ruling does provide for interested parties to intervene in the proceeding, however.

Conclusions

The Department believes the petition for declaratory ruling filed by JWi should be heard by the EQC.

Intended Future Actions

Assuming the EQC accepts the petition, the Department will prepare proper public notice and send it to the petitioner and interested parties. In addition, the Department will work with JELD-WEN to ensure a temporary repair is installed pursuant to the negotiated MAO.

Department Recommendation

It is recommended that the Commission accept the petition, and request the Department to proceed with a process as outline in alternative #2.

Attachments

ORS 454.655, OAR 340-71-160(5), OAR 137-12-010 to 060 Division 2 (Attorney General Model Rules for Declaratory Rulings)

Petition filed by JWi

Reference Documents (available upon request)

Approved:

Section:

Division: Stephanie Hallock

Report Prepared By: Richard J. Nichols

Phone: (541) 388-6146, Ext. 251

Date Prepared: July 18, 1997

winword\industri\jeldwen\ eqcrpt1
10/13/95

Permit Application Procedures — General Requirements

340-71-160 (1) No person shall cause or allow construction, alteration, or repair of a system, or any part thereof, without first applying for and obtaining a permit.

EXCEPTION: Emergency repairs as set forth in OAR 340-71-215.

(2) Applications for permits shall be made on forms approved by the Department.

(3) An application is complete only when the form, on its face, is completed in full, is signed by the owner or the owner's legally authorized representative, and is accompanied by all required exhibits and fee. Except as otherwise allowed in this division, the exhibits shall include:

(a) Favorable Site Evaluation Report. At the Agent's discretion, the requirement for an evaluation report may be waived when the application is for a repair permit or an alteration permit;

(b) A land use compatibility statement from the appropriate land use authority signifying that the proposed land use is compatible with the Land Conservation and Development Commission acknowledged comprehensive plan or complies with the statewide planning goals;

(c) Plans and specifications for the on-site system proposed for installation within the area identified by the Agent or in the favorable site evaluation report. The Agent shall determine and request the minimum level of detail necessary to insure proper system construction;

(d) Any other information the Agent finds is necessary to complete the permit application.

(4) The application form shall be received by the Agent only when the form is complete, as detailed in section (3) of this rule.

(5) Upon receipt of a completed application the Agent shall deny the permit if:

(a) The application contains false information;

(b) The application was wrongfully received by the Agent;

(c) The proposed system would not comply with these rules;

(d) The proposed system, if constructed, would violate a Commission moratorium as described in OAR 340-71-460;

(e) The proposed system location is encumbered as described in OAR 340-71-130(8);

(f) A sewerage system which can serve the proposed sewage flow is both legally and physically available, as described in paragraphs (A) and (B) of this subsection:

(A) Physical Availability. A sewerage system shall be deemed physically available if its nearest connection point from the property to be served is:

(i) For a single family dwelling, or other establishment with a maximum projected daily sewage flow of not more than four hundred fifty (450) gallons, within three hundred (300) feet;

(ii) For a proposed subdivision or group of two (2) to five (5) single family dwellings, or equivalent projected daily sewage flow, not further than two hundred (200) feet multiplied by the number of dwellings or dwelling equivalents;

(iii) For proposed subdivisions or other developments with more than five (5) single family dwellings, or equivalents, the Agent shall make a case-by-case determination of sewerage availability.

EXCEPTION: A sewerage system shall not be considered available if topographic or man-made features make connection physically impractical.

(B) Legal Availability. A sewerage system shall be deemed legally available if the system is not under a Department connection permit moratorium, and the sewerage system owner is willing or obligated to provide sewer service.

(6) A permit shall be issued only to a person licensed under ORS 454.695, or to the owner or easement holder of the land on which the system is to be installed.

(7) No person shall construct, alter or repair a system, or any part thereof, unless that person is licensed under ORS 454.695, or is the permittee.

(8) The Agent shall either issue or deny the permit within twenty (20) days after receipt of the completed application.
EXCEPTION: If weather conditions or distance and unavailability of transportation prevent the Agent from acting to either issue or deny the permit within twenty (20) days, the applicant shall be notified in writing. The notification shall state the reason for delay. The Agent shall either issue or deny the permit within sixty (60) days after the mailing date of such notification.
(9) A permit issued pursuant to these rules shall be effective for one (1) year from the date of issuance for construction of the system. The construction-installation permit is not transferable. Once a system is installed pursuant to the permit, and a Certificate of Satisfactory Completion has been issued for the installation, conditions imposed as requirements for permit issuance shall continue in force as long as the system is in use.
(10) Renewal of a permit may be granted to the original permittee if an application for permit renewal is filed prior to the original permit expiration date. Application for permit renewal shall conform to the requirements of sections (2) and (4) of this rule. The permit shall be issued or denied consistent with sections (5), (6), (8), and (9) of this rule.
(11) If a permit has been issued pursuant to these rules but existing soil moisture conditions preclude the construction of the soil absorption system, the septic tank may be installed and used as a temporary holding tank upon approval of the Agent. Before the Agent will approve such use, the permittee shall demonstrate that the outlet of the tank has been sealed with a water tight seal and that the permittee or owner has entered into a pumping contract for the tank. The maximum length of time a septic tank can be used as a temporary holding tank is 12 months.

DIVISION 2

MODEL RULES OF PROCEDURE APPLICABLE TO PROCEEDINGS FOR AGENCY DECLARATORY RULINGS

Institution of Proceedings for Declaratory Rulings
137-02-000 [1AG 14, f. & ef. 10-22-75;
Repealed by JD 2-1986,
f. & ef. 1-27-86]

[**ED. NOTE:** OAR 137-02-010 to 137-02-060 were adopted by the Attorney General as required by ORS 183.410. Agencies must apply these rules without further adoption or amendment.]

Petition for Declaratory Ruling
137-02-010 The petition to initiate proceedings for declaratory rulings shall contain:
(1) The rule or statute that may apply to the person, property, or state of facts;
(2) A detailed statement of the relevant facts; including sufficient facts to show petitioner's interest;
(3) All propositions of law or contentions asserted by petitioner;
(4) The questions presented;
(5) The specific relief requested; and
(6) The name and address of petitioner and of any other person known by petitioner to be interested in the requested declaratory ruling.

Stat. Auth.: ORS Ch. 183
Stats. Implemented: ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89

Service of Declaratory Ruling Petition
137-02-020 (1) The petition shall be deemed filed when received by the agency.
(2) Within 60 days after the petition is filed the agency shall notify the petitioner in writing whether it will issue a ruling. If the agency decides to issue a ruling, it shall serve all persons named in the petition by mailing:
(a) A copy of the petition together with a copy of the agency's rules of practice; and
(b) Notice of any proceeding including the hearing at which the petition will be considered. (See OAR 137-02-030 for contents of notice.)
(3) Notwithstanding section (2) of this rule, the agency may decide at any time that it will not issue a declaratory ruling in any specific instance. The agency shall notify the petitioner in writing when the agency decides not to issue a declaratory ruling.

Stat. Auth.: ORS Ch. 183
Stats. Implemented: ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; 1AG 17, f. & ef. 11-25-77; 1AG 1-1981, f. & ef. 11-17-81; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89

Intervention in Declaratory Rulings
137-02-025 (1) Any person or entity may petition the agency for permission to participate in the

proceeding as a party.
(2) The petition for intervention shall be in writing and shall contain:
(a) The rule or statute that may apply to the person, property, or state of facts;
(b) A statement of facts sufficient to show the intervenor's interest;
(c) A statement that the intervenor accepts the petitioner's statement of facts for purposes of the declaratory ruling;
(d) All propositions of law or contentions asserted by the intervenor;
(e) A statement that the intervenor accepts the petitioner's statement of the questions presented or a statement of the questions presented by the intervenor;
(f) A statement of the specific relief requested.
(3) The agency may, in its discretion, invite any person or entity to file a petition for intervention.
(4) The agency, in its discretion, may grant or deny any petition for intervention. If a petition for intervention is granted, the status of the intervenor(s) shall be the same as that of an original petitioner, i.e. the declaratory ruling, if any, issued by the agency shall be binding between the intervenor and the agency on the facts stated in the petition, subject to review as provided in ORS 183.410
(5) The decision to grant or deny a petition for intervention shall be in writing and shall be served on all parties.

Stat. Auth.: ORS Ch. 183.410
Stats. Implemented: ORS 183.410
Hist.: JD 5-1989, f. 10-5-89, cert. ef. 10-15-89; JD 6-1995, f. 8-25-95, cert. ef. 9-9-95

Notice of Declaratory Ruling Hearing

137-02-030 The notice of hearing for a declaratory ruling shall:
(1) Be accompanied by a copy of the petition requesting the declaratory ruling and by a copy of any petition for intervention if copies of these petitions have not previously been served on the party;
(2) Set forth the time and place of the proceeding; and
(3) Identify the presiding officer.

Stat. Auth.: ORS Ch. 183
Stats. Implemented: ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; 1AG 1-1981, f. & ef. 11-17-81; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89

Declaratory Ruling Procedure

137-02-040 (1) The proceeding shall be conducted by and shall be under the control of the presiding officer. The presiding officer may be the chief administrative officer of the agency, a member of its governing body or any other person designated by the agency.
(2) No testimony or other evidence shall be accepted at the hearing. The petition will be decided on the facts stated in the petition, except that the presiding officer may agree to accept, for consideration by the agency, a statement of alternative facts if such a statement has been stipulated to in writing by all parties to the proceeding, including any intervening parties.
(3) The parties and agency staff shall have the right to present oral argument. The presiding officer may impose reasonable time limits on the time allowed for oral argument. The parties and agency staff may file briefs in support of their respective positions. The presiding officer shall fix the time and order of filing briefs and may direct that the briefs be submitted prior to oral argument. The presiding officer may permit the filing of memoranda following the hearing.
(4) The proceeding may be conducted in person or by telephone.
(5) As used in this rule, "telephone" means any two-way electronic communication device.

Stat. Auth.: ORS 183.410
Stats. Implemented: ORS ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; 1AG 1-1981, f. & ef. 11-17-81; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89; JD 6-1993, f. 11-1-93, cert. ef. 11-4-93; JD 6-1995, f. 8-25-95, cert. ef. 9-9-95

Presiding Officer's Proposed Declaratory Ruling

137-02-050 (1) Except when the presiding officer is the decision maker, the presiding officer shall prepare a proposed declaratory ruling in accordance with OAR 137-02-060 for consideration by the decision maker.

(2) When a proposed declaratory ruling is considered by the decision maker, the parties and agency staff shall have the right to present oral argument to the decision maker.

Stat. Auth.: ORS Ch. 183
Stats. Implemented: ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89

Issuance of Declaratory Ruling

137-02-060 (1) The agency shall issue its declaratory ruling within 60 days of the close of the record.

(2) The ruling shall be in writing and shall include:

(a) The facts upon which the ruling is based;

(b) The statute or rule in issue;

(c) The agency's conclusion as to the applicability of the statute or rule to those facts;

(d) The agency's conclusion as to the legal effect or result of applying the statute or rule to those facts;

(e) The reasons relied upon by the agency to support its conclusions;

(f) A statement that under ORS 183.480 the parties may obtain judicial review by filing a petition with the Court of Appeals within 60 days from the date the declaratory ruling is served.

(3) The ruling shall be served by mailing a copy to the parties.

Stat. Auth.: ORS Ch. 183
Stats. Implemented: ORS 183.410
Hist.: 1AG 14, f. & ef. 10-22-75; 1AG 1-1981, f. & ef. 11-17-81; JD 2-1986, f. & ef. 1-27-86; JD 5-1989, f. 10-6-89, cert. ef. 10-15-89

Effect of Agency Ruling

137-02-070 [1AG 14, f. & ef. 11-22-75;
Repealed by JD 2-1986,
f. & ef. 1-27-86]

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

FOR THE STATE OF OREGON

In re JELD-WEN, Inc.,	)	
	)	
Petitioner.	)	No. _____
	)	
	)	PETITION FOR A DECLARATORY RULING
	)	

JELD-WEN, Inc., through its attorneys Schwabe, Williamson & Wyatt petitions the Environmental Quality Commission for a declaratory ruling pursuant to OAR Chapter 137, Division 2. In support of its petition, JELD-WEN relies on the following statement of issues, statement of facts, legal argument and other information required under OAR 137-02-010.

APPLICABLE RULE

The issue in this case is an interpretation of OAR 340-71-160(5)(f). DEQ claims this regulation requires JELD-WEN to abandon its existing method of sewage disposal [an on-site sewage disposal system (a drainfield)]. DEQ also claims that the regulation requires connection to the City of Klamath Falls' sanitary sewer system, even though the City of Klamath Falls requires annexation of the JELD-WEN property by the City before it will allow a connection. JELD-WEN's property is located in Klamath

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County. The City stated that it must annex JELD-WEN's property before JELD-WEN can connect to the City sewer system. Despite these physical and legal impediments, DEQ has determined that the City of Klamath Falls' sewer is "physically available" and "legally available" as those terms are defined in the regulation.

In part, the applicable regulations state that no person shall cause or allow construction, alteration, or repair of an on-site sewerage disposal system, without first applying for and obtaining a permit. OAR 340-71-160(1). Under the regulations, DEQ "shall" deny the permit if "a sewerage system which can serve the proposed sewage flow is both legally and physically available." OAR 340-71-160(5)(f). A sewerage system shall be deemed legally available if the system is not subject to a DEQ connection permit moratorium, and "the sewerage system owner is willing or obligated to provide sewer service." OAR 340-71-160(5)(f)(13). A copy of the applicable rule is attached to this Petition as Exhibit A.

STATEMENT OF ISSUES

Whether DEQ can consider a sewerage system to be "legally available" under its regulations if the owner of the sewer system requires the landowner to become annexed in order to be connected?

Whether DEQ is justified in denying JELD-WEN's application for repair of an existing and previously permitted septic tank drainfield system?

STATEMENT OF FACTS

Since approximately 1950, JELD-WEN Inc. has operated and maintained a septic tank/drainfield system at its door and cutstock manufacturing facilities located in Klamath County. The system is used primarily to treat and dispose of domestic wastes generated at the facility.

In 1978, JELD-WEN retained an engineering firm to design upgrades to and repair the existing system. DEQ approved the 1978 design and granted JELD-WEN a

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permit to install the upgrades. As a condition of the 1978 plan approval letter from DEQ, JELD-WEN was required to leave undeveloped areas contiguous to the drainfield for use as future drainfield. The JELD-WEN system has been included in the facility's NPDES permit in the past. The system has operated successfully since 1978 (and before) without any environmental or public health problems. There have been no regulatory violations at the system.

The JELD-WEN facility is located (and was in 1978) within the unincorporated jurisdiction of Klamath County, outside of the Klamath Falls city limits, but within the urban growth boundary. The Klamath Falls city boundary abuts the JELD-WEN property line, separated by Lakeport Boulevard. There was no available County sewer system in 1978, nor is there today. The City of Klamath Falls, on the other hand, does maintain a City sewer system. However, the City is unwilling to allow a connection to its sewer without annexation of the property to be hooked up.

On May 2, 1997, JELD-WEN discovered that its drainfield system was potentially failing. Jeld-Wen immediately notified Walt West and Dick Nichols of the Eastern Region Water Quality Management program of DEQ's Eastern Region office in Bend, as well as Bob Bagget of the onsite sewer program in Pendleton. Pursuant to OAR 340-71-160, JELD-WEN requested appropriate permits in order to repair the existing drainfield. DEQ informed JELD-WEN that it was necessary first to conduct a Site Evaluation of the system. On May 6 and 13, 1997, DEQ staff traveled to Klamath Falls and conducted the evaluation, after which JELD-WEN completed an application and submitted a $1,200 application fee.

On May 22, 1997, DEQ informed JELD-WEN through a memorandum that the area surveyed was satisfactory for a new system if it included a recirculating gravel filter, and if the soil was allowed to dry before installation. See May 22, 1997 DEQ Memorandum, attached as Exhibit B. However, the memorandum went on to state that

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DEQ staff would deny JELD-WEN's permit application because it considered the City of Klamath Falls sewer system to be "legally available" even though the City would require annexation.

JELD-WEN disagrees that the City's sewer system is "legally available." The City lacks the authority to annex JELD-WEN without JELD-WEN's consent and JELD-WEN has no intention of voluntarily consenting to annexation since JELD-WEN already receives all necessary public services from other sources and annexation would cost JELD-WEN significant sums of money.[1] JELD-WEN has received some or all of its water supply from the City system for at least the last 25 years.

JELD-WEN disagreed with DEQ's position in a June 2, 1997 letter to Richard Nichols, attached as Exhibit C. DEQ responded by letter on June 3, 1997, and stated that it agrees that the area proposed by JELD-WEN is acceptable for the replacement drainfield. Despite the acceptability of the replacement drainfield, DEQ said it was unable to issue the permit because it feels the City of Klamath Falls sewer system is physically and legally available. As a result, DEQ is precluded from issuing a permit to construct a replacement drainfield. June 3, 1997 Letter from DEQ to Stanley K. Meyers, attached as Exhibit D. The letter also suggested that JELD-WEN petition the EQC for a declaratory ruling on this issue. JELD-WEN is working on a temporary solution with DEQ while the EQC reviews this petition.

LEGAL ANALYSIS

JELD-WEN's property is close to the Klamath Falls sewer system which makes the City system arguably "physically available" to JELD-WEN, as defined in OAR 340-71-160(5)(f)(A). However, the physical availability of a sewerage system is just one

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[1]Through conversations with City personnel, Jeld Wen anticipates that annexation would result in a property tax assessment equal to approximately $250,000 to $300,000, plus substantial connection fees and monthly user fees.

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prong of a two-prong test. DEQ must also establish that the City's sewerage system is "legally available" before it can deny JELD-WEN's permit.

As previously mentioned, a sewerage system is legally available if "the system is not under a Department connection permit moratorium, and the sewerage system owner is willing or obligated to provide sewer service." OAR 340-71-160(5)(f)(B). The system is not under a Department connection permit moratorium. However, at issue is whether the City of Klamath Falls (i.e., the sewerage system owner) is "willing or obligated" to provide sewer service to JELD-WEN. Since there is no caselaw interpreting the meaning of "willing or obligated" as these words are used in OAR 340-71-160(5)(f)(B), an analysis of this language is limited to an examination of other statutory and regulatory authority and consideration of the plain meaning of the language.

Pursuant to ORS 454.215(1), "(a)ny municipality may own, acquire, construct, equip, operate and maintain, either within or without its statutory or corporate limits, in whole or in part, disposal systems with all appurtenances necessary, useful or convenient for the collection, treatment and disposal of sewage." The Oregon legislature made it clear in ORS 454.215(2) that the authority it granted to municipalities over disposal systems in ORS 454.215(1) is "in addition to, and not in derogation of any power existing in the municipality under any constitutional, statutory or charter provisions now or hereafter existing." In other words, Oregon Revised Statutes enables municipalities to provide disposal systems, but it does not mandate that they provide such services. Moreover, municipalities have the rights, powers and privileges to determine in which manner they shall provide such services.

Under its City charter, Klamath Falls is "obligated" to provide a sewer system to all who are within city limits. Since JELD-WEN is not within city limits, Klamath Falls is not obligated to provide sewer services to JELD-WEN. Accordingly, the only way Klamath Falls sewer system is "legally available" to JELD-WEN, is if Klamath

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Falls is "willing" to provide such services. In JELD-WEN's case, Klamath Falls is willing to provide sewer services to JELD-WEN if, and only if, JELD-WEN is annexed to the city. In other words, Klamath Falls' "willingness" to provide sewer services is contingent upon JELD-WEN's annexation to the City. Unless the condition of being annexed to the city is satisfied, Klamath Falls is not willing to deliver sewer services to JELD-WEN. JELD-WEN strenuously opposes annexation.

The power of a municipality to annex territory is entirely a legislative function, granted to the municipality through express authority by the state legislature, and subject only to constitutional restrictions. McQuillan, Municipal Corporations § 7.10 (3rd ed. 1996). In other words, municipalities have no inherent power to annex territory, unless that right is granted by the state legislature. McQuillan at § 7.13. The methods of annexation must specifically be authorized by legislation. McQuillan at § 7.14. Thus, DEQ has no authority to mandate annexation unless that power is expressly granted by the legislature, which it has not done.

ORS Chapter 222 describes seven types of proceedings to annex non-boundary commission territory to a city. These proceedings may be initiated by the city, on its own motion, or by a petition of the landowners in the territory to be annexed. ORS 222.111(2). Since JELD-WEN does not intend to petition for annexation, any annexation proceedings initiated would be done at the city's initiative. Of the seven types of proceedings to annex non-boundary commission territory, five require consent. The five consent annexations are as follows:

1. The general annexation method requires the city council to submit an annexation proposal to the electors of the territory proposed for annexation and to the electors of the annexing city. If a majority of both groups vote in favor of annexation, the territory may be annexed. ORS 222.111(5).

2. Another annexation method involves holding an election in the territory to be annexed and, instead of holding a vote of the electorate, having a public hearing on the annexation. ORS 222.120(2).

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3. The third method of annexation requires the written consents of 100% of the property owners and more than 50% of the electors residing in the territory to be annexed. Such consent dispenses with the need to take a vote of the property owners and electors in the territory. Again, as in the second method, the citizens are given the opportunity to approve or disapprove of the annexation via a public hearing. ORS 222.125.

4. The *triple majority method of annexation*, which the court of appeals has determined is unconstitutional, requires the written consents of more than half of the landowners in the territory, who also own more than half of the land in the territory, which represents more than half of the assessed value of all real property in the territory proposed to be annexed. The city council must either hold a public hearing for the city on the annexation or put it to a vote of the city's electorate. ORS 222.170(1).

5. The *double majority annexation* is initiated by filing with the city council written consents to annex from a majority of the electors in a territory and from the owners of more than half of the land in the territory. The city council must either hold a public hearing for the city or have a city election on the annexation. ORS 222.170(2).

Despite the subtle and intricate differences between these annexation methods, a common thread runs throughout all of them. Under each method, the three parties at issue (the landowners in the territory, the electorate in the territory and the electorate in the city) have a voice in the process. Whether by voting, written consent or public hearing, Oregon's legislature mandated that the three groups with a vested interest be heard. Moreover, a landowner's ability to give or withhold consent for annexation of his own land is considered a "privilege" under the privileges and immunities clause of Oregon's constitution. Mid-County Future v. Port. Metro. Area LGBC, 82 Or App 193, 728 P2d 63 (1986). "The landowners can neither bring about an annexation that the electorate might oppose . . . nor unilaterally prevent an annexation that the electorate might favor." Mid-County Future v. Port. Metro. Area LGBC, 106 Or App 647, 653, 809 P2d 1354 rev. denied, 312 Or 80 (1991).

There are only two very limited circumstances in which a city may annex a territory without the landowner's consent. First, the city may annex territory which is surrounded by the corporate boundaries of the city ("island annexation"). Although this

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type of annexation may be done without the consent of the land owners in the territory or the residents in the territory to be annexed, such type of annexation is subject to referendum. ORS 222.750. The only other circumstance where a city may annex a territory without consent is if conditions within a territory have caused a danger to the public health as determined by the Division of Health and such conditions may be alleviated by the services provided by the annexing city. ORS 222.855. ORS 222.840 through 222.910 sets forth a detailed and comprehensive process for allowing health hazard annexations and provides such authority only to the Division of Health. The Oregon legislature has not granted DEQ the authority similar to that granted to the Division of Health to require annexation on a finding of a health hazard. Other than these two specific and limited situations, a city must obtain consent before annexing a territory.

The fact that these two situations are so specific, and would leave little doubt as to whether a particular territory may be annexed under these particular provisions, only demonstrates, at great length, the caution the Oregon legislature took in limiting those situations where a city could act unilaterally. Since the JELD-WEN facility is not an island surrounded by the corporate boundaries of Klamath Falls, and because the Division of Health has not determined a health hazard pursuant to ORS 222.840 through 910, the JELD-WEN property may be annexed to the City of Klamath Falls only with the consent of JELD-WEN. As previously stated, JELD-WEN has no intention of consenting voluntarily.

In the event DEQ does not grant JELD-WEN a permit to repair the existing drainfield, and such inability to repair results in violations of water quality regulations, JELD-WEN may be forced to "consent" to annexation in order to have a disposal system in compliance with the law. Forcing a party's consent to annexation has been regarded as the equivalent of forcing a party to vote a certain way. Pursuant to Hussey v. City of Portland, 64 F.3d 1260 (9th Cir. 1995), such coercion is unconstitutional.

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In Hussey, the Environmental Quality Commission ordered the City of Portland to provide sewer services to residents of an unincorporated area of East Multnomah County (known as "Mid-County"). The EQC also required the residents to hook up to the sewer system once available. Although the EQC forbade the City from requiring annexation as a condition of hooking up to the sewers, the City passed an ordinance which provided a subsidy in the form of reduced sewer connection charges in exchange for landowners signing an irrevocable consent to annexation. 64 F3d at 1262. Those landowners who failed to consent to annexation would not receive reduced sewer connection charges. Id.

A group of landowners sued for declaratory and injunctive relief, arguing that imposing financial distress only on electors who opposed annexation was a violation of their personal right to equal protection under the Fourteenth Amendment. The landowners argued, and the court of appeals agreed, that obtaining the consent of electors is the constitutional equivalent of voting. Even though there is no federal or state constitutional right to vote on annexation of territory by a City, once that right is granted through a statute, the right to vote becomes constitutionally protected. 64 F.3d at 1263. Coercing the landowners to consent to annexation (by imposing financial distress on them if they did not consent) was unconstitutional because it abrogated the landowners' right to vote and therefore failed to survive strict scrutiny.

Here, the situation is similar. DEQ's position requires JELD-WEN to give up its constitutionally protected right to consent (i.e., vote) on annexation by Klamath Falls. Rather than the subsidy provided to the landowners in Hussey v. City of Portland, however, the economic coercion in this case is DEQ's denial of JELD-WEN's repair of its drainfield. Without a satisfactorily-repaired drainfield, JELD-WEN runs the risk of violating several water quality regulations. By denying issuance of the permit, DEQ forces

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JELD-WEN to consent to annexation to the City. Such coercion distorts the political process and is unconstitutional under Hussey v. City of Portland.

CONCLUSION AND RELIEF REQUESTED

Klamath Falls is willing to provide sewer services only to those parties annexed to the City. JELD-WEN is not presently annexed to the City. It is not willing to voluntarily consent to annexation and it cannot be forced to consent to annexation. Thus, Klamath Falls is not willing to provide sewer services to JELD-WEN.

The sole reason for DEQ's denial of JELD-WEN's permit is because DEQ believed the sewerage system of Klamath Falls was both legally and physically available. Although Klamath Falls system may be physically available, it is not legally available because Klamath Falls is not willing or obligated to provide such services. For these reasons, DEQ is required to issue the Division 71 permit to JELD-WEN.

Respectfully submitted,

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By: _____

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that the property owner will receive a permit to construct a system on that property provided procedures and conditions for permit issuance found in OAR 340-71-160 are met.

(4) Approval or Denial:

(a) In order to obtain a favorable site evaluation report the following conditions shall be met:

(A) All criteria for approval of a specific type or types of system, as outlined in OAR 340, Division 71 shall be met;

(B) Each lot or parcel must have sufficient usable area available to accommodate an initial and replacement system. The usable area may be located within the lot or parcel, or within the bounds of another lot or parcel if secured pursuant to OAR 340-71-130(11). Sites may be approved where the initial and replacement systems would be of different types, e.g., a standard subsurface system as the initial system and an alternative system as the replacement system. The site evaluation report shall indicate the type of the initial and type of replacement system for which the site is approved.

EXCEPTION: A replacement area is not required in areas under control of a legal entity such as a city, county, or sanitary district, provided the legal entity gives a written commitment that sewerage service will be provided within five years.

(b) A site evaluation shall be denied where the conditions identified in subsection (4)(a) of this rule are not met;

(c) Technical rule changes shall not invalidate a favorable site evaluation, but may require use of a different kind of system.

(5) Site Evaluation Report Review. A site evaluation report issued by the Agent shall be reviewed at the request of the applicant. The application for review shall be submitted to the Department in writing, within 30 days of the site evaluation report issue date, and be accompanied by the review fee. The review shall be conducted and a report prepared by the Department.

Stat. Auth.: ORS Ch. 454
Hist.: DEQ 10-1981, f. & ef. 3-20-81; DEQ 5-1982, f. & ef. 3-9-82; DEQ 8-1983, f. & ef. 5-25-83; DEQ 9-1984, f. & ef. 5-29-84; DEQ 15-1986, f. & ef. 8-6-86

Existing System Evaluation Report

340-71-155 (1) Any person, upon application, may request an evaluation report on an existing on-site sewage disposal system. The application shall be on a form provided by the agent and approved by the Department.

(2) The application is complete only when the form, on its face, is completed in full, signed by the owner or the owner's legally authorized representative, and is accompanied by all necessary exhibits including the fee. A fee shall not be charged for an evaluation report on any proposed repair, alteration or extension of an existing system.

(3) The agent shall:

(a) Examine the records, if available, on the existing system; and

(b) Conduct a field evaluation of the existing system; and

(c) Issue a report of findings to the applicant.

Stat. Auth.: ORS Ch. 454
Hist.: DEQ 8-1983, f. & ef. 5-25-83

Permit Application Procedures — General Requirements

340-71-160 (1) No person shall cause or allow construction, alteration, or repair of a system, or any part thereof, without first applying for and obtaining a permit.

EXCEPTION: Emergency repairs as set forth in OAR 340-71-215.

(2) Applications for permits shall be made on forms provided by the Agent and approved by the Department.

(3) An application is complete only when the form, on its face, is completed in full, is signed by the owner or the owner's legally authorized representative, and is accompanied by all required exhibits and fee. Except as otherwise allowed in OAR 340-71-400(6), the exhibits shall include:

(a) Favorable site evaluation report;

(b) Favorable land use compatibility statement from the appropriate land use authority signifying that the proposed land use is compatible with the Land Conservation and Development Commission acknowledged comprehensive plan or complies with the statewide planning goals;

(c) Plans and specifications for the on-site system proposed for installation within the area identified in the favorable site evaluation report. The Agent shall determine and request the minimum level of detail necessary to insure proper system construction;

(d) Any other information the Agent finds is necessary to complete the permit application.

(4) The application form shall be received by the Agent only when the form is complete, as detailed in section (3) of this rule.

(5) Upon receipt of a completed application the Agent shall deny the permit if:

(a) The application contains false information;

(b) The application was wrongfully received by the Agent;

(c) The proposed system would not comply with these rules;

(d) The proposed system, if constructed, would violate a Commission moratorium as described in OAR 340-71-460;

(e) The proposed system location is encumbered as described in OAR 340-71-130(8);

(f) A sewerage system which can serve the proposed sewage flow is both legally and physically available, as described below:

(A) Physical Availability. A sewerage system shall be deemed physically available if its nearest connection point from the property to be served is:

(i) For a single family dwelling, or other establishment with a maximum projected daily sewage flow of not more than 450 gallons, within 300 feet;

(ii) For a proposed subdivision or group of two to five single family dwellings, or equivalent projected daily sewage flow, not further than 200 feet multiplied by the number of dwellings or dwelling equivalents;

(iii) For proposed subdivisions or other developments with more than five single family dwellings, or equivalents, the Agent shall make a case-by-case determination of sewerage availability.

EXCEPTION: A sewerage system shall not be considered available if topographic or man-made features make connection physically impractical.

(B) Legal Availability. A sewerage system shall be deemed legally available if the system is not

EXHIBIT A
PAGE 1 OF 2

under a Department connection permit moratorium, and the sewerage system owner is willing or obligated to provide sewer service.

(6) A permit shall be issued only to a person licensed under ORS 454.695, or to the owner or easement holder of the land on which the system is to be installed.

(7) No person shall construct, alter or repair a system, or any part thereof, unless that person is licensed under ORS 454.695, or is the permittee.

(8) The Agent shall either issue or deny the permit within 20 days after receipt of the completed application.

EXCEPTION: If weather conditions or distance and unavailability of transportation prevent the Agent from acting to either issue or deny the permit within 20 days, the applicant shall be notified in writing. The notification shall state the reason for delay. The Agent shall either issue or deny the permit within 60 days after the mailing date of such notification.

(9) A permit issued pursuant to these rules shall be effective for one year from the date of issuance for construction of the system. The construction-installation permit is not transferable. Once a system is installed pursuant to the permit, and a Certificate of Satisfactory Completion has been issued for the installation, conditions imposed as requirements for permit issuance shall continue in force as long as the system is in use.

(10) Renewal of a permit may be granted to the original permittee if an application for permit renewal is filed prior to the original permit expiration date. Application for permit renewal shall conform to the requirements of sections (2) and (4) of this rule. The permit shall be issued or denied consistent with sections (5), (6), (8), and (9) of this rule.

Stat. Auth.: ORS Ch. 454
Hist.: DEQ 10-1981, f. & ef. 3-20-81; DEQ 19-1981, f. 7-23-81, ef. 7-27-81; DEQ 8-1983, f. & ef. 5-25-83; DEQ 15-1986, f. & ef. 8-6-86

Permit Denial Review

340-71-165(1) A permit denied by the Agent shall be reviewed at the request of the applicant. The application for review shall be submitted to the Department in writing, within 30 days of the permit denial notice from the Agent, and be accompanied by the denial review fee. The denial review shall be conducted and a report prepared by the Department.

(2) Permit denials for systems proposed to serve a commercial facility, intended to be used in a commercial activity, trade, occupation or profession, may be appealed through the contested case hearing procedure set forth in ORS Chapter 183 and OAR Chapter 340, Division 11.

(3) If the Agent intends to deny a permit for a parcel of ten acres or larger in size, the Agent shall:

(a) Provide the applicant with a Notice of Intent to Deny;

(b) Specify reasons for the intended denial; and

(c) Offer a contested case hearing in accordance with ORS Chapter 183 and OAR Chapter 340, Division 11.

Stat. Auth.: ORS Ch. 454
Hist.: DEQ 10-1981, f. & ef. 3-20-81; DEQ 5-1982, f. & ef. 3-9-82

Pre-Cover Inspections

340-71-170 (1) When construction, alteration or repair of a system for which a permit has been issued is complete, except for backfill (cover), or as required by permit, the system installer shall notify the Agent. The Agent shall inspect the installation to determine if it complies with the rules of the Commission, unless the inspection is waived by the Agent in accordance with section (2) of this rule or in accordance with the provisions of OAR 340-71-400(6).

(2) The Agent may, at his own election, waive the pre-cover inspection provided:

(a) The installation is a standard subsurface system installed by a sewage disposal service licensed pursuant to ORS 454.695; and

(b) The inspecting jurisdiction and the Department have developed an impartial method of identifying those installers who have a history of proper installations without excessive numbers of corrections; and

(c) Inspections waived are for installations made by installers identified as having a good history of proper installation; and

(d) A list of installers whose inspections may be waived is available to the public and the Department; and

(e) A representative number of each installer's systems has been inspected, regardless of installation history; and

(f) After system completion the installer certifies in writing that the system complies with the rules of the Commission, and provides the Agent with a detailed as-built plan (drawn to scale) of the installation.

(3) Pre-cover inspection details shall be recorded on a form approved by the Department.

Stat. Auth.: ORS Ch. 454
Hist.: DEQ 10-1981, f. & ef. 3-20-81; DEQ 15-1986, f. & ef. 8-6-86

Certificate of Satisfactory Completion

340-71-175 (1) The Agent shall issue a Certificate of Satisfactory Completion, if, upon inspection of installation, the system complies with the rules of the Commission and the conditions of the permit.

(2) If inspected installation does not comply with the rules of the Commission and the conditions of the permit, the permittee shall be notified in writing or a Correction Notice shall be posted on the site. System deficiencies shall be explained and satisfactory completion required. Follow-up inspections may be waived by the Agent. After satisfactory completion a Certificate shall be issued.

(3) If the inspection is not made within seven days after notification of completion, or the inspection is waived, a Certificate of Satisfactory Completion shall be deemed to have been issued by operation of law. In such cases, a modified Certificate shall be issued to the owner.

(4) A system, once installed, shall be backfilled (covered) only when:

(a) The permittee is notified by the Agent that inspection has been waived; or

(b) The inspection has been conducted by the Agent and a Certificate of Satisfactory Completion has been issued; or

State of Oregon

Department of Environmental Quality — Memorandum

Date: May 22, 1997

To: File - JELD-WEN, inc.
BEN FAB Division, IW-File
Klamath County

From: Walt West, IW - WQ

Through: Dick Nichols, Eastern Region WQ Manager

Subject: Drainfield Replacement

On May 2, 1997, JELD-WEN, inc., (JWI) notified our Department that sewage was surfacing from their existing drainfield. I met with Karen Olsen at the facility on May 6, 1997, and observed where the effluent was surfacing. The facilitty's septic tank was being pumped on a regular basis to reduce flow into the drainfield system and to prevent sewage from reaching a nearby drainage ditch and to protect human health. On May 13, 1997, Lawrence Brown of the Department's On-Site program conducted a site evaluation for possible repair. The site is located in Klamath Falls at; T38, R9, S19; Tax Lot 400 lots 4 & 5. The evaluation report findings are summarized below.

The soil in the area proposed to install a replacement drainfield was found to be a silty clay. Permanent Groundwater is predicted to rise to within 48 and 53 inches from the ground surface in both areas evaluated.

The rules for standard drainfield systems require that a permanent water table shall be four feet or more from the bottom of the absorption facility. With trench depths of 18 inches, minimum, the water table could be no closer than 66 inches from the ground surface. [OAR 340-71-220 (1) (b)].

The rules for capping fill systems require that a permanent ground water shall be 4 feet below the bottom of the absorption facility, however, capping fills are limited to soils no finer than silty clay loam. A silty clay is finer than a silty clay loam, therefore, capping fill is not an option. Even with 4 feet of separation and 12 inch trench depths, minimum, the permanent water table shall be no closer than 60 inches from the ground surface. OAR 340-71-265 (1)(c) and (f). Again, at this site the permanent water table is predicted to rise to within 48 and 53 inches from the ground surface.

EXHIBIT B
PAGE 1 OF 3

With these two options eliminated, by rule, a pretreatment device would be required. We believe that with the flows of this facility a recirculating gravel filter would be the only appropriate treatment device. Since the effluent quality is similar to that of sand filter effluent 50 linear feet of disposal trench would be required per 150 gallons per day of flow. Technical specifications for a recirculating gravel filter are attached for your information.

The site conditions are not conducive for installing a system at this time. The sidewalls were smeared in test holes 1 through 8 and in the opinion of this Agent damage would occur to the system operation if installed at this time. Test Holes 9 and 10 were drier but area is limited due to the site's limitations. Should a drainfield system be allowed in conjunction with a recirculating gravel filter, installation would need to be delayed until soil dries sufficiently to prevent smearing of the sidewalls of the drainfield trench during construction.

Observations in the test holes dug between drainlines of the original drainfield indicated blackening and moisture extending to at least 30 inches from the drainline. The drainlines were spongy and very soft. Also, the distribution boxes which were uncovered were completely full indicating that the drainlines were saturated. The person who dug the test holes in the original drainfield drove overtop of the existing drainlines and sank about 6 to 10 inches. Damage to the perforated pipe in these areas is expected.

With respect to system repair, OAR 340-71-160 (5)(f) states that upon receipt of a completed application the Agent shall deny the permit if : A sewerage system which can serve the proposed sewage flows is both legally and physically available. Physical Availability is defined by its nearest connection point from the property to be served expressed in feet. For developments with more than 5 single family equivalents projected daily sewage flow, the Agent shall make a case-by-case determination of sewerage availability. A single family dwelling would be required to connect if the sewer is within 300 feet. At this site, the sewer is less than 50 feet running down Lakeport Blvd.

A sewerage system shall be deemed legally available if the system is not under a Department connection permit moratorium, and the sewerage system owner is willing or obligated to provide sewer service.

At this time with the available information, it would seem to us that our rules will dictate that a repair permit not be issued and that you must connect to the City of Klamath Falls sewerage facility. We know that you have done some initial investigation of this option and found that City policy requires annexation which, in turn, involves a significant increase in your property taxes. Nevertheless, the rules governing this type of situation do not consider the potential financial burden of connection as a basis to allow a repair when sewer is deemed available. Further, we believe that the Environmental Quality Commission (EQC) has ruled in the past that annexation is not

an unreasonable requirement for connection to sewer. Our staff is researching past EQC meeting minutes to find the record of such a ruling. If and when we find it, we will provide you a copy.

Enclosures (2)

EXHIBIT B
PAGE 3 OF 3

JELD-WEN
MANUFACTURER OF SUPERIOR BUILDING PRODUCTS
WINDOWS • DOORS • MILLWORK

June 2, 1997

Mr. Richard Nichols
Eastern Region WQ Manager
Department of Environmental Quality
2146 NE 4th Street, Suite 104
Bend, Oregon 97701

JELD-WEN's Klamath Falls On-Site Drainfield

Dear Mr. Nichols:

This letter will confirm receipt of the Department of Environmental Quality's ("DEQ") Memorandum dated May 22, 1997 addressed to Ben-Fab, and will also serve to address the analysis upon which the DEQ bases its preliminary conclusion that JELD-WEN, inc. ("JWI") "must connect to the City of Klamath Falls sewerage facility." First of all, let me thank you for your courtesy and candor in providing us with the DEQ's preliminary opinions, as we will incur significant civil engineering charges before we even begin the permit process. However, Bill Fagan, myself, and others here at JWI have carefully reviewed the Memorandum and while we agree that the soils would support a properly engineered on-site drainfield, we respectfully (and strenuously) disagree with your annexation conclusion. As the DEQ's preliminary conclusion may be a dispositive issue to moving forward and properly correcting the current problems, and in as much as we currently have the good fortune of not operating under an emergency situation, I was hoping you would be available to meet with me at your convenience, tomorrow, June 3, in your office to discuss this further.

EXHIBIT C
PAGE 1 OF 2

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

EASTERN REGION
Bend Office

June 3, 1997

RECEIVED
JUN 13 1997
Schwabe, Williamson & Wyatt

Mr. Stanley K. Meyers, P.E.
Vice President, Engineering
JELD-WEN
PO Box 1329
Klamath Falls, OR 97601-0268

Mr. Meyers:

This letter will summarize our telephone conference today. Included in the call were you, Messrs. Charlie Taylor and Bill Fagan of JELD-WEN and Walt West and myself representing DEQ.

The issue discussed relates to the failing on-site sewage disposal system that serves your Klamath Falls wood products complex. The Department has concluded that the City of Klamath Falls sewer is physically and legally available and, as a result, we cannot provide you approval to construct a replacement drainfield. You, on the other hand, disagree that it is available because the City will not allow you to connect unless you annex into the City.

The Department does agree that you have an acceptable area to put a replacement drainfield although because groundwater levels are somewhat shallow, a recirculating gravel filter must be used to pretreat the sewage prior to discharge into the drainfield.

As we concluded in our meeting, the Department believes you should file a petition for declaratory ruling with the Environmental Quality Commission if you wish to pursue construction of a replacement drainfield. I have enclosed the Oregon's Model Rules of Procedure Applicable to Proceedings for Agency Declaratory Rulings for your information. The petition should be filed with the Environmental Quality Commission in care of the Director of DEQ, Langdon Marsh. His address is: 811 SW 6th Avenue, Portland, OR 97204. I have also enclosed a copy of the October 27, 1978 EQC meeting minutes and a supporting document which addresses an issue relative to on-site sewage disposal systems which may have some relevancy to this matter.

If you have questions or comments, please call me or Walt West in this office at (541) 388-6146.

Sincerely,

Richard J. Nichols, Manager
Bend Water Quality Section
Eastern Region

RJN/ns
Enclosures
cc: Susan Greco/Paul Burnet - DEQ - HQ
Larry Knudsen - DOJ - Portland
Stephanie Hallock/file - Bend

EXHIBIT D
PAGE 1 OF 1

2146 NE 4th Street
Suite 104
Bend, OR 97701
(541) 388-6146

Essentially, I would like to discuss with you the language from the regulation cited in the Memorandum instructing the DEQ agent to deny a repair permit if "A sewerage system which can serve the proposed sewage flows is both legally and physically available." (Emphasis added). As you know, the JWI property and facilities serviced by the existing standard on-site drainfield for the past 20 years are located within and under the jurisdiction of Klamath County—not the City of Klamath Falls. The County sewerage system is located on the other side of the community. Accordingly, the County sewerage system is not "physically available". Furthermore, the City of Klamath Falls has indicated that it is not willing to allow a connection since we are not part of the City. As a result, the City's sewerage system is not "legally available" to JWI at the present time. We do not believe that OAR 340-71-160(5)(f), cited above, should impede our permit process.

I also note in the DEQ Memorandum a reference to possible prior Environmental Quality Commission rulings forcing a landowner to annex with a City to meet the "legal and physical availability" requisites. I am not aware of any such rulings but would appreciate you forwarding same so they can be reviewed by our legal department.

Again, I remain very hopeful that we can quickly resolve this issue and move forward with preventing an emergency situation. Please call me with your availability for tomorrow or if you have any questions. If I am not available when you call, please feel free to call Bill Fagan also. I look forward to meeting you.

Sincerely,

Stan Meyers

Stanley K. Meyers, P.E.
Vice President, Engineering

EXHIBIT C
PAGE 2 OF 2

State of Oregon
Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item H; Contested Case Hearing in the Matter of RMAC International, Inc., Don C. Weege and John R. Spencer, Case No. SWWT-NWR-95-060; EQC Meeting: August 22, 1997

Statement of Purpose

On April 13, 1995, the Department issued a Notice of Abatement and Department Order against RMAC International Inc., Don C. Weege and John R. Spencer operating a solid waste site without a solid waste disposal permit or a waste tire storage permit and failure to close the site as required by OAR 340-64-040. The notice informed the parties that the Department would abate the nuisance at the site unless the respondents submitted a site closure plan and closed the site in accordance with the Department's rules and regulations. Respondents did not act and the Department conducted the clean-up and closure at the site, after further notice to the parties in January 1997. The Department dismissed both Don C. Weege and John R. Spencer from the action in July 1997, and is now seeking a Default Order against RMAC International Inc. to recover the costs incurred from the abatement.

Background

RMAC International Inc. ("RMAC") obtained a Waste Tire Storage Permit from the Department for operation of a waste tire collection and processing operation. In 1993, ODOT agreed to purchase 20,000 cubic yards of shredded tires from RMAC for use in interstate construction projects.

The Department inspected the site in August 1994. At that time the site appeared to be abandoned and an estimated 6400 whole tires and 26,700 cubic yards of tire chips, shredded tires and ash were located on the site. In December 1994, RMAC's permit expired. A Notice of Non-Compliance (NON) was issued on January 12, 1995. The NON required that RMAC submit to the Department, within 30 days, a plan for removing all the wastes from the site. RMAC did not respond to the NON. An inspection in February 1995 indicated that the wastes observed in August 1994 were still on the site.

On April 13, 1995, the Department issued a Notice of Abatement and Department Order to RMAC, Don C. Weege and John R. Spencer. The Department ordered each of the respondents, jointly and severally, to clean up the site. Under ORS 459.780, if respondents failed to clean up a site, the Department can perform the clean up and recover its costs from the responsible parties.

A Supplemental Notice of Abatement was issued on January 16, 1997, informing the parties that the Department intended to perform the abatement at the site and they could be held liable for the Department's costs in removing the 6,000 cubic yards of waste tire materials that were not ODOT's responsibility. Based on information received in response to that Notice, the Department agreed to dismiss Don C. Weege and John R. Spencer from the action.

The removal activities have been completed at the site. The Department has incurred $302,835 in solid waste tire cleanup expenses. The Department has also incurred additional costs for cleanup of hazardous materials at the site. The Department will attempt to recoup these costs through the Department's environmental cleanup authority.

Authority of the Commission with Respect to the Issue

Under ORS 459.780, the Department may abate any danger or nuisance associated with a waste tire site by removing the waste tire materials. Prior to the abatement, the Department is required to provide notice to those either in control of the waste tires or the owner of the property of the Department's intention to remove the waste. Such persons can also be ordered to abate the danger in accordance with the Department's specifications. Once a Department abatement has been completed, the Department can proceed to recover the costs incurred.

Department Recommendation

It is recommended that the Commission issue an order holding RMAC International Inc. liable in the amount of $302,835.00 for the Department's abatement costs.

Attachments

1. Notice of Dismissal, dated July 29, 1997
2. Notice of Contested Case Hearing, dated July 28, 1997
3. Request for Dismissal from Don C. Weege, dated June 23, 1997
4. Request for Dismissal from John R. Spencer, dated March 11, 1997
5. Supplemental Notice of Abatement, dated January 16, 1997
6. Site Investigation, dated September 20, 1996
7. Notice of Informal Meeting, dated May 4, 1995
8. Answer to Notice of Abatement and Department Order from John R. Spencer, dated May 1, 1995
9. Answer to Notice of Abatement and Department Order from Don C. Weege, dated April 28, 1995
10. Answer to Notice of Abatement and Department Order from RMAC International Inc., dated April 28, 1995
11. Notice of Abatement and Department Order, dated April 13, 1995
12. Notice of Noncompliance, dated January 12, 1995
13. Site Investigation, dated August 12, 1994
14. Answer to Notice of Noncompliance, dated March 2, 1993
15. Notice of Noncompliance, dated February 2, 1993
16. Letter of Agreement from ODOT to RMAC, dated January 29, 1993
17. Waste Tire Storage Permit

Reference Documents Available Upon Request

ORS 459.780

Report Prepared By: Susan M. Greco
Phone: (503) 229-5213

State of Oregon
Department of Environmental Quality

RECEIVED
JUL 31 1997

JUL 29 1997

OFFICE OF THE DEPUTY DIRECTOR

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

Don Weege
2260 Hammerle Street
West Linn, OR 97068

✓Victoria E. Hatch
Hatch & Spencer, LLC
4710 SW Kelly Avenue, Second Floor
Portland, OR 97201

RE: In the Matter of RMAC International, Inc., et al
Notice of Waste Tire Abatement
Case No. SWWT-NWR-95-060
Multnomah County

Dear Mr. Weege and Ms. Hatch:

Based upon the information submitted in the letters from Don Weege to the Department dated June 23, 1997 and from Victoria Hatch to the Department dated March 11, 1997, the Department agrees to dismiss Don Weege and John Spencer as parties to the Department's Notice of Waste Tire Abatement, in the case referenced above.

If you have any question, please contact Larry Cwik of the Department's Enforcement Section in Portland at 229-5728.

Sincerely,

Langdon Marsh
Director

enclosure

cc: Enforcement Section, DEQ
Mary Wahl, Administrator, WMCD
Tom Bispham, Administrator, NWR and Enforcement
Deanna Mueller-Crispin/Paul Slyman, WMCD
Terence Hollins, WMCD
Lon Revall, WMCD
Sally Puent, WMCD
Chuck Donaldson, WR-Salem
Fred Bromfeld, NWR
Steve Fortuna, NWR
Jim Gladson/Jo Brooks, OD
Susan Greco, Rules Coordinator
Larry Edelman, Department of Justice
Mike Buren, ODOT
Brett Wilcox
Herb Siddle

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993

DEQ-1

Attachment 1 - 1 page

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

July 28, 1997

Via Certified and Regular Mail

Don Weege
2260 Hammerle Street
West Linn, OR 97068

RMAC International Inc.
c/o Don Weege, Registered Agent
101 S.W. Main, Suite 905
Portland OR 97204

John Spencer
c/o Hatch & Spencer, LLC
4710 S.W. Kelly Avenue, 2nd Floor
Portland OR 97201

RE: RMAC International Inc.
Case No. SWWT-NWR-95-060

The Contested Case Hearing for the above referenced matter has been set for the regularly scheduled Environmental Quality Commission meeting on Friday, August 22, 1997. The meeting will convene at 8:30 a.m. and the matter will be heard in the regular course of the meeting. The meeting will be held at the Department's headquarters at 811 S.W. 6th Avenue, Room 3A, Portland, Oregon. As soon as an agenda and the Department's recommendation is available, I will forward the same to you. I have enclosed an information sheet to assist you in preparing for the hearing.

It is my understanding that the Department has agreed to dismiss Mr. Weege and Mr. Spencer from this matter. Once these documents are completed, they will be forwarded to you at the addresses listed above and you will not need to appear for this matter.

If you should have any questions or should need special accommodations, please feel free to call me at (503) 229-5213 or (800) 452-4011 ex. 5213 within the state of Oregon.

Sincerely,

Susan M. Greco
Rules Coordinator

cc: Larry Edelman, DOJ
Larry Cwik, NWR

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993

DEQ-1

Attachment 2 - 3 pages

DEPARTMENT OF ENVIRONMENTAL QUALITY HEARINGS

IMPORTANT INFORMATION FOR PREPARING FOR YOUR HEARING

NOTICE OF CONTESTED CASE RIGHTS AND PROCEDURES

Under ORS 183.413(2), you must be informed of the following:

1. Law that applies. The hearing is a contested case and it will be conducted under ORS Chapter 183 and Oregon Administrative Rules of the Department of Environmental Quality, Chapters 137 and 340.

2. Rights to an attorney. You may represent yourself at the hearing, or be represented by an attorney or other representative, such as a partner, officer, or an employee. A representative must provide a written statement of authorization. If you choose to represent yourself, but decide during the hearing that an attorney is necessary, you may request a recess. About half of the parties are not represented by an attorney. DEQ will be represented by an Assistant Attorney General or an Environmental Law Specialist.

3. Presiding officer. The Environmental Quality Commission will be serving as the decision making body in this matter. The Commission is composed of 5 members of the public which are appointed by the Governor. The Commission will rule on all matters that arise at the hearing and will make a final determination, based on the evidence at the hearing.

4. Witnesses. All witnesses will be under oath or affirmation to tell the truth. All parties and the Commission will have the opportunity to ask questions of all witnesses. DEQ will issue subpoenas for witnesses on your behalf if you show that their testimony is relevant to the case and is reasonably needed to establish your position. If you are represented by an attorney, your attorney may issue subpoenas. Payment of witness fees and mileage is your responsibility.

5. Order of evidence. A hearing is similar to a court trial but less formal. The purpose of the hearing is to determine the facts and whether DEQ's action is appropriate. In most cases, DEQ will offer its evidence first in support of its action. You will then have an opportunity to present evidence to oppose DEQ's evidence. Finally, DEQ and you will have an opportunity to rebut any evidence.

6. Burden of presenting evidence. The party who proposes a fact or position has the burden of proving that fact or position. You should be prepared to present evidence at the hearing which will support your position. You may present physical or written evidence, as well as your own testimony.

7. Admissible evidence. Only relevant evidence of a type relied upon by reasonably prudent persons in the conduct of their serious affairs will be considered. Hearsay evidence is not

automatically excluded. Rather, the fact that it is hearsay generally affects how much the Commission will rely on it in reaching a decision.

There are four kinds of evidence:

a. Knowledge of DEQ. DEQ may take "official notice" of conclusions developed as a result of its knowledge in its specialized field. This includes notice of general, technical or scientific facts. You will be informed should DEQ take "official notice" of any fact and you will be given an opportunity to contest any such facts.

b. Testimony of witnesses. Testimony of witnesses, including you, who have knowledge of facts may be received in evidence.

c. Writings. Written documents including letters, maps, diagrams and other written materials may be received in evidence.

d. Experiments, demonstrations and similar means used to prove a fact. The results of experiments and demonstrations may be received in evidence.

8. Objections to evidence. Objections to the consideration of evidence must be made at the time the evidence is offered. Objections are generally made on one of the following grounds:

   a. The evidence is unreliable;

   b. The evidence is irrelevant or immaterial and has no tendency to prove or disprove any issue involved in the case;

   c. The evidence is unduly repetitious and duplicates evidence already received.

9. Continuances. There are normally no continuances granted at the end of the hearing for you to present additional testimony or other evidence. Please make sure you have all your evidence ready for the hearing. However, if you can show that the record should remain open for additional evidence, the Commission may grant you additional time to submit such evidence.

10. Record. A record will be made of the entire proceeding to preserve the testimony and other evidence for appeal. This will be done by tape recorder. This tape and any exhibits received in the record will be the whole record of the hearing and the only evidence considered by the Commission. A copy of the tape is available upon payment of a minimal amount, as established by DEQ. A transcript of the record will not normally be prepared, unless there is an appeal to the Court of Appeals.

11. Appeal. If you are not satisfied with the decision of the Commission, you have 60 days from the date of service of the order, to appeal this decision to the Court of Appeals. See ORS 183.480 *et seq.*

June 23, 1997

Larry Cwik
Environmental Law Specialist
DEQ
2020 SW Fourth Ave.
Suite 400
Portland, Oregon 97201-4987

Subject: Request for Dismissal, as referred to in 'Supplemental Notice of Abatement No.SWWT-NWR-95-060'

Dear Mr. Cwik:

In response to the last paragraph in the above mentioned Supplemental Notice, I hereby request that I be dismissed from the noted Enforcement Action for the following reasons:

1. I do not now nor have I ever had any ownership interest in the real property on which the waste tire materials are located.

2. I do not now nor have I ever had any ownership interest in RMAC International, Inc. the owner of the real property on which the waste tire materials are located.

3. I do not have possession, care, custody or control of the waste tire materials or the real property on which they are located.

4. The net result of my involvement with RMAC International, Inc. is that the volume of waste tire materials located on the site requiring clean up by RMAC was reduced by 20,000 cubic yards. My management of RMAC did not create the mess (your records reflect waste tire materials were present before I took over), it reduced its size considerably.

5. I have fully cooperated with DEQ in all aspects of its clean up efforts.

I ceased being an employee of RMAC when it closed, I believe within two weeks after the State notified RMAC it was not going to honor its agreement to remove the tires from RMAC's site for use in a construction project. I agreed to help the owners sell the company or any of its assets after the company closed, but severed those ties when Pacific Energy, who had agreed to purchase the site, went away.

As a result, I have had no relationship of any kind with RMAC for some time. Please revise your records to reflect that fact and send notices intended for RMAC to whomever the owners have designated.

If you have any questions, please call me at (503) 557-3099.

I look forward to your response.

Very truly yours,

Don Weege

Don Weege
2260 HAMMERLE ST.
WEST LINN, OR 97068

cc: Fred Bromfield, NWR
Chuck Donaldson, WR-Salem
Steve Fortuna, WR
Lon Revell, WMCD
Sally Puent, WMCD
Terence Hollins, WMCD
Van Kollias, Enf.
Tom Bispham, NWR
Paul Slyman, WMCD
Deanna Mueller-Crispin, WMCD
Kevin Dana, WMCD
Larry Edelman, DOJ
Jo Brooby/Jim Gladson, Pub. Aff.

Attachment 3 - 1 page

Hatch & Spencer, LLC

Attorneys and Counselors

Victoria E. Hatch†
John R. Spencer‡
Tara J. Schleicher

Of Counsel
Bradley L. Middleton

Legal Assistants
Lisa L. Demeter
Roxanna L. Powell

Admitted: †Oregon & Washington
‡Alaska & Texas

4710 SW Kelly Avenue
Second Floor
Portland, Oregon 97201

Local 503-224-1170
Facsimile 503-224-6858
Toll Free 800-794-4548

email: lawyer@hatchspencer.com

March 11, 1997

cc: Van Kollias
Tom Bispham
Fred Bromfeld, NWR
Chuck Donaldson, WR-Salem
Steve Fortuna, NWR-VCS
Jo Brooks/Jim Gladson, Pub. Af
Larry Edelman, DOJ
Terence Hollins, WMCD
Deanna Mueller-Crispin, WMC
Paul Sleyman, WMCD
Karl Morgenstern, WMCD
Kevin Dowd, WMCD
Lori Rowell, WMCD

Mr. Larry Cwik (KC)
State of Oregon
Department of Environmental Quality
Environmental Law Specialist
Enforcement Section
2020 Southwest Fourth Avenue
Suite 400
Portland, Oregon 97201-4987

Re: RMAC, Case #SWWT-NWR-95-060

Dear Mr. Cwik:

Recently you sent my clients, Mr. John Spencer and Mr. Herb Siddle, among others, a copy of a supplemental notice of abatement for the RMAC property.

Neither Mr. Spencer or Mr. Siddle was a property owner, or the person having possession, care, custody or control of the waste tires or other waste tire materials when the Department determined that RMAC was in violation of your abatement statute.[1]

Neither of my clients was involved in the management of RMAC and were, at the most, disenfranchised minor stockholders with no hope of ever having the ability to make any decisions or reap any rewards from the project. My clients were not even on the site after the Fall of 1991, much less in a position of management or functional ownership of the corporation. At the time they became disenfranchised, there was no violation of any rule or regulation

---

1. ORS sec.459.780, States in part: (6) The department may bring an action or proceeding against the ***property owner or the person having possession, care, custody or control of the waste tires or other waste tire materials*** to enforce the abatement order issued under subsection (4) of this section and recover any reasonable and necessary expenses incurred by the department for abatement costs, including administrative and legal expenses.

Attachment 4 - 2 pages

according to any records of any agency as far as they knew. Certainly, they did not fit under the cited statute for personal liability. The property was and is owned by RMAC International, Inc.

Consequently, both Mr. Siddle and Mr. Spencer feel very strongly that they do not fit within the parameters of any of the statutes which could hold either of them personally liable for anything at the site. Therefore, we would request that both names be removed from this action.

We would hope it is not necessary to continue with the process, but in the event we need to appear before the agency, please advise the undersigned as to the date and time with sufficient prior notice that it can be appropriately scheduled in and the activities necessary to argue the issue.

Sincerely yours,

HATCH & SPENCER, LLC

Victoria E. Hatch

cc: Clients

VEH:krc
c:\work\kelly\cwik.deq

end file

JAN 21 1997

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENFORCEMENT SECTION

R.M.A.C. International, Inc.
c/o Don Weege
2260 Hammerle Street
West Linn, OR 97068

John R. Spencer
P.O. Box 1803
Tacoma, WA 98401-1803

RE: Notice of Waste Tire Abatement
Case No. SWWT-NWR-95-060
Multnomah County

Dear Mr. Weege and Mr. Spencer:

Enclosed please find a copy of a Supplemental Notice of Abatement for the R.M.A.C. International, Inc. waste tire site in Troutdale, Oregon, signed by DEQ Director Langdon Marsh. If you have any question, please contact me at (503) 229-5728.

Sincerely,

Larry Cwik

Larry Cwik
Environmental Law Specialist
Enforcement Section

enclosure

cc: Langdon Marsh, Director
Deanna Mueller-Crispin/Paul Slyman, WMCD
Terence Hollins, WMCD
Bill Dana, WMCD
Chuck Donaldson, WR-Salem
Fred Bromfeld, NWR
Steve Fortuna, NWR
Jim Gladson/Jo Brooks, OD
Van Kollias, Enforcement
Larry Edelman, Department of Justice
Mike Buren, ODOT
Brett Wilcox
Herb Siddle
Lucy Kivel, Preston Gates Ellis

2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5528
TTY (503) 229-5471
DEQ-1

Attachment 5 - 2 pages

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

In the Matter of RMAC International, Inc.; Don C. Weege; and John R. Spencer, Respondents.	))))	Supplemental Notice of Abatement No. SWWT-NWR-95-060

This is to notify you that the Oregon Department of Environmental Quality (DEQ) intends to proceed pursuant to ORS 459.780 with an abatement action to remove waste tire materials at the RMAC International, Inc. site in Troutdale, Oregon. The scope of the DEQ abatement action will include removal of that portion of waste tire materials consisting of approximately 6,000 cubic yards, removal of which is not the responsibility of the Oregon Department of Transportation (ODOT) under the terms of any prior arrangement with RMAC concerning removal of approximately 20,000 cubic yards of tire materials.

This notice is supplemental to the Notice of Abatement and Department Order No. SWWT-NWR-95-060 issued on April 13, 1995. DEQ acknowledges that requests for a contested case remain pending in this matter and DEQ will proceed to set the matter for hearing in accordance with ORS 459.780 upon completion of the DEQ removal activities. DEQ is entitled to recover its costs incurred in the cleanup.

Prior to a contested case hearing, DEQ will consider dismissal of any party upon a demonstration that such party is not the property owner or the person having possession, care, custody, or control of the waste tire materials. Relevant documentation should be directed to Larry Cwik of DEQ's statewide Enforcement Section, 2020 SW Fourth Avenue, #400, Portland, Oregon 97201-5884.

DATED this 16th day of January, 1997.

Langdon Marsh, Director
Department of Environmental Quality

LE:kt/LHE0334.PLE

DEPARTMENT OF JUSTICE
1515 SW 5TH AVENUE, SUITE 410
PORTLAND, OREGON 97201
PHONE (503) 229-5725

Department of Environmental Quality Memorandum

Date: 10/2/96

To: **RMAC INTERNATIONAL, INCORPORATED file**

From: **Susan Shewczyk**

Subject: **Site Investigation 9/20/96**

On September 20, 1996, Steve Fortuna (NWR:WMC) and I performed a site visit to RMAC International, Incorporated. We arrived at 11:15 A.M. and walked the entire processing area including the ponds and then drove around the facility to investigate any discharges or areas of concern.

During the inspection, we observed some drums and containers with liquids (see Attachment 1, map #1). Attachment 1 maps show where samples were taken and Attachment 2 shows photographs taken during the investigation.

The process area (photo #1, 8, B.3, B.6, B.8, & B.10) consists of the OPS building (operating building), chipper building, pyrolysis unit, and two above ground storage tanks, one of which was leaking oil into the secondary containment area (photo # 2, 3, & 4). The leaking tank was dripping from the valve into a secondary containment area. Although the oil substance was dripping into the secondary storage, an open drain pipe was draining the oil substance onto the pavement and into the soil (photo # B.9). A sample (sample # L2517) was taken of the oil substance in the secondary containment.

The chipper area contained drums and containers (photos 9 & 10). A sample was collected (sample X3070) from a drum labeled "hydraulic oil" next to the wall of the building. Another sample was taken of a black fifty five gallon drum located in the middle of the chipper building (photo # 9, sample X1531).

Tires, shredded tire materials, and ash were piled into mounds around the processing unit. A sample was collected of the ash mound (after pyrolysis) (photo # 20, B.1, B.2, & B.4, sample L2520).

Apparently there are two waste water ponds on the site. The pond next to the chipper building was full of tires and we were unable to determine where it was. The pond on the other side of the tire storage area was dry but vegetation was observed. Surface soil samples were taken in the pond area (photo #12, 13, & 14, sample L11817) and between the pond and ash mound (photo B.1, sample L2520).

An evaporator, two wastewater storage tanks, and seven drums were observed behind the tire storage area. Samples were collected from the secondary containment for the tanks (photo B.20,

Attachment 6 - 35 pages

sample X3118), a horizontal drum of liquid, (photo #15, sample X3474) and a tarry substance which appeared to be consistent in six drums on pallets (photo # 16, sample X3471).

A soil sample was collected from the ditch vertical to the entrance (photo #18 & 19, sample L2519) and a water sample was taken from Salmon Creek below the facility and off highway 20 (sample L3961, map 1.A).

A chain of custody was filled out and the samples were submitted to the state laboratory at approximately 2:30 P.M.

cc: sjs...e:\winword\rmac.doc

RMAC INTERNATIONAL, INCORPORATED
INVESTIGATION: SEPTEMBER 20, 1996
SAMPLE SUMMARY
Refer to Attachment 1, map 1.C

State Laboratory Case Number: 960782
Chain of custody accompanied the samples to the state laboratory at 2:30 P.M. on September 20, 1996.

SAMPLE:

1. SAMPLE L1181 Time: 11:19 A.M.
   Media: soil/sludge between ash mound and wastewater pond
   Sampler: Steve Fortuna
   Comment: Surface soil 0-3 inches, black in color

2. SAMPLE L1186 Time: 11:22 A.M.
   Media: soil sample from pond area
   Sampler: Steve Fortuna
   Comment: black/brown cracked and compacted soil

3. SAMPLE L2517 Time: 11:29 A.M.
   Media: liquid/sediment (phased)
   Sampler: Susan Shewczyk
   Comment: media from secondary containment area for above ground storage tanks

4. SAMPLE X3474 Time: 11:35 A.M.
   Media: liquid
   Sampler: Susan Shewczyk
   Comment: the drum was laying on its side and has a smell naphtha

5. SAMPLE X3118 Time: 11:40 A.M.
   Media: liquid sediment
   Sampler: Susan Shewczyk
   Comment: collected from secondary containment area for the waste water storage tank next to evaporator

6. SAMPLE X3471 Time: 11:50 A.M.
   Media: sludge
   Sampler: Steve Fortuna
   Comment: six drums with 3 to 6 inches of the tarry black sludge

7. SAMPLE X1531 Time: 12:00 A.M.
Media: liquid
Sampler: Susan Shewczyk
Comment: 2/3 full (55-gallon drum) in chipper building

8. SAMPLE X3070 Time: 112:05 P.M.
Media: liquid
Sampler: Susan Shewczk
Comment: 55-gallon drum labeled "hydraulic Oil" in chipper building

9. SAMPLE L2520 Time: 12:10 P.M.
Media: solid (ash)
Sampler: Steve Fortuna
Comment: collected sample three inches below surface, approximately three feet above ground level in the ash mound

10. SAMPLE L2519 Time: 12:32 P.M.
Media: soil
Sampler: Steve Fortuna
Comment: creek bed along driveway, stained reddish orange soil

11. SAMPLE L3961 Time: 1:00 P.M.
Media: liquid
Sampler: Steve Fortuna
Comment: Salmon Creek down gradient from site, directly off highway 20

cc:sjs..rmac2.doc

INITIAL SITE INVESTIGATION
H & S CHECKLIST

PREPARED BY: Susan Shewczyk DATE: 9/20, 1996.

SITE VISIT APPROVED: YES [ ] NO [ ]

APPROVED BY: DATE:

A. GENERAL INFORMATION

SITE NAME: RMAC

SITE LOCATION/SIZE: Tire and processing site
3601 Marine Drive, Troutdale, Oregon

SITE DESCRIPTION: abandoned tire storage site which utilized a pyrolysis. May have contaminated ask, oil, petroleum and sludge from the process unit. Will be looking at soil contamination and oil tanks and containers.

SCOPE/OBJECTIVE OF WORK:
To take samples of soil, settling ponds, pyrolysis ash and oil containers

SITE VISIT DATES(s)/HOURS: 10/10/96 9AM to 5PM

B. EMERGENCY INFORMATION

HOSPITAL LOCATION: Mt Hood Medical Center
503 667-1122
24800 SE Stark
Gresham

PHONE NUMBERS: Hospital: 667-1122 Ambulance:

SITE CURRENTLY ACTIVE: Yes [ ] No [x]

BUDDY SYSTEM: Yes [x] No [ ] NAME: Chuck Clinton

C. EXPOSURE INFORMATION

ROUTE OF EXPOSURE:

Inhalation [ ] Dermal [ ] No exposure expected [X]

OVERALL CHEMICAL EXPOSURE:

Serious [ ] Low [X]
Moderate [ ] Unknown [ ]

OVERALL PHYSICAL HAZARD:

Serious [ ] Low [X]
Moderate [ ] Unknown [ ]

D. HAZARD EVALUATION INFORMATION

CHEMICAL HAZARD(s):

Chemical(s)	IP	PEL or TLV STEL	Route(s) of Exposure	Acute Symptoms	Odor warning Threshold	Odor description
arsenic	na	twa `15 minutes	inh,abs,con,ing	ulceration of nasal passages, septum,gi disturbances	odorless	odorless
cadmium	na					
chromium	na	niosh .5mg/m3	inh,ing	histologic fibrosis of lungs	no odor	no odor
mercury	vary	niosh .01mg/m3 (skin)	inh,abs,ing,con	ataxia, dysarthria, vision, hearing, spastic jerky, vomit, diarr, constip, skin burns	odor varies	odor varies
lead	na	niosh .100 mg/m3	inh, ing, con	eye irritant, nose throat, head, naus, clonic convuls, resp. difficulty, aplastic anemia, skin irrit., musc spasms	a heavy ductile, soft gray solid	

cadmium, chromium, arsenic, mercury, and lead will be in the oil itself. We will also be looking for metals in the ash from the pyrolysis unit.

PHYSICAL HAZARD(s):

Confined space	[ ]	Note: requires confined space entry
Noise	[ ]	permit
Heat/cold stress	[ ]	
Other	[ ]	Specify: wet land area, will wear boots and probably tyvek and raingear.

E. CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

Level: A [ ] B [ ] C [x] D [ ]

RESPIRATOR: 1/2 mask [ ] Full-face APR [x] Escape [ ] SCBA [ ]

Cartridge Type: combination cartridge GMC-H presicides organic vapors, acid gases and particulates MSA

BODY: tyvek [x] saranex [ ] other [ ] Specify:nitrile boots

HEAD: hardhat [ ] goggles [x] faceshield [ ] earplugs [ ]
if I determine a respirator is not necessary, I will wear goggles
GLOVES: yes [x] no [ ]: outer [x] inner [x] Type: nitrile and surgical

FOOTWEAR: safety shoes [ ] rubber boots [x] booties [ ]

DECONTAMINATION PROCEDURES:

dry [x] wet [ ] stationary [ ]

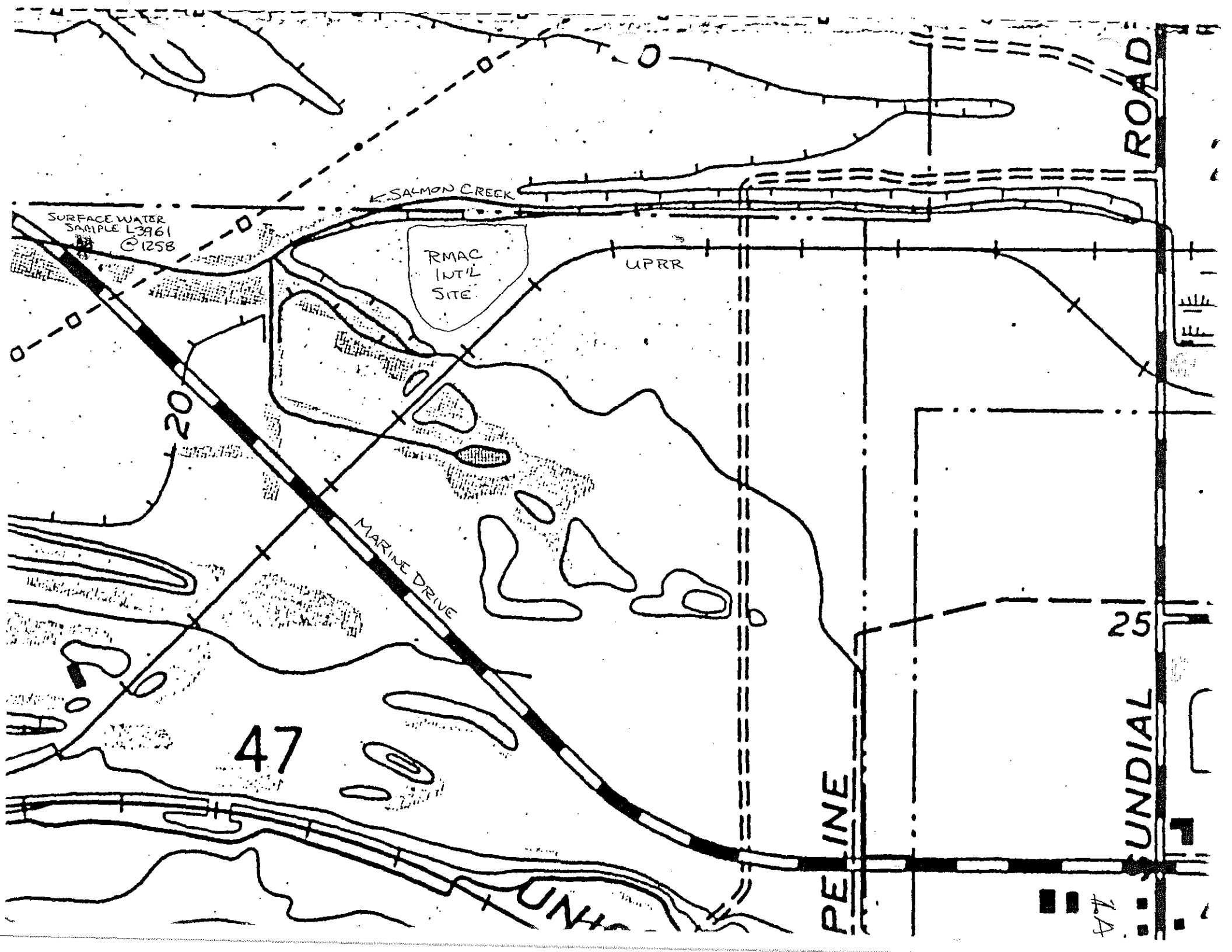
AIR MONITORING EQUIPMENT:

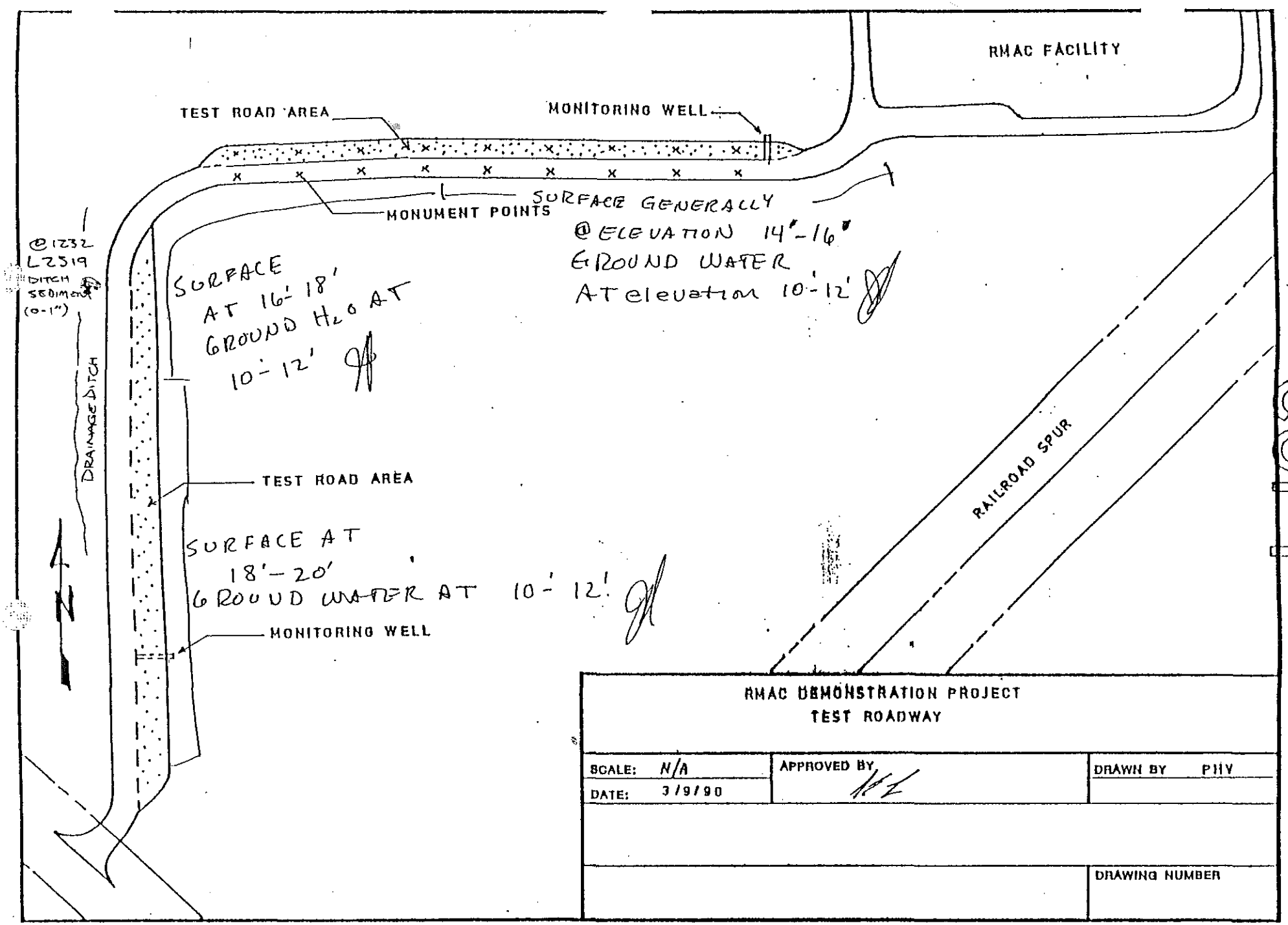
TIP	[ ]	
HNu	[ ]	
OVA	[ ]	
Combustible gas indicator	[ ]	
Oxygen meter	[ ]	
Gastech	[ ]	
Four way gas meter	[ ]	
Radiation meter	[ ]	
Detector tubes	[ ]	Specify:

OTHER EQUIPMENT (Specify):
sampling equipment. No volitiles
SPECIAL PROCEDURES/LIMITATIONS:

ADDITIONAL NOTES:
I will be the only one performing the sampling.

ATTACHMENT 1
RMAC MAPS


SALMON CREEK
SURFACE WATER SAMPLE L-3961 @1258
RMAC INT'L SITE
UPRR
MARINE DRIVE
20
47
25
ROAD
PE LINE
UNDIAL



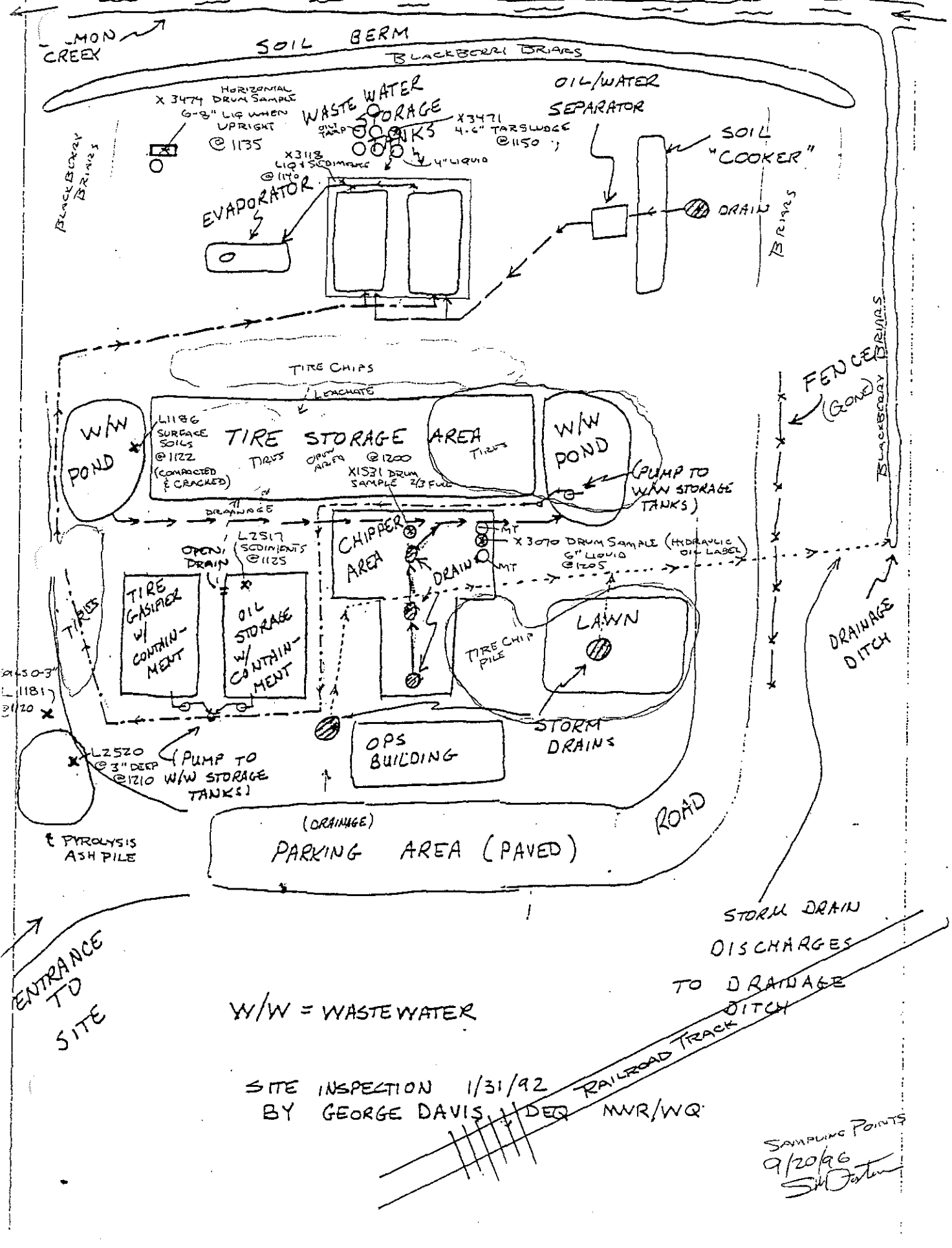
SURVEY

2.B

TELEDYNE POST 18AB-01

1.C

SITE SKETCH — RMAC INT'L, INC.

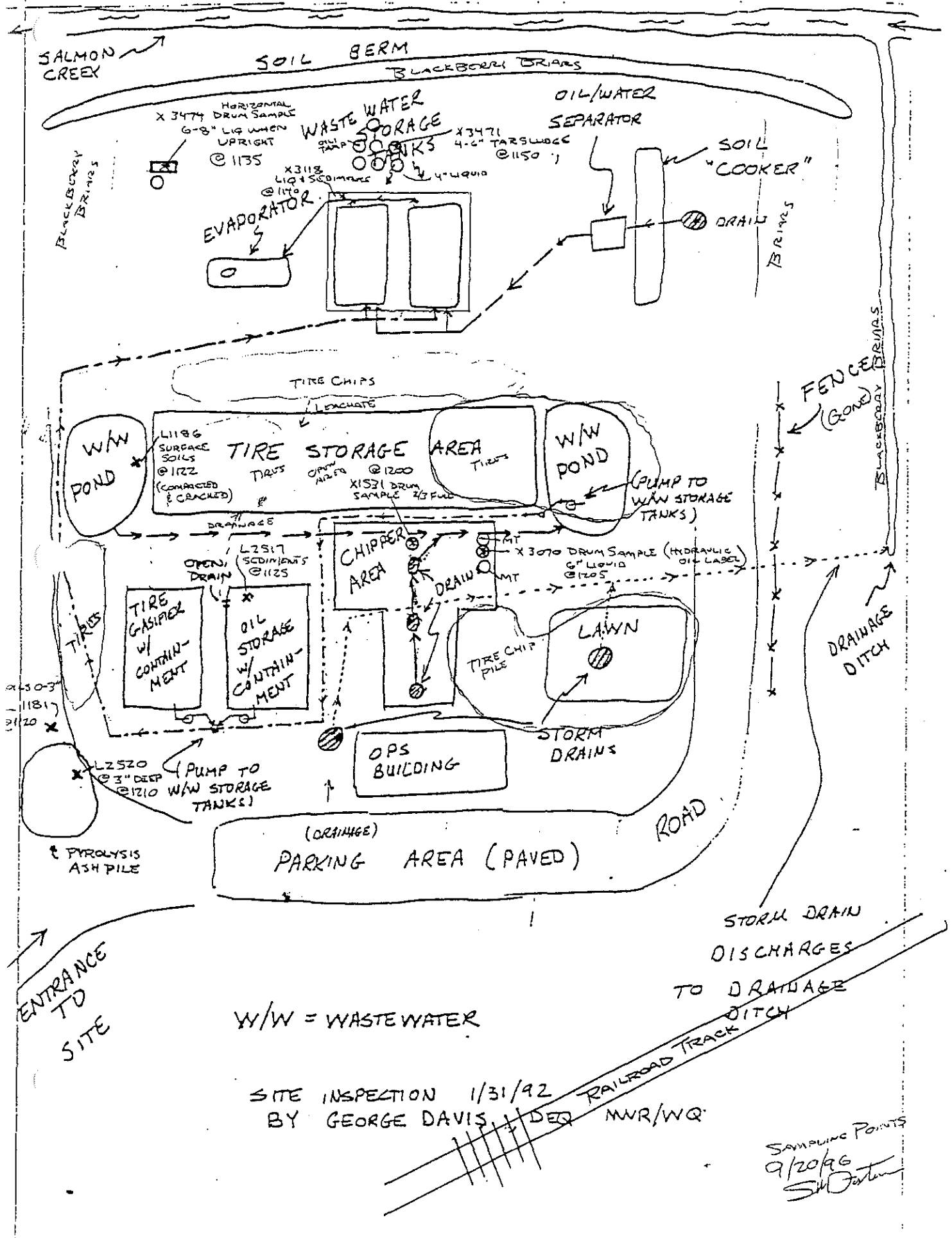


W/W = WASTEWATER

SITE INSPECTION 1/31/92
BY GEORGE DAVIS, DEQ MWR/WQ

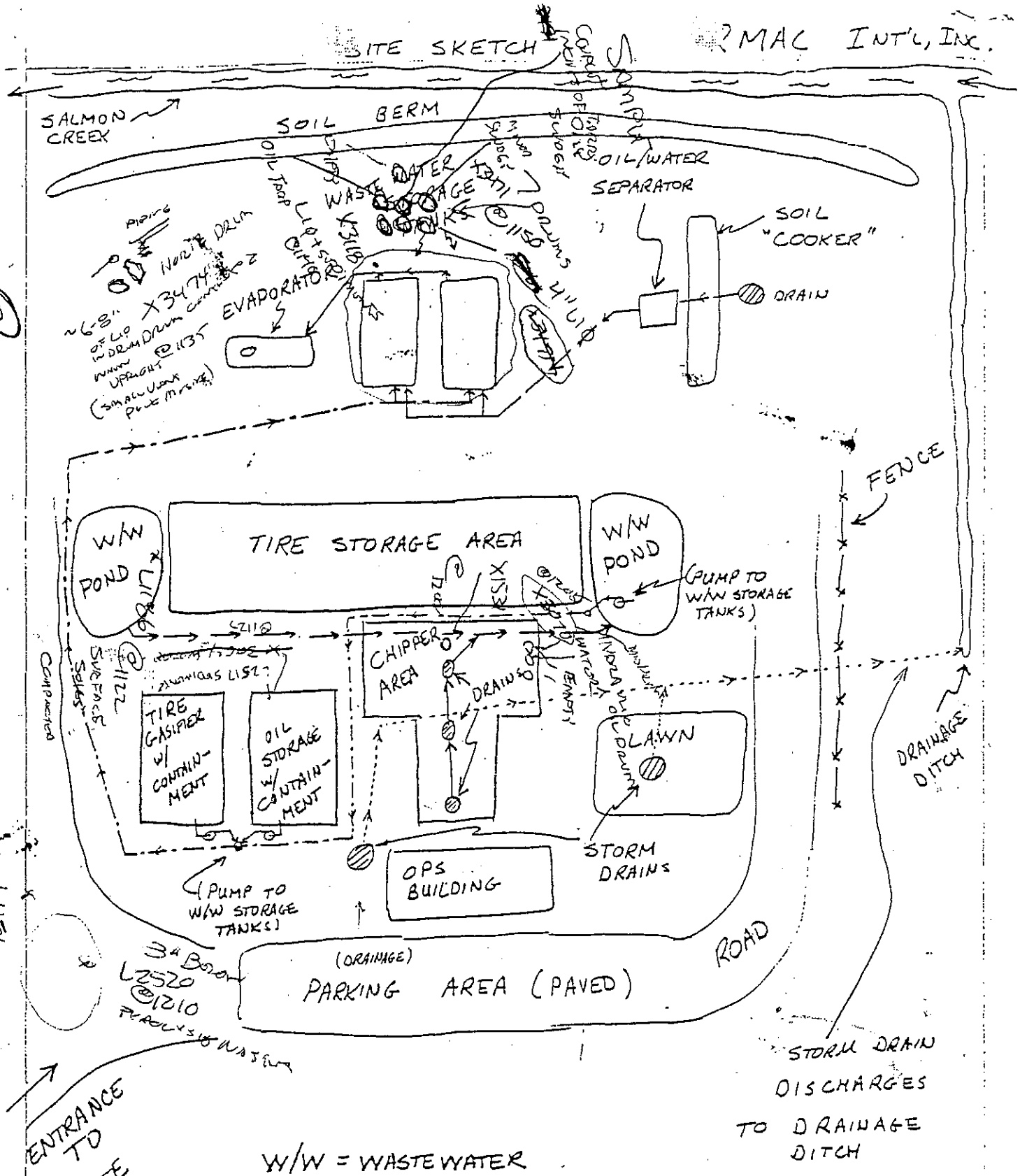
1.C

SITE SKETCH — RMAC INT'L, INC.



W/W = WASTEWATER

SITE INSPECTION 1/31/92
BY GEORGE DAVIS, DEQ MWR/WQ



W/W = WASTEWATER

SITE INSPECTION 1/31/92
BY GEORGE DAVIS, DEQ NWR/WQ

FIGD NOTES
9/20/96
SM Foster

ATTACHMENT 2
PHOTOGRAPHS

PHOTOGRAPHS
RMAC INTERNATIONAL, INCORPORATED
SEPTEMBER 20, 1996

CAMERA: FUJIFILM DISCOVERY
FILM: KODAK 200 ASA

1. Walking into the site from Highway 20. The pyrolysis unit in the background.

2. The secondary containment for two aboveground oil tanks. The secondary containment is catching the leaking oil substance from the above ground storage tank. A discharge drain is draining the secondary containment liquid onto the asphalt and into the soil. A sample was collected.

3. The secondary containment for two aboveground oil tanks. The secondary containment is catching the leaking oil substance from the above ground storage tank.

4. The secondary containment for two aboveground oil tanks showing the sheen from the liquids.

5. Secondary containment for the pyrolysis unit. The drums are placed upside down and are empty. However, the secondary containment has liquid in the containment area which appears to be rainwater.

6. Tire storage and shredded tire mounted . The tank in the ground is the evaporator.

7. The shredded tire material depicting the height of the mound.

8. The chipper building on the right and the pyrolysis unit in the background.

9. The chipper building depicting drum storage and liquid on the floor. Two of the drums were sampled.

10. A drum and containers storing solid waste.

11. A backview of the oil and water tanks with secondary containment.

12. The waste water pond area. Lower right of the picture shows the black soil and stressed vegetation. A sample was collected.

13. The waste water pond area. The right side of the picture shows the blackened soil.

14. The waste water pond area. The right side of the picture shows the blackened soil

15. Drum of liquid stored vertical and located behind the tire storage area. A sample was collected.

16. Tar-like substance was observed in six drums located behind the evaporator. A sample was collected.

17. A drum of solid waste in the chipping building.

18. The ditch following the driveway into the site. The vegetation is stressed and appeared to be stained orange (oxidized iron).

19. The ditch following the driveway into the site. The vegetation is stressed and appeared to be stained orange (oxidized iron). A sample was collected.

20. A close-up of the ask generated from the pyrolysis unit. A sample was collected.

21. A view of the ask mound coming into the site from the driveway.

sjs...e:\winword\rmac1.doc

Photograph Log

Facility: RMAC International, Incorporated

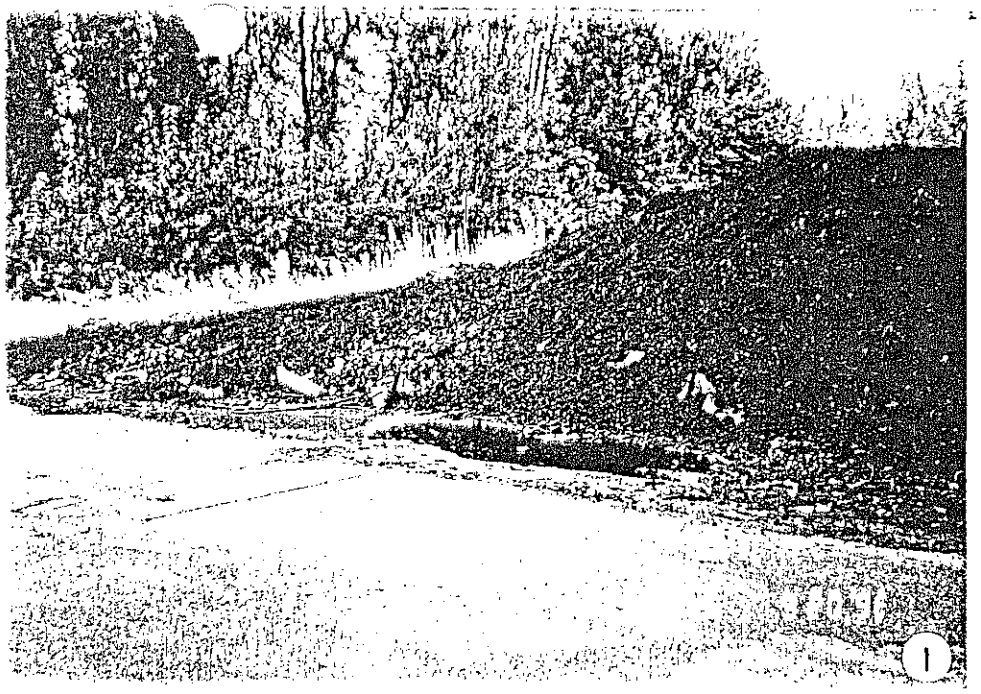
Date: September 20, 1996 (AM)

Photographer: Steve Fortuna:NWR:WMC:SAS

Camera/Film: Pentax (#6) IQ Zoom 735 (#9251424; AF Zoom / Full Macro 35mm - 70mm lens)/Kodak Gold 200 (12 exposure rolls).

Number	Direction	Description
01	SW	Tire Pyrolysis Ash Pile at the southwest corner of the Tire Gasifier process area (liquid in center of frame appears to be accumulated rainwater).
02	SSW↘	Close-up of accumulated rainwater along the east side of the tire Pyrolysis Ash Pile. Runoff appears to have carried Pyrolysis Ash Pile fines into this area.
03	W	Northern extent of the tire Pyrolysis Ash Pile. An ash sample was collected along the eastern slope of this pile, near its northeast extent.
04	W	Empty drums stored in the north end of the Tire Gasifier's (Pyrolysis Unit) secondary containment structure. The tire Pyrolysis Ash Pile is visible in the left background.
05	S↘	Accumulated rainwater (with petroleum sheen) and sludge within the Oil Storage Tank secondary containment structure. A liquid + sediment composite sample was collected in this area.
06	SW	(Similar to Photo #4) North end of the Tire Gasifier (Pyrolysis Unit) secondary containment structure. The containment structure has accumulated rainwater, and minor sediment. The tire Pyrolysis Ash Pile is in the right background.
07	SSW	Rainwater, along with Oil Storage Tank secondary containment structure discharges, have accumulated along the central south side of the concrete Tire Storage Area pad. The

		south from a shredded tire pile at the northern edge of the Tire Storage Area. Rainwater and leachate is ponded at the northern edge of the Tire Storage Area (foreground).
15	NW	Two drums located northwest of Evaporator. There was a prominent petroleum naphtha odor in this area. The upright drum is essentially empty. The horizontal drum contained 6- to 8 inches of liquid when the drum was set upright (the drum's vent plug was missing). The horizontal drum's contents were sampled. Function of the three pipelines (center, and right center) is unclear. All three are apparent underground lines that terminate above ground. The pipe at the photo's center (partially obscured by a sapling) has two 90° bends and a funnel at its terminal end, suggesting that it may have been used as a feed line. The rusty steel 6-inch diameter pipeline terminates pointing northward, toward nearby Salmon Creek (in the tree line).
16	S	Seven drums (six are palletized) at the north end of the Wastewater Storage Tank area. The drum in foreground is empty (not on a pallet). The northwest palletized drum contained an heavy-black-oil coated plastic tarp. The two easternmost drums contained small amounts of liquid, or tar-like sludge. The northeast drum, containing 4- to 6 inches of black, viscous tar (with a strong, aromatic petroleum odor) was sampled.
17	E	(Camera was rotated 90°, counterclockwise) Discolored soils at the apparent southeast corner of the western Wastewater Pond. A surface soil sample was collected a short distance to the south (right) of this area. The discoloration may be due to rainwater-runoff-borne fines from the Pyrolysis Ash Pile (to the right, out of view).
18	NW↘	Discolored, tightly compacted, cracked and eroded, fine sands at the apparent central eastern end of the western Wastewater Pond. (a BIC® ballpoint pen was placed on the surface to indicate scale). Surface soils were sampled in this area.
19	SW↘	A nearly dry, iron-stained drainage ditch



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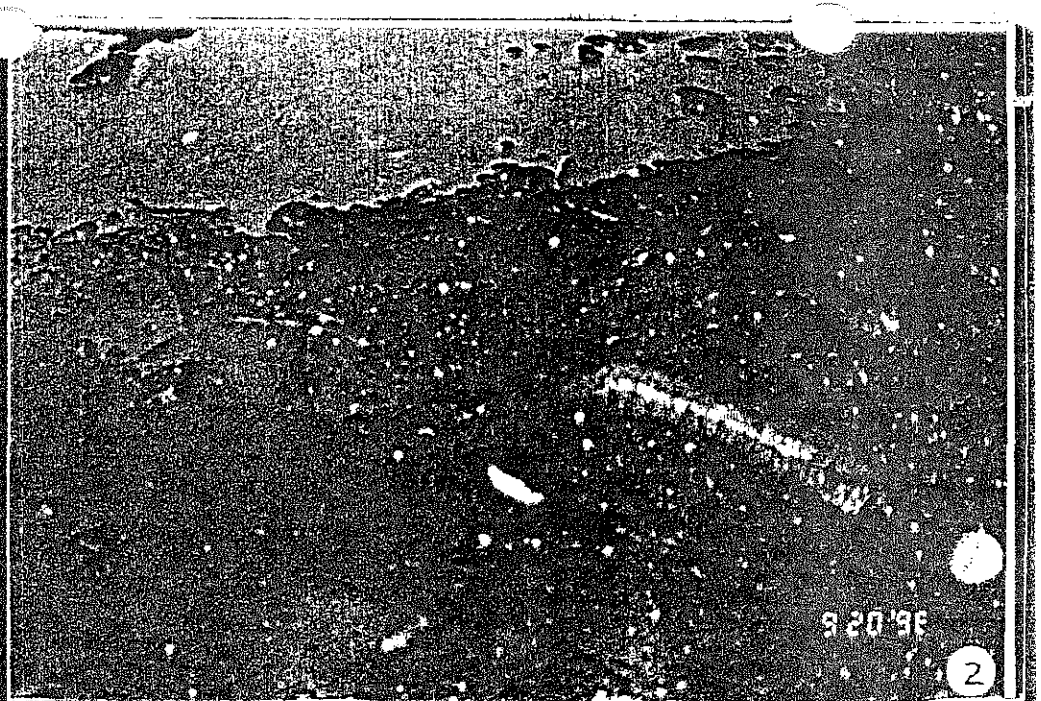
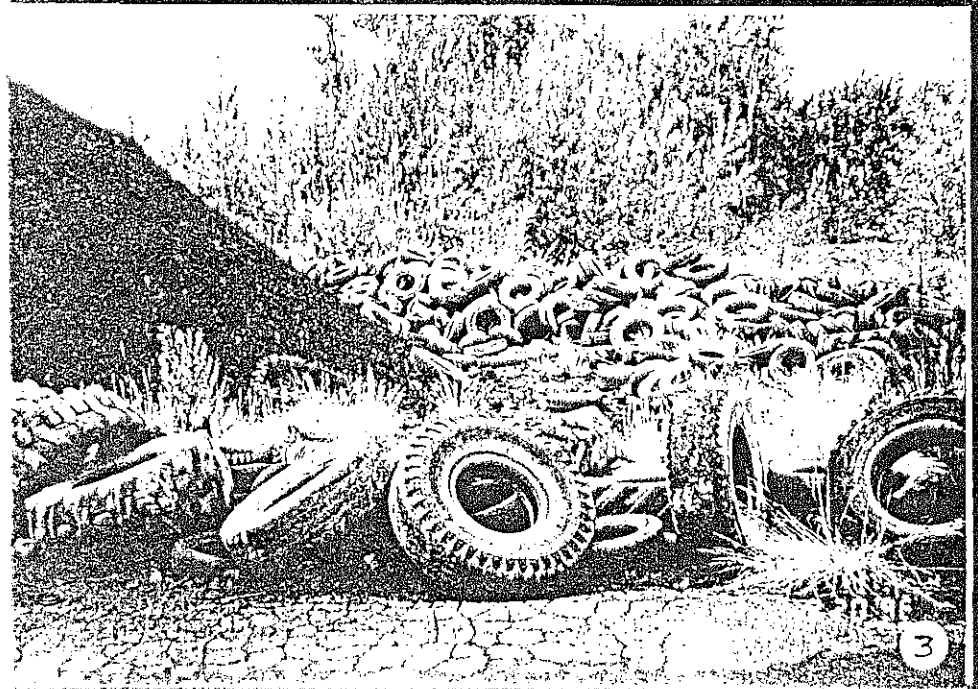


2

RMAC International, Incorporated
3601 NW Marine Drive
Troutdale, OR 97060

Site Visit: September 20, 1996 (AM)



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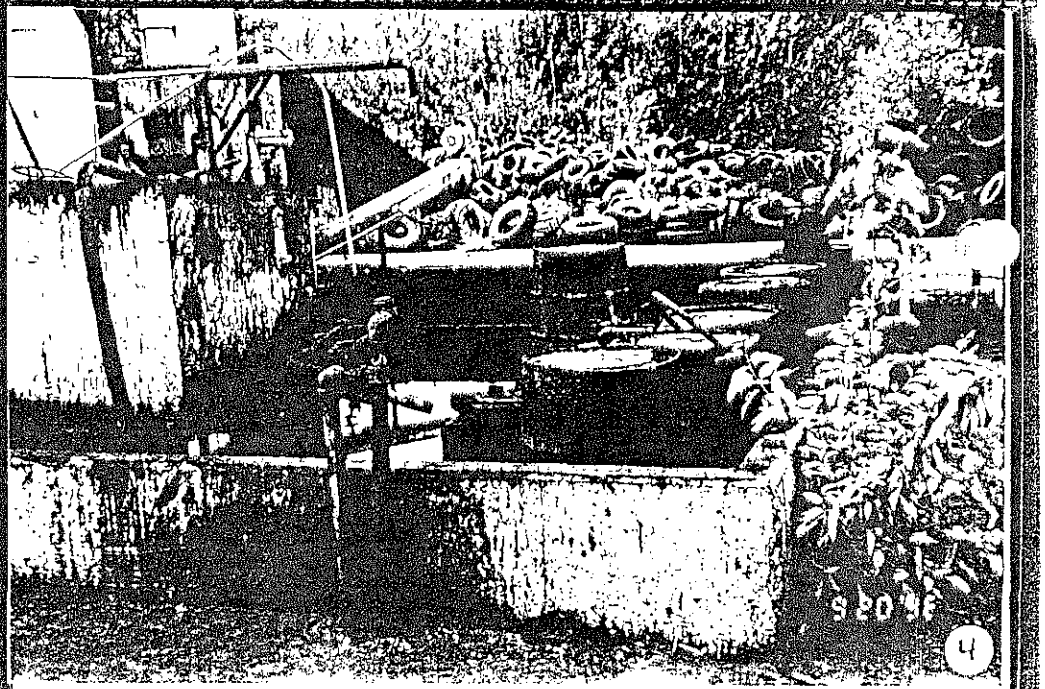

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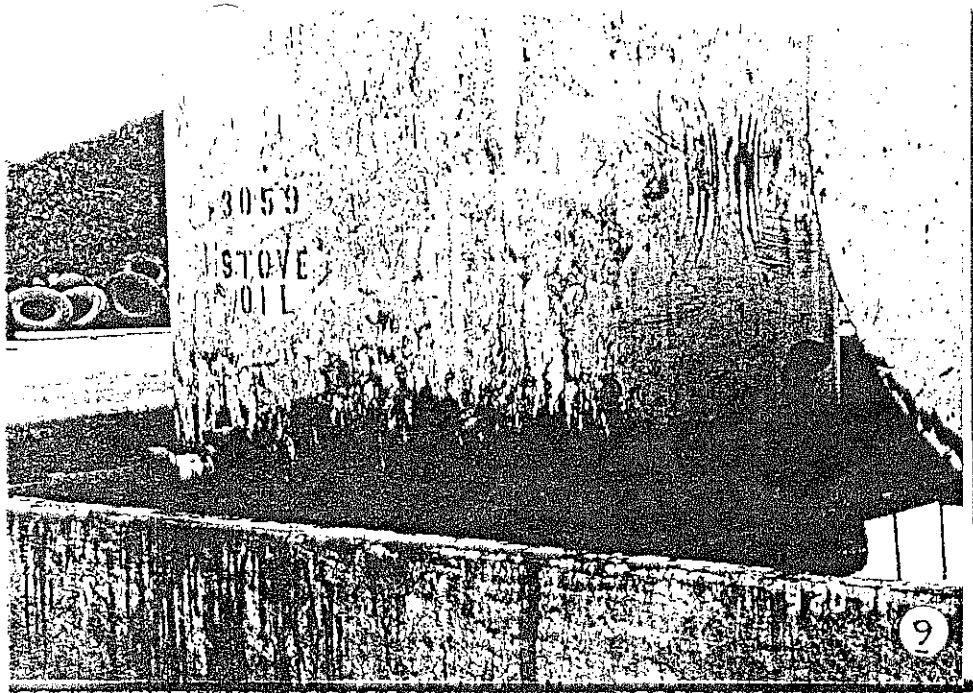

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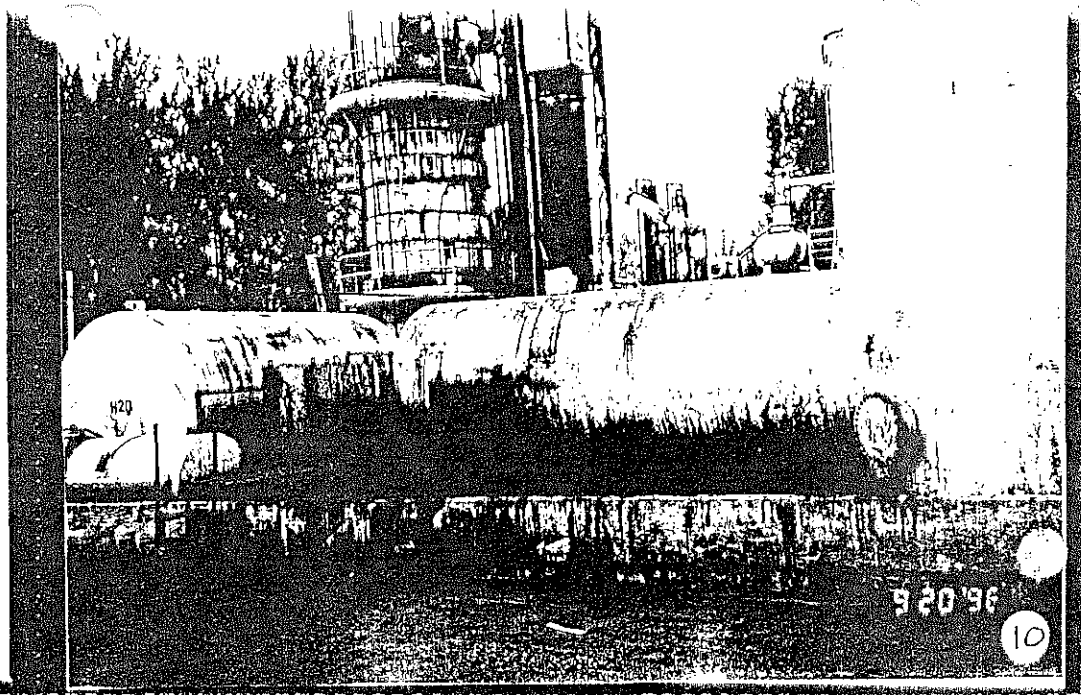

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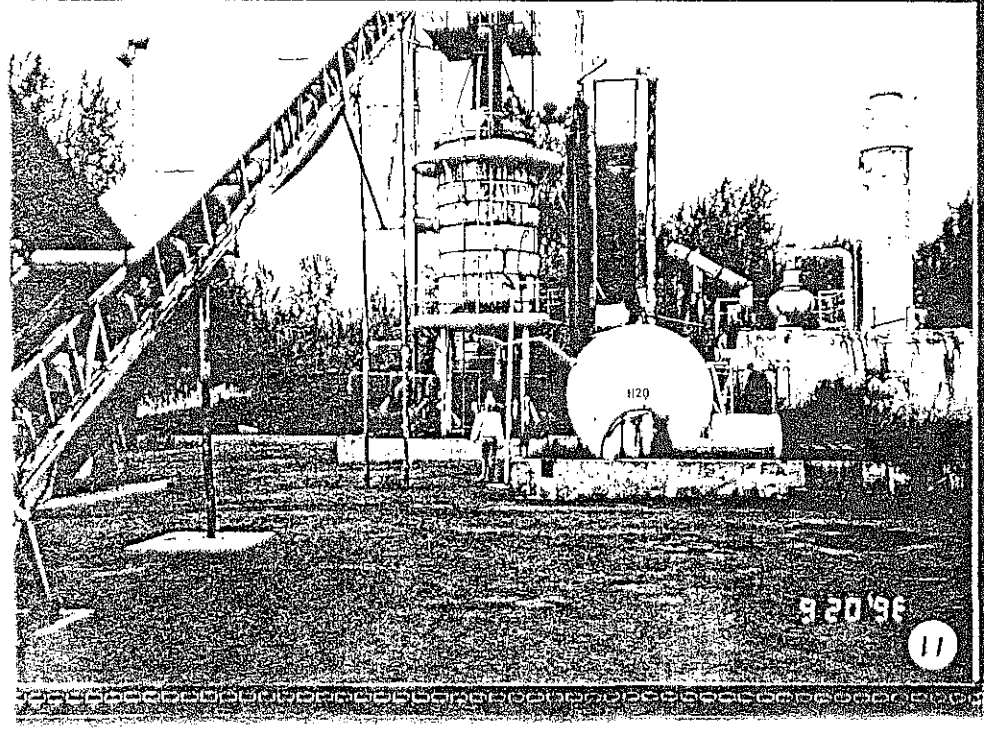
RMAC International, Incorporated
3601 NW Marine Drive
Troutdale, OR 97060

Site Visit: September 20, 1996 (AM)



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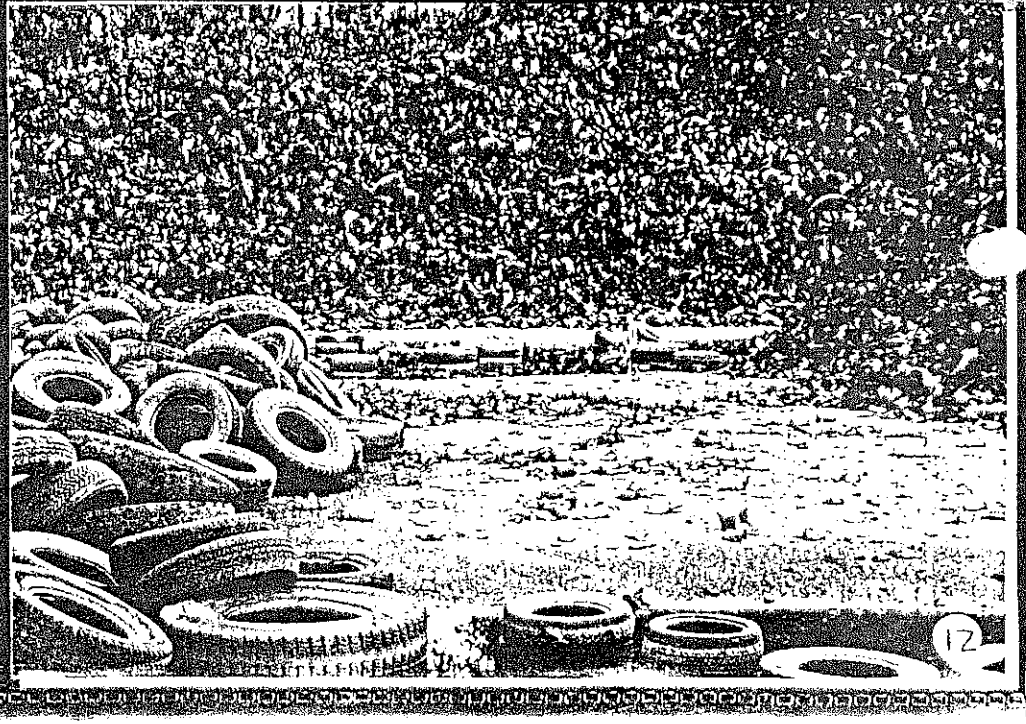

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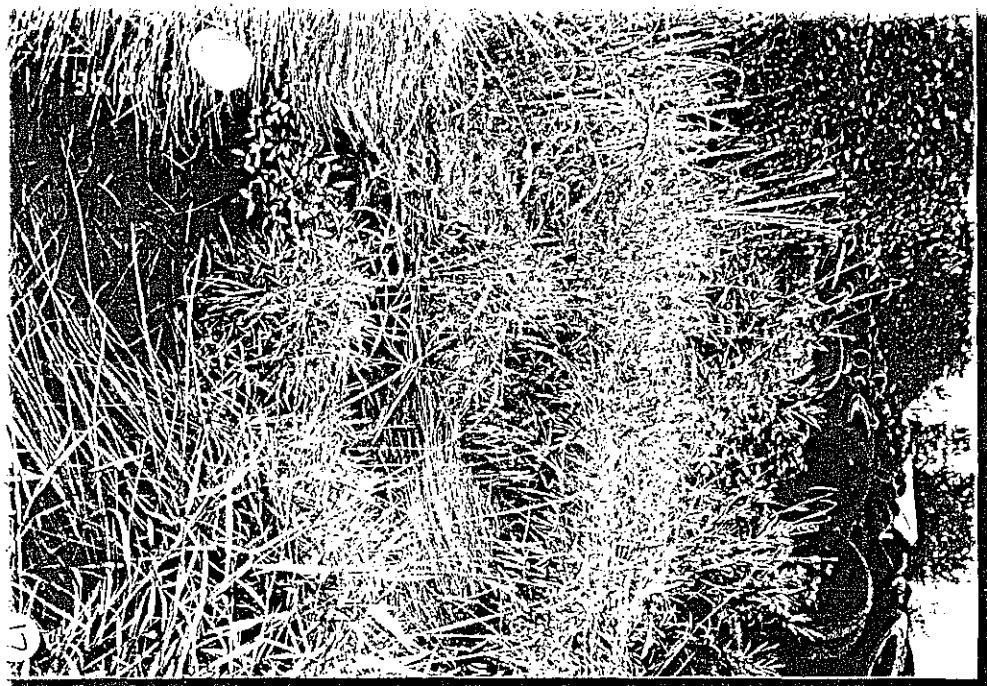

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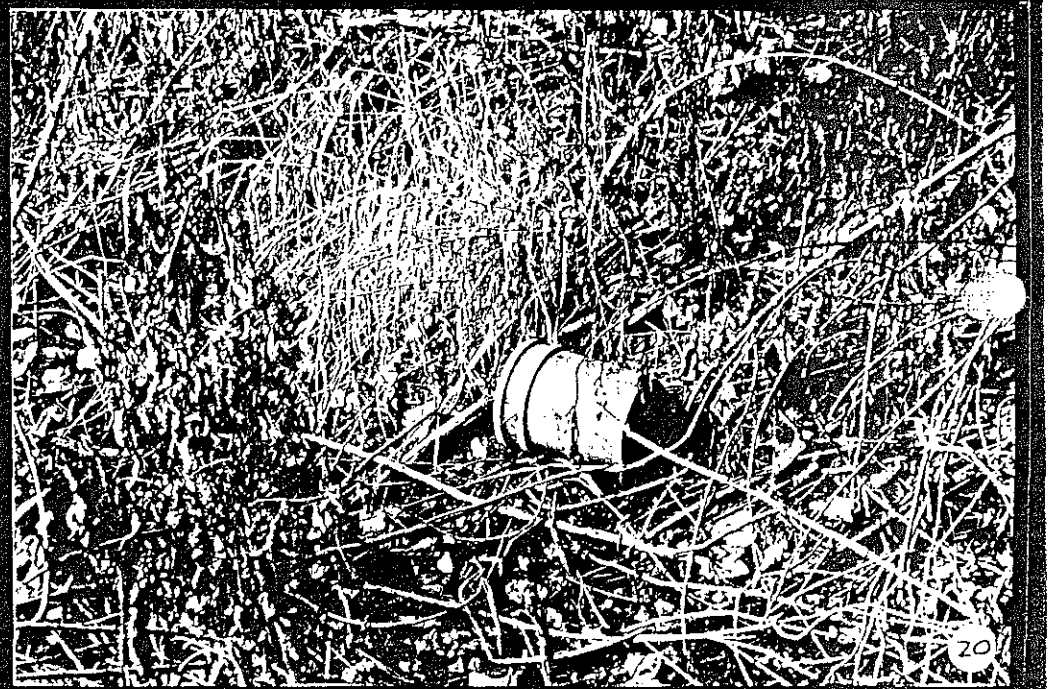
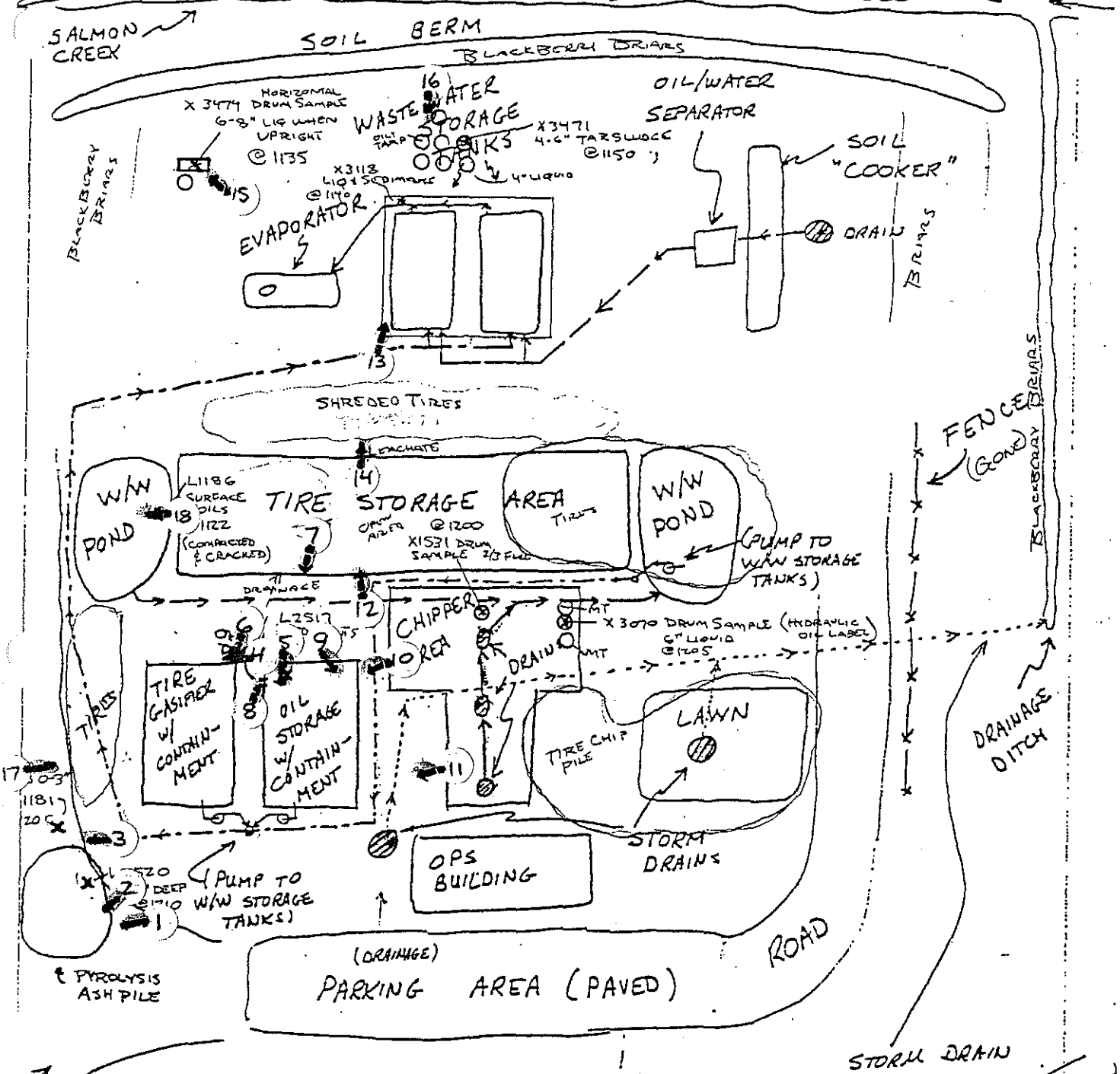


SITE SKETCH — RMAC INT'L, INC.



ENTRANCE TO SITE

W/W = WASTEWATER

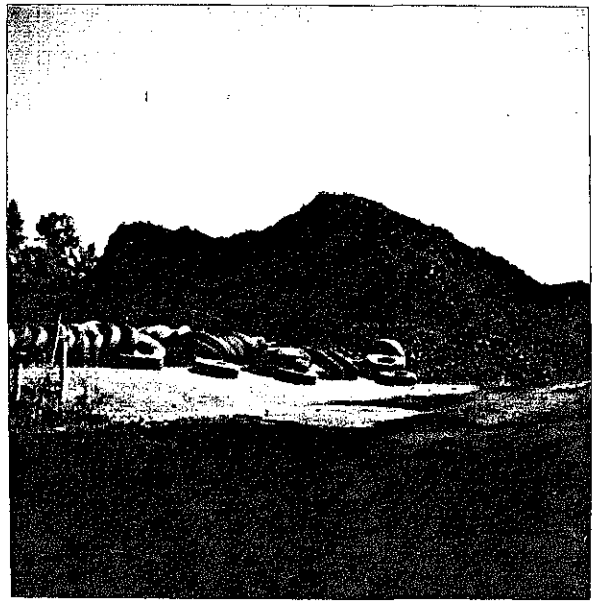
STORM DRAIN DISCHARGES TO DRAINAGE DITCH

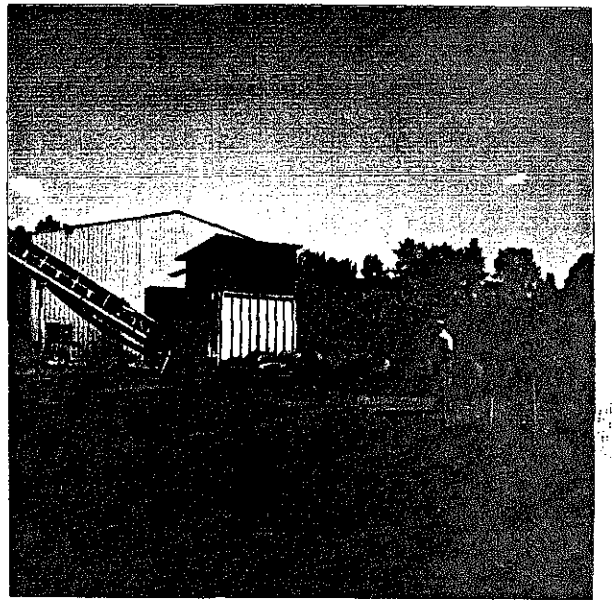
RAILROAD TRACK

SITE INSPECTION 1/31/92
BY GEORGE DAVIS, DEQ NWR/WQ

PHOTO LOCATIONS

SAMPLING POINTS 9/20/96
SM





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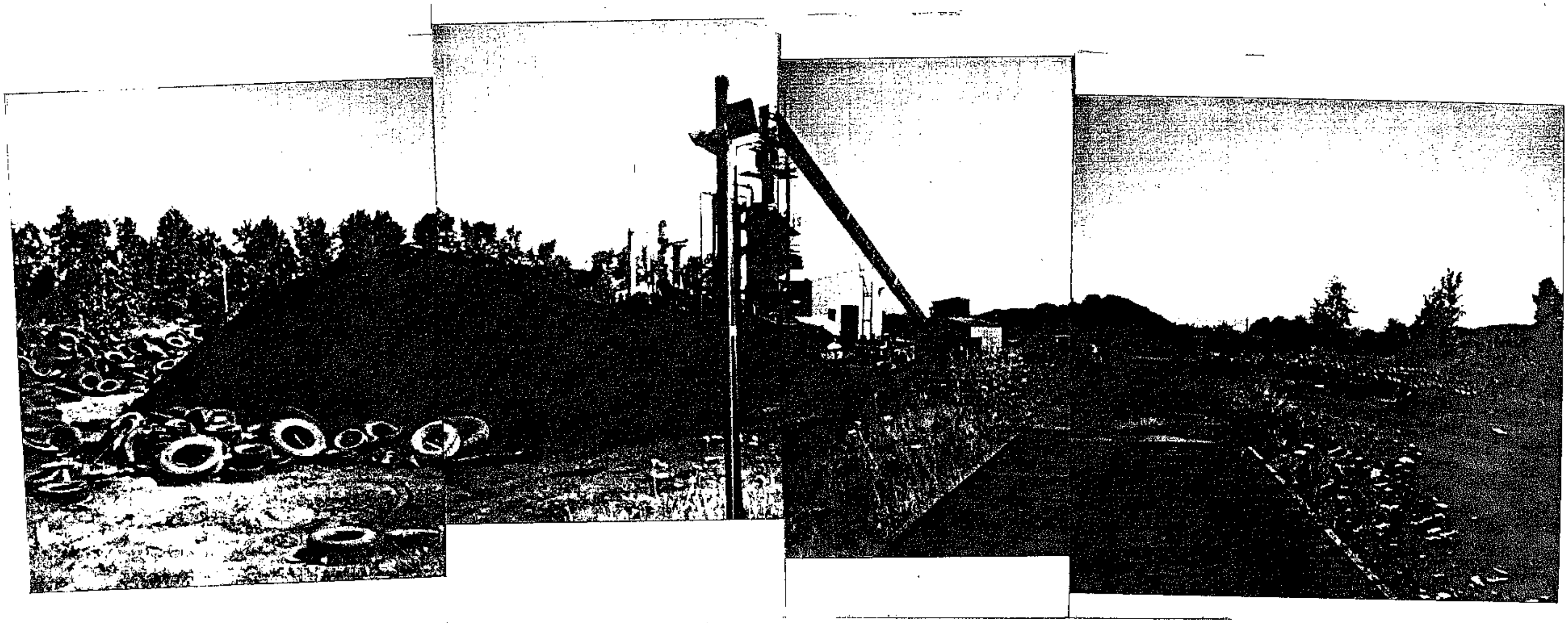

RMAC Site

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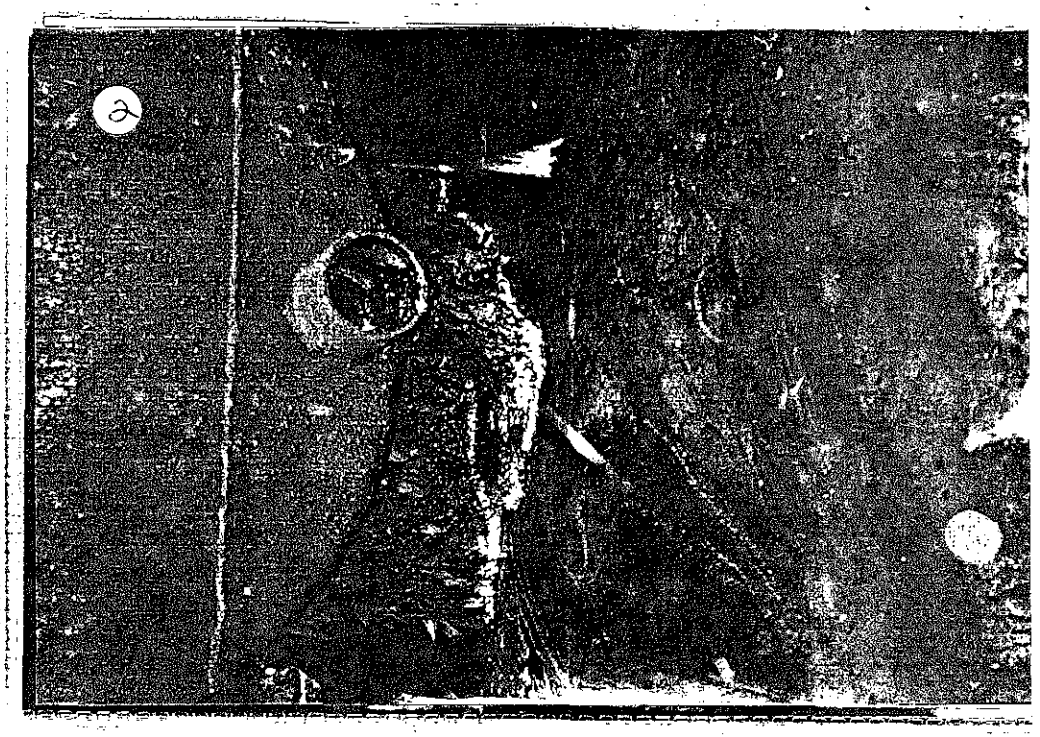
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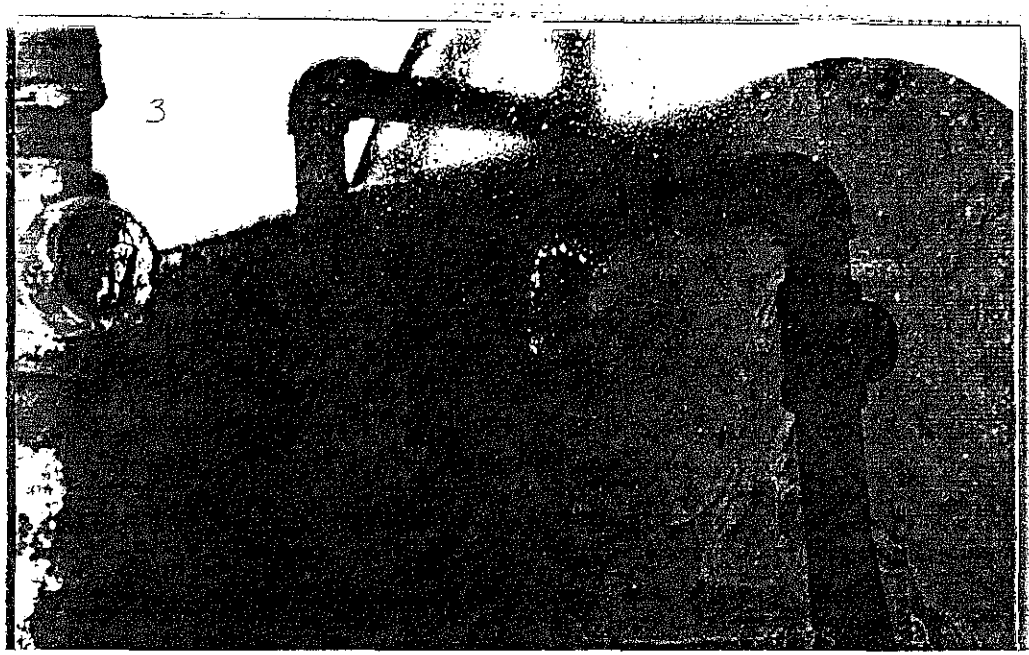
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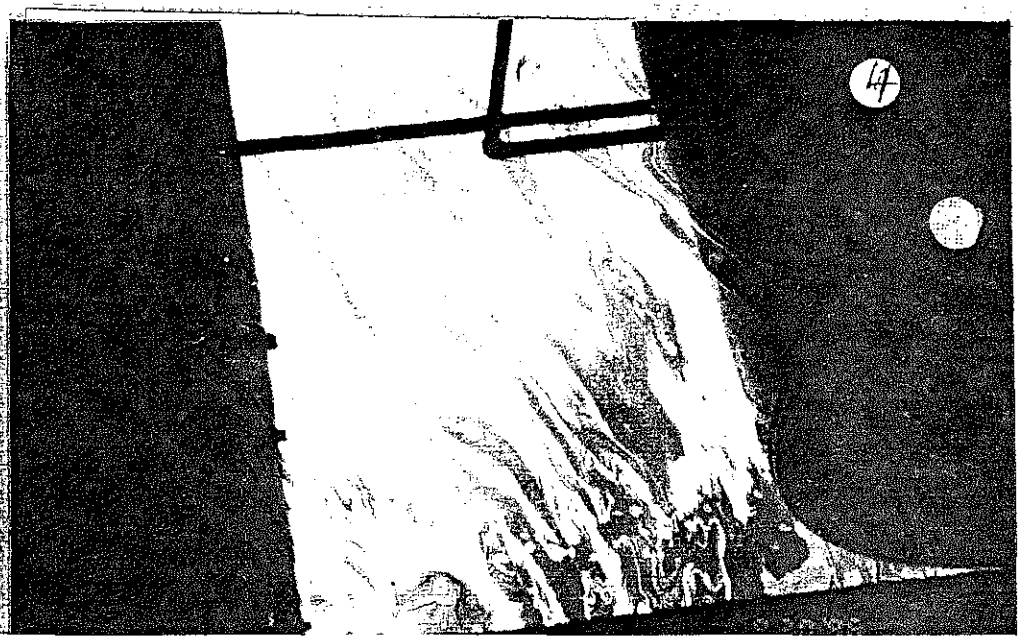
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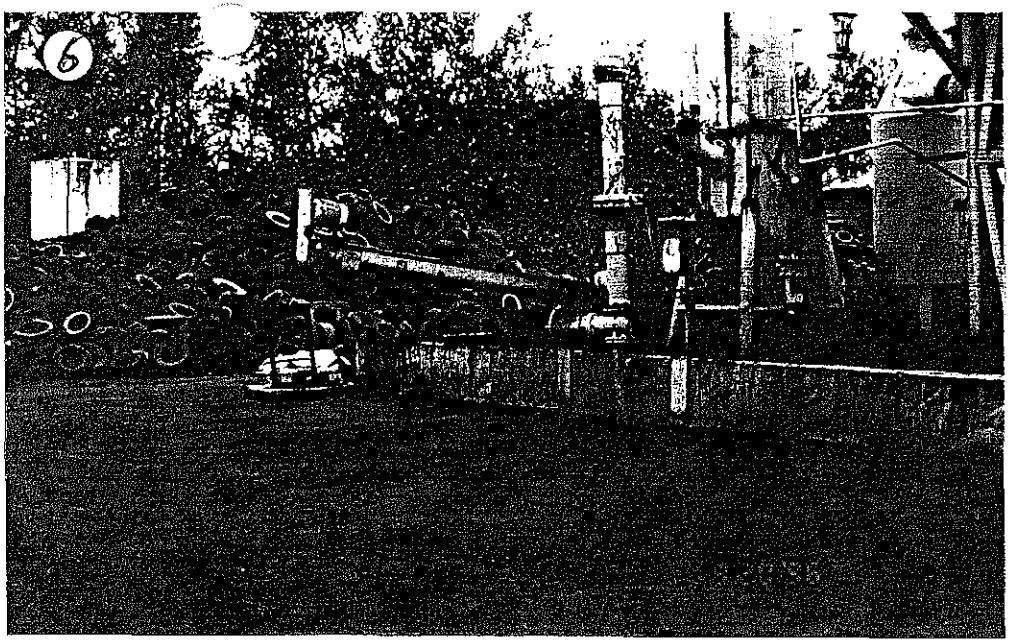
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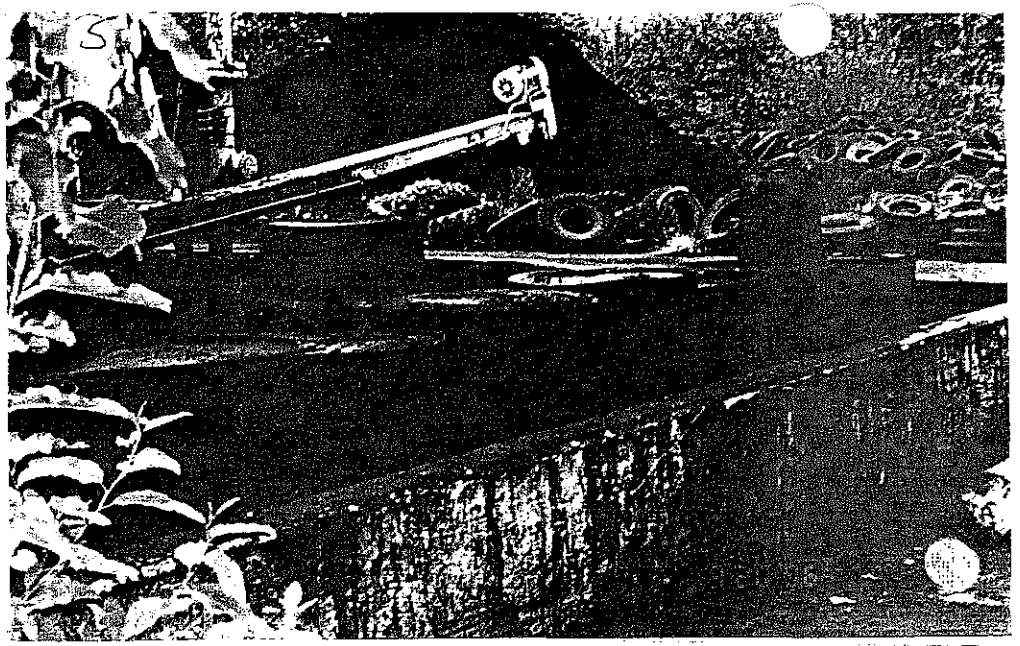
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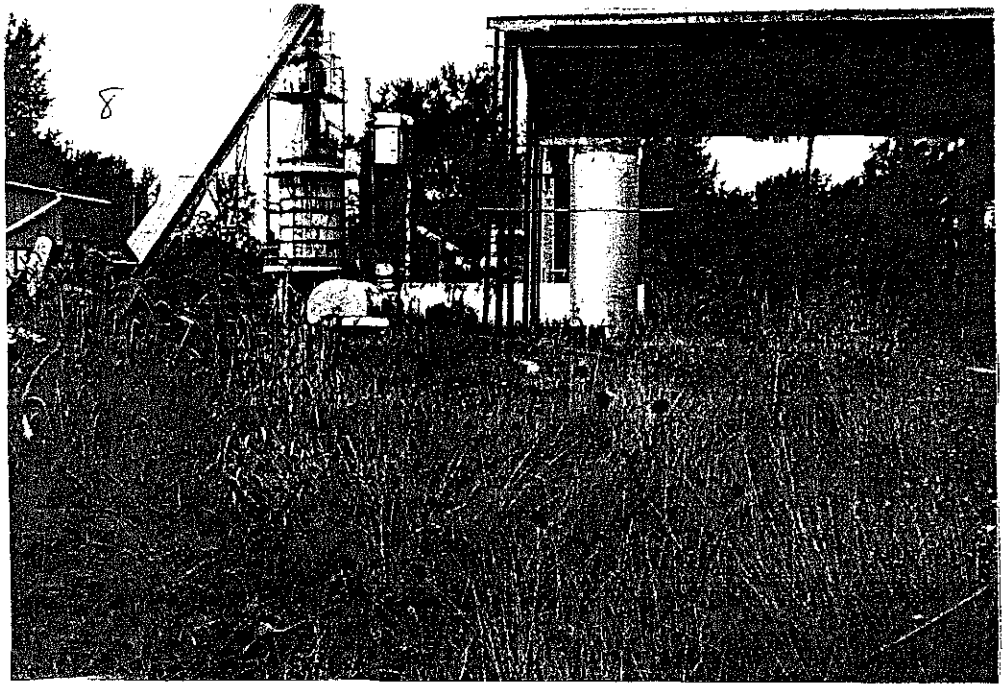
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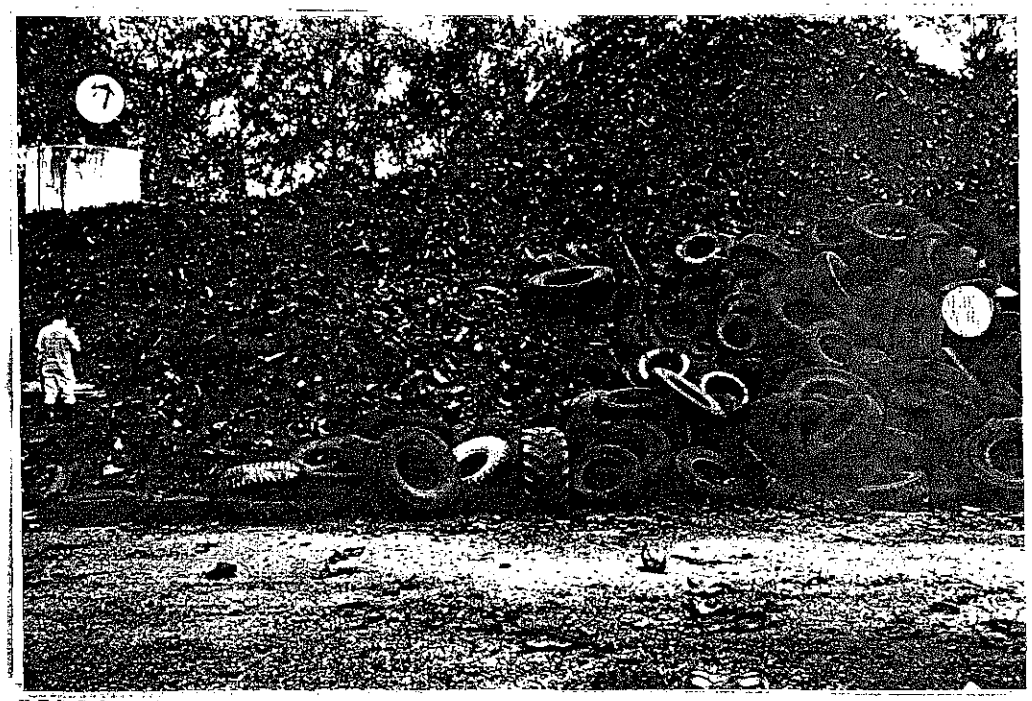
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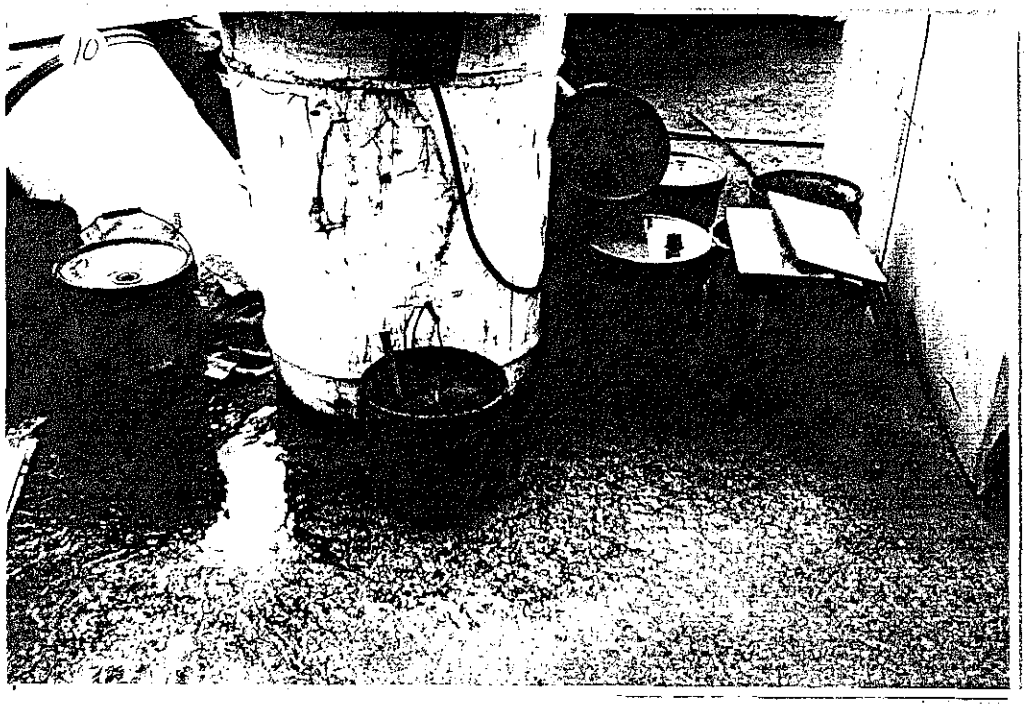
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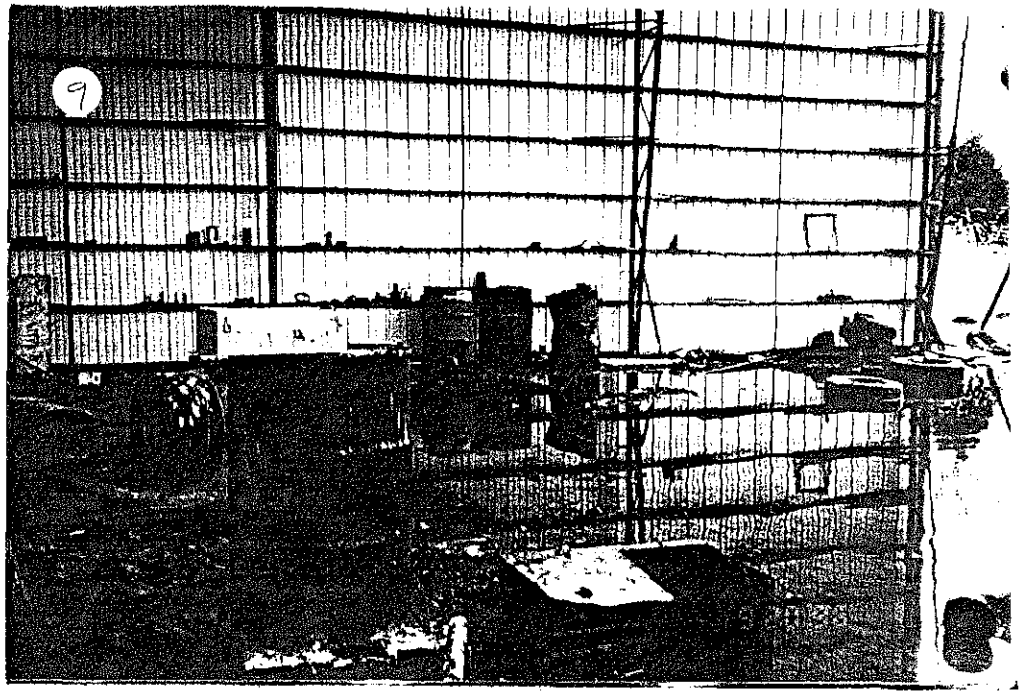
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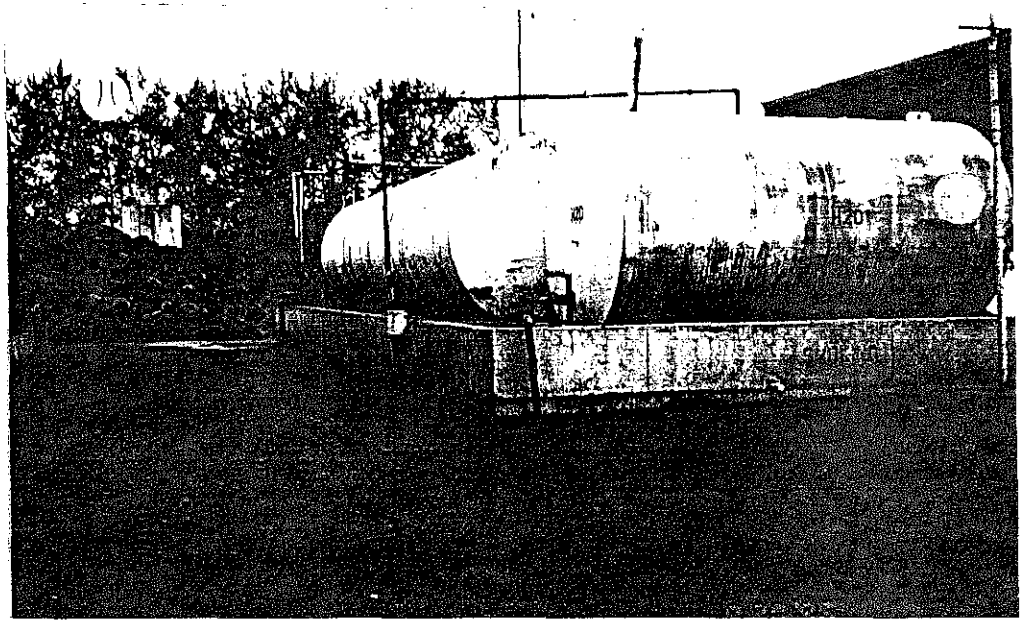
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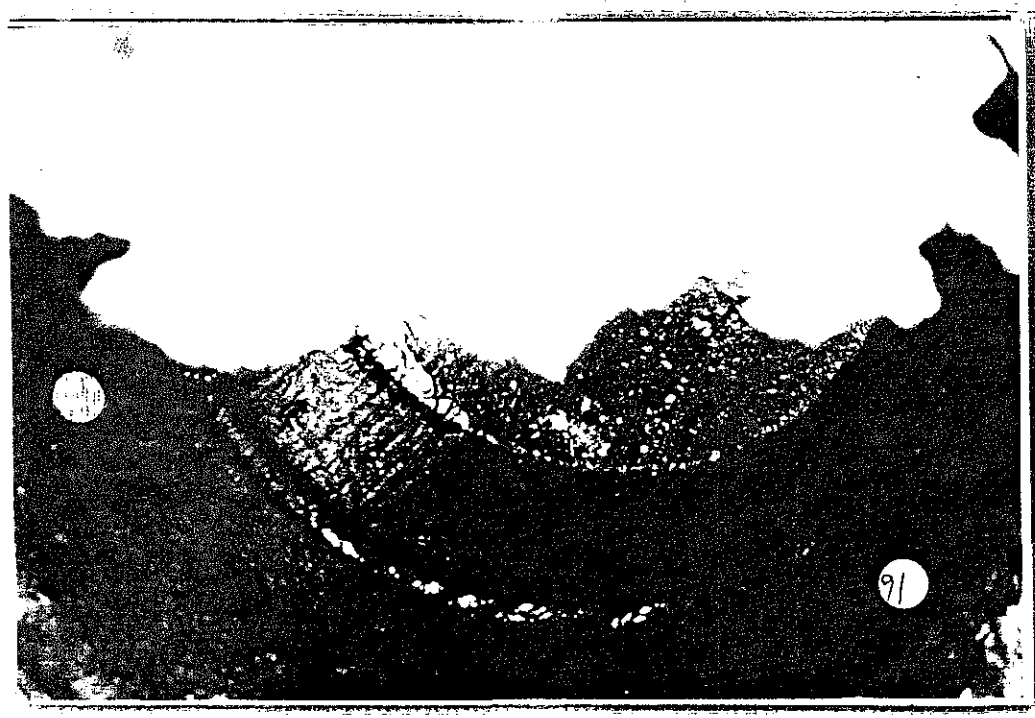

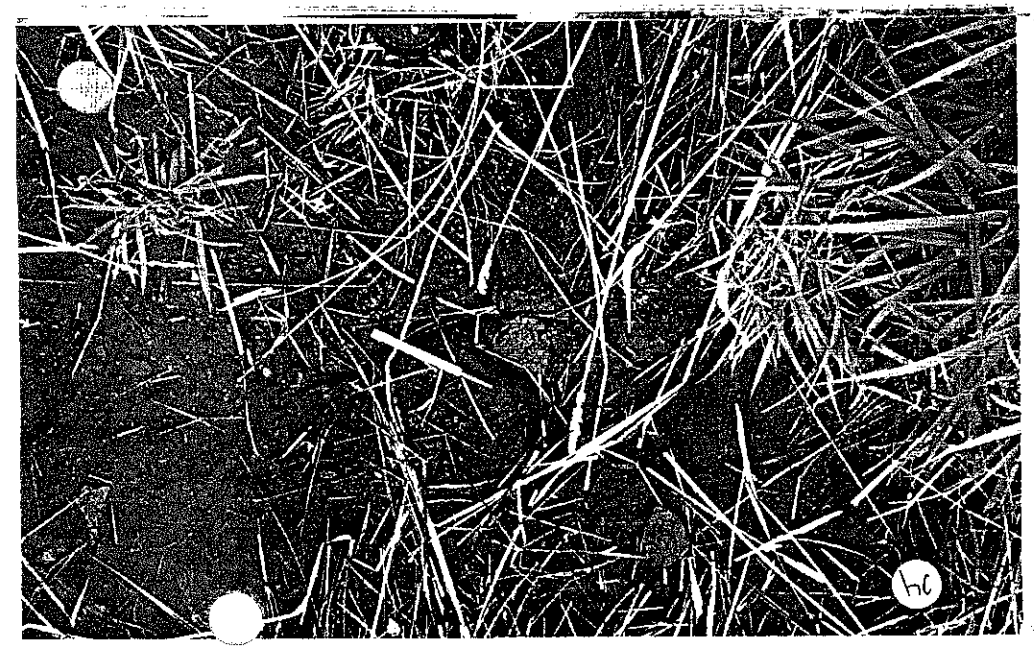

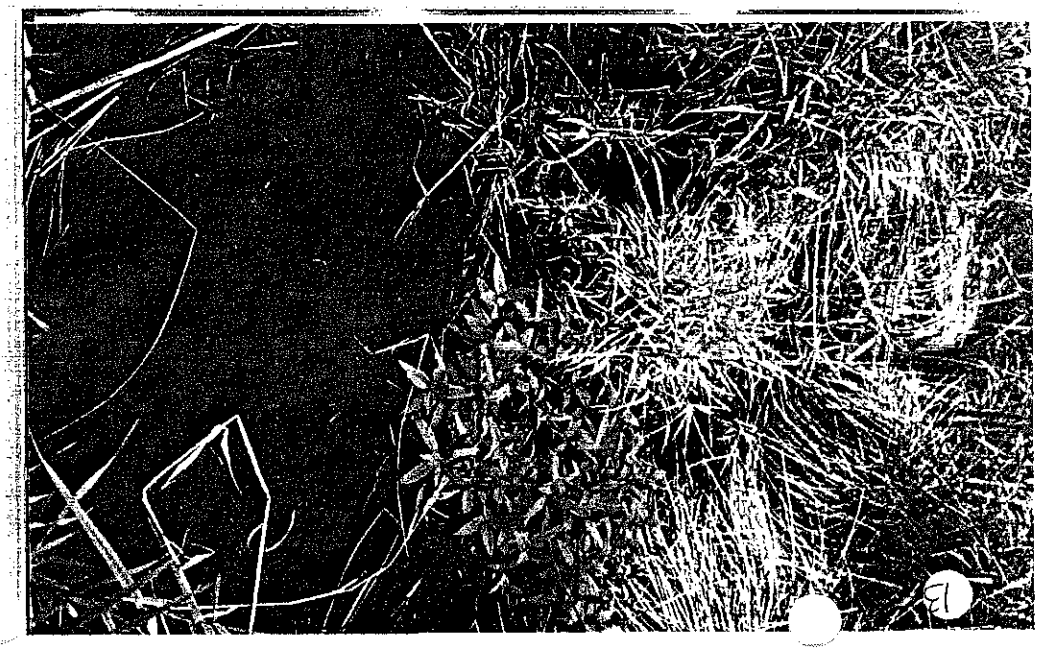


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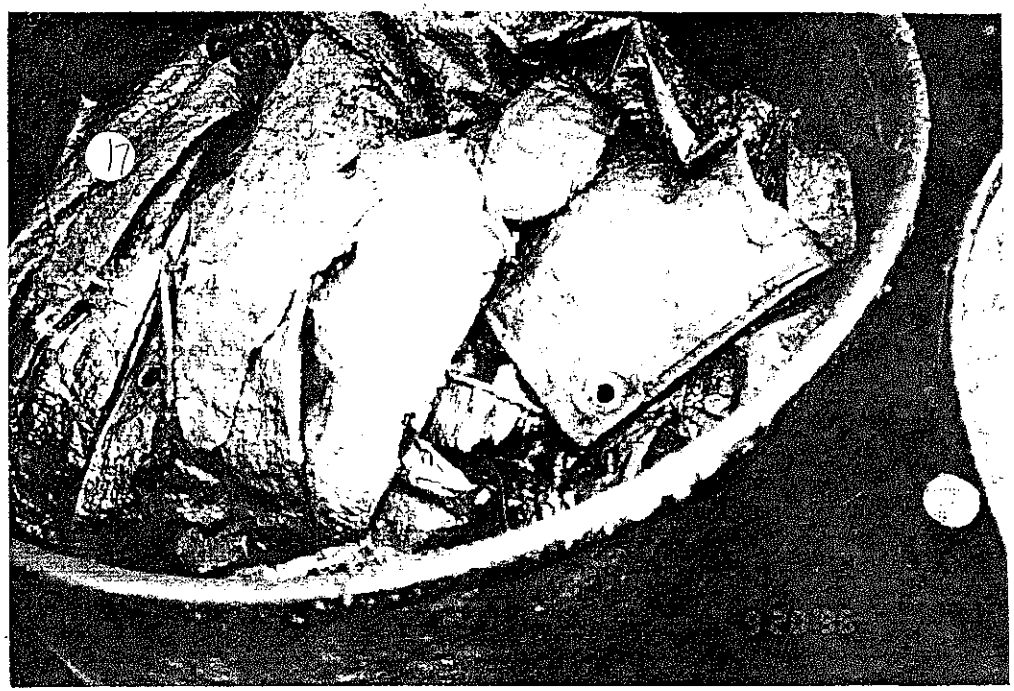
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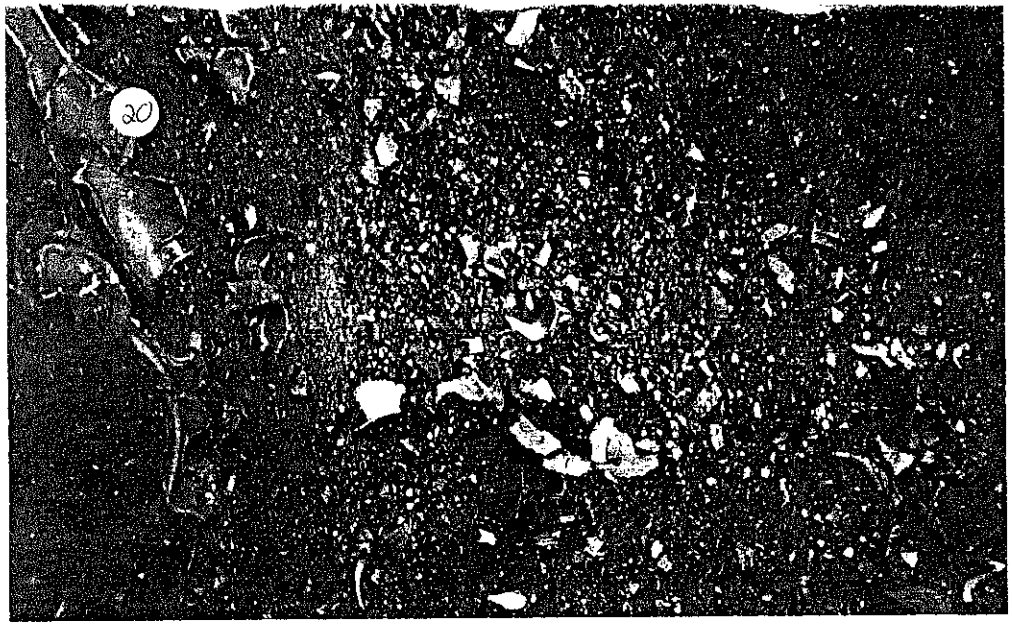
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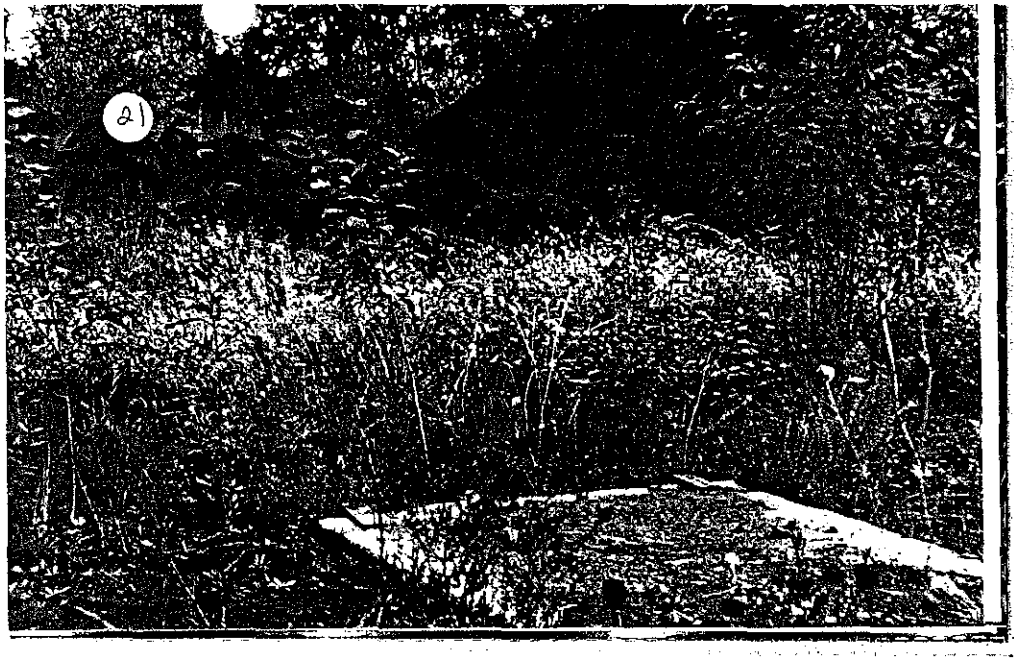
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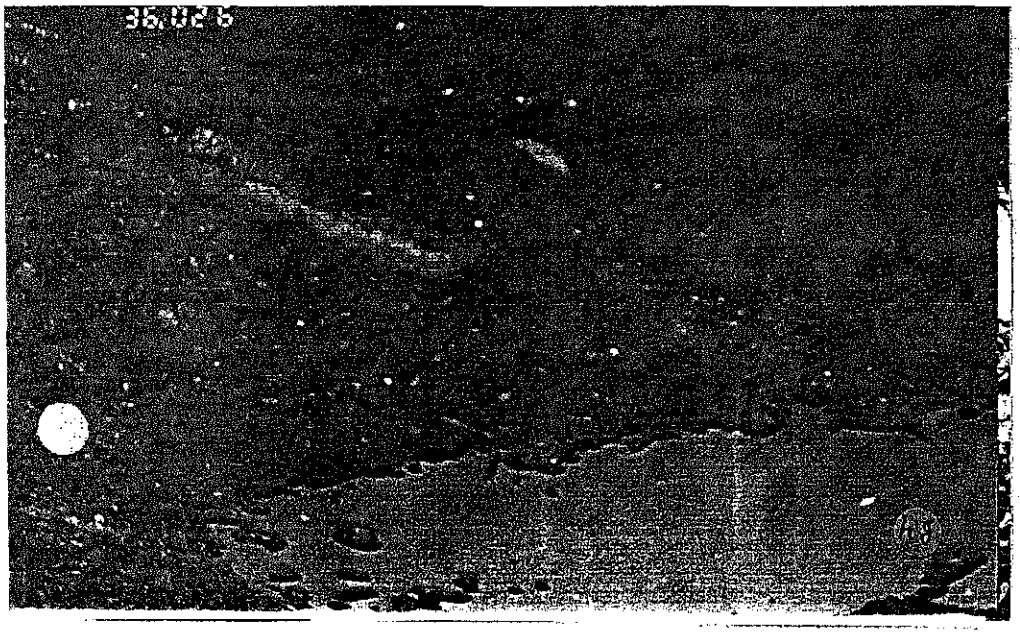
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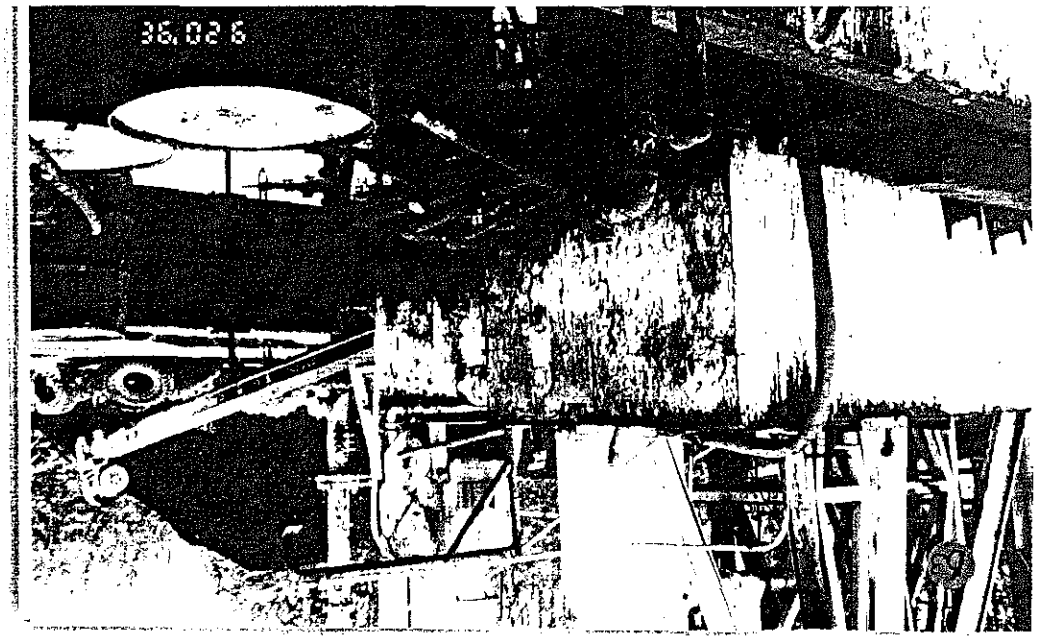
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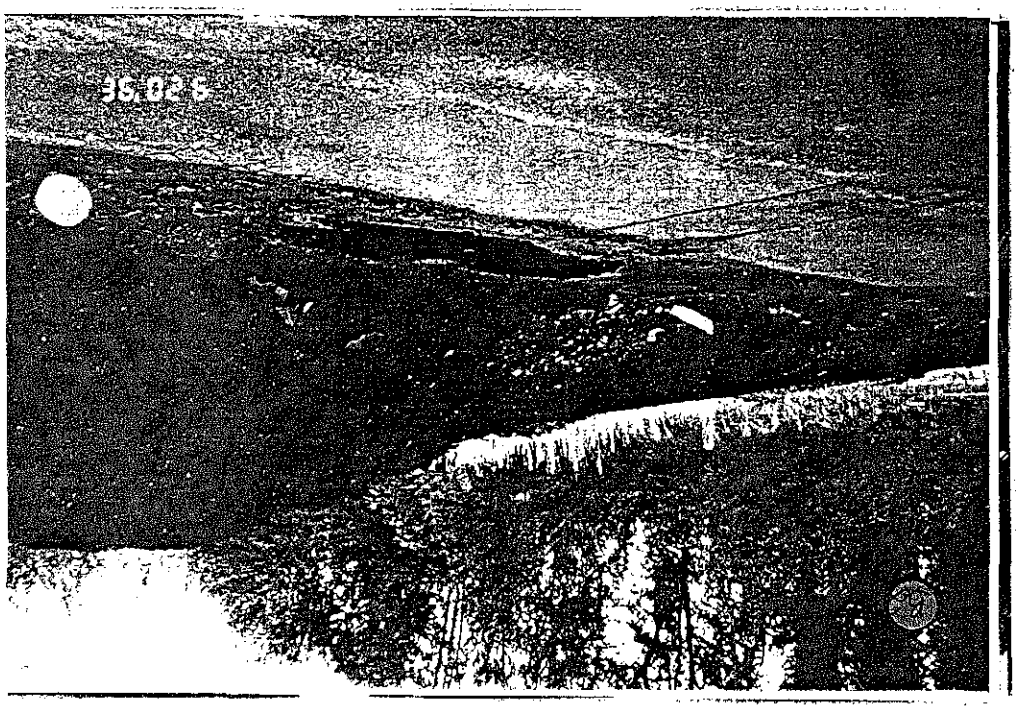
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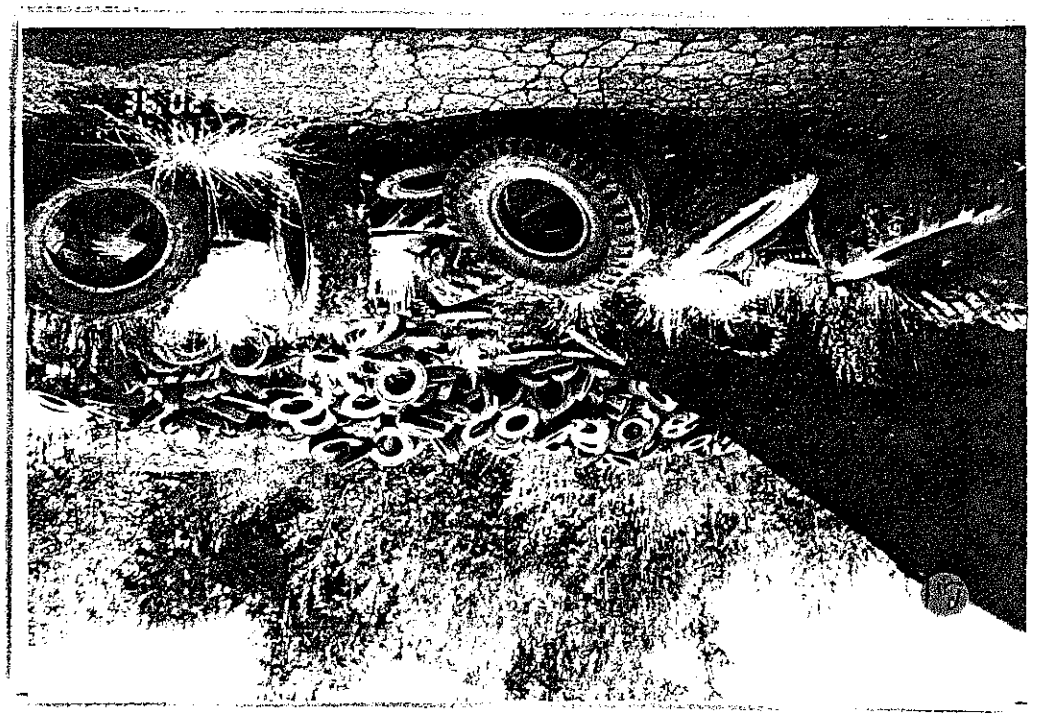
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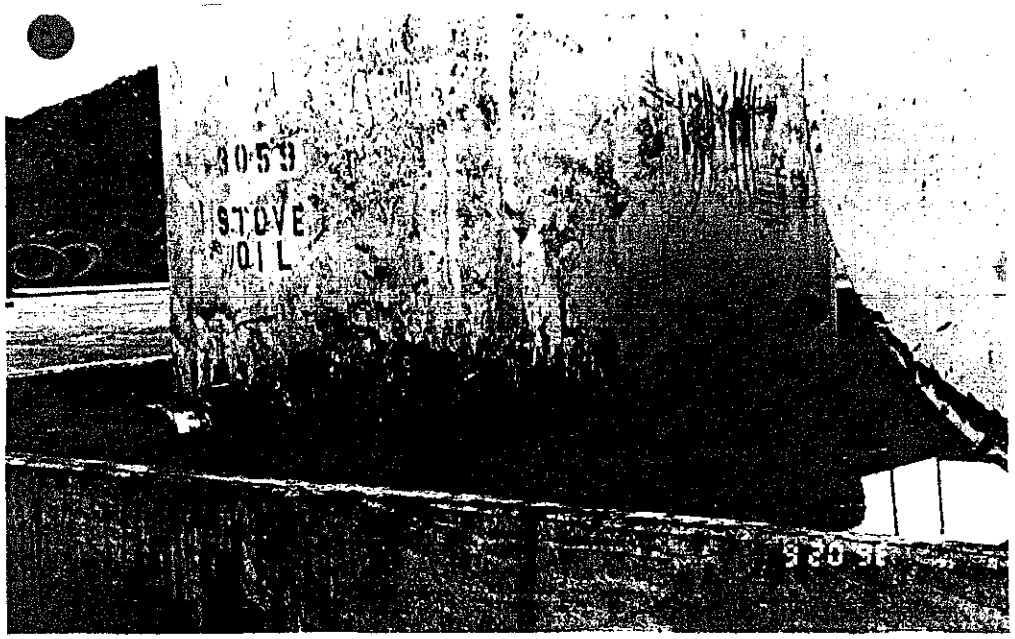
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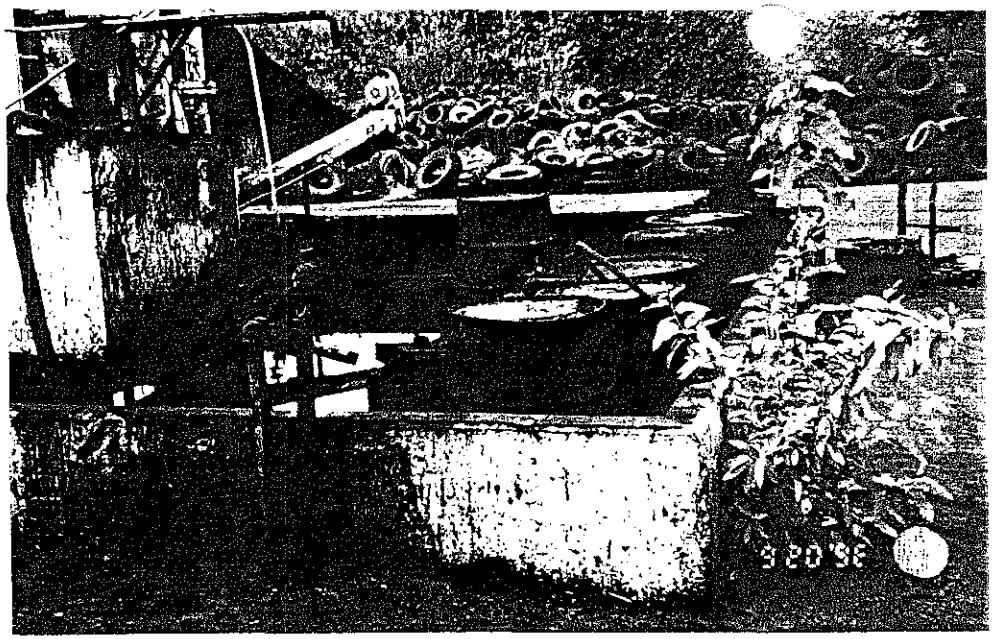

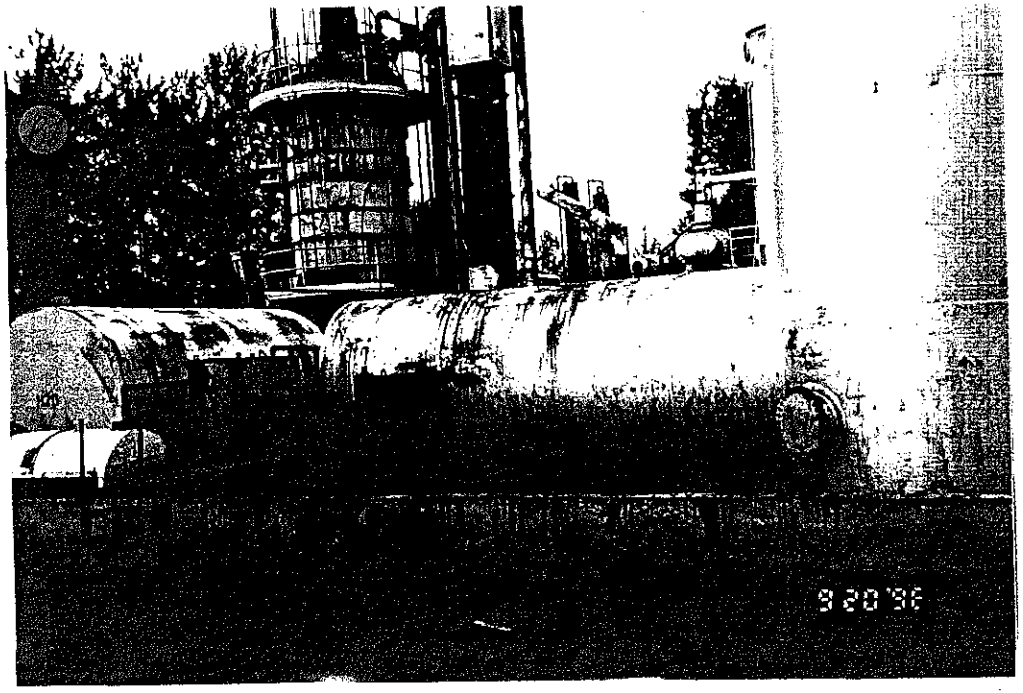

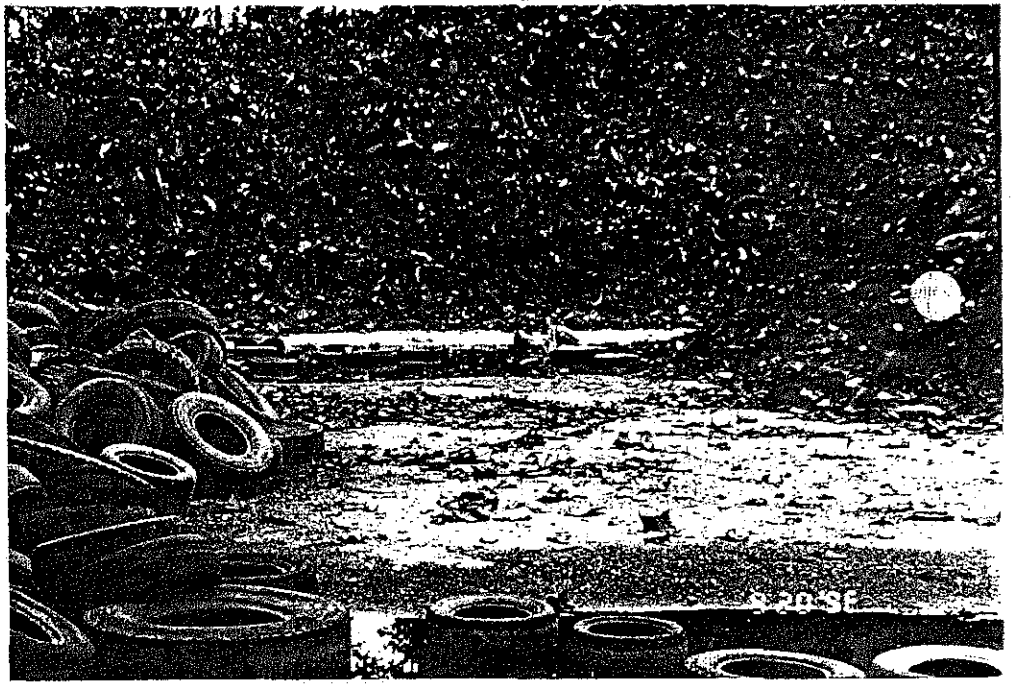

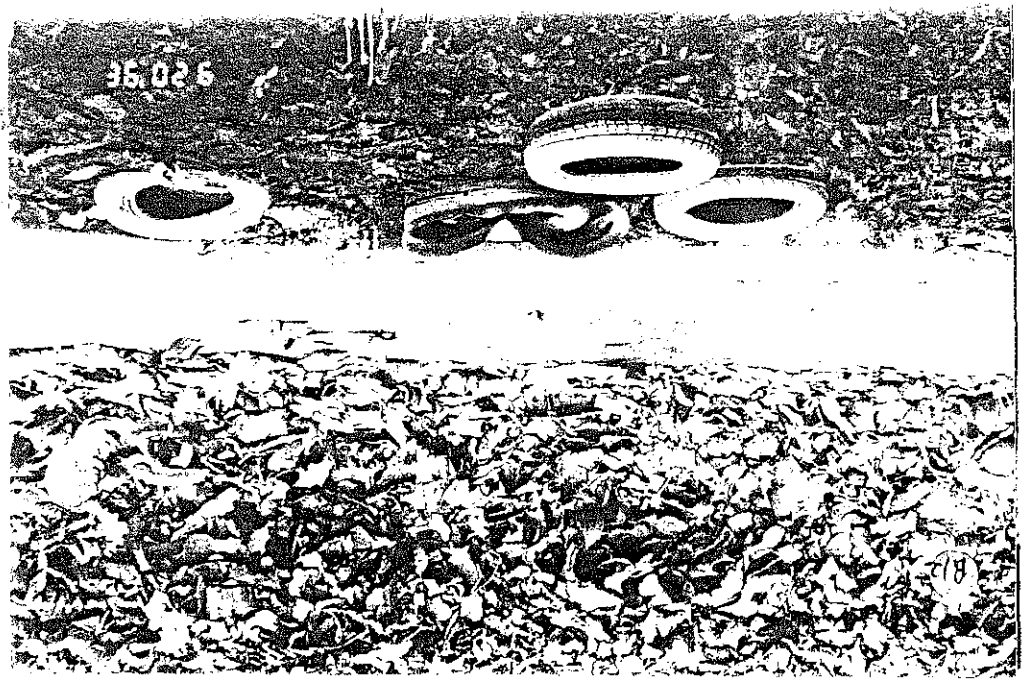
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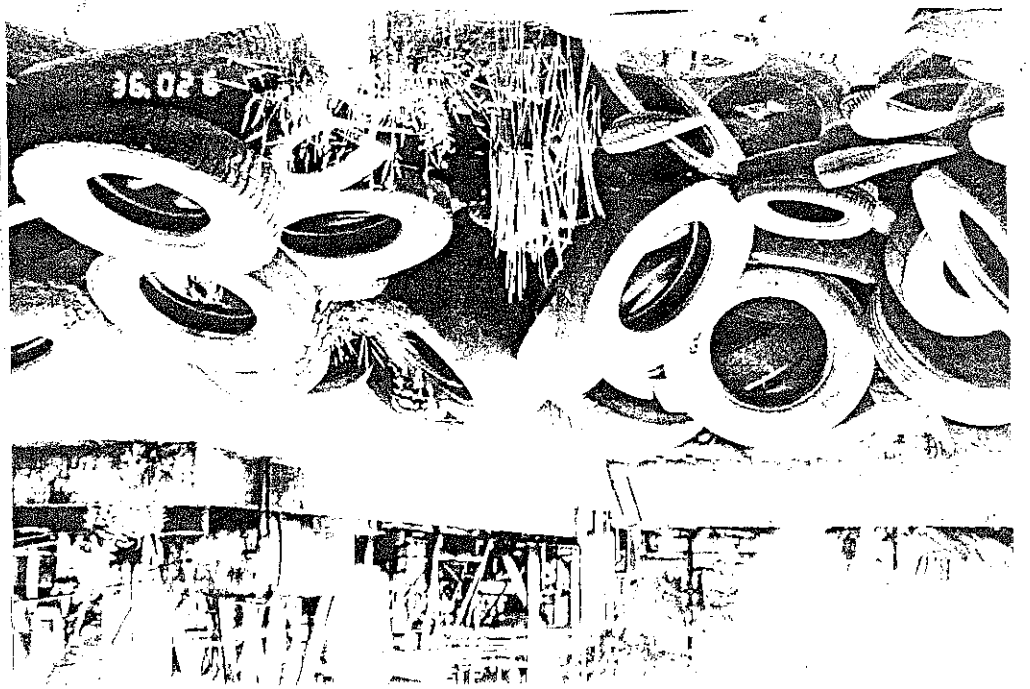
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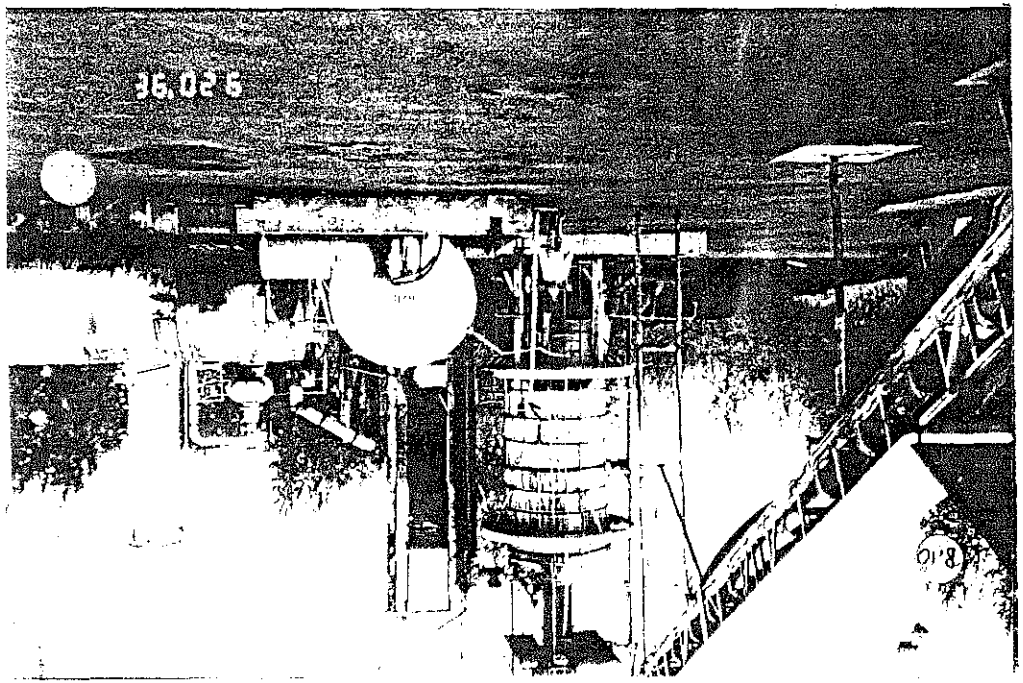
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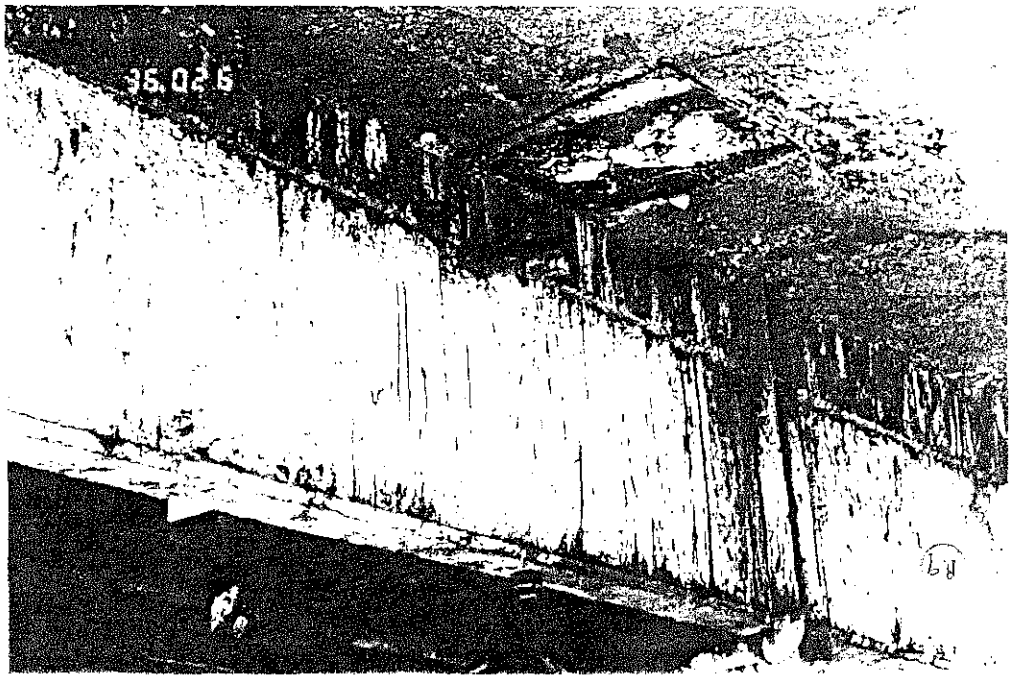
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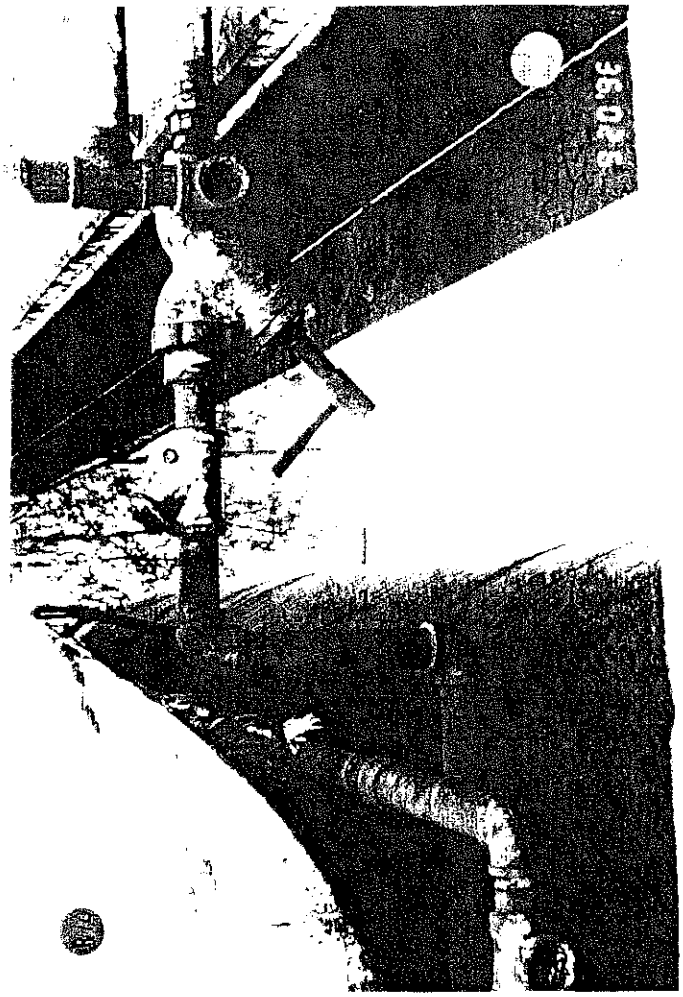

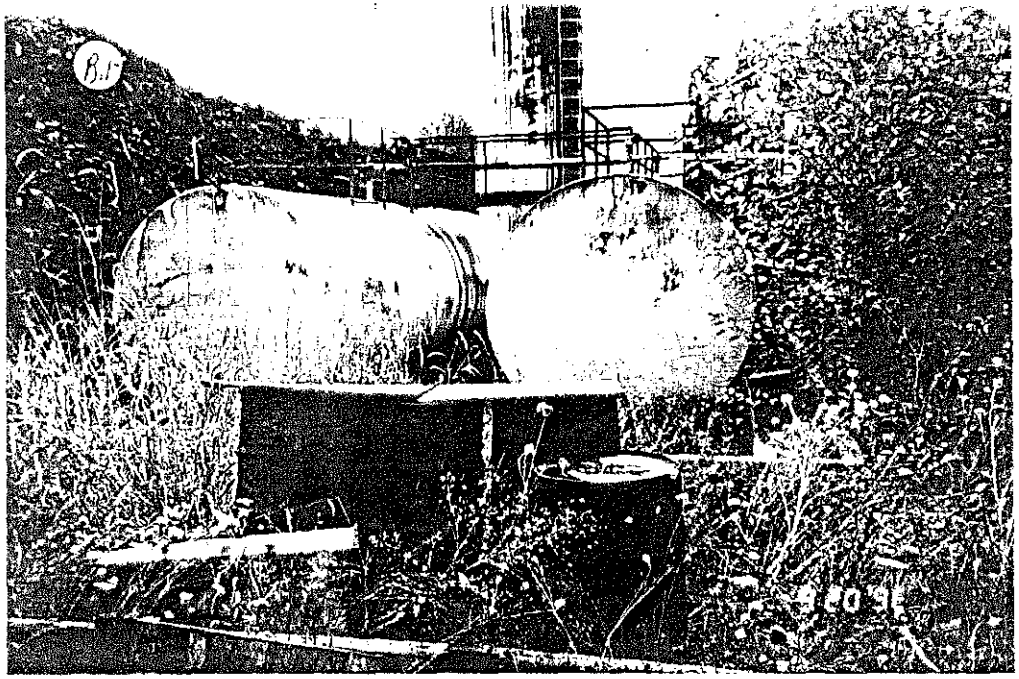

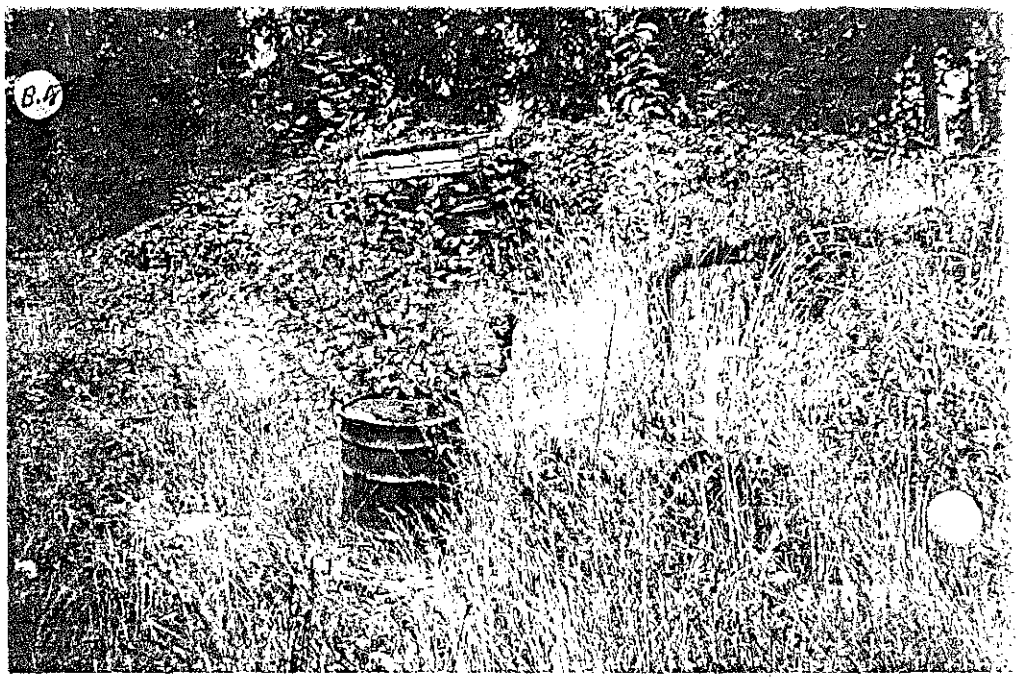

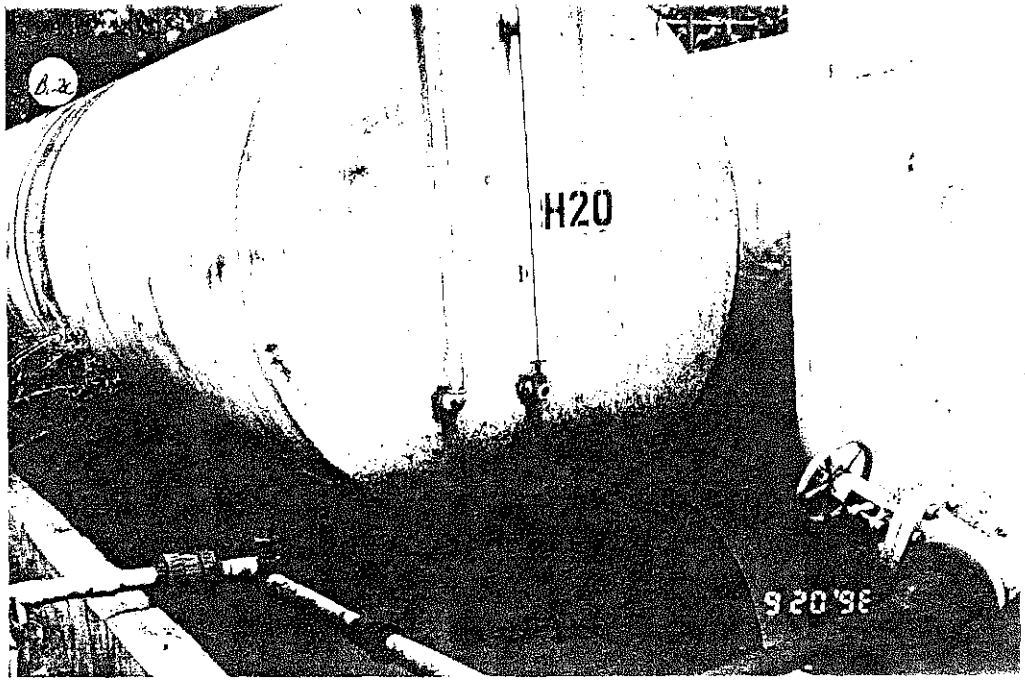
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MAY 4 1995

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENFORCEMENT SECTION

John R. Spencer
P.O. Box 1803
Tacoma, Washington 98401-1803

Don Weege/RMAC International, Inc.
c/o Capitol Realty
101 S.W. Main, Suite 905
Portland, OR 97204

Larry Edelman
Assistant Attorney General
Oregon Department of Justice
1515 S.W. Fifth Avenue, Suite 410
Portland, OR 97204

RE: Notice of Abatement and Department
Order No. SWWT-NWR-95-060
Multnomah County

This is to confirm that we will all meet in an informal discussion meeting for the case listed above on Thursday, May 18, 1995, at 1:30 P.M., in the Oregon Department of Justice conference room, fourth floor, 1515 S.W. Fifth Avenue, Portland.

DEQ staff planning to intend include Fred Bromfeld and Chuck Donaldson of DEQ's Western Region, and Van Kollias and I from the Enforcement Section.

Mike Buren of the Oregon Department of Transportation also plans to attend, and I have said we will ask him to join the meeting with all the parties after 2:00 p.m., between 2:00 and 2:30. Lucy Kivel of Preston Gates Ellis, representing Key Bank of Oregon, has also been invited to attend after 2:00 p.m., between 2:00 and 2:30 p.m.

Sincerely,

Larry Cwik

Larry Cwik
Environmental Law Specialist
Enforcement Section
(503) 229-5728
(800) 452-4011, extension 5728

cc: Fred Bromfeld, DEQ
Chuck Donaldson, DEQ
Van Kollias, DEQ
Mike Buren, ODOT
Lucy Kivel, Preston Gates Ellis

2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5528
TTY (503) 229-5471
DEQ-1

Attachment 7- 1 page

LAW OFFICES
JOHN R. SPENCER
ATTORNEY AT LAW

16600 CENTERFIELD DR. SUITE 202
EAGLE RIVER, ALASKA 99577
(800) 794-4548 FAX 907-694-1807

COPY FOR YOUR INFORMATION

May 1, 1995

Ms. Lydia Taylor
Interim Director
Oregon Department of Environmental Quality
811 SW Sixth Ave
Portland, Oregon 97204-1390

Re: Notice of Abatement No. SWWT-NWR-95-060

Dear Director Taylor:

Attached you will find a copy of an answer and notice for hearing concerning the referenced Notice.

I was a little surprised at the inclusion of John Spencer as a personal respondent. I have not been personally involved with RMAC since 1991. During my involvement, the company was run by a board of directors, not me personally.

In 1991, Brett Wilcox loaned the company a lot of money and basically took over the direction of the company. He hired Don Weege and that was the end of my involvement. At that time, RMAC was in complete compliance with all regulations as far as I know.

At the last Board of Director's meeting (which was in 1991), the board, directed Weege to refrain from taking any more tires until the ones on site were gone. There was an offer to take all the tires as road base, but this was refused by Weege.

As I read the rules, the owner and operator of the site have the responsibility to comply. John Spencer is neither an owner nor operator, and consequently, not in a position to comply with the order. Candidly, even if I did have the authority, I do not have any funds for such an effort.

The bright side to this issue is that Pacific Energy Systems, Ltd., has expressed interest in purchasing the property from the bank. My investment in RMAC and another business enterprise that went bad crippled my finances. The land on which RMAC is located was deeded to RMAC in mid 1990, subject to a loan from Key Bank. The bank is in the process of foreclosing the loan and is working with Mr. Doug Kanis of Pacific Energy for the transfer. If DEQ would work with Pacific Energy, this entire

Attachment 8- 5 pages

matter may be resolved without further problem. Attached you will find a copy of a recent fax from Pacific Energy.

If you or Mr. Cwik, would like to go over this in an informal session, I would be happy to travel to Portland at a convenient time, and discuss further.

Very Truly Yours,

John R. Spencer

cc: Mr. Larry Cwik, NWR

COPY FOR YOUR INFORMATION

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: RMAC INTERNATIONAL, INC., an Oregon Corporation: DON C. WEEGE; AND JOHN SPENCER Respondents	)	ANSWER TO NOTICE OF ABATEMENT AND DEPARTMENT ORDER No. SWWT-NWR-95-060 MULTNOMAH COUNTY

ANSWER

Comes now JOHN R. SPENCER, Respondent herein and by these presents answers the NOTICE and request for a hearing.

I.

Respondent Spencer denies that the State of Oregon has authority to issue such an order against Respondent Spencer personally.

II.

1. With respect to the FINDINGS AND VIOLATIONS, respondent Spencer admits RMAC International, Inc. (RMAC) owns and operates a tire storage facility at 3601 NW Marine Drive, Troutdale, Oregon. That respondent Spencer was a co-founder of the facility and served as an officer of the corporation at the initial phases of the operation.

2. Respondent Spencer denies that he violated any rules, orders, laws or terms of any permit.

3. Respondent Spencer denies that he has any control over

John R. Spencer
Attorney at Law
16600 Centerfield #202
Eagle River, AK 99577
(800) 794-4548

the site as an operator, owner or in any other way.

4. Respondent Spencer denies that the land was transfered to RMAC in October 1991, but that the land was transfered to RMAC prior to that date.

5. Respondent Spencer admits that RMAC stored, chipped, shredded, and processed waste tires at the site.

6. Respondent Spencer does not have sufficient knowledge of the other allegations set out in the finding and violations in order to admit or deny such allegations, therefore denies same.

III.

AFFIRMITIVE DEFENSES

1. Respondent Spencer realleges all of the answers set out in Paragraphs I and II of this ANSWER.

2. Respondent Spencer is not now in any way, involved with RMAC. He was disinfranchised in 1991 and has not been involved with the company since that time.

3. RMAC was in full compliance with all regulations and laws in its operation during the time Repondent Spencer was involved with the company.

4. Respondent Spencer was involved with RMAC through 1991 only as an officer of the Corporation or employee.

5. Respondent Spencer did not cause any violations of the waste tire storage permit personally or as an officer of RMAC. No violations of OAR 340-12-066 occured during this time.

John R. Spencer
Attorney at Law
16600 Centerfield #202
Eagle River, AK 99577
(800) 794-4548

6. Respondent RMAC was either a lessee or owner of the site on which RMAC was situated. No tires were placed on the property under the individual control of Spencer.

7. Respondent Spencer has no authority or means to comply with the order.

IV.

WHEREFORE, Respondent Spencer prays this Honorable Commission dismiss the complaint and notice against Spencer individually.

RESPECTUFULLY SUBMITTED THIS THE FIRST DAY OF MAY, 1995.

_____

John R. Spencer, In pro se

John R. Spencer
Attorney at Law
16600 Centerfield #202
Eagle River, AK 99577
(800) 794-4548

April 28, 1995

DEQ Rules Coordinator
Management Services Division
811 S.W. Sixth Avenue
Portland, Oregon 97204

Subject: Notice of Abatement and Department Order No. SWWT-NWR-95-060, Multnomah County

Gentlemen:

This letter shall constitute Don C. Weege's request for a formal contested case hearing before the Environmental Quality Commission and Answer to the allegations contained in the Notice and Order, above.

Respondent Don C. Weege answers as follows:

I. Authority

Don C. Weege denies that the DEQ has any authority over him as an individual.

II. Findings and Violations

1. Denies all allegations.

2. Admits Don C. Weege is President of RMAC and has served as such since February, 1993. Denies all other allegations.

3. Denies all allegations.

4. Denies all allegations.

5. Denies all allegations.

6. Has no information so denies all allegations.

7. Denies all allegations.

Attachment 9- 5 pages

8. Denies all allegations.

9. Has no information so denies all allegations.

10. Denies all allegations.

11. Denies all allegations.

12. Denies all allegations.

13. Denies all allegations.

14. Denies all allegations.

III. Department Order

Denies all allegations in all five paragraphs.

Respondent Don C. Weege affirmatively alleges:

I. First Defense

Don C. Weege was hired as a work out manager and his actions as such do not give rise to personal liability. He did not exercise care, custody or control over the tire pile sufficient to give rise to personal liability for its clean up.

II. Second Defense

All of the tire shreds and chips on the site are the responsibility of the State of Oregon. None of them would be there if the State would have honored its contract with RMAC International, Inc. to take and use all of the chips for a road construction project.

III. Third Defense

1. All operations of RMAC International, Inc. were conducted within its normal course of business.

2. All tires taken in by RMAC International, Inc. during the presidency of Don C. Weege were taken in at the request of and to fulfill a contract with the State of Oregon acting by and through its Department of Transportation.

3. The State of Oregon acting by and through its Department of Environmental Quality approved of RMAC International, Inc.'s operations, including taking in the tires, via its permit process.

4. The State of Oregon defaulted on its agreement and refused to take delivery of the tire chips and shreds manufactured by RMAC International, Inc.

5. This default caused RMAC International, Inc. to go out of business and the current situation. The State of Oregon's failure to honor its contract with RMAC International, Inc. and take delivery of the tire chips and shreds has made it impossible to date to sell the property to generate funds to properly close the site.

6. The State of Oregon cannot 1) cause tires to be taken in to fulfill a contract; 2) approve RMAC's operations necessary to fulfill the contract; 3) default under the contract; and 4) attempt to hold Don C. Weege personally liable for the clean-up costs resulting from the State's default. No new tires would have been taken in by RMAC had not the State requested them and approved their intake and processing.

IV. Fourth Defense

Under Oregon law, an officer of a corporation acting within the scope of his authority and in the normal course of business cannot be held liable for civil damages resulting from the corporation's conduct. All of Don C. Weege's conduct in this matter was on behalf of RMAC International, Inc.,

in RMAC's normal course of business and within the scope of Mr. Weege's authority as President of RMAC. Therefore, Mr. Weege cannot be held personally liable for the corporate conduct.

V. Fifth Defense

1. Don C. Weege is not an owner of RMAC International, Inc. and has no resources to fund the clean up demanded by the State of Oregon.

2. The State of Oregon has funds available and specifically earmarked to pay for the clean up of sites such as this. The funds should be used for this clean up.

VI. Sixth Defense

The State of Oregon has had and continues to have beneficial uses for all of the shreds and chips on RMAC's site by using them for road and other construction projects throughout the State. Since the State has caused this problem by its default, it should be required to solve the problem by using the chips and shreds in State projects.

Very truly yours,

Don C. Weege

ATTACHMENT

Don C. Weege hereby requests an informal discussion with the DEQ concerning the Notice of Abatement and Department Order No. SWWT-NWR-95-060.

Don C. Weege
April 28, 1995

April 28, 1995

DEQ Rules Coordinator
Management Services Division
811 S.W. Sixth Avenue
Portland, Oregon 97204

cc: Fred Bromfield, NWR
Chuck Donaldson, WR, Salem
Van Kollias
Waste Management & Cleanup Div
Larry Edelman, Dept of Justice
Cory Ann Chang, NWR

Subject: Notice of Abatement and Department Order No. SWWT-NWR-95-060, Multnomah County

Gentlemen:

This letter shall constitute RMAC International, Inc.'s request for a formal contested case hearing before the Environmental Quality Commission and Answer to the allegations contained in the Notice and Order, above.

Respondent RMAC International, Inc. answers as follows:

I. Authority

RMAC admits it is an Oregon Corporation. Denies all other allegations.

II. Findings and Violations

1. Admits it owned and operated a waste tire storage site and owns the property on which the site is located. Denies all other allegations.

2. Admits Don C. Weege is President of RMAC and has served as such since February, 1993. Admits John R. Spencer was a co-founder and the first President of RMAC, was RMAC's secretary in 1992, is a stockholder of RMAC, and transferred land on which the RMAC site is located to RMAC in October, 1991. Denies all other allegations.

3. Admits it operated the site pursuant to Waste Tire Storage Site Permit No. WTSII22 from the Department to RMAC from September 29, 1989 through December 31, 1994. Denies all other allegations.

4. Admits a letter was received and the permit not renewed.

Attachment 10 - 4 pages

5. Admits it stored, chipped, shredded, and otherwise processed waste tires at the site and operated a tire gasifier unit at the site. Admits ash generation. Denies all other allegations.

6. Has no information so denies all allegations.

7. Denies all allegations.

8. Denies all allegations.

9. Has no information so denies all allegations.

10. Denies all allegations.

11. Denies all allegations.

12. Denies all allegations.

13. Denies all allegations.

14. Denies all allegations.

III. Department Order

Denies all allegations in all five paragraphs.

Respondent RMAC International, Inc. affirmatively alleges:

I. First Defense

All of the tire shreds and chips on the site are the responsibility of the State of Oregon. None of them would be there if the State would have honored its contract with RMAC International, Inc. to take and use all of the shreds and chips for a road construction project.

II. Second Defense

1. RMAC International, Inc. does not have sufficient resources to fully fund the clean up demanded by the State of Oregon.

2. The State of Oregon has funds available and specifically earmarked to pay for the clean up of sites such as this. The funds should be used for this clean up.

III. Third Defense

The State of Oregon has had and continues to have beneficial uses for all of the shreds and chips on RMAC's site by using them for road and other construction projects throughout the State. Since the State has caused this problem by its default, it should be required to solve the problem by using the chips and shreds in State projects.

Very truly yours,

RMAC International, Inc.

Don C. Weege
President

ATTACHMENT

RMAC International, Inc. hereby requests an informal discussion with the DEQ concerning the Notice of Abatement and Department Order No. SWWT-NWR-95-060.

RMAC International, Inc.

Don C. Weege
President
April 28, 1995

Oregon

APR 1 3 1995

DEPARTMENT OF ENVIRONMENTAL QUALITY

RMAC International, Inc.
c/o Don C. Weege
President & Registered Agent
101 SW Main, Suite 905
Portland, OR 97204

CERTIFIED MAIL P 178 548 983

Don C. Weege
c/o Capitol Realty
101 SW Main, Suite 905
Portland, OR 97204

John R. Spencer
21100 NE Sandy Blvd., Space No. 3
Troutdale, OR 97060

Re: Notice of Abatement and
Department Order
No. SWWT-NWR-95-060
Multnomah County

RMAC International, Inc. (RMAC) operated a waste tire collection and processing operation, with a related tire pyrolysis unit, at 3601 N.W. Marine Drive, Troutdale, Multnomah County, from 1989 through early 1994. Don C. Weege is the president of RMAC, has served as an officer of RMAC since at least February 1993, and has been site manager for RMAC's operation since at least January 1993. John R. Spencer was a co-founder and first president of RMAC, was RMAC's secretary in 1992, is a stockholder of RMAC, and transferred land on which the RMAC site is located to RMAC in October 1991.

RMAC held Waste Tire Storage Permit No. WTSII22 from the Department for the operation until December 31, 1994, when the permit expired. On May 3, 1994, the Department wrote RMAC, stating that RMAC needed to submit a permit renewal application by September 30, 1994. RMAC did not renew the permit.

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993
DEQ-1

Attachment II - 8 pages

A Department inspection in August 1994 confirmed that operations had ceased at the site. The inspectors observed an estimated 26,700 cubic yards of shredded tires, tire chips, and ash resulting from tire-related pyrolysis operations at the site as well as 6,400 waste tires. All of this waste, and the waste tires, appeared to have been abandoned.

The Department understands that RMAC believes that it and the Oregon Department of Transportation (ODOT) have an agreement under which ODOT will take 20,000 cubic yards of shredded tires from RMAC for ODOT road paving projects. This 20,000 cubic yards of shredded tires is not the subject of this enforcement action. Rather, this enforcement action is specific to the other 6,700 cubic yards of tire-related waste, and the 6,400 waste tires, still on site.

All of the waste and waste tires observed in August 1994 was still present six months later, as documented during a February 8, 1995 reinspection by Department staff. The Department is concerned that RMAC, John R. Spencer, and Don C. Weege have abandoned the site. RMAC owns the property and RMAC, John R. Spencer, and Don C. Weege caused all of the waste to be brought to the site. Prolonged storage of waste tires can be a safety and fire hazard and can provide a breeding ground for mosquitoes and other vectors. Contamination from past operations can leach into the groundwater or may cause pollution in runoff during rainstorms. Salmon Creek, a tributary of Blue Lake, which is widely used for recreation, runs through the site. The site as it is now is a nuisance.

Oregon Administrative Rule (OAR) 340-64-040(1) requires that the owner or operator of a waste tire storage site immediately close the site in compliance with Oregon's Waste Tire Rules if the storage permit expires, as has RMAC's permit. John R. Spencer, Don Weege, and RMAC have had and continue to have care, custody or control of the waste at the site, and have all been in violation of this rule since January 1, 1995, a total of more than 90 days.

The Department sent a Notice of Noncompliance (NON) to RMAC, care of Don C. Weege, on January 12, 1995. This directed RMAC to submit a waste removal plan to DEQ within 30 days. RMAC has failed to do so. The NON also informed RMAC that a failure to submit the plan, and carry it out, would result in a referral for formal enforcement action by the Department.

Consequently, in the enclosed Notice of Abatement and Department Order, I have formally cited the violations and ordered RMAC, John R. Spencer, and Don C. Weege, jointly and severally, to clean up the site as required. RMAC, John R. Spencer, and Don Weege need to comply with the Order, particularly the compliance schedule set out in Section III of the Order, or they will be subject to further action including daily civil penalties or injunctive relief.

Appeal procedures are outlined in Section IV of the Notice. If RMAC, John R. Spencer, and Don C. Weege fail to appeal within twenty-one (21) days, the Order will become a Final Order. An informal discussion may also be requested as outlined in the Notice.

I look forward to the cooperation of RMAC, John R. Spencer, and Don Weege in complying with the enclosed Notice of Abatement and Department Order and the Department's rules in the future.

Copies of referenced rules are enclosed. Please address any questions about this action to Larry Cwik with the Department's Enforcement Section in Portland at 229-5728.

Sincerely,

Lydia Taylor
Interim Director

LT:lc:b
U:\ENF\ORDERS\GB13323L
Enclosures
cc: Northwest Region, DEQ
Waste Management and Cleanup Division, DEQ
Department of Justice
Environmental Quality Commission
Oregon Department of Transportation
City of Troutdale
Key Bank of Oregon
Multnomah County Department of Solid Waste
Multnomah County District Attorney

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: RMAC INTERNATIONAL, INC., an Oregon corporation; DON C. WEEGE; AND JOHN R. SPENCER, Respondents.	NOTICE OF ABATEMENT AND DEPARTMENT ORDER No. SWWT-NWR-95-060 MULTNOMAH COUNTY

I. AUTHORITY

This Notice of Abatement and Department Order (Notice) is issued to Respondents, RMAC International, Inc. (RMAC), an Oregon corporation, Don C. Weege, and John R. Spencer, jointly and severally, by the Department of Environmental Quality (Department or DEQ) pursuant to Oregon Revised Statutes (ORS) Chapter 183, ORS 468.126 through 468.140, ORS 459.995 and ORS 459.780; and Oregon Administrative Rules (OAR) Chapter 340, Divisions 11 and 12.

II. FINDINGS AND VIOLATIONS

1. Respondents own and operate a waste tire storage site located at 3601 NW Marine Drive, Troutdale, Multnomah County, Oregon, on Tax Lots 12, 32 and 33, Township 1 North, Range 3 East, Section 22, Multnomah County, Willamette Meridian, Oregon. Respondent RMAC owns the property on which the site is located.

2. Respondent Don C. Weege is the President of RMAC, has served as an officer of RMAC since at least February 1993, and has been site manager for RMAC's operation since at least January 1993. Respondent John R. Spencer was a co-founder and the first President of RMAC, was RMAC's secretary in 1992, is a stockholder of RMAC, and transferred land on which the RMAC site is located to RMAC in October 1991.

3. Respondents operated the site pursuant to Waste Tire Storage Site Permit No. WTSII22 from the Department to RMAC from September 29, 1989 through December 31, 1994.

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4. Department sent RMAC a letter on May 3, 1994 informing RMAC that it needed to submit a permit renewal application prior to September 30, 1994 in order to renew its permit. RMAC did not renew the permit.

5. Respondents stored, chipped, shredded, and otherwise processed waste tires at the site. Respondents also operated a tire pyrolysis and gasifier unit at the site. These resulted in ash generation at the site.

6. In August 1994, Department staff visited the site and observed that operations at the site had ceased. The site appeared to have been abandoned. The Department's inspectors observed approximately 26,700 cubic yards of shredded tires, chipped tires, and waste ash resulting from pyrolysis and other tire-related processes at the site, as well as approximately 6,400 waste tires.

7. Respondents have had and continue to have care, custody, or control of the waste at the site.

8. Since January 1, 1995, Respondents have operated the site without either a Solid Waste Disposal Site Permit or a Waste Tire Storage Site Permit from the Department, in violation of ORS 459.205(1) and ORS 459.715(1).

9. On February 8, 1995, Department staff again inspected the site. The quantity of waste at the site was unchanged from August 1994. It did not appear that there had been any operations at the site since the August 1994 visit.

10. Because of Respondents' violations listed above, Respondents' operation is a public nuisance. Respondents' site is also a public nuisance because: prolonged tire storage can be a fire and safety hazard; waste tires can serve as a breeding ground for mosquitoes and other vectors; the tires and waste and ash stored at the site are not covered or enclosed; and contamination from past operations can leach into groundwater or be carried off-site by heavy rainstorms, leading to water pollution, and Salmon Creek, a tributary of Blue Lake, which is widely used for recreation, runs through the site.

11. The Department sent RMAC a Notice of Noncompliance (NON) on January 12, 1995 citing RMAC's violation of OAR 340-64-040, which requires an owner or operator of a waste tire storage site to immediately close the site upon the expiration of a storage permit. The NON gave RMAC 30 days from date of receipt to submit a waste removal plan to DEQ. RMAC received the NON on January 17, 1995. RMAC did not submit a plan, or otherwise indicate to Department staff that it would clean up the site. In January 1995, Respondent Don C. Weege indicated by phone to DEQ that no near-term clean-up of the site was planned.

12. Respondent RMAC believes that it and the Oregon Department of Transportation (ODOT) have an agreement under which the ODOT may take 20,000 cubic yards of the shredded tires from RMAC's site to use in ODOT's road construction or other projects. This quantity of 20,000 cubic yards of tire chips and shredded tires is not the subject of this Order. This Order only deals with the remaining 6,700 cubic yards of ash, chipped tires, and shredded tires as well as the 6,400 waste tires on the site.

13. Respondents have violated OAR 340-64-040(1), adopted pursuant to ORS 459.785, from January 1, 1995 to the present, a period of more than 90 days, in that Respondents have failed to immediately close the waste tire storage site described above in compliance with the Department's Waste Tire Rules. This is a Class II violation pursuant to OAR 340-12-066(2)(c).

14. ORS 459.780(4) provides that the Department may abate any danger or nuisance created by waste tires or other waste tire materials after first ordering all persons having care, custody or control of the waste tires or materials to abate the danger or nuisance in a manner approved by the Department.

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III. DEPARTMENT ORDER

Based upon the foregoing FINDINGS AND VIOLATIONS, Respondents are hereby ORDERED TO:

1. Immediately initiate actions necessary to correct all of the above cited violations and come into full compliance with Oregon's laws and rules.

2. On or before May 15, 1995, submit a site closure plan to the Department for Department approval. Respondents shall not remove any tires or waste until the Department has given written approval of the plan. In formulating the closure plan, the Department suggests that Respondents consider potential reuse of the waste tire products where feasible, which reuse may also result in a lower clean up cost.

3. On or before May 15, 1995, contact ODOT in writing and request a schedule from ODOT for the removal of the other 20,000 cubic yards of shredded tires.

4. Within 90 days of the approval of the site closure plan, close the Waste Tire Storage Site in accord with the Department-approved plan for the portion of the tires that is the subject of this Order. The closure shall be done in compliance with the Department's Waste Tire Storage Site Closure Procedures listed in OAR 340-64-045.

5. Within 115 days of Department approval of the site closure plan, submit sampling results and all other documentation needed to show that the site has been cleaned in an environmentally acceptable manner, and that the waste from the site has been taken to a Department-approved disposal site or otherwise used beneficially.

IV. OPPORTUNITY FOR CONTESTED CASE HEARING

This Notice of Abatement and Department Order (Notice and Order) becomes final unless Respondents request, in writing, a formal contested case hearing before the Environmental Quality Commission (Commission) or its hearings officer regarding the matters set out above. **The request must be received by the Department's Rules Coordinator within 21 days after the date of issuance of this Notice and Order, and must be accompanied by a written**

"Answer" to the allegations contained in this Notice and Order.

In the written Answer, Respondent shall admit or deny each allegation of fact contained in this notice, and shall affirmatively allege any and all affirmative claims or defenses to violations that Respondent may have and the reasoning in support thereof. Except for good cause shown:

1. Factual matters not controverted shall be presumed admitted:

2. Failure to raise a claim or defense shall be presumed to be a waiver of such claim or defense;

3. New matters alleged in the Answer shall be presumed to be denied unless admitted in subsequent pleading or stipulation by the Department or Commission.

Send the request for hearing and Answer to: **DEQ Rules Coordinator, Management Services Division, 811 S.W. Sixth Avenue, Portland, Oregon 97204.** Following receipt of a request for hearing and an Answer, Respondent will be notified of the date, time and place of the hearing.

Failure to file a timely request for hearing and "Answer" may result in the entry of a Default Order for the relief sought in this Notice and Order.

Failure to appear at a scheduled hearing or meet a required deadline may result in a dismissal of the request for hearing and also an entry of a Default Order.

The Department's case file at the time the Notice and Order was issued may serve as the record for purposes of entering the Default Order.

V. OPPORTUNITY FOR INFORMAL DISCUSSION

In addition to filing a request for a contested case hearing, a Respondent may also request an informal discussion with the Department by attaching a written request to the hearing request and Answer.

4/13/95
Date

Lydia Taylor
Lydia Taylor, Interim Director

ATT 1

Oregon

Don C. Weege, Registered Agent
RMAC International Inc.
c/o Capitol Realty
101 SW Main, Suite 905
Portland, OR 97204

JAN 1 2 1995

DEPARTMENT OF ENVIRONMENTAL QUALITY

CERTIFIED MAIL P 003 419 018
RETURN RECEIPT REQUESTED

Re: **NOTICE OF NONCOMPLIANCE**
SW-NWR-95-001
RMAC International, Inc.
SW Permit No. WTSII22
Multnomah County

Dear Mr. Weege:

Our records indicate RMAC International, Inc. (RMAC) to be the owner/operator of a tire storage and processing (pyrolysis unit) site at 3601 N.W. Marine Drive, Troutdale, OR. The site was formerly regulated under Waste Tire Storage Site Permit No. WTSII22.

RMAC appears to have ceased operating the site in early 1994. On August 9, 1994, Department personnel visited the site. The site was perceived to be abandoned and in a state of disrepair. Piles of wastes were scattered about in amount estimated at 6400 waste tires, 24,700 yd^3 tire chips, and 2000 yd^3 pyrolysis ash. In subsequent telephone conversations with Department personnel, you confirmed that the site was closed and that RMAC was trying to sell it.

RMAC allowed Permit No. WTSII22 to expire on December 31, 1994 without taking any action.

Violation: RMAC violated OAR 340-64-040(1) by closing the site and failing to apply for a permit renewal without removing all wastes from the site.

Corrective Action Requested: Within 30 days of the date of this letter, submit to the Department a plan and schedule for removing all wastes from the site. Removal of the wastes should begin when the plan is submitted and proceed on a schedule approved by the Department.

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993
DEQ-1

Attachment 12 - 2 pages

The cited violation is a Class II violation (OAR 340-12-066(2)(c)) and considered to be a significant violation of Oregon environmental law. Should you fail to correct the violation as requested above, we will refer your file to the Department's Enforcement Section with a recommendation to proceed with formal enforcement action which may result in a civil penalty assessment. Civil penalties can be assessed in an amount of up to $10,000 for each day of violation.

Yours truly,

Charles W. Donaldson
Manager, Solid Waste Permits
Northwest Region

cc: Tom Bispham, NWR
Larry Cwik, Enf.
Fred Bromfeld, WMC
Bob Kickner, Key Bank
bcc: Richard Faith, Troutdale
Mike Buren, ODOT

ATT 2

State of Oregon
Department of Environmental Quality — Memorandum

Date: August 12, 1994

To: Chuck Donaldson

From: Dave Vargas

Subject: RMAC International
Waste Tire Storage/Processing Permit #WTSII22.A
Solid Waste Disposal Permit #1162
Multnomah County

This site, located at 3601 Marine Drive, Troutdale, was permitted as a waste tire storage/processing site on September 29, 1989, and as a petroleum-contaminated soil treatment site on August 15, 1991. A letter dated August 10, 1993 from RMAC President Don Weege stated that soil processing was discontinued in October 1993. The solid waste disposal permit for the site was terminated on August 20, 1993. (Presumably the actual date that the soil processing was discontinued was October 1992, not October 1993.)

Fred Bromfeld and I visited this site on August 9, 1994. We saw abandoned equipment and several huge piles of whole tires, shredded tires, and material that appeared to be waste residue from the pyrolysis unit. Some piles were more than 20 feet high. A sketch and photos of the site are attached. In all, we estimated approximately 6400 whole tires, 24,700 yd^3 of shredded tires (and steel treads), and 2000 yd^3 of pyrolysis waste. Paved areas were littered with tire dust, and rubber shreds. (See map and photos attached.)

A Notice of Non-Compliance was issued for the site on February 2, 1993. The NON referred to violations of tire storage permit storage standards: too many chip piles (4 allowed), chip piles too high (significantly higher than 4 yards), insufficient financial assurance, and an invalid management plan. Specifically, the NON required:

1. Reduction of tire chip piles to the tire storage permit standards (40 yd max width, 4 yd max height, 6400 yd^3 max volume; maximum of four piles separated by 50 ft wide fire breaks) by April 1, 1993.

2. A management plan for the tire processing operation by April 1, 1993.

RMAC responded that it had made arrangements with ODOT to remove 20,000 yd^3 of tire chips. RMAC also claimed that it was safer from an environmental standpoint to store the tires and chips in large piles on paved surfaces and in paved containment ponds than to divide the piles and move them to unpaved locations.

Currently the site represents several kinds of potential hazards, the principle ones being:

- Fire: in case any of the piles were to be ignited.

Attachment 13 - 5 pages

- Soil and groundwater contamination: from the pyrolysis waste and steel tire belts.
- Mosquito breeding: from the piles of whole tires, some of which are partially submerged in water.
- Invitation to unauthorized entry and dumping.

The site is not gated, and is easily accessed from Marine Drive. RMAC has assigned a $10,000 security deposit to DEQ. The deposit is being held by US Bank of Oregon, and cannot be released without a written order from DEQ.

On August 9, I contacted Don Weege, President of RMAC, to ask about the status of the site. (Mr. Weege can be reached at Capital Realty, 101 SW Main, Portland OR 97204; phone 223-7465, or 223-1200). He said that RMAC had not yet filed for bankruptcy, and would not have to if they could find a buyer for the site and the tires. He also said that ODOT still wants to use the tire chips for fill, but has not found a location where they can be used.

On August 10, David Simpson, ODOT Project Team Manager in Milwaukie (phone 731-8200) confirmed that ODOT still intends to take 20,000 yd^3 of tire chips, and probably would do so in about two months. The tires would be used to construct landscaped berms or sound attenuators adjacent to heavily traveled roadways. Mr. Simpson was not aware of the fire hazard potential associated with tire/chip storage piles.

Recommended Action

Commence enforcement action to compel:

1. Securing the site with a gate and warning signs (Danger--No Trespassing).
2. Removal of the waste tires.
3. Investigation of the pyrolysis residue waste to determine if it is hazardous.
4. If the tires and/or chip piles are not removed within 60 days, then the large tire and chip piles need to be divided into smaller piles, separated by fire breaks in accordance with DEQ tire storage rules.

In addition, ODOT needs to be encouraged to expedite the removal of the 20,000 yd^3 of tire chips it has agreed to take.

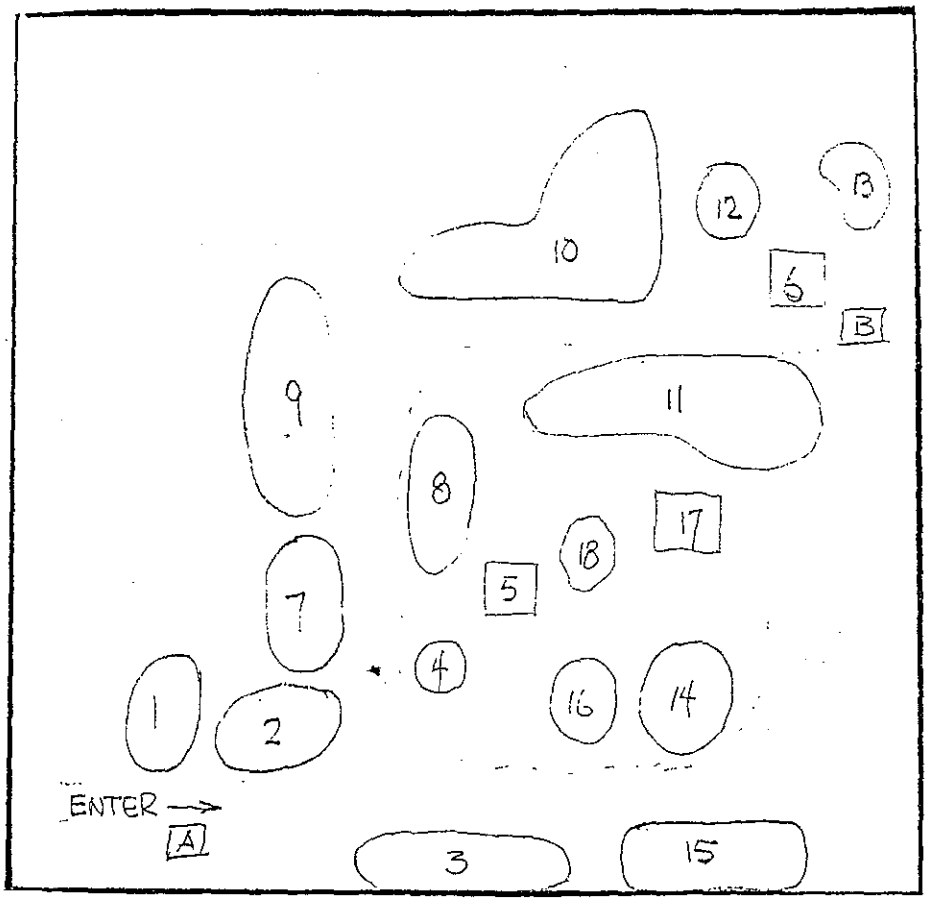
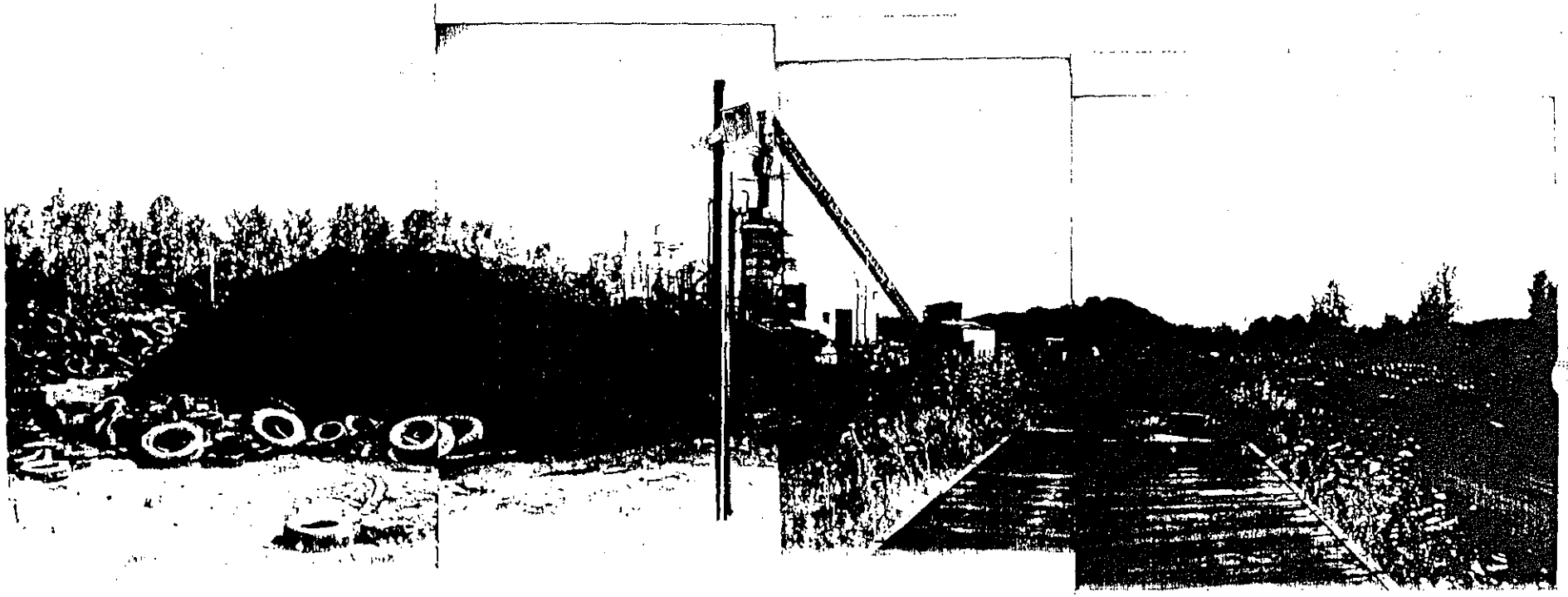


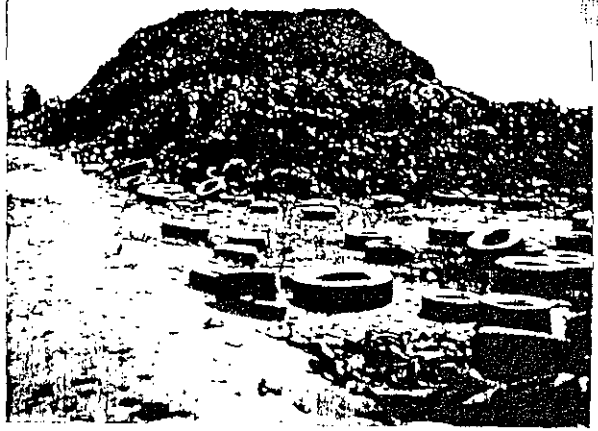
Fig. 1: Layout of RMAC Site

Rough estimate of waste on site:

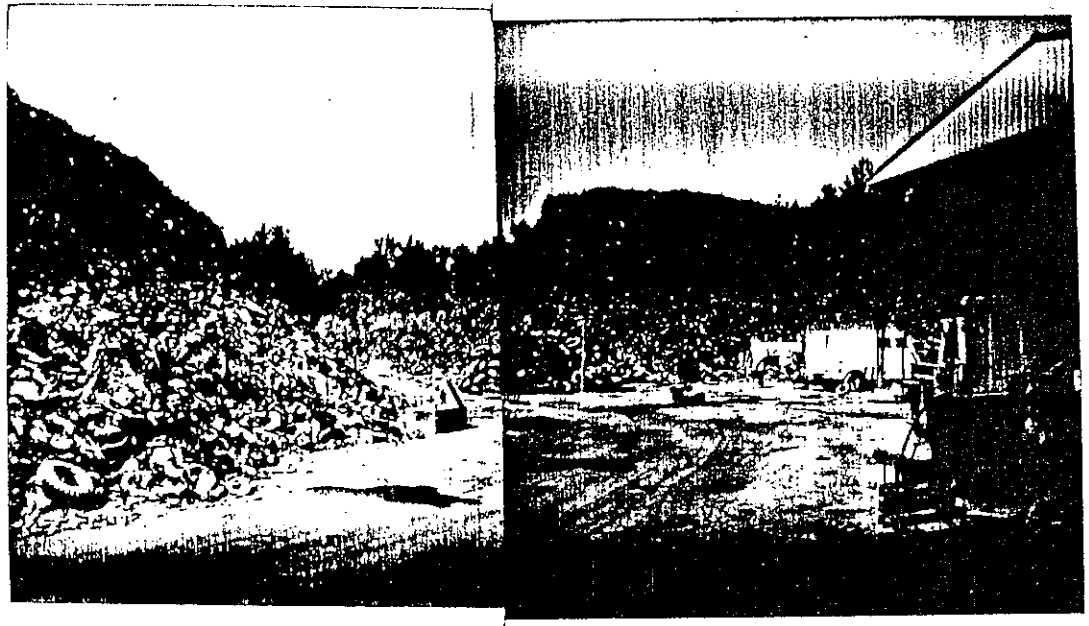
1. 1200 tires
2. 2000 yd^3 pyrolysis waste
3. 400 tires
4. Pyrolysis unit
5. Tanks
6. Large shed
7. 1200 tires
8. 1500 tires
9. 700 yd. tire shreds
10. 6500 yd. shred
11. 10,000 yd. shred
12. 800 tires
13. 1500 yd. shred
14. 6000 yd. shred
15. 700 tires
16. 300 tires
17. Large shed
18. 300 tires

Totals: 6400 tires
24,700 yd^3 tire shreds
2000 yd^3 pyrolysis waste





DMAC Site



RMAC SITE

RMAC International, Inc.

TIRE RECYCLING/SOIL REMEDIATION

Administration:
1080 N.W. Perimeter Road
Troutdale, OR 97060
(503) 667-6790

Plant:
3601 N.W. Marine Drive
Troutdale, OR 97060
(503) 665-3570

March 2, 1993

Charles W. Donaldson, Manager
DEQ
811 S.W. Sixth Avenue
Portland, Oregon 97204-1390

Subject: Permit No. WTSII22

Dear Mr. Donaldson:

This is in response to your February 2, 1993, Notice of Non-Compliance to RMAC.

The State, in the Permit, set a time frame within which it was hoped RMAC could reduce the volume of tires and shreds on RMAC's site. Unfortunately, RMAC has been unable to meet the State set time table. Nevertheless, RMAC and its site is much improved since the date the Permit was issued:

The number of whole tires on RMAC's site has been reduced from several thousand to approximately 500.

The volume of tire shreds on RMAC's site has been reduced from approximately 20,000 cubic yards to approximately 16,800 cubic yards.

RMAC has manufactured and shipped over 20,000 gallons of tire oil.

RMAC has agreed to provide the State of Oregon, through its Department of Transportation, with 20,000 cubic yards of tire shreds for use in the State's improvement of I-84's 181st - 223rd Section. (See attached.)

The above facts reflect the ongoing transition of RMAC from a site on which tires were piled to an operating business.

Your letter listed two violations of the Permit. Numbers 1 and 2 basically have to do with the size and location of our shred piles. The piles pose no immediate environmental threat.

We assume the size and location provisions of the Permit were inserted to encourage the reduction in volume of the shreds on site. However, they could have, and still can, be met by simply

Attachment H - 3 pages

(and at great cost) converting our two large piles into four smaller ones, and in doing so moving about 8000 cubic yards of shreds from a paved area to bare ground.

We believe moving the shreds makes little environmental sense. They currently sit on a paved site that includes two large paved containment ponds. In case of fire, run off would be collected in these ponds and overflow, if any, would be on to paved areas. Moving a large volume of shreds to a location where, in case of fire, run off would soak into the ground and be likely to seep into the ground water does not seem appropriate.

We therefore suggest that the Permit be modified to allow the storage of the shreds at their existing location.

Point number 3 in your letter refers to F(2) of the Permit, that requires financial assurance "for the volume of stored tire product exceeding 50% of the 1992 annual usage."

The amount of financial assurance required by F(2) is unclear. The Permit requires $7,500 in financial assurance for several thousand whole tires and 20,000 cubic yards of shreds. As pointed out, both of these amounts have been materially reduced and the State has agreed to accept all of RMAC's remaining shreds, plus an additional 3,200 cubic yards. We would think that the amount of financial assurance required should not change given the fact that there is less material on site now than when the Permit was issued and a home has been found for literally all of the shreds currently on site.

From a practical stand point, RMAC has little cash and has spent and continues to spend the cash it receives to clean up the site and transform RMAC into an operating business. RMAC cannot respond to a State demand for significantly more financial assurance.

Finally, the financial assurance is supposed to be used for cleaning up the site if RMAC abandons it with tires/shreds still present. Given the fact the State has agreed to take all of the shreds on site, the only way any financial assurance might be used would be if both (1) RMAC abandons the site and (2) the State backs out on its agreement to take the shreds. RMAC will be able to process the shreds if necessary, even if the State backs out.

Given the above, RMAC proposes the Permit be modified to delete F(2) and require the existing $7,500 financial assurance.

Point 4 of your letter refers to the Management Plan. We have been following that Plan. At the time of the Plan we felt there was a possibility of selling our shreds to a Korean buyer. That sale fell through.

However, the Plan went on to state that if the sale fell through, we intended to convert the shreds to oil. We have been doing that.

Enclosed is a modified Plan, reflecting RMAC's current intentions and the State's agreement to take 20,000 cubic yards of shreds.

We at RMAC spent 1992 working long and hard, and at great expense, to transform RMAC into an operating business. We operated the gasifier for almost two months and proved we could produce oil. We found markets for our oil and shipped it into those markets. We revamped plant operations and cleaned up the site significantly. We expect to operate for a majority of 1993.

We have worked with DEQ and the local governments to be the best neighbor possible. We have not complained about government regulation; we have done everything possible to comply with all of the regulations guiding our operations. The Permit provisions we did not meet were not met because we did and do not believe we should (or could) spend a lot of money to move tire shreds from an environmentally sound location on pavement to an environmentally weak location on bare ground. The real issue was shred volume, and we have been successfully reducing that volume.

We fully expect that full time operations this year will allow us to complete the transition from tire collector to tire processor and recycler. When this is accomplished, RMAC will be one of only two operations in Oregon, (and we think Washington), that can accept and process waste tires. As such, we will be providing a needed service to our community.

We look forward to working with DEQ. We trust DEQ will continue to provide consistent guidance, reflecting an understanding of the challenges faced by small, undercapitalized businesses.

Very truly yours,

Don C. Weege
President

Att 5

Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

February 2, 1993

Dan Weege
Vice President
RMAC International, Inc.
1080 NW Perimeter Road
Troutdale, OR 97060

Re: NOTICE OF NON-COMPLIANCE
Waste Tire Storage Site
Permit No. WTSII22
Multnomah County
SW-NON-WTP-93-01

Dear Mr. Weege:

On Friday, December 18, 1992, Brad Price and Angela Schrock visited your storage site at 3601 NW Marine Drive in Troutdale, Oregon. After walking the site and speaking with you and Nick Cheek, RMAC International, Inc. (RMAC), was found to be out of compliance with its Waste Tire Storage Permit WTSII22. RMAC is in violation of the following observed conditions:

1. Schedule C, Condition 2: "All waste product stored on site shall meet storage standards contained in Schedule D by September 1, 1992." Product stored on site does not meet storage standards.

2. Schedule D, Condition 3: "A maximum of four product piles are allowed. Each tire product pile shall have no greater than the following maximum dimensions: Width: 40 yards, Volume: 6,400 cubic yards, Height: 4 yards." Two of the piles were taller than 4 yards by a significant amount.

3. Schedule F, Financial Assurance. The financial assurance is no longer sufficient for the amount of tire shreds stored on the site.

4. Appendix A is the Management Plan that was submitted in February 1992. After conversations with Nick Cheek and Dan Weege, it is clear that this Management Plan is no longer valid and up to date.

To remedy the permit violations, RMAC needs to :

1. Reduce its waste tire product (chip) pile to conform with the storage standards outlined in Schedule D or provide adequate financial assurance and request a permit modification to allow the waste tire product (chip) to be stored on an interim basis. Also include a schedule for waste tire product compliance.

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993
DEQ-1

Attachment 15 - 2 pages

2. Provide a management plan that reflects RMAC's present and future operations.

RMAC has until April 1, 1993, to remedy its permit violations. These violations are considered to be very significant violations of the Department's rules. If RMAC fails to correct these violations by April 1, 1993, or should a similar violation occur, we will refer RMAC's file to the Department's Enforcement Section with a recommendation to proceed with formal enforcement action which may lead to an abatement order to properly dispose of RMAC's waste tires and/or civil penalties. Violations of the waste tire storage rules or permit are subject to civil penalties of up to $10,000 per day per violation.

If you have any questions, please contact Brad Price at 229-6792, or call toll free at 1-800-452-4011.

Sincerely,

Audrey Eldridge
for Charles W. Donaldson, Manager
Solid Waste Permits and Compliance Section
Hazardous and Solid Waste Division

CWD:as:k
WT\LTR\SK4529
cc: Enforcement Section, DEQ
Northwest Region, DEQ
City of Troutdale

Oregon

DEPARTMENT OF
TRANSPORTATION

HIGHWAY DIVISION
Region 1

FILE CODE:

C626-1974

January 29, 1993

Don Weege
Rmac International, Inc.
3601 N.W. Marine Drive
Troutdale, Oregon 97060

Subject: Shredded Tire Fill Material
181st - 223rd Section
Columbia River Highway (I-84)
Multnomah County

In regard to Rmac's offer to approximately 20,000 cubic yards of shredded tires for fill on the subject project, ODOT's Region 1 has approved the use of this material. It is ODOT's understanding that the tires would be free of charge, with ODOT or its contractor to transport the material from Rmac's Troutdale site to the job site.

The project is currently scheduled to go to construction in January 1994, and ODOT would need the material sometime after that when grading and embankment work begins. I have asked Bob VanVickle of our geology unit to coordinate with you and our design and construction staffs to incorporate the tires into the project.

Thank you for your help on this effort. If you have any questions, or if I can provide any further assistance on this, please give me a call at 653-3243.

Dave Simpson

David R. Simpson, P.E.
Project Team Manager

DRS:p

cc: Bob VanVickle

9002 SE McLoughlin
Milwaukie, OR 97222
(503) 653-3090
FAX (503) 653-3267

WASTE TIRE STORAGE SITE PERMIT

Department of Environmental Quality
811 Southwest Sixth, Portland, OR 97204
Telephone: (503) 229-5913

Issued in accordance with the provisions of ORS Chapter 459 and
based on the land use compatibility findings included in the permit record.

ISSUED TO:

RMAC International, Inc.
1080 NW Perimeter Road
Troutdale, OR 97060

PROPERTY OWNER:

RMAC International, Inc.
(503) 667-6790

OPERATOR:

RMAC International, Inc.
(503) 665-3570

FACILITY COVERED BY THIS PERMIT

SITE NAME: RMAC International, Inc.

SITE TYPE AND LOCATION:

Storage, processor
3601 N.W. Marine Drive, Troutdale
#R94322-0330, R94322-0320
#R94322-0120
T1N, R3E, Sec. 22, Tax Lots 12,
32, and 33, Multnomah County

MAXIMUM NUMBER OF TIRES ALLOWED TO BE STORED AT ABOVE-NAMED SITE: 7,500 passenger-car tire equivalents and a maximum of 20,000 cu. yd. of tire-derived product

ISSUED IN RESPONSE TO: A renewal application received November 22, 1991, and a Land Use Compatibility Statement from Troutdale dated January 4, 1989.

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

April 14 1992

for Stephanie Hallock, Administrator — Date
Hazardous and Solid Waste Division

Permitted Activities

Until such time as this permit expires or is modified or revoked, the permittee is authorized to establish, operate, and maintain a waste tire storage site and to haul waste tires in conformance with the requirements, limitations, and conditions set forth in the attached schedules as follows:

This permit does not relieve the permittee from responsibility for compliance with other applicable federal, state, or local laws, rules, or standards.

Attachment 17- 11 pages

SCHEDULE A

Authorized and Prohibited Activities

1. The permittee is authorized to accept waste tires, or tire-derived materials, for storage.

2. The permittee is prohibited from accepting hazardous waste as defined in ORS 466.005 and 40 CFR 261.

3. Waste tires shall be received at the storage site primarily from waste tire carriers permitted by the Department.

4. No burning or burying of waste tires or tire chips or any solid waste shall be allowed at the site.

5. Waste tires shall be removed from the storage site only by persons holding Waste Tire Carrier Permits from the Department.

6. The maximum number of waste tires allowed to be stored at the site is 7,500. The permit will be modified to allow a maximum of 15,000 waste tires to be stored at the site when all required permits have been secured from the Department's Air Quality Division and Water Quality Division to operate the proposed tire processing facility, and when the processing plant is operational. All water used at the facility must be controlled and disposed of in compliance with Department (DEQ) and local regulatory agency requirements.

SCHEDULE B

Minimum Reporting Requirements

1. Beginning with the issuance of this permit, the permittee shall monitor the storage site operation and maintain records of the following required data to be submitted to the Department:

Item or Parameter		Monitoring Frequency
a.	Approximate numbers of waste tires received at the site (by aggregate loads, or cubic yards, as agreed with Department)	Quarterly
b.	Approximate number of waste tires (or tire chips) shipped from the site (aggregate loads, cubic yards, etc.)	Quarterly
c.	Number of waste tires stored on the site (on December 31 of each year)	Annually
d.	List (and tire carrier permit number, if applicable) of tire carriers delivering waste tires to the site and shipping waste tires from the site.	Annually

2. The permittee shall submit to the Department an annual report containing the information in (1) above by February 1, 1993, and each year thereafter. Information in (1)(a) and (b) shall be reported for each quarter, as well as the annual total. Information in (1)(d) shall be provided as a list.

3. The permittee shall keep records (such as receipts) of numbers of tires delivered to and shipped from the site by each carrier listed in (1)(d). These records must be accessible to the Department upon request, but need not be submitted with the annual report.

4. The permittee shall maintain records of all the information required under (1) and (3) of this section for three years. These records shall be available for inspection by the Department after reasonable notice.

5. The permittee shall report to the Department any changes in ownership of the storage site property, of the permittee's or operator's name or address, or of change from individual to partnership, or any other changes that affect the permit, within 30 days of such change.

6. The permittee shall notify the Department within 30 days of the name and vehicle license number of any unpermitted tire carrier (who is not exempt under OAR 340-64-055(3)) who delivers waste tires to the site.

SCHEDULE C

Compliance Conditions and Schedules

1. The waste tire storage site shall be designed, constructed and operated in accordance with the conditions of this permit, the new management plan (Appendix A) approved by the Department on January 13, 1992 and contingency plan (Appendix B) approved by the Department on February 27, 1989. However, the Department has modified the contingency plan to require that the containment berm for the oil storage comply with the Spill Prevention, Control and Countermeasure (SPCC) Plan of the Environmental Protection Agency (EPA).

2. All waste product stored on site shall meet storage standards contained in Schedule D by September 1, 1992.

3. Permittee shall provide at the site a chemical tire fire extinguishing agent in quantities sufficient to extinguish a potential tire fire.

4. The permittee shall pay the annual compliance fee prior to February 1 of each year, continuing on February 1, 1992. An invoice indicating the amount of the fee will be mailed prior to the date due.

5. Permittee shall remove all waste tires and tire waste product before he/she abandons this site. Permittee shall remove all tires and tire product from the site at least 30 days before this permit expires unless a permit renewal has been requested.

SCHEDULE D

Storage and Operational Standards

1. Waste tires shall not be stored in any area where they may be subjected to submersion in water such as a wetland, waterway, floodway or 25-year floodplain.

2. Outdoor piles of whole waste tires shall be no greater than the following dimensions:

   a. Width: 50 feet

   b. Area: 15,000 square feet

   c. Height: 6 feet

3. A maximum of four product piles are allowed. Each tire product pile shall have no greater than the following maximum dimensions:

   a. Width: 40 yards

   b. VOLUME: 6,400 cubic yards

   c. HEIGHT: 4 yards

4. Any waste tires stored indoors shall be stored under conditions that meet those in The Standard for Storage of Rubber Tires, NFPA 231D-1986 edition, adopted by the National Fire Protection Association,
San Diego, California.

5. A 50-foot fire lane shall be placed around the perimeter of each waste tire pile and each product pile. Access to the fire lanes for emergency vehicles must be unobstructed at all times. Each pile shall be located at least 50 feet from the property line.

6. Waste tire piles shall be located at least 50 feet from buildings on the property.

7. Waste tires received for storage of one month or longer shall be ricked.

8. An approach and access road to the waste tire storage site shall be maintained passable for any vehicle at all times.

9. Public access to the waste tire storage site shall be controlled as necessary to prevent unauthorized entry and dumping.

10. A clearly visible and legible sign shall be posted at the entrance of the storage site stating name of site, operating days and hours, cost of waste tire disposal and site rules.

11. An attendant shall be present at all times the waste tire storage site is open for business.

12. The site shall have a berm, catch basin and secondary containment facility to keep any liquid runoff from potential tire fires from entering waterways. Plans for the berm, catch basin and secondary containment facility must be reviewed and approved by the Department prior to beginning construction. The containment berm for the gasifier must be adequate to contain the liquids within the unit should an upset condition occur. The berm must be properly sealed to prevent any leakage.

13. The containment berm for the oil storage units shall comply with the Spill Prevention, Control and Countermeasure (SPCC) Plan of the Environmental Protection Agency (EPA).

14. Any tire-derived products stored longer than six months shall be managed under the requirements of this permit, including bond requirements.

15. Any by-product or product of the process which remains stored or unsold for more than six months shall be considered a waste and therefore subject to the Department's regulations governing hazardous waste and solid waste, and to any other applicable regulations of state, local and federal government pertaining to solid waste or hazardous waste. Permittee is required to inform the Department if any product or by-product is stored for more than six months.

16. No operations involving the use of open flames or blow torches shall be conducted within 25 feet of a waste tire or tire-derived product pile.

17. If pyrolytic oil is released at the waste tire storage site as a result of a tire fire, the permittee shall remove contaminated soil in accordance with applicable rules governing the removal, transportation and disposal of the material.

18. The site shall be operated and maintained in a manner which avoids to the maximum extent practicable the attraction of insects, rodents and other vectors. Permittee is to comply with Multnomah County Vector Control requirements.

19. In the event that any occurrence causes a violation of any conditions of this permit or of the Department's rules, the permittee shall:

    a. Immediately take action to correct the unauthorized conditions or operation; and

    b. Immediately notify the Department's Solid Waste Section in Portland (1-800-452-4011, or 229-5913) and the Northwest Region at 229-6385 so that an investigation can be made to evaluate the problem and the corrective actions taken, and to determine if any additional action must be taken.

SCHEDULE E

Closure Requirements

1. The permittee shall cease to accept waste tires and shall immediately close the site in compliance with any special closure conditions established in Schedule C of this permit and pursuant to OAR 340-64-040 and 340-64-045 if:

    a. The permittee declares the site closed;

    b. This permit expires or is revoked and renewal of the permit is not applied for, or is denied;

c. The Commission issues an order to cease operations; or

d. The permit compliance schedule in Schedule C of this permit specifies that closure is to begin.

2. If closure is required under paragraphs (1)(a) through (d) of this Schedule, the permittee shall submit to the Department a closure plan within 30 days of the declaration that closure is to occur. The closure plan shall include:

a. When or under what circumstances the site will close, including any phase-in of the closure;

b. How all waste tires and tire-derived products will be removed from the site or otherwise properly disposed of upon closure;

c. A schedule for the applicable closure procedures, including the time period for completing the closure procedures; and

d. A plan for site rehabilitation, if deemed necessary by the Department.

3. In closing the storage site, the permittee shall:

a. Close public access to the waste tire storage site for tire storage;

b. Post a notice indicating to the public that the site is closed and, if the site had accepted waste tires from the public, indicating the nearest site where waste tires can be deposited;

c. Notify the Department and local government of the closing of the site;

d. Remove all waste tires and tire-derived products to a waste tire storage site, solid waste disposal site authorized to accept waste tires, or other facility approved by the Department;

e. Remove any solid waste to a permitted solid waste disposal site; and

f. Notify the Department when the closure activities are completed.

4. After receiving notification that site closure is complete, the Department may inspect the storage site. If all procedures have been correctly completed, the Department shall approve the closure in writing. Any financial assurance not needed for the closure shall be released to the permittee.

SCHEDULE F

Financial Assurance Requirements

1. The permittee shall file with the Department and maintain financial assurance acceptable to the Department in the amount of $7,500.00 for the site for the duration of the permit. The amount and form of the financial assurance shall be pursuant to OAR 340-64-022.

2. Permittee shall file and maintain acceptable financial assurance by March 1, 1993, for the volume of stored tire product exceeding 50% of the 1992 annual usage.

SCHEDULE G

General Conditions and Disclaimers

1. Terms in this permit apply as defined in Oregon Administrative Rule 340-64-010.

2. Conditions of this permit shall be binding upon the permittee. The permittee shall be liable for all acts and omissions of the permittee's contractors and agents.

3. The waste tire storage site shall be operated in compliance with Oregon Administrative Rules, Chapter 340, Division 64 regarding storage of waste tires.

4. Permittee shall comply with all solid waste regulations, except that permittee is not required to obtain a solid waste permit from the Department. All operations at permittee's facility at 3601 NW Marine Drive must be consistent with the Regional Solid Waste Management Plan.

5. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

6. The Department, its officers, agents, or employees shall not sustain any liability on account of the issuance of this permit or on account of the construction, operation or maintenance of a site because of this permit.

7. The permittee shall allow representatives of the Department, after reasonable notice, access to the site and to the site records, for the purpose of monitoring, making inspections, and carrying out other necessary functions related to this permit.

8. This permit may be modified, suspended, or revoked in whole or in part at any time by the Director during its term for reasons including, but not limited to the following:

   a. Violation of any terms or conditions of this permit or any applicable rule, standard, or order of the Commission;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; and

   c. A significant change in the quantity or character of waste tires received or in the method of storage site operation.

9. This permit, or a photocopy thereof, shall be displayed where it can be readily referred to by operating personnel.

10. Violation of permit conditions shall subject the permittee to civil penalties.

Permit Number: WTSII22
Expiration Date: 12/31/94
Page 1 of 2 Pages

ATT 3

WASTE TIRE STORAGE SITE PERMIT

Department of Environmental Quality
811 SW Sixth Avenue, Portland, OR 97204-1390
Telephone: (503) 229-5733

Issued in accordance with the provisions of ORS Chapter 459 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

RMAC International, Inc.
1080 NW Perimeter Road
Troutdale, OR 97060

PROPERTY OWNER:

RMAC International, Inc.
~~(503) 667-6790~~ 223-7465

OPERATOR:

RMAC International, Inc.
(503) 665-3570

FACILITY COVERED BY THIS PERMIT

SITE NAME: RMAC International, Inc.

SITE TYPE AND LOCATION:

Storage, processor
3601 N.W. Marine Drive, Troutdale
#R94322-0330, R94322-0320
#R94322-0120
T1N, R3E, Sec. 22, Tax Lots 12, 32, and 33, Multnomah County

MAXIMUM NUMBER OF TIRES ALLOWED TO BE STORED AT ABOVE-NAMED SITE: 7,500 passenger-car tire equivalents and a maximum of 20,000 cu. yd. of tire-derived product

ISSUED IN RESPONSE TO: A renewal application received November 22, 1991, and a Land Use Compatibility Statement from Troutdale dated January 4, 1989.

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Stephanie Hallock — 7-23-93

Stephanie Hallock, Administrator
Hazardous and Solid Waste Division

Date

ADDENDUM NO. 1

The following conditions are revised as follows:

Schedule A, Authorized and Prohibited Activities:

Condition 6: The maximum number of waste tires allowed to be stored at the site is 7,500. All water used at the facility must be controlled and disposed of in compliance with Department (DEQ) and local regulatory agency requirements.

Schedule C, Compliance Conditions and Schedules:

Condition 1: The waste tire storage site shall be designed, constructed and operated in accordance with the conditions of this permit, the new management plan (Appendix A) approved by the Department on March 30, 1993, and Contingency Plan (Appendix B) approved by the Department on April 14, 1992. However, the Department has modified the Contingency Plan to require that the containment berm for the oil storage comply with the Spill Prevention, Control and Countermeasure (SPCC) Plan of the Environmental Protection Agency (EPA).

Condition 2: All tire-derived product stored on site shall meet storage standards contained in Schedule D by April 1, 1994. If tire-derived product stored on site does not meet storage standards by April 1, 1994, financial assurance will be increased to provide adequate funds for the complete removal of all of the tire-derived product.

Condition 3: The permittee shall select appropriate chemical tire fire suppressant and equipment, inform the Department in writing of the selection(s), and keep an adequate supply of the fire suppressant and equipment on site at all times. Appropriate fire equipment must be acquired by September 1, 1993.

Schedule D, Storage and Operational Standards:

Condition 3: This condition is amended to allow tire chip piles to reach heights not to exceed 18 feet only until ODOT takes possession of the tire shreds. If, for whatever reason, ODOT fails to take possession of the tire shreds, the original height requirement of 4 yards must be met by April 1, 1994. All other requirements stated in OAR 340-64-035(5) are to be met.

Schedule F, Financial Assurance Requirements:

Condition 1: By September 1, 1993, the permittee shall file with the Department financial assurance for the site in the amount of $10,000. The financial assurance shall remain in effect for the duration of the permit. The amount and form of the financial assurance shall be pursuant to OAR 340-64-022.

Condition 2: If tire-derived product stored on site does not meet storage standards by April 1, 1994, financial assurance will be increased to provide adequate funds for the complete removal of all of the tire-derived product, pursuant to OAR 340-64-022(1).

Appendix A, Management Plan, February 1992, is replaced by Appendix A, Management Plan, February 1993 (attached).

This Addendum shall be attached to and made part of Waste Tire Storage Site Permit No. WTSII22.

This modification shall be effective upon receipt.

APPENDIX A

The following management plan has been submitted by the applicant to the Department:

MANAGEMENT PLAN
February 1993

RMAC International, Inc., proposes the following as its management plan for the tire storage/processing operation at its facility located at 3601 NW Marine Drive, Troutdale, Oregon.

Basic Plan. RMAC will accept whole tires, that will then be reduced to tire chips by use of various chippers and shredders and stored on available chip storage areas. Tire chips will then be sold, or fed into the gasifier as the raw material from which fuel, and other commercial products, are produced.

The by-products of the shredding and gasification processes are tire wire and ash, or char. The wire will be landfilled. The ash will be landfilled only if buyers for the ash cannot be found.

Plan for Existing Primary Shreds. RMAC currently has approximately 16,800 cubic yards of primary shred tires on site. This number is declining as the shreds are converted to chips and sold or processed through the gasifier.

The State of Oregon has committed to take 20,000 cubic yards of primary tire shreds from RMAC for use in the I-84, 181st-223rd Section, improvement project. The State expects to take delivery of the shreds in early 1994.

As a result, in 1993 RMAC will operate under the Basic Plan, above. At no time will RMAC exceed the 20,000 tons allowable in their original permit. As the delivery date nears, RMAC will shred sufficient tires to fill the State's purchase order.

APPENDIX B

CONTINGENCY PLAN

The following contingency plan has been submitted by the applicant to the Department:

> This site will be attended 24 hours per day; therefore, all areas will be monitored continuously. The site will be laid out to DEQ specifications, having 50 feet all weather roadways that will be maintained and kept clear at all times. All surface runoff on the site will be contained with an asphalt surface and catch basins. A secondary containment facility will be built into the staging area with a valve for terminating the runoff in case of spill or fire. All tankage will meet the requirements of the clean water act by containment of 150 per cent of the largest tank within a concrete berm. The reactor likewise will be set in a bermed area. There will be plenty of supplied water for fire control as well as Salmon Creek is close and water could be pumped in case of a major accident. The storage area will be sprinkled.
>
> There will be some ansul filled fire extinguishers on site and all personnel will be instructed how to use them, plus keep all areas wet in case a fire would occur.

Department requirement:

> The containment berm for the oil storage must comply with the Spill Prevention, Control and Countermeasure (SPCC) Plan of the Environmental Protection Agency.

Anne Cox

Anne Cox
Waste Tire Specialist

2/27/89

Date

PWTSII22.A

State of Oregon
Department of Environmental Quality Memorandum

Date: August 11, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item I., EQC Meeting August 21-22, 1997
Request by the City of Brookings for an increase in permitted mass load limitations.

Statement of Purpose

Request by the City of Brookings (City) for an increase in permitted mass load limitations. This request is for an exception to OAR 340-41-026 (2) (an EQC policy requiring growth and development be accommodated with existing permitted loads unless otherwise approved by the EQC). If approved, the increase will be incorporated into a new National Pollutant Discharge Elimination System (NPDES) permit.

Background

The City's wastewater treatment facility (facility) discharges domestic wastewater receiving secondary treatment through a multi-port diffuser located approximately 480 feet offshore in Macklyn Cove in the Pacific Ocean. This discharge area is a dynamic well mixed environment. The facility is currently operating under an NPDES permit. The facility's current permit is based on an average dry weather flow of 1.0 million gallons per day (mgd) and serves a population of about 9,500 (Brookings and Harbor Sanitary District 1995 population as estimated in facilities plan). This facility is considered a major domestic discharger.

Because the facility was having difficulty meeting the NPDES permit limitations, in 1996 the City of Brookings entered into a Mutual Agreement and Order (MAO) with the Department. This MAO requires the City to upgrade the capacity of the treatment facilities to the projected flows for the year 2015. The city submitted a Facilities Plan which evaluates the existing facility's flows and loads, projects future population, flows and loads, and recommends upgrades. The engineers estimates are that in the year 2015, the population of Brookings and Harbor will be 16,400 and the average dry weather flow will increase to 1.74 mgd.

The Department is in the process of renewing the City's NPDES permit. The City has requested that the mass loads in the new permit be increased. Attachment A discusses the specifics of the request and reviews various methods of calculating mass load limits for NPDES permits. While the City originally requested higher mass loads, after reviewing the memo in Attachment A, they

agreed to accept the lower loads calculated by the Department. A copy of this letter is included as Attachment C.

Authority of the Commission with Respect to the Issue

OAR 340-41-026 (2) states "In order to maintain the quality of waters in the State of Oregon, it is the general policy of the EQC to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharged loads except as provided in section (3) of this rule". OAR 340-41-026 (3) states that the Environmental Quality Commission may grants exceptions to section 2 for major sources provided that certain criteria are satisfied. The Department believes that the criteria have been met. Attachment B summarizes the criteria and the Department's findings pursuant to that criteria.

Alternatives and Evaluation

The City proposes to increase the treatment facility's capacity to be able to treat influent flows up to the projected peak wet weather flow (design year 2015). These improvements include expanding the sludge management capacity, expanding the primary and secondary clarifier capacity, and installation of ultraviolet disinfection. The estimated cost of these improvements is $13 million (1997 dollars).

While these upgrades include the best practicable technology to allow to city to adequately treat sewage, they will be insufficient to reliably meet the presently allowed discharge loads. Additional treatment, such as effluent filters, would be necessary to meet these loads. The city's engineer has estimated that the additional cost would be between $2.5 and $3 million (1997 dollars).

As discussed in Attachment B, the City's engineering study of effluent dilution has shown that there would be no measurable impact to water quality from the increased loads. Therefore, addition of the effluent filters would provide very little environmental benefit.

Summary of Public Input Opportunity

To date, there has been no public input. Upon approval or denial of this mass load increase, the Department will complete the draft permit and issue it for public comment. The public will then have opportunity to comment on the permit both verbally and in writing.

Conclusions

1) The upgrades recommended in the City's facilities plan will improve the overall level of treatment and the reliability of the treatment facility. However, due to the projected increases in population, flow and loading, these improvements are not sufficient to meet the mass load limitations in the current permit.

2) Additional treatment units would be needed to meet the mass load limitations in the current permit. The cost of adding these additional treatment units would be between $2.5 and $3 million.

3) The City's engineering consult conducted a study using an EPA approved water quality modeling program to evaluate the potential impacts of the mass load increase. The conclusion of this study was that there would be no measurable impact to water quality and beneficial uses by allowing the mass load increase.

4) The Department believes the request meets the criteria adopted by the Commission for granting a permitted mass load increase because:
    a) The increase will not cause water quality standards to be violated.
    b) The increase will not unacceptably threaten or impair and recognized beneficial uses.
    c) Macklyn Cove in the Pacific Ocean is not water quality limited for any pollutant parameters.

Intended Future Actions

Upon approval or denial of this mass load increase, the Department will complete the draft permit.

Department Recommendation

It is recommended that the Commission grant the mass load increase as presented in Attachment A.

Attachments

A. Technical Review of Request for Mass Load Increase
B. Review of OAR 340-41-026 Criteria for Mass Load Increase
C. Letter from City accepting Department calculated mass loads

Reference Documents (available upon request)

1. City of Brookings, Wastewater Treatment Plant Facilities Plan Amendment, January 13, 1997
2. Statutory Authority - ORS Chapter 468
3. Applicable Rules - OAR 340-41-026 (1-10) and OAR 340-41-120 (9) (b)
4. Draft Proposed Permit and Draft Permit Review Report

Approved:

Section: Dennis Belsky

Dennis Belsky

Division: Steve Greenwood

Steve Greenwood

Report Prepared By: Jonathan Gasik
Phone: 541-776-6010 x230
Date Prepared: August 1, 1997

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7/29/97

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Memorandum

WESTERN REGION - MEDFORD

TO: City of Brookings
File Number 11297

DATE: July 28, 1997

FROM: Jonathan Gasik, Environmental Engineer

RE: Technical review of request for mass load increase

BACKGROUND

Because the existing treatment facility was having difficulty meeting the NPDES permit limitations, the City of Brookings entered into a Mutual Agreement and Order with the Department. This MAO requires the City to upgrade the capacity of the treatment facilities to the projected flows for the year 2015. The city submitted a Facilities Plan which evaluates the existing facility's flows and loads, projects the population and flows, and recommends upgrades which will cost approximately $13MM.

OAR 340-41-026 (2) states "In order to maintain the quality of waters in the State of Oregon, it is the general policy of the EQC to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharged loads except as provided in section (3) of this rule". While the upgrades recommended in the facility's plan include the best practicable technology to allow to city to adequately treat sewage, these recommended upgrades will be insufficient to reliably meet the presently allowed discharge loads. Additional treatment, such as effluent filters, would be necessary to meet these loads. John Holroyd at Brown and Caldwell will prepare a cost estimate for these improvements for incorporation into our staff report for the EQC.

OAR 340-41-026(3)(a) details the findings that must be made to grant an exemption. The exact wording of these findings is attached.

REVIEW OF REQUESTED MASS LOAD INCREASE

In Brooking's request, the mass loading calculations were based on the average wet weather design flow (3.01 mgd), the average dry weather design flow (1.74 mgd), and the secondary treatment standard of 30 mg/l. This is the method the Department uses for existing facilities. The calculations are as follows:

WET WEATHER:

Monthly average mass = 30 mg/l x 3.01 mgd x 8.34 = 750 pounds per day (ppd)

Weekly average mass = 750 ppd x 1.5 = 1,125 ppd
Daily maximum mass = 750 ppd x 2.0 = 1,500 ppd

DRY WEATHER:

Monthly average mass = 30 mg/l x 1.74 mgd x 8.34 = 435 ppd
Weekly average mass = 435 ppd x 1.5 = 650 ppd
Daily maximum mass = 435 ppd x 2.0 = 870 ppd

However, OAR 340-41-120(9)(b) states " For new sewage treatment facilities or treatment facilities expanding the average dry weather treatment capacity, and receiving engineering plans and specifications approval from the Department after June 30, 1992, the mass load limits shall be calculated by the Department based on the proposed treatment facility capabilities and the highest and best practicable treatment to minimize the discharge of pollutants". While the Department does not have a formal written procedure for developing permit limits based on this standard, several methods may be compared to derive reasonable mass load limits. These are 1) Federal technology based limits, 2) water quality based limits, and 3) performance based limits. This comparison of methods follows:

FEDERAL TECHNOLOGY BASED LIMITS

The Federal technology based requirements for municipal discharges is as follows:

	30 Day Average	7 Day Average
5-Day BOD	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l
Percent Removal	85%	none

Per 40 CFR § 122.45 (f) & (b), the permit limits shall be both mass and concentration based and the mass based limits are to be based on the design flow of the treatment plant. The treatment plant will be upgraded to a design flow of 4.94 mgd. Therefore, the mass limits are calculated as follows:

Monthly average mass = 30 mg/l x 4.94 mgd x 8.34 = 1236 pounds per day
Weekly average mass = 45 mg/l x 4.94 mgd x 8.34 = 1854 pounds per day

WATER QUALITY BASED LIMITS

Water Quality based limits are developed where technology-based limits are insufficient to prevent violations of water quality standards. Therefore, as a first review, the technology based limits are used in a computer model to evaluate the effect of the effluent discharge at worst case ambient conditions on the receiving waters. The attached report was prepared by Brown and Caldwell on February 5, 1997. In this report, it was assumed that effluent flow would be 3.0 mgd and the effluent concentration would be 30 mg/l during the average dry weather effluent flow at the design year. The report also assumed that during the wet season, the maximum flow would be 15.5 mgd

and the concentration would be 11.6 mg/l at the design year. This results in mass loadings of 750 ppd and 1500 ppd for dry and wet seasons, respectively. The report concluded that these effluent loadings would not cause a violation of water quality standards.

PERFORMANCE BASED LIMITS

While there is no formal written policy for implementing the performance based limits, the general guidance is that the permit limits should not be set so high that there is no chance of a violation ever occurring, but not so low as to have frequent violations.

Technology is always producing better wastewater treatment systems. If a numeric technology based standard were set, the regulations would not keep pace with the technological improvements, unless regularly reviewed and updated. The intent of the rule for setting mass load limits for new and increasing discharges, therefore, is to insure that the latest technology is installed and appropriate limits set.

As shown above, mass is dependent upon both flow and concentration. One possible method of setting the limits is to estimate a future flow and concentration at certain critical points. Because the enforcement rules (OAR 340-12-041(2)(c)) allow for three violations of the permit in a 36 month period without a formal enforcement action, allowing for an occasional violation of other permit conditions, a reasonable frequency of exceedence would be no more than one every two years. Therefore, the one in two year flows and the maximum expected concentrations can be used to calculate mass limits.

For the wintertime (November - April), the city's consultant, Brown and Caldwell calculated these flows as follows:

Maximum Month Flow at design year (1in2) = 3.5 mgd
Maximum Weekly Flow at design year (1in2) = 5.5 mgd
Maximum Daily Flow at design year (1in2) = 9.4 mgd

During the winter months, a reasonable expected effluent concentration is 25 mg/l. Therefore, the mass limits are rounded to 2 significant figures and calculated as follows:

Monthly average mass limit = 3.5 mgd x 25 mg/l x 8.34 = 730 ppd
Weekly average mass limit = 5.5 mgd x 25 mg/l x 8.34 = 1,100 ppd
Daily maximum mass limit = 9.4 mgd x 25 mg/l x 8.34 = 2,000 ppd

For the summertime (May - October), Brown and Caldwell calculated the 1in2 year monthly flows with 24 hr rainfall frequency calculations provided by the Department. These are as follows:

Maximum Month Flow at design year (1in2) = 2.1 mgd
Maximum Weekly Flow at design year (1in2) = 2.4 mgd
Maximum Daily Flow at design year (1in2) = 2.73 mgd

During the summer, the expected monthly average concentrations should be below 15 mg/l. However, because the system is biological, concentration fluctuations will occur. Reasonable maximum concentrations for the weekly and daily are 20 and 25 respectively. Therefore, the mass limits are calculated as follows:

Monthly average mass limit = 2.1 mgd x 15 mg/l x 8.34 = 260 ppd
Weekly average mass limit = 2.4 mgd x 20 mg/l x 8.34 = 400 ppd
Daily maximum mass limit = 2.73 mgd x 25 mg/l x 8.34 = 570 ppd

SUMMARY

The following table summarizes the results of the various methods of calculating mass load limits and compares them to the current permit loads:

	Current Permit	Permittee Requested	Federal Technology Based	Water Quality Based	Performance Based
Wintertime					
Monthly Ave.	250	750	1,200	NA	730
Weekly Ave.	375	1,125	1,900	NA	1,100
Daily Max.	500	1,500	NA	1500 *	2,000
Summertime					
Monthly Ave.	250	435	1,200	NA	260
Weekly Ave.	375	650	1,900	NA	400
Daily Max.	500	870	NA	750*	570

* - Analysis showed no violation of WQ standards at this level. Actual limit may be higher.

Note that the federal technology based limits do not have a daily maximum limit and water quality based limits would exceed those request by the permittee.

RECOMMENDATIONS

While the performance based limit method described above does produce a reasonable result, other more statistically precise methods do exist. However, these methods are more complicated and require a greater level of resources and expertise than is generally available within the Department. In addition, the assimilative capacity of the ocean in the vicinity of Brookings is quite large. Therefore, a more precise analysis of these limits would appear unwarranted in this situation.

Therefore, because the performance based limit method produces the most protective limits, I recommend that the Department not support the city's request for mass load increase as requested. However, if the required findings can be made, the Department should support the mass load increase using performance based limits calculated as above with the exception of

wintertime daily maximum. Until the water quality analysis is performed showing no violations of water quality standards at 2000 ppd, the limit of 1500 ppd should be used.

Therefore, the recommended mass load limits for TSS and BOD are as follows:

Parameter	Average Effluent Concentration		Monthly average ppd	Weekly average ppd	Daily maximum ppd
	Monthly mg/l	Weekly mg/l			
Nov 1 - Apr 30					
BOD	30	30	730	1,100	1,500
TSS	30	30	730	1,100	1,500
May 1 - Oct 30					
BOD	30	30	260	400	570
TSS	30	30	260	400	570

OAR 340-41-026(3)(C)(a):

" (a) In allowing new or increased discharged loads, the Commission or Department shall make the following findings:

(A) The new or increased discharged load would not cause water quality standards to be violated;

(B) The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial uses. In making this determination, the Commission or Department may rely upon the presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected. In making this determination the Commission or Department may also evaluate other state and federal agency data that would provide information on potential impacts to beneficial uses for which the numeric criteria have not been set;

(C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited under OAR 340-41-006(30)(a), unless:

(i) The pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to violate water quality standards and being designated water quality limited; or

(ii) Total maximum daily loads (TMDLs), waste load allocations (WLAs) load allocations (LAs), and the reserve capacity have been established for the water quality limited receiving stream; and compliance plans under which enforcement action can be taken have been established; and there will be sufficient reserve capacity to assimilate the increased load under the established TMDL at the time of discharge; or

(iii) Effective July 1, 1996, in waterbodies designated water-quality limited for dissolved oxygen, when establishing WLAs under a TMDL for waterbodies meeting the conditions defined in this rule, the Department may at its discretion provide an allowance for WLAs calculated to result in no measurable reduction of dissolved oxygen. For this purpose, "no measurable reduction" is defined as no more than 0.10 mg/L for a single source and no more than 0.20 mg/L for all anthropogenic activities that influence the water quality limited segment. The allowance applies for surface water DO criteria and for Intergravel DO if a determination is made that the conditions are natural. The allowance for WLAs would apply only to surface water 30-day and seven-day means, and the IGDO action level; or

(iv) Under extraordinary circumstances to solve an existing, immediate, and critical environmental problem that the Commission or Department may consider a waste load increase for an existing source on a receiving stream designated water quality limited under OAR 340-41-006(30)(a) during the period between the establishment of TMDLs, WLAs and LAs and their achievement based on the following conditions:

(I) That TMDLs, WLAs and LAs have been set; and

(II) That a compliance plan under which enforcement actions can be taken has been established and is being implemented on schedule; and

(III) That an evaluation of the requested increased load shows that this increment of load will not have an unacceptable temporary or permanent adverse effect on beneficial uses; and

(IV) That any waste load increase granted under subparagraph (iv) of this paragraph is temporary and does not extend beyond the TMDL compliance deadline established for the waterbody. If this action will result in a permanent load increase, the action has to comply with subparagraphs (i) or (ii) of this paragraph.

(D) Effective July 1, 1996, in any waterbody identified by the Department as exceeding the relevant numeric temperature criteria specified for each individual water quality management basin identified in OAR 340-41-205, OAR-340-41-245, OAR-340-41-285, OAR-340-41-325, OAR-340-41-365, OAR-340-41-445, OAR-340-41-485, OAR-340-41-525, OAR-340-41-565, OAR-340-41-605, OAR-340-41-645, OAR-340-41-685, OAR-340-41-725, OAR-340-41-765, OAR-340-41-805, OAR-340-41-845, OAR-340-41-885, OAR-340-41-925, OAR-340-41-965, and designated as water quality limited under Section 303(d) of the Clean Water Act, the following requirements shall apply to appropriate watersheds or stream segments in accordance with priorities established by the Department. The Department may determine that a plan is not necessary for a particular stream segment or segments within a water-quality limited basin based on the contribution of the segment(s) to the temperature problem:

(i) Anthropogenic sources are required to develop and implement a surface water temperature management plan which describes the best management practices, measures, and/or control technologies which will be used to reverse the warming trend of the basin, watershed, or stream segment identified as water quality limited for temperature;

(ii) Sources shall continue to maintain and improve, if necessary, the surface water temperature management

plan in order to maintain the cooling trend until the numeric criterion is achieved or until the Department, in consultation with the Designated Management Agencies (DMAs), has determined that all feasible steps have been taken to meet the criterion and that the designated beneficial uses are not being adversely impacted. In this latter situation, the temperature achieved after all feasible steps have been taken will be the temperature criterion for the surface waters covered by the applicable management plan. The determination that all feasible steps have been taken will be based on, but not limited to, a site-specific balance of the following criteria: protection of beneficial uses; appropriateness to local conditions; use of best treatment technologies or management practices or measures; and cost of compliance;

(iii) Once the numeric criterion is achieved or the Department has determined that all feasible steps have been taken, sources shall continue to implement the practices or measures described in the surface water temperature management plan in order to continually achieve the temperature criterion;

(iv) For point sources, the surface water temperature management plan will be part of their National Pollutant Discharge Elimination System Permit (NPDES);

(v) For nonpoint sources, the surface water temperature management plan will be developed by designated management agencies (DMAs) which will identify the appropriate BMPs or measures;

(vi) A source (including but not limited to permitted point sources, individual landowners and land managers) in compliance with the Department or DMA (as appropriate) approved surface water temperature management plan shall not be deemed to be causing or contributing to a violation of the numeric criterion if the surface water temperature exceeds the criterion;

(vii) In waters the Department determines to be critical for bull trout recovery, the goal of a bull trout surface water temperature management plan is to specifically protect those habitat ranges necessary to maintain the viability of existing stocks by restoring stream and riparian conditions or allowing them to revert to conditions attaining the coolest surface water temperatures possible under natural background conditions;

(E) Waters of the state exceeding the temperature criteria will be identified in the Clean Water Act (CWA), Section 303(d) list developed by the Department according to the schedule required by the Clean Water Act. This list will be prioritized in consultation with the DMAs to identify the order in which those waters will be addressed by the Department and the DMAs;

(F) In basins determined by the Department to be exceeding the numeric temperature criteria, and which are required to develop surface water temperature management plans, new or increased discharge loads from point sources which require an NPDES permit under Section 402 of the Clean Water Act or hydro-power projects which require certification under Section 401 of the Clean Water Act are allowed a 1.0°F total cumulative increase in surface water temperatures as the surface water temperature management plan is being developed and implemented for the water quality limited basin if:

(i) In the best professional judgment of the Department, the new or increased discharge load, even with the resulting 1.0°F cumulative increase, will not conflict with or impair the ability of a surface water temperature management plan to achieve the numeric temperature criteria; and

(ii) A new or expanding source must demonstrate that it fits within the 1.0°F increase and that its activities will not result in a measurable impact on beneficial uses. This latter showing must be made by demonstrating to the Department that the temperature change due to its activities will be less than or equal to 0.25°F under a conservative approach or by demonstrating the same to the EQC with appropriate modeling.

(G) Any source may petition the Department for an exception to paragraph (F) of this subsection, provided:

(i) The discharge will result in less than 1.0°F increase at the edge of the mixing zone, and subparagraph (ii) or (iii) of this paragraph applies;

(ii) The source provides the necessary scientific information to describe how the designated beneficial uses would not be adversely impacted; or

(iii) The source demonstrates that:

(I) It is implementing all reasonable management practices;

(II) Its activity will not significantly affect the beneficial uses; and

(III) The environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

(H) Any source or DMA may petition the Commission for an exception to paragraph (F) of this subsection, provided:

(i) The source or DMA provides the necessary scientific information to describe how the designated beneficial uses would not be adversely impacted; or

(ii) The source or DMA demonstrates that:

(I) It is implementing all reasonable management practices;

(II) Its activity will not significantly affect the beneficial uses; and

(III) The environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

(I) In waterbodies designated by the Department as water-quality limited for bacteria, and in accordance with priorities established by the Department, development and implementation of a bacteria management plan shall be required of those sources that the Department determines to be contributing to the problem. The Department may determine that a plan is not necessary for a particular stream segment or segments within a water-quality limited basin based on the contribution of the segment(s) to the problem. The bacteria management plans will identify the technologies, BMPs and/or measures and approaches to be implemented by point and nonpoint sources to limit bacterial contamination. For point sources, their National Pollutant Discharge Elimination System permit is their bacteria management plan. For nonpoint sources, the bacteria management plan will be developed by designated management agencies (DMAs) which will identify the appropriate BMPs or measures and approaches.

(J) The activity, expansion, or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency."

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
Memorandum

WESTERN REGION - MEDFORD

TO: City of Brooking File
File Number 11297

DATE: July 31, 1997

FROM: Jonathan Gasik, Environmental Engineer

RE: Review of OAR 340-41-026 Criteria for Mass Load Increase

Background

The City of Brookings has requested a mass load increase with the current permit renewal. A previous memo ("Technical review of request for mass load increase", dated July 28, 1997) reviews this request and concludes that if the required findings can be made, a mass load increase is appropriate.

OAR 340-41-026 (2) states "In order to maintain the quality of waters in the State of Oregon, it is the general policy of the EQC to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharged loads except as provided in section (3) of this rule". OAR 340-41-026(3)(a) details the findings that must be made to grant an exemption. This memo will review each criteria and present the information that the Department has gathered to make each finding.

Water Quality Standards [OAR 340-41-026 (3)(a)(A)]

OAR 340-41-026 (3) (a) (A) states that in allowing increased discharged loads, the Commission shall make a finding that the increased load would not cause a violation water quality standards. To gather information about the effects of the increased load on water quality standards, the Department requested a report detailing these effects. On February 14, 1997, the City's consulting engineer, Brown and Caldwell, submitted the report "Updated Effluent Discharge Analysis for the City of Brookings Discharge".

The report used the EPA hydrodynamic computer modeling program PLUMES to evaluate the dilution achieved by the outfall diffuser for typical seasonal receiving water density profiles and effluent rates. The model calculates the average dilution, plume trajectory, and trapping level for submerged, buoyant plumes from a single port or single row of multiple diffuser ports in either stagnant or flowing environments.

The consultants ran several simulations using various environmental conditions and treatment plant effluent characteristic scenarios. They then evaluated the effects on the water quality parameters of dissolved oxygen, turbidity, pH, fecal coliform, temperature, bottom sediments, total dissolved solids, and toxicity. The result of this evaluation was that there is good initial dilution for a

discharge into a well-mixed, high-energy coastal environment and that there would not be even minor detrimental impacts from the discharge.

Department technical staff have reviewed this study, concur with the results, and believe that the increased mass load would not cause a violation water quality standards.

Beneficial Uses [OAR 340-41-026 (3)(a)(B)]

The beneficial uses for Macklyn Cove in the Pacific Ocean are: Industrial Water Supply, Anadromous Fish Passage, Salmonid Fish Spawning, Resident Fish and Aquatic Life, Wildlife and Hunting, Fishing, Boating, Water Contact Recreation, Aesthetic Quality, Commercial Navigation and Transportation. OAR 340-41-026 (3)(a)(B) states that in allowing increased discharged loads, the Commission shall make a finding that the increased load would not unacceptably threaten or impair any recognized beneficial uses. This section also states that in making this determination, the Commission or Department may rely upon the presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected.

As discussed above, the evaluation of the effects of the increased load on water quality showed that water quality standards would be met. Therefore, it may be presumed that the increase mass load would not unacceptably threaten or impair any recognized beneficial uses.

Water Quality Limited Status [OAR 340-41-026 (3)(a)(C)]

OAR 340-41-026 (3)(a)(C) states that, with certain exceptions, the increased load shall not be granted if the receiving stream is classified as being water quality limited. The waters of Macklyn Cove in the Pacific Ocean are not water quality limited for any parameters.

Temperature [OAR 340-41-026 (3)(a)(D), (E), (F), (G), & (H)]

OAR 340-41-026 (3)(a)(D), (E), (F), (G) and (H) specify certain requirements for discharges to water bodies that are water quality limited for temperature. These requirements do not apply to the City of Brookings because Macklyn Cove in the Pacific Ocean is not water quality limited for temperature.

Bacteria [OAR 340-41-026 (3)(a)(I)]

OAR 340-41-026 (3)(a)(I) specifies certain requirements for discharges to water bodies that are water quality limited for bacteria. These requirements do not apply to the City of Brookings because Macklyn Cove in the Pacific Ocean is not water quality limited for bacteria.

Local Land Use Plans [OAR 340-41-026 (3)(a)(J)]

OAR 340-41-026 (3)(a)(J) states that the activity, expansion, or growth necessitating the increased

discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency. The Department has received a Land Use Compatibility Statement (LUCS) from Curry County as evidence that this requirement has been met.

Assimilative Capacity Issues [OAR 340-41-026 (3)(b)]

OAR 340-41-026 (3)(b) states: "Oregon's water quality management policies and programs recognize that Oregon's water bodies have a finite capacity to assimilate waste. Unused assimilative capacity is an exceedingly valuable resource that enhances in-stream values specifically, and environmental quality generally. Allocation of any unused assimilative capacity should be based on explicit criteria."

Assimilative capacity is a farfield cumulative criteria which is applicable to most water bodies such as streams, lakes, and estuaries. However, the assimilate capacity of the Pacific Ocean in the very farfield is massive. Therefore, limitations based on a farfield cumulative criteria should not apply to ocean discharges which are well spaced apart. Research has shown that, for ocean discharges in the non-stagnant areas, the effluent will be diluted at a faster rate than the biochemical oxygen demand of the effluent is exerted. Therefore, with regard to biochemical oxygen demand, if the water quality in the near field is protected, the water quality in the farfield is protected as well.

Therefore, the criteria set out in OAR 340-41-026 (3)(b) do not apply to the City of Brookings.

Summary

The criteria for determining whether the Commission may allow an exception to OAR 340-41-026 (2) have been met. It is recommended that the Commission approve this exception.

Attachment C

CITY OF BROOKINGS

898 Elk Drive
Brookings, Oregon 97415
Phone (541) 469-2163
Fax (541) 469-3650

The Home of Winter Flowers

July 29, 1997

Jon Gasik
OR Department of Environmental Quality
201 West Main Street Ste 2D
Medford OR 97501

RE: Mass Limits

Dear Jon Gasik:

The city does not agree with the premise used in setting the limits that there will be a violation in a two year storm event when the plant nears the end of the project ultimate build-out.

Based on the Department of Environmental Quality's memo that the Department would not support the city's requested limits we revised our request to the limits deemed acceptable in Jon Gasik's memo to the City of Brookings dated July 28, 1997.

The City of Brookings after consultation with our consulting engineer, Brown & Caldwell and our Chief Treatment Plant Operator accept the limits set forth in the above mentioned memo.

Sincerely,

Leo B. Lightle

Leo B. Lightle
Community Development Director

LBL/lb

CC: Tom Weldon, City Manager
Joe Ingwerson, Chief Treatment Plants Operator
John Holroyd, Brown & Caldwell

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Environmental Quality Commission

☐ Rule Adoption Item
☐ Action Item
☒ Information Item

Agenda Item K
August 22, 1997 Meeting

Title:

Umatilla Chemical Depot: Proposed Hazardous Waste Permit Modification to Incorporate Raytheon Demilitarization Company as Co-Permittee, and, Provide Update Information Regarding the Umatilla Project.

Summary:

This information item is to seek guidance from the Commission on how best to proceed with processing a proposed hazardous waste permit modification to incorporate Raytheon Demilitarization Company, Inc., as Co-Permittee and Co-Operator of the Umatilla Chemical Disposal Facility.

After a prescribed 46-day comment period, the Commission must first make findings that Raytheon meet the ORS 466.060 criteria (technical and financial capability, and willingness to comply), and if those findings can be made then the Commission may issue the permit modification.

Department Recommendation:

With direction from the Commission, the Department proposes to issue for public input an invitation to comment on the ORS 466.060 criteria and draft permit modifications.

Sue Oliver
Report Author

Brad McKnight for Stephanie Hallock
Division Administrator

Director

Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon

Department of Environmental Quality Memorandum

Date: August 8, 1997

To: Environmental Quality Commission

From: Langdon Marsh, Director

Subject: Agenda Item K, EQC Meeting August 22, 1997
Umatilla Chemical Depot: Proposed Hazardous Waste Permit Modification to Incorporate Raytheon Demilitarization Company as Co-Permittee, and, Provide Update Information Regarding the Umatilla Project.

Statement of Purpose

The Department's purpose is to discuss the proposed hazardous waste permit modification to incorporate Raytheon Demilitarization Company, Inc., (Raytheon) as a co-operator and co-permittee. To incorporate Raytheon into the permit, the Commission must make findings in accordance with ORS 466.060 before issuing a permit modification.

Background

On February 7, 1997, the Commission made findings under ORS 466.055 and 466.060 that allowed the US Army to construct and operate the Umatilla Chemical Disposal Facility (UMCDF). The order states, "When a contractor is selected, a hazardous waste treatment permit modification will be required to make that contractor a co-permittee, and the contractor will then be required to demonstrate technical and financial capability as well."

The ORS 466.060 criteria require two broad and significant standards. First, a permittee must demonstrate a capability to construct and/or operate a hazardous waste facility. This capability must be both technical and financial. Second, there must be a history showing compliance with hazardous waste requirements. The history must show an ability and willingness to be in compliance. The 466.060 criteria are codified in OAR 340 Division 120.

In the case of UMCDF, the two most important issues of incorporating a new permittee are evaluating past instances of non-compliance and providing adequate liability insurance.

On February 10, 1997, the US Army named Raytheon Demilitarization Company as the contractor to build and co-operate the UMCDF facility. Based on direction from the Department, on March 28, 1997, the US Army, as Permittee, and Raytheon, as Applicant, submitted for Department and Commission review a Class Three modification request which contained information pertinent to the ORS 466.060 criteria to add Raytheon as Co-Permittee in accordance with Oregon hazardous waste rules.

Class Three hazardous waste permit modification procedure includes a requirement that a permit modification request be followed by an initial comment period of 60 days. The Permittee must hold an informational public meeting within those 60 days. After the 60 days, the Department issues draft permit conditions for public notice for a minimum 45-day comment period with an option to hold a public hearing.

On May 12, 1997, the Department issued a Notice of Deficiency (NOD) to the Permittee and Applicant to gather more information regarding the findings and permit modification. The Permittee and Applicant responded to the NOD on July 10, 1997, with sufficient information to meet the ORS 466.060 criteria and to issue notice for public comment on proposed permit modifications, if the Commission so directs.

Because the Commission must make findings and a permit decision, the purpose of this work session discussion is to ensure that adequate information will be available for the Commission's final decision.

The Department will also provide the Commission with an update on Umatilla activities.

Authority of the Commission with Respect to the Issue

ORS 466.060, OAR 340-120-010(2)(g) & (h), OAR 340-105-041, OAR 340-105-040, and 40 CFR 270.42(c), as adopted by OAR 340-100-002.

Alternatives and Evaluation

The Department recommends that notice be issued simultaneously for public input regarding the findings and proposed permit modification changes. The comment period would last for 46 days, and include one public hearing in Hermiston. Action would be taken by the Commission at the November 21 meeting.

A work session regarding the proposed permit modifications is scheduled for the October 2nd La Grande Commission meeting. Part of this work session will include a summary, to date, of public comments received and results of the public hearing. Also, the US Army and Raytheon would provide a presentation and the Department will discuss the permit modification issues in more depth.

An alternative would be to first issue public notice for input regarding only the findings. If the Commission finds that Raytheon has the willingness and ability to be a Co-Permittee, then the Department could issue draft permit conditions for public comment. The Department does not recommend this alternative as it will lengthen the process.

Summary of Public Input Opportunity

The Department held a public workshop on April 10, 1997 to inform the public on the permit modification process.

In accordance with Class Three Permit modification procedures, there has already been an initial 60-day comment period from April 16 to June 16, which included a US Army/Raytheon public meeting held in Hermiston on May 19. This public meeting had many in attendance from Raytheon and the Army, but very few of the public. Two written comments were submitted to the Department with one of the commenters not satisfied with Raytheon being chosen.

Conclusions

The Department concludes that the Permittee and Applicant have submitted sufficient information to go out for public comment.

Intended Future Actions

The Department will submit recommendations to the Commission in November as to the findings and permit modification decision. If affirmative findings are made to incorporate Raytheon as Co-Permittee, then the Commission may also make the final permit modification decision.

If there is not adequate information to make the findings, the Commission may delay its final findings and decision. If affirmative findings cannot be made the Commission can subsequently deny the permit modification request.

Department Recommendation

It is recommended that the Commission accept this report, discuss the matter, and provide advice and guidance to the Department as appropriate.

Attachments

Attachment A:	Draft Fact Sheet and Proposed Draft Permit Modifications
Attachment B:	Draft "Chance to Comment" Public Notice to Mailing List Regarding ORS 466.066 Criteria and Proposed Permit Conditions to Incorporate Raytheon Demilitarization Company as Co-Permittee and Co-Operator of the Umatilla Chemical Disposal Facility.
Attachment C:	Pertinent Sections from the Permit Modification Request (Reference A) Pertaining to the ORS 466.060 Criteria
Attachment D:	Department Notice of Deficiency, May 12, 1997
Attachment E:	Pertinent Sections from the Response to Notice of Deficiency (Reference B) Pertaining to the ORS 466.060 Criteria
Attachment F:	ORS 466.055, ORS 466.060, and OAR 340-120-010(g) & (h)

Reference Documents (available upon request)

Reference A:	Umatilla Chemical Disposal Facility Class 3 Permit Modification Request for Revision of Part A Application and Submittal of Operator Capability and Information/Compliance History, March 1997
Reference B:	Response to the State of Oregon Department of Environmental Quality May 12, 1997 Notice of Deficiency for Class 3 Modification Request for Incorporation of Raytheon Demilitarization Company as Hazardous Waste Co-Permittee Umatilla Chemical Disposal Facility, July 1997

Approved:

Section: Brett McKnight

Division: Brett McKnight for Stephanie Hallock

Report Prepared By: Sue Oliver
Phone: (541) 567-8297
Date Prepared: August 8, 1997

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8/4/97

ATTACHMENT A

Draft Fact Sheet and Proposed Permit Modification

FACT SHEET
With
DRAFT PERMIT MODIFICATIONS
For The
UMATILLA CHEMICAL DISPOSAL FACILITY
HAZARDOUS WASTE PERMIT

Umatilla Chemical Depot
ID Number: OR6 213 820 917

August 29, 1996

I. EXECUTIVE SUMMARY

On March 28, 1997, US Army Chemical Depot (Permittee) and Raytheon Demilitarization Company (Applicant) submitted a Class Three permit modification request to incorporate Raytheon Demilitarization Company (Raytheon) as a co-permittee and co-operator. The permit modification request included information regarding Raytheon's technical, financial, and compliance capability, as required by ORS 466.060 and OAR 340-120(2)(g) & (h). This information was submitted for Environmental Quality Commission (Commission or EQC) and Department of Environmental Quality (Department) review for the findings the Commission must make before the Commission may issue a permit decision. The permit modification request also included information required by hazardous waste rules when a permit is transferred to a new co-permittee.

On May 12, 1997, the Department issued a Notice of Deficiency (NOD) requesting more information regarding the permit modification request. The Department requested both information pertaining to the ORS 466.060 criteria and hazardous waste rules and standards. The Permittee and Applicant responded to the NOD on July 10, 1997. The Department reviewed the response and concluded there is now enough information to proceed to public notice. Based on the modification request documents and public comment, the Commission hopes to make findings and a permit decision at its November meeting.

This Fact Sheet with Draft Permit Modifications describes the ORS 466.060 findings and proposed permit modifications.

II. INTRODUCTION

This Fact Sheet is intended to provide the public with information about the Class 3 permit modification request to incorporate Raytheon as Co-Permittee for the hazardous waste permit. The Class 3 modification procedures include providing the public with a 60-day preliminary comment period and informational meeting. This occurred from April 7 to June 16, 1997. There will be an additional public comment period of 46 days, beginning on August 29 and ending on October 14, 1997. A public hearing to accept oral and written testimony will be held on October 1st in the Hermiston Community Center at 7:00 p.m. A written Response to Comments (received during both the initial 60-day and the 46-day comment periods) will be issued upon the Commission's final decision.

III. OREGON REVISED STATUTE 466.060 CRITERIA AND FINDINGS

ORS 466.060 states:

> ***466.060 Criteria to be met by owner and operator before issuance of permit.*** *(1) Before issuing a permit for a facility designed to treat or dispose of hazardous waste or PCB, the permit applicant must demonstrate, and the commission must find, that the owner and operator meet the following criteria:*
>
> *(a) The owner, any parent company of the owner and the operator have adequate financial and technical capability to properly construct and operate the facility; and*
>
> *(b) The compliance history of the owner including any parent company of the owner and the operator in owning and operating other similar facilities, if any, indicates an ability and willingness to operate the proposed facility in compliance with the provisions of ORS 466.005 to 466.385 and 466.890 or any condition imposed on the permittee by the commission.*
>
> *(2) If requested by the permit applicant, information submitted as confidential under paragraph (a) of subsection (1) of this section shall be maintained confidential and exempt from public disclosure to the extent provided by Oregon law.*

The Permittee and Applicant submitted information regarding the criteria using the codified rules at OAR 340-120-010(g) & (h). These rules provide more specific guidance on the information requirements of ORS 466.060.

OAR 340-120-010(g) & (h) state:

> *(g) Owner and Operator Capability. The owner, any parent company of the owner and the operator must demonstrate adequate*

financial and technical capability to properly construct and operate the facility. As evidence of financial capability, the following shall be submitted:

(A) Financial statements of the owner, any parent company of the owner, and the operator audited by an independent certified public accountant for three years immediately prior to the application;

(B) The estimated cost of construction and a plan detailing how the construction will be funded; and

(C) A three year projection, from the date the facility is scheduled to begin operating, of revenues and expenditures related to operating the facility. The projection should have sufficient detail to determine the financial capability of the owner, any parent company of the owner and the operator to properly operate the facility.

(h) Compliance History:

(A) The compliance history in owning and operating other similar facilities, if any, must indicate that the owner, any parent company of the owner and the operator have an ability and willingness to operate the proposed facility in compliance with the provisions of ORS Chapter 466 and any permit conditions that may be issued by the Department or Commission. As evidence of ability and willingness, the following shall be submitted:

(i) A listing of all responses to past actual violations identified by EPA or the appropriate state regulatory agency within the five years immediately preceding the filing of the request for an Authorization to Proceed at any similar facility owned or operated by the applicant, owner, any parent company of the owner or operator during the period when the actions causing the violations occurred; and

(ii) Any written correspondence from EPA and the appropriate state regulatory agency which discusses the present compliance status of any similar facility owned or operated by the applicant, owner, any parent company of the owner or operator.

(B) Upon request of the Department, the applicant shall also provide responses to the past violations identified prior to the five years preceding the filing of an Authorization to Proceed and the specific compliance history for a particular facility owned or operated by the applicant, any parent company of the owner or operator.

The Department has reviewed the documents provided by the Permittee and Applicant to demonstrate technical, financial, and compliance capability. The Department believes there is enough information available to warrant public review and comment so that the Commission will have adequate public testimony to decide on the findings and subsequent permit decision.

The demonstration of capability that Raytheon has submitted is primarily found in the following documents which are available for review at the repositories listed later. These documents are:

- *Umatilla Chemical Disposal Facility Class 3 Permit Modification Request for Revision of Part A Application and Submittal of Operator Capability and Information/Compliance History*, submitted by US Army and Raytheon Demilitarization Company, March 28, 1997; and,
- *Notice of Deficiency* issued by Department of Environmental Quality, May 12, 1997; and,
- *Response to the State of Oregon Department of Environmental Quality May 12, 1997 Notice of Deficiency for Class 3 Modification Request for Incorporation of Raytheon Demilitarization Company as Hazardous Waste Co-Permittee Umatilla Chemical Disposal Facility*, submitted by US Army and Raytheon Demilitarization Company, July 10, 1997.

IV. DRAFT PERMIT MODIFICATIONS FOR PUBLIC COMMENT

The following proposed permit modifications do not affect how the Commission will make the ORS 466.060 findings. The Commission will decide on the findings based on the record before they make on any permit modification decision.

The following proposed permit modifications would be needed to incorporate Raytheon as a co-permittee, if the Commission finds Raytheon meets the statutory and regulatory requirements. The public is invited to comment on these proposed permit conditions.

In accordance with 40 CFR 124.5(c)(2), only those permit conditions applicable to incorporating Raytheon as a Co-Permittee and Co-Operator to the hazardous waste permit are subject to public comment.

MODIFICATION A

Proposed Revised Permit Modifications:

Signature Page (first page of hazardous waste permit), Introduction page, and Definition pages would be changed to illustrate that the Owner and Operator is the US Army (as represented by US Army Umatilla Chemical Depot and US Army Program Manager for Chemical Demilitarization) and to add Raytheon Demilitarization Company as co-permittee and co-operator. See Figures 1, 2, and 3 of this Fact Sheet to see proposed changes for the Signature Page, Introduction, and Definitions, respectively.

Issue:

OAR 340-105-001(4)(b) requires that, "Owners and operators of hazardous waste management units must have permits during the active life of the unit ..."

Discussion:

Permittee and Co-Permittee must be identified in the hazardous waste permit. The Department proposes that the Signature Page, Introduction, and Definitions of the permit incorporate Raytheon Demilitarization Company as Co-Permittee and Co-Operator. The US Army has selected Raytheon as the contractor to operate the UMCDF and to maintain

compliance with the permit. With this significant responsibility, the Department believes it is justified that Raytheon be named as the Co-Permittee and Co-Operator. The US Army has, however, the ultimate responsibility and should be designated as "Permittee, Owner and Operator."

The Department considers the US Army (as a single entity) as the "Permittee" but there are many programs and missions within the US Army. The Department considers both the Umatilla Chemical Depot Commander and the Program Manager for Chemical Demilitarization Umatilla Project Manager as representatives of the US Army, and thus share joint and several liability in matters of compliance with the permit.

MODIFICATION B

Proposed Revised Permit Condition: **II.M.**

The Permittee shall maintain and keep current liability policies of comprehensive general liability (CGL), umbrella liability and following form excess liability, architects and engineers professional liability and contractors pollution policy and following form excess liability, first catastrophic excess liability, and second catastrophic insurance or their equivalent. A policy compendium shall be sent to the Department annually which shall include at a minimum, that portion defining "insured' or liability responsibility and/or a review of the necessary insurance policies that illustrates Raytheon Demilitarization/Raytheon Parent Company liability coverage equal to or in excess of the amounts submitted on 7/11/97 to demonstrate compliance. In addition, within 60 days of the effective date of this permit modification, the Co-Permittee shall submit to the Department a written warranty from the Chief Executive Officer or Treasurer of Raytheon, Inc., (parent company) claiming that the Parent Company's insurance and assets will be used to effectuate the Co-Permittee's third-party liability insurance policies at the UMCDF, if necessary.

Issue:

The Permittee, if not provided an exemption, must "Maintain sufficient liability insurance or equivalent financial assurance in such amounts as determined by the department to be reasonably necessary to protect the environment and the health, safety and welfare of the people of this state." See ORS 466.105(5). The minimum amount allowed in regulation is found in 40 CFR 264.147 (adopted as Oregon Rule by OAR 340-100-002) with $1 million per occurrence and $2 million aggregate.

Discussion:

The Applicant submitted the minimum requirement of $1 million/$2 million in their March 28 request. In its NOD, the Department requested information regarding Public Law 85-804 which governs relationships between the Department of Defense and its contractors regarding liability. The Department requested this third-party liability information because with chemical nerve and blister agent operations, it is likely that the minimum requirement would

not meet the standard of "necessary to protect the safety and welfare of the people of this state."

The Permittee and Applicant submitted subsequent information in the Response to NOD indicating a suite of insurance policies that are in place. The Department, Attorney General, and Department of Administrative Services reviewed the information and concurred that the policies provide appropriate coverage. The insurance policies listed in the permit conditions provide for a total amount of $375 million for single claims and $465 million for multiple claims. However, the insurance policies are relatively complex and are dependent on specific scenarios, so these amounts may not be available for all types of claims. Examples and descriptions of the different insurance protections are found in Item 13, pages 75 through 81, in the Army/Raytheon Response to NOD.

In addition to the proposed permit condition, the Department will require the Applicant's parent company to warranty that their insurance policies, as described in the Response to NOD, are in effect for Raytheon Demilitarization Company.

MODIFICATION C

Proposed New Permit Condition **II.F.2.**:

Within 60 days from this permit condition's effective date, the Permittee and Co-Permittee shall submit to the Department a Class 1 permit modification request, with prior approval of the Department, to modify the Training Plan specified in permit condition II.F.1 to describe how the Permittee and Co-Permittee will develop and implement new training when instances of non-compliance or potential non-compliance are identified within the Chemical Stockpile Disposal Program..

Issue:

40 CFR 264.16 requires that, "Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of [the permit]."

Discussion:

From the review of the Army/Raytheon Response to NOD, the Department concluded that new training was very often an important and successful factor in correcting instances of non-compliance. Updated training to correct mistakes is part of what is frequently referred to as "lessons learned." The history at the similarly designed Johnston Atoll facility (also operated by Raytheon and the Army), as well as the Army's other chemical agent disposal sites, displays an aggressive "lessons learned" program. The Department believes a permit condition is warranted to guarantee such a program is in-place at the UMCDF.

MODIFICATION D

Proposed Revised Permit Condition **I.X.**:

All applications, reports or information required by this permit, or otherwise submitted to the Department, shall be signed and certified by the Umatilla Chemical Depot Commander, the Project Manager for the Umatilla Chemical Disposal Facility representing the Program Manager for Chemical Demilitarization, and the Project Manager for Raytheon Demilitarization, or by a duly authorized representative for these persons, in accordance with 40 CFR 270.11.

Issue:

40 CFR 270.11(b) allows for either the principal executive officer or responsible corporate officer, who is identified as a permittee, to duly authorize a representative to submit reports required by the permit.

Discussion:

This permit modification would allow for the Permittees to authorize appropriate representatives to submit reports, as allowed for by 40 CFR 270.11(b), adopted as Oregon Rule by OAR 340-100-002.

V. PERMITTING HISTORY AND REGULATORY BASIS

On February 7, 1997, the Environmental Quality Commission (EQC) voted unanimously to issue a hazardous waste permit for the storage and treatment of hazardous waste at the US Army Umatilla Chemical Depot. On February 10, 1997, the US Army selected the Raytheon Demilitarization Company (Raytheon) as the contractor for construction and operation of the Umatilla Chemical Agent Disposal Facility (UMCDF). On February 12, 1997, the hazardous waste permit for treatment of the chemical stockpile was issued by the Environmental Quality Commission. On March 28, 1997, the US Army and applicant Raytheon submitted a Class 3 Permit Modification Request to incorporate Raytheon as Co-Permittee.

On May 12, 1997, the DEQ issued a Notice of Deficiency (NOD) for the Class 3 Permit Modification based on a determination that the request was incomplete. DEQ determined that the additional information was needed to demonstrate Raytheon's ability and willingness to operate the facility in accordance with the UMCDF permit.

The US Army and Raytheon responded to the Department's NOD on July 10, 1997. The Department reviewed this information and determined there is sufficient information to issue documents asking for public comment on Raytheon's capability regarding the ORS 466.060 criteria and modifications to the permit to incorporate Raytheon as Co-Permittee.

Raytheon, as an operator of a hazardous waste facility, must obtain a permit in accordance with OAR 340-105-001(4)(b). To transfer the permit to Raytheon as Co-Permittee, a Class 3 permit modification is need in accordance with OAR 340-105-040. The Commission makes the

determination of operator technical, financial, and compliance capability (findings) in accordance with ORS 466.060 and subsequently decides on the permit modification decision per OAR 340-105-041. The Class 3 permit modification procedures are outlined in 40 CFR 270.42(c), adopted as Oregon Rule by OAR 340-100-002.

VI. PROCEDURES FOR REACHING A FINAL PERMIT DECISION

The provisions of Oregon Revised Statutes 466, Oregon Administrative Rule (OAR) Chapter 340 and 40 CFR Parts 124 and 270.42(c) (as codified in OAR 340-100-002) describe how the hazardous waste Class 3 permit modifications are administratively processed. The DEQ has determined that sufficient information has been provided by the US Army and Raytheon Demilitarization Company for the public to comment on whether Raytheon meets the capability standards in ORS 466.060, and to consider draft permit modifications to incorporate Raytheon as Co-Permittee. The following procedures are required to complete the permit process:

- The DEQ has compiled appropriate ORS 466.060 criteria information for public review and comment, and prepared draft permit modifications for public comment. The comment period will last for 46 days from August 29 through October 14, 1997. For locations of where to find more information, see Section VII of this Fact Sheet.

- During the 46-day comment period, anyone may submit written comments to the DEQ at the Bend address listed in Section VII. Any person wishing to comment at a Public Hearing will have an opportunity to do so. Notification has been sent, via direct mail, to the addressees on the DEQ-maintained Umatilla mailing list as specified at 40 CFR 124.10(c), as adopted by OAR 340-100-002. In addition, a Public Notice of the opportunity to comment on the ORS 466.060 criteria and the draft permit modifications, and announcing the Public Hearing, will appear in three regional newspapers on August 29, 1997. Public service announcements will be read on the air from radio stations in the Hermiston, Pendleton, Tri-Cities, and Portland areas.

  The Public may also comment on findings which must be made by the Environmental Quality Commission before the permit is issued, as specified in Oregon Revised Statute 466.060. These findings address whether a Permittee has technical and financial capability and whether their compliance history shows a willingness and ability to comply with the hazardous waste permit.

- A Public Hearing is scheduled for the date, time, and location listed below. The Public Hearing, will allow for testimony to be placed in the Administrative Record and to address the ORS 466.060 criteria and the proposed draft permit modifications.

PUBLIC HEARING
October 1, 1997
7:00-9:00 p.m.
Hermiston Community Center
415 Highway 395 South
Hermiston, OR

- Written comments must be presented to the DEQ by 5:00 p.m., October 14, 1997. The mailing address is Brett McKnight, DEQ Eastern Region, 2146 N.E. Fourth Street, Suite 104, Bend, OR 97701.

- All written comments received by the DEQ during the comment period and during the Public Hearing regarding the ORS 466.060 criteria and proposed draft hazardous waste permit modifications will be responded to in writing and will be considered prior to the final decision regarding permit issuance. All comments will be compiled and brought before the EQC.

- The EQC will review the information and comments pertaining to ORS 466.060. The EQC will then schedule an agenda item for an announced EQC meeting that will make findings according to ORS 466.060. (tentatively scheduled for November 20 or 21, 1997).

- If the EQC finds that the proposed permittee meets the ORS 466.060 criteria, then the Commission, in consideration of any comments raised during the public comment period and the Public Hearing, will issue a final permit decision. The effective date of the permit decision will be directed by the EQC.

VII. WHERE TO FIND ADDITIONAL INFORMATION

The complete Administrative Record, consisting of the Permit Application, Draft Permit, Fact Sheet, and all documents relating to the Draft Permit may be reviewed at the DEQ Eastern Region Bend Office located at 2146 NE Fourth Street, Suite 104, Bend, Oregon 97701, (541) 388-6146. Office hours are 8:00 a.m. to Noon and 1:00 p.m. to 5:00 p.m. Monday through Friday. The building is accessible by wheelchair. Those with special needs should alert this office when making an appointment. Contact Niki Wesley at the above number, extension 250.

A copy of the permit modification request, Fact Sheet with Draft Permit Conditions, Notice of Deficiency issued by the Department, and the Response to NOD submitted by US Army and Raytheon, can be found at the following locations:

DEQ Hermiston Office
256 E. Hurlburt, Suite 117
Hermiston, OR 97838
(541) 567-8297

Hermiston Public Library
235 E. Gladys Avenue
Hermiston, Oregon 97838
(541) 567-2882

Portland State University Library
951 SW Hall, Fifth Floor
Portland, OR 97204
(503) 725-3065

DEQ Bend Office
2146 NE 4th Street
Bend, OR 97701
(541) 388-6146 ext 250

A copy of the Fact Sheet with Draft Permit Modifications, can be found at the following locations:

Mid Columbia Library
(Kennewick Branch)
405 S. Dayton
Kennewick, WA 99336
(509) 586-3156
or 1-800-572-6251

Pendleton Public Library
214 North Main
Pendleton, OR 97801
(541) 276-1881

Questions regarding the ORS 466.060 criteria and proposed draft hazardous waste permit modifications may be directed to either Sue Oliver in the DEQ Hermiston office or Fredrick Moore in the DEQ Bend office.

Sue Oliver
DEQ Hermiston Office
256 E. Hurlburt, Suite 117
Hermiston, OR 97838
(541) 567-8297

Fredrick Moore
DEQ Bend Office
2146 NE 4th Street
Bend, OR 97701
(541) 388-6146 ext. 242

Figure 1

Bold typeface shows proposed new language

PERMIT

for the
Storage and Treatment of Hazardous Waste

State of Oregon
Department of Environmental Quality
2146 N.E. 4th St., Suite 104
Bend, Oregon 97701

Telephone: (541) 388-6146

Issued in accordance with the applicable provisions of Oregon Revised Statutes Chapter 466 and the regulations promulgated thereunder in Oregon Administrative Rules Chapter 340 Divisions 100 through 120.

ISSUED TO:

PERMITTEE:
OWNER AND OPERATOR:

U.S. Army Umatilla Chemical Depot
Hermiston, OR 97838-9544
Telephone: (541) 564-5200

U.S. Army Program Manager
for Chemical Demilitarization
Hermiston, OR 97838-9544
Telephone: (541)564-9750

CO-PERMITTEE:
CO-OPERATOR:

Raytheon Demilitarization Company
P. O. Box 1188
Hermiston, OR 97838
Telephone: (541)564-8550

This permit is effective as of February 12, 1997, and shall remain in effect until February 12, 2007, unless revoked and reissued (40 CFR 270.41), terminated (40 CFR 270.43), or continued in accordance with OAR 340-105-051.

ISSUED BY:

ENVIRONMENTAL QUALITY COMMISSION

Henry Lorenzen
Chair

Date _____

DEPARTMENT OF ENVIRONMENTAL QUALITY

Langdon Marsh
Director

Date _____

Figure 2

Proposed Changes to Introduction Page
(See Page 3 of 290 of the Hazardous Waste Permit)

Bold typeface shows proposed new language

INTRODUCTION

Permittee: U.S. Army Umatilla Chemical Depot

Environmental Protection Agency Identification Number: OR6 213 820 917

The Permittee shall proceed expeditiously in procuring a contractor, beginning construction and commencing operation of the Umatilla Chemical Disposal Facility (UMCDF) in order to eliminate the significant risk to human health and the environment posed by the continued storage of the chemical weapons and chemical agents at the Umatilla Chemical Storage Depot.

Pursuant to Oregon Revised Statutes Chapter 466 and the hazardous waste regulations promulgated thereunder by the Oregon Environmental Quality Commission in Chapter 340 of the Oregon Administrative Rules (OAR), this permit is issued to the U.S. Army Umatilla Chemical Depot (Permittee, **Owner and Operator), the Program Manager for Chemical Demilitarization (Permittee, Owner and Operator), and the Raytheon Demilitarization Company (Co-Permittee and Co-Operator)** to operate a hazardous waste treatment and storage chemical demilitarization facility located in Umatilla County in Hermiston, Oregon, off Interstate Hwy-84 at exit 177 at latitude 45° 50′ 30″ and longitude 119° 26′ 00″. A map depicting the Umatilla Chemical Depot Site Plan as shown in FIGURE 1 on page 290 of this permit.

For purposes of clarification, the designations Co-Permittee and Co-Operator hereinafter will be referred to as Permittee, and Operator, respectively. The use of Co-Permittee as Permittee and Co-Operator as Operator shall not change legal obligations and/or responsibilities.

Figure 3

Proposed Changes to Definitions Introduction Pages
(See Page 8 of 290, and following, of the Hazardous Waste Permit)

Bold typeface shows proposed new language

Proposed Draft Permit Definitions

The following draft permit definitions are deemed necessary to reflect the addition of Raytheon as a Co-Permittee and to clarify the roles of the US Army as represented by the Umatilla Chemical Depot and Program Manager for Chemical Demilitarization, and Raytheon. The following are proposed to be added in permit condition I.B.

"Co-Permittee"	**This term shall mean the Raytheon Demilitarization Company.**
"Co-Operator"	**This term shall mean the Raytheon Demilitarization Company.**
"Operator"	**This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization.**
"Owner"	**This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization.**
"Permittee"	**This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization. Duties of the Permittee shall also mean duties of the Permittee and Co-Permittee.**

Figure 4

Summary of Proposed Permit Condition Modifications

(Does Not Include Editorial Changes to Signature Page and Introduction)

Proposed Revised Permit Condition: II.M..:

II.M LIABILITY REQUIREMENTS

The Permittee shall maintain and keep current liability policies of comprehensive general liability (CGL), umbrella liability and following form excess liability, architects and engineers professional liability and contractors pollution policy and following form excess liability, first catastrophic excess liability, and second catastrophic insurance or their equivalent. A policy compendium shall be sent to the Department annually which shall include at a minimum, that portion defining "insured' or liability responsibility and/or a review of the necessary insurance policies that illustrates Raytheon Demilitarization/Raytheon Parent Company liability coverage equal to or in excess of the amounts submitted on 7/11/97 to demonstrate compliance. In addition, within 60 days of the effective date of this permit modification, the Co-Permittee shall submit to the Department a written warranty from the Chief Executive Officer or Treasurer of Raytheon, Inc., (parent company) claiming that the Parent Company's insurance and assets will be used to effectuate the Co-Permittee's third-party liability insurance policies at the UMCDF, if necessary.

Proposed New Permit Condition II.F.2.:

II.F. TRAINING PLAN

II.F.1. ...

II.F.2. Within 60 days from this permit condition's effective date, the Permittee and Co-Permittee shall submit to the Department a Class 1 permit modification request, with prior approval of the Department, to modify the Training Plan specified in permit condition II.F.1 to describe how the Permittee and Co-Permittee will develop and implement new training when instances of non-compliance or potential non-compliance are identified within the Chemical Stockpile Disposal Program.

Proposed Revised Permit Condition I.X.:

I.X. SIGNATORY REQUIREMENT

All applications, reports or information required by this permit, or otherwise submitted to the Department, shall be signed and certified by the Umatilla Chemical Depot Commander, the Project Manager for the Umatilla Chemical Disposal Facility representing the Program Manager for Chemical Demilitarization, and the Project Manager for Raytheon Demilitarization, or by a duly authorized representative for these persons, in accordance with 40 CFR §270.11.

Proposed Additions to Definitions Found in Permit Condition I.B.:

I.B. DEFINITIONS

...

"Co-Permittee"	This term shall mean the Raytheon Demilitarization Company.
"Co-Operator"	This term shall mean the Raytheon Demilitarization Company.
"Operator"	This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization.
"Owner"	This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization Company.
"Permittee"	This term shall mean the U.S. Army as represented by the Umatilla Chemical Depot and the Program Manager for Chemical Demilitarization Company. Duties of the Permittee shall also mean duties of the Permittee and Co-Permittee.

ATTACHMENT B

Draft Public Notice to Mailing List Regarding ORS 466.066 Criteria and Proposed Permit Conditions to Incorporate Raytheon Demilitarization Company as Co-Permittee and Co-Operator of the Umatilla Chemical Disposal Facility

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

UMATILLA CHEMICAL DISPOSAL FACILITY

INVITATION TO COMMENT ON FINDINGS (ORS 466.060) AND REQUEST FOR COMMENT ON CLASS 3 PERMIT MODIFICATION TO INCORPORATE RAYTHEON AS CO-PERMITTEE

Public Notice Date: August 29, 1997
Comments Due: October 14,1997

WHO IS THE APPLICANT:

The following facility has applied for a hazardous waste treatment permit modification that requires the Environmental Quality Commission (EQC) to make a finding on criteria listed in Oregon Revised Statute (ORS) 466.060 and to subsequently make a permit modification decision:

United States Army
Umatilla Chemical Depot
Hermiston, OR 97838
OR6 213 820 917

WHAT IS PROPOSED:

The US Army selected Raytheon Demilitarization Company (Raytheon) as the contractor for construction and operation of the Umatilla Chemical Disposal Facility (UMCDF) on February 10, 1997. The US Army and Raytheon (applicant) submitted a Class 3 permit modification request to incorporate Raytheon as Co-Permittee on March 28, 1997. The Department of Environmental Quality determined that the Class 3 permit modification request was incomplete and issued a Notice of Deficiency (NOD) on May 12, 1997 requiring additional information regarding Raytheon's ability and willingness to operate the facility in accordance with the UMCDF permit.

On July 10, 1997 the US Army submitted a response to the DEQ's NOD. The response provided the information necessary to invite public comment on both the required ORS 466.060 findings and for the proposed change to incorporate Raytheon as a Co-Permittee.

DESCRIPTION OF CRITERIA FOR EQC FINDING:

The EQC will evaluate the Class 3 permit modification request and comments and make findings in accordance with ORS 466.060 before making its final permit decision. The findings as identified in ORS 466.060 states:

466.060 Criteria to be met by owner and operator before issuance of permit.

(1) Before issuing a permit for a facility designed to treat or dispose of hazardous waste or PCB, the permit applicant must demonstrate, and the commission must find, that the owner and operator meet the following criteria:

(a) The owner, any parent company of the owner and the operator have adequate financial and technical capability to properly construct and operate the facility; and

(b) The compliance history of the owner including any parent company of the owner and the operator in owning and operating other similar facilities, if any, indicates an ability and willingness to operate the proposed facility in compliance with the provisions of ORS 466.005 to 466.385 and 466.890 or any condition imposed on the Permittee by the commission.

(2) If requested by the permit applicant, information submitted as confidential under subsection (1)(a) of this section shall be maintained confidential and exempt from public disclosure to the extent provided by Oregon law.

WHO IS AFFECTED:

Persons living in the Mid-Columbia Basin

NEED FOR PERMIT:

The permit modification is required in accordance with Oregon Revised Statute ORS 466.060; Oregon Administrative Rules OAR 340-105-040, and OAR 340-105-041.

INVITATION TO COMMENT:

On behalf of the EQC, DEQ is soliciting and compiling comments from interested parties on the findings the EQC must make under ORS 466.060 and request for comments on the Class 3 permit modification to incorporate Raytheon as Co-Permittee. The EQC is DEQ's policy and rule making board that must make the final finding on the criteria. The findings must be made before the EQC can issue a final permit decision.

WHERE TO FIND INFORMATION:

Descriptions of the proposed permitting procedures are summarized in the Class 3 permit modification request FACT SHEET WITH DRAFT PERMIT MODIFICATIONS. The Fact Sheet, modification request, DEQ issued NOD and applicants' Response to NOD can be found at the following:

DEQ--Hermiston Office
256 E. Hurlburt, Suite 117
Hermiston, OR 97838
(541) 567-8297

DEQ--Bend Office
2146 N. E. Fourth Street, Suite 104
Bend, Oregon 97701
(541) 388-6146

Portland State University Library
951 SW Hall, Fifth Floor
Portland, OR 97204
(503) 725-4617

Hermiston Public Library
235 E. Gladys Avenue
Hermiston, OR 97838
(541) 567-2882

The Class 3 permit modification Fact Sheet can also be found at the following locations:

Mid Columbia Library
(Kennewick Branch)
405 S. Dayton
Kennewick, WA 99336
(509) 586-3156
or 1-800-572-6251

Pendleton Public Library
214 North Main
Pendleton, OR 97801
(541) 276-1881

PUBLIC HEARINGS: A public hearing to accept oral and written testimony will be held on October 1st in the Hermiston Community Center at 7:00 p.m. A written Response to Comments (received during both the initial 60-day and the 46-day comments periods) will be issued upon final decision on the modification request.

HOW TO COMMENT: Written comments should be presented to the DEQ by 5:00 p.m. October 14, 1997. The mailing address is Brett McKnight, DEQ – Bend Office, 2146 N. E. Fourth Street Suite 104, Bend, OR 97701.

WHAT HAPPENS NEXT: After comment period has ended, comments will be compiled and reviewed by the Department and provided to the Environmental Quality Commission to be evaluated in the final permit determination. (This is tentatively scheduled for November 21-22, 1997).

ACCOMMODATION OF DISABILITIES: Please notify DEQ about any special physical or language accommodations you may need as far in advance of the meeting or hearing as possible. To make these arrangements, contact Sue Oliver at (541) 567-8297, or DEQ Public Affairs at (503) 229-5317. People with hearing impairments may call DEQ's TDD number at (503) 229-6993.

ACCESSIBILITY INFORMATION This publication is available in alternate format (e.g. large print, Braille, Spanish) upon request. Please contact DEQ Public Affairs at (503) 229-5317 to request an alternate format.

ATTACHMENT C

Pertinent Sections from the Permit Modification Request

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND 21010-5401

March 28, 1997

Mr. Brett McKnight
Manager
Eastern Region Hazardous Waste Program
Department of Environmental Quality
2146 NE 4th Street, Suite 104
Bend, Oregon 97701

PMU - 970004

SUBJECT:

Dear Mr. McKnight:

This letter formally submits the Umatilla Chemical Agent Disposal Facility (UMCDF) Hazardous Waste Permit (OR 621-382-0917) Resource Conservation and Recovery Act (RCRA) Class 3 Modification developed by the UMCDF systems contractor, i.e., Raytheon Demilitarization Company (RDC) (enclosure). As required by your office, a Class 3 permit modification is required to place RDC on the permit as the Co-Permittee. The Class 3 Modification was developed based upon the guidance stated in your February 14, 1997 letter regarding this permit modification.

Please contact Mr. Martin Yakawich of Umatilla Chemical Depot at (541) 564-5383 or Mr. Karl H. Kinkade (541) 564-5490, if you have any questions.

Sincerely,

Marie L. Baldo
Lieutenant Colonel, USA
Commander

Raj K. Malhotra
Acting Site Project Manager for
UMCDF

Samuel J. Kasley
RDC Project Manager

Enclosure

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

UMATILLA
CHEMICAL AGENT DISPOSAL FACILITY
(UMCDF)

Class 3 Permit Modification Request
for
Revision of Part A Application
and
Submittal of Operator Capability Information/Compliance History

March 1997

SUBMITTED TO: State of Oregon
Department of Environmental Quality - Eastern Region
2146 NE 4th Street
Bend, OR 97701

SUBMITTED BY: U.S. Army Umatilla Chemical Depot
Hermiston, OR 97838-9544

ID No.: OR6 213 820 917

UMATILLA CLASS 3 PERMIT MODIFICATION REQUEST

Table of Contents

I. Background

On February 10, 1997 the Program Manager for Chemical Demilitarization (PMCD) awarded Raytheon Demilitarization Company (RDC) a contract to construct and operate the Umatilla Chemical Agent Disposal Facility (UMCDF). Subsequently, the State of Oregon approved a permit (ID. No. OR6 213 820 917) for the storage and treatment of hazardous waste on February 12, 1997.

On February 14, 1997 the State of Oregon Department of Environmental Quality (Department) notified the U.S. Army that a Class 3 permit modification request identifying RDC as a co-permittee must be submitted as required by ORS 340-105-040 prior to the commencement of any earth-moving or structure construction activities. This Class 3 modification request is being submitted to the Department to fulfill this requirement.

II. Summary of Modification

This permit modification is being submitted as a Class 3 modification request in accordance with the requirements of Oregon Chapter 340 Administrative Rules and Federal Regulation 40 CFR 270.42(c). The primary purpose of this modification is to request that Part A of the UMCDF permit be changed to reflect Raytheon Demilitarization Company (RDC) as a co-permittee and co-operator of UMCDF. In support of this modification request, information on RDC capability and compliance history, as required by Oregon rules, is included in this submittal.

This permit modification also requests that Part A of the UMCDF permit be revised by (1) replacing the Part A form with an updated EPA Form 8700-23, (2) identifying all chemical agent M55 rockets and all leaking chemical agent munitions/containers being stored at the Depot, and (3) making minor administrative changes as further described in the following section.

III. Description of Part A Revisions

The primary purpose for submitting a revised Part A Hazardous Waste Permit Application for UMCDF is to add the name of the operator as required per ORS 340-105-040. However, there are a number of administrative matters which are also remedied by this modification request. Foremost, the latest available Part A application form is used in this submittal, EPA Form 8700-23 (Rev. 2•28•95), found as Attachment A. Specific changes to the UMCDF Part A Application are as follows:

- Part II: Changed the name of the facility from "Umatilla Depot Activ-CDF" to "Umatilla Chemical Depot",
- Part IV: Changed the name of the facility from "Umatilla Army Depot Activity" to "Umatilla Chemical Depot",
- Part V: The facility contact information was updated,
- Part VII: Information on the operator was added to the form,
- Part VIII: The name of the facility's legal owner was changed to reflect the name change in Part II; the telephone number was also changed,
- Part X: Information on other environmental permits was updated to reflect an Underground Storage Tank permit and a Water Pollution Facilities Control permit; also the description section was revised,
- Part XIV: (Page 4 of 5) The Oregon hazardous waste code P998 was added for HD, a newly identified code for this chemical agent, along with its associated process codes; also the process description was revised by adding a referral to XIV. D,
- Part XIV: (Page 4a of 5) An additional page was added to the Part A Application to list all of the M55 GB and VX rockets in the Umatilla stockpile,
- Part XVIII: The certification person for the owner was revised to reflect a change of commander at the depot, and
- Part XIX: This part of the application form is for comments; the original comments were changed by:

  (1) The Part II comment was revised to more clearly identify UMCDF as the demilitarization facility,

  (2) The Part VII comment was revised to reflect the name, address and telephone numbers of the owner and operator,

  (3) The Part XIV comment was revised to identify the number of munitions in the Umatilla chemical stockpile; a list of leaking munitions is provided as Attachment 1 to the Part A application form,

(4) A comment pertaining to Part XIV (page 4a of 5) was added explaining how the annual M55 rocket quantity estimates were calculated, and

(5) The Part XVIII comment was revised by providing signed owner and operator certification statements.

IV. Owner and Operator Capability
[ORS 340-120-010(2)(g)]

A. Financial Capability

1. In accordance with the requirements of ORS 340-120-010(2)(g)(A), copies of Raytheon Company (Raytheon) 1995, 1994, and 1993 financial statements (latest available - 1996 will be provided when available) are herewith submitted (Attachment C) as demonstration of the financial capability of the co-operator, Raytheon Demilitarization Company (RDC) to construct and operate UMCDF. RDC is a wholly owned subsidiary of Raytheon Engineers & Constructors. Raytheon Engineers & Constructors, in turn, is a wholly owned subsidiary of Raytheon. RDC was formed in recognition of the special requirements associated with the chemical demilitarization program.

   RDC consolidates into one organizational element all of the resources and expertise in Raytheon involved in the various aspects of the chemical demilitarization program. RDC is backed by the full financial resources of Raytheon.

2. In accordance with the requirements of ORS 340-120-010(2)(g)(B), the estimated cost of construction is $262,000,000. The program has been funded by the U.S. Congress. Current year (Federal fiscal year 1997) funding for this program was authorized by Public Law (PL) 104-201 (Defense Authorization Act) and appropriated by PL 104-208 (Defense Appropriations Act).

3. In response to the requirements of ORS 340-120-010(2)(g)(C), this facility will not be operated as a commercial business, with attendant revenues and expenditures. Title 14, Part B, Section 1412 of Public Law 99-145 as amended, directs the Secretary of Defense to carry out the destruction of the U.S. Army stockpile of lethal chemical agents and munitions by the most effective, safe,

environmentally acceptable, and economic means available. That program, the chemical demilitarization program, has been funded by the U.S. Congress. This facility, including its operation, is funded as part of the chemical demilitarization program.

B. Technical Capability

The capabilities and experience of Raytheon, one of the nation's largest and most successful technical services suppliers, provides RDC with a management approach and technical expertise that have been tested and refined through many major programs. RDC consolidates into one organizational element all of the resources and expertise in Raytheon involved in the various aspects of the chemical demilitarization program.

The most relevant Raytheon project similar to UMCDF is the Johnston Atoll Chemical Agent Disposal System (JACADS) facility. JACADS is the first fully operational, full scale chemical weapons disposal facility in the world. Starting in 1987, Raytheon has been responsible for the completion of construction, systemization, operation and maintenance of the JACADS facility, the prototype for U.S. chemical demilitarization facilities. Raytheon has more than six years' experience in operating and maintaining this facility.

Highlights of experience that Raytheon brings to UMCDF from JACADS include:

- Performance of systemization and operational verification testing of JACADS,
- More than six years operating the JACADS chemical agent disposal facility,
- Expertise gained from processing a wide variety of chemical agents and munitions,
- Resolution to various technical problems in changeover and decontamination between campaigns,
- Responsibility for implementing and maintaining permit compliance, safety, QA/QC, chemical surety, laboratory (Southwest Research Institute subcontractor) and training programs at JACADS, and

- Lessons learned in management and oversight of JACADS, which are shared with other chemical demilitarization program participants.

Information on other relevant Raytheon projects is provided as Attachment D.

C. Liability Insurance

Attachment B provides the insurance certificate to demonstrate compliance with ORS 466.105(5).

V. Compliance History

[ORS 340-120-010(2)(h)]

This section provides information to satisfy the requirements of ORS 340-120-010(2)(h). This information demonstrates RDC's ability and willingness to operate UMCDF in compliance with all permit conditions and the provisions of ORS Chapter 466.

To accomplish the above mentioned demonstration, this section focuses on the compliance history of JACADS. Raytheon Engineers & Constructors, a wholly owned subsidiary of Raytheon Company (Raytheon), completed construction, equipment installation, systemization, and has continuously operated the JACADS facility since initial startup. RDC, a wholly owned subsidiary of Raytheon Engineers & Constructors, was formed in recognition of the special requirements associated with the chemical demilitarization program. Thus, Raytheon's experience at JACADS is relevant to demonstrating RDC's ability and willingness to construct and operate UMCDF in compliance with all permit and regulatory requirements.

The compliance history of JACADS has been credible considering JACADS was the first fully operational, large-scale demilitarization facility in the world. As a prototype facility, JACADS has undergone numerous physical modifications to systemize the demilitarization equipment. Further, Operational Verification Testing (OVT), as mandated by the U.S. Congress, was completed within a very short time period. As of March 1997, a substantial portion of the Johnston Atoll chemical weapons stockpile has been successfully treated by incineration at JACADS. More than 72,000 M55 rockets, 134 ton containers, 5,617 bombs, and 121,000 projectiles have been thermally treated at JACADS. More than 2,500,000 pounds of chemical agent (GB, VX, HD) have been destroyed.

A. Past Compliance History

To comply with ORS 340-120-010(2)(h)(A)(i) rule, a listing of all past actual violations identified by the EPA within the last five years is provided in Table 1, found at the end of this section. As supplemental information for the listed violations, EPA annual inspection reports for 1992-1995 are provided in Attachments E through H. Note that although EPA Region IX conducted an annual inspection of the JACADS facility on August 12-16, 1996, an inspection report has not been completed by the Agency; however, Raytheon is not aware of any forthcoming notices of violation (NOVs).

Review of the annual EPA inspection reports demonstrates that the Agency conducts intensive and thorough audits of JACADS operations. Areas inspected include various JACADS waste management areas, Brine Reduction Area operations, Residue Handling Area operations, and incinerator operations, as well as U.S. Army Chemical Activity-Pacific (USACAP) activities. This section only addresses JACADS-related activities, as Raytheon is not responsible for USACAP activities.

The 1992 annual inspection resulted in three violations, the first three NOVs listed in Table 1, being cited by the EPA. A full discussion of these cited violations is contained in the JACADS portion of the 1992 annual inspection report (dated 12/14/92), which is provided in Attachment E of this submittal. Attachment E also contains correspondence documenting close out of these violations.

There are no potential violations noted by Region IX EPA inspectors in the 1993 annual inspection report, provided in Attachment F.

The 1994 EPA inspection report is provided in Attachment G. The report notes several areas of potential noncompliance which resulted in the 03/13/95 NOVs listed in Table 1 being cited by the Agency. As documented by the correspondence in Attachment G, these NOVs have been closed out.

Based on the EPA 1995 inspection report, provided in Attachment H, three relatively minor NOVs were cited by the Agency. All of these NOVs were resolved within 30 days of citation. Correspondence documenting closure of these NOVs is contained in Attachment H.

In addition to the NOVs listed in Table 1, information on JACADS self-reported noncompliances for the last five years is provided in Attachment I. This attachment contains the JACADS Annual Noncompliance Reports for 1992 through 1996. These reports identify incidents of noncompliance discovered by Raytheon internal audits. Although the reports indicate numerous incidents of noncompliance, they also demonstrate Raytheon's willingness to support an aggressive audit program to identify potential problems, implement corrective actions, and self-report.

Attachment J provides a listing of all citations issued by the EPA or state regulatory agencies within the last five years to Raytheon companies which provide support to RDC. Raytheon does not own any other facility similar to UMCDF. JACADS is the only facility Raytheon operates that is similar to UMCDF. The additional compliance history in Attachment J is provided to further demonstrate Raytheon's ability and willingness to operate in compliance with state and federal regulations and permit conditions.

B. Current Compliance Status

ORS 340-120-010(2)(h)(A)(ii) requires any written correspondence from EPA which discusses the present compliance status of any similar facility to be submitted in this modification request. As previously noted, EPA Region IX conducted an annual inspection of the JACADS facility on August 12-16, 1996; however, a report has not been completed by the Agency for this inspection.

The only written correspondence Raytheon is aware of concerning the present compliance status of JACADS is the storage of land disposal wastes (40 CFR 268 waste) for greater than one year. Since startup of JACADS, a number of miscellaneous wastes which have been potentially contaminated with chemical agent have been generated from the destruction of the chemical weapons stockpile. Although some of these wastes have been either shipped off island for disposal or incinerated at JACADS, a substantial portion of the wastes still remain in storage.

Correspondence concerning this issue is provided in Attachment K, including a Plan of Action (POA) submitted to the EPA by the Department of Army letter dated 07/08/96. This POA represents the current plan for treating these wastes generated from JACADS operations and stored for greater than one year. Although EPA has not formally

responded to this POA, Raytheon has implemented the plan at JACADS as part of continuing actions to reduce the amount of chemical agent-contaminated wastes stored on site.

Raytheon has a longstanding commitment to protecting the environment. Raytheon's executive management policies establish environmental awareness and insure that technical abilities are available to generate environmentally sensitive products. This integration of environment to business is insured through self-audit. Raytheon finds environmental protection as the smart way to do business.

Attachment L, Raytheon Special Report, Protecting the environment: An ongoing commitment, provides highlights on this most important topic.

Table 1
JACADS Actual Violations Identified by EPA

No.	NOV Date	Description of Cited Violation	Documentation of Resolution
1	12/14/92	Failure to document the nature of repairs or other remedial action for problems identified in daily/weekly inspections conducted at Building 852, BRA, RHA, and the East Peninsula Caustic Tank sump	EPA Region IX 03/22/93 letter certifies these violations were corrected, reference Attachment E documentation
2	12/14/92	Storage of greater than 55 gallons of laboratory hazardous wastes in Shed 105, a satellite accumulation area	
3	12/14/92	Storage of laboratory hazardous wastes in Shed 105 for longer than 90 days	
4	03/13/95	Count I of the NOV cites JACADS for the 14 March 1994 fire incident in the ECR and for the 23 March 1994 agent release incident	EPA Region IX 10/04/95 letter certifies the three violation counts were corrected, reference Attachment G documentation; the documentation includes a letter, dated 10/24/95, from the Department of the Army documenting completion of the outstanding items required in the 10/04/95 EPA letter
5	03/13/95	Count II of the NOV cites JACADS for inadequate aisle space between containers for hazardous wastes stored in Building 852	
6	03/13/95	Count III of the NOV cites JACADS for improper storage of hazardous wastes at Hama Point, an unpermitted storage site	
7	02/08/96	Failure to timely submit permit modification requests and notices in accordance with 40 CFR 270.42 requirements	EPA Region IX 04/04/96 letter certifies these violations were corrected, reference Attachment H documentation
8	02/08/96	Failure to maintain latest revision of the Laboratory Quality Control Plan (LQCP) in the facility permit	
9	02/08/96	Failure to timely submit contingency incident reports within 15 days of the occurrence of the incident	

Attachment A

Hazardous Waste Permit Application
Part A

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

For EPA Regional Use Only

Date Received
Month Day Year

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the Instructions before starting)

I. Installation's EPA ID Number *(Mark 'X' in the appropriate box)*

[ ] A. First Part A Submission

[X] B. Part A Amendment # ____

C. Installation's EPA ID Number	D. Secondary ID Number *(If applicable)*
OR6213820917	

II. Name of Facility

UMATILLA CHEMICAL DEPOT*

III. Facility Location *(Physical address not P.O. Box or Route Number)*

A. Street

INTERSTATE HWY-84 AT EXIT 177

Street *(Continued)*

City or Town	State	Zip Code
HERMISTON	OR	97838-9544

County Code *(If known)*	County Name
	UMATILLA/MORROW

B. Land Type (Enter code)	C. Geographic Location LATITUDE (Degrees, Minutes, & Seconds)	C. Geographic Location LONGITUDE (Degrees, Minutes, & Seconds)	D. Facility Existence Date Month Day Year
F	45 50 30 N	119 26 00 W	10 14 1941

IV. Facility Mailing Address

Street or P.O. Box

UMATILLA CHEMICAL DEPOT

City or Town	State	Zip Code
HERMISTON	OR	97838-9544

V. Facility Contact *(Person to be contacted regarding waste activities at facility)*

Name *(Last)*	*(First)*
NELSON	ROBERT

Job Title	Phone Number *(Area Code and Number)*
ENVIRON. OFFICER	541-564-5252

VI. Facility Contact Address *(See instructions)*

A. Contact Address Location	Mailing	Other	B. Street or P.O. Box
	X		

City or Town	State	Zip Code

* SEE XIX

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
OR6213820917	

VII. Operator Information (See Instructions)

Name of Operator			
SEE XIX			

Street or P.O. Box			

City or Town	State	ZIP Code	

Phone Number (Area Code and Number)	B. Operator Type	C. Change of Operator Indicator	Date Changed (Month Day Year)
— —		Yes X No	02 12 97

VIII. Facility Owner (See Instructions)

A. Name of Facility's Legal Owner			
U.S. DEPT. OF ARMY - UMAT. CHEM. DEPOT			

Street or P.O. Box			
UMATILLA CHEMICAL DEPOT			

City or Town	State	ZIP Code	
HERMISTON	OR	97838 — 9544	

Phone Number (Area Code and Number)	B. Owner Type	C. Change of Owner Indicator	Date Changed (Month Day Year)
541 — 564 — 5200	F	Yes No X	

IX. SIC Codes (4-digit, in order of significance)

Primary		Secondary	
9711	(Description) National Security (U.S.Army		(Description)
Secondary		Secondary	
	(Description)		(Description)

X. Other Environmental Permits (See instructions)

A. Permit Type (Enter code)	B. Permit Number	C. Description
	25-0024	Air Contaminant Discharge Permit
	SW320	Solid Waste Disposal Permit
	HWL-10	Hazardous Waste, Part B RCRA Permitted
		& Interim Permit Status: Bldg. 203,
		K Block & J Block. Igloos in J & K
		Blocks are interim status pending
		completion of permitting process.
	UST-BBHJA, BBHJB	Underground Storage Tanks
	WPFC #101224	Water Pollution Facilities Control

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

EPA I.D. Number (Enter from page 1)												Secondary ID Number (Enter from page 1)											
0	R	6	2	1	3	8	2	0	9	1	7												

XI. Nature of Business (Provide a brief description)

The Umatilla Chemical Agent Disposal Facility has been designed to demilitarize, by incineration, munitions and bulk items that contain chemical agents (GB, VX, and mustard).

XII. Process Codes and Design Capacities

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank which can hold 533,788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit of Measure (Enter code)	C. Process Total Number Of Units	For Official Use Only
X	1	S	0	2	5 3 3 7 8 8	G	0 0 1	
	1	S	0	1	30,810.000	G	001	
	2	S	0	2	6,900.000	G	003	
	3	S	0	2	188,000.000	G	004	
	4	S	0	2	1,960.000	G	002	
	5	T	0	3	3.300	D	002	
	6	T	0	3	1.200	D	001	
	7	T	0	3	14.400	D	001	
	8	T	0	3	0.530	D	001	
	9							
	10				See XIX			
	11							
	12							
	13							

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item XIII.

XIII. Other Processes (Follow instructions from Item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in seq w/XII)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	D. Description Of Process
X	1	T	0	4	26000000	S	001	
	9	T	0	4	22,896.000	U	003	The Brine Reduction Area contains three rotary double-drum dryers.
	10	T	0	4	95,472.000	U	003	The Brine Reduction Area contains three evaporator packages.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

EPA I.D. Number *(Enter from page 1)*: O R 6 2 1 3 8 2 0 9 1 7

Secondary ID Number *(Enter from page 1)*:

XIV. Description of Hazardous Wastes

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	P999			S01 S02 T03	See XIX for discussion
2	D001			S01 S02 T03	on XIV B., C., and D
3	D002			S01 S02 T03	
4	D003			S01 S02 T03	
5	D004			S01 S02 T03	
6	D005			S01 S02 T03	
7	D006			S01 S02 T03	
8	D007			S01 S02 T03	
9	D008			S01 S02 T03	
10	D009			S01 S02 T03	
11	D010			S01 S02 T03	
12	D011			S01 S02 T03	
13	D022			S01 S02 T03	
14	D028			S01 S02 T03	
15	D030			S01 S02 T03	
16	D043			S01 S02 T03	
17	P998			S01 S02 T03	
18					
19					
20		Please see Page 4A of 5			
21		for Rocket Information			
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					

37

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

EPA I.D. Number *(Enter from page 1)*: O R 6 2 1 3 8 2 0 9 1 7

Secondary ID Number *(Enter from page 1)*:

XIV. Description of Hazardous Wastes

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D003	3427	T	S01	S02	T03	M55 GB Rockets
2	D004			S01	S02	T03	Included with above
3	D005			S01	S02	T03	" " "
4	D006			S01	S02	T03	" " "
5	D007			S01	S02	T03	" " "
6	D008			S01	S02	T03	" " "
7	D009			S01	S02	T03	" " "
8	D010			S01	S02	T03	" " "
9	D011			S01	S02	T03	" " "
10							
11	D003	537	T	S01	S02	T03	M55 VX Rockets
12	D004			S01	S02	T03	included with above
13	D005			S01	S02	T03	" " "
14	D006			S01	S02	T03	" " "
15	D007			S01	S02	T03	" " "
16	D008			S01	S02	T03	" " "
17	D009			S01	S02	T03	" " "
18	D010			S01	S02	T03	" " "
19	D011			S01	S02	T03	" " "
20							
21							
22							
23							
24							
25							
26							See XIX for
27							discussion on
28							XIV B, C, and D.
29							
30							
31							
32							
33							

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-98
GSA No. 0248-EPA-OT

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
OR6213820917	

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements. (see XIX)

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail). (see XIX)

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail). (see XIX)

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature: Marie L Baldo	Date Signed: 3-28-97
Name and Official Title (Type or print): LTC Marie L. Baldo, Commander UMCD	
Owner Signature	Date Signed
Name and Official Title (Type or print): --- see XIX	
Operator Signature: --- see XIX	Date Signed
Name and Official Title (Type or print): --- see XIX	
Operator Signature: --- see XIX	Date Signed
Name and Official Title (Type or print)	

XIX. Comments

II. The name of the demilitarization facility is: "Umatilla Chemical Agent Disposal Facility."

(Comments continued)

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

XIX. COMMENTS CONTINUATION SHEET

VII. All facility operations at Umatilla Chemical Depot other than UMCDF operations will be conducted by the U.S. Army Umatilla Chemical Depot, Hermiston, OR 97838-9544, (541) 564-5200, operator type, Federal. Operations at the UMCDF will be conducted by Raytheon Demilitarization Company, P.O. Box 1188, Hermiston, OR 97838-1188; (541)564-8550; operator type, Private; and the U.S. Army Program Manager for Chemical Demilitarization, Route 1, Box 1777, Hermiston, OR 97838; (541)567-1558; operator type, Federal.

XII. Line 1 = Container Storage in the Container Handling Building
Line 2 = Spent Decontamination Solution Holding Tanks (3)
Line 3 = Brine Surge Tanks (4)
Line 4 = Agent holding tank (1); Agent surge tank (1)
Line 5 = Liquid Incinerators (2)
Line 6 = Deactivation Furnace System
Line 7 = Metal Parts Furnace
Line 8 = Dunnage Incinerator

XIV. B, C, and D. Even though the U.S. Army has recently declassified the quantities of munitions containing chemical agents that are stockpiled at this location, the U.S. Army has estimated annual quantities of rockets to be demilitarized at the UMCDF. Quantities of the other stockpile munitions will be reported prior to operation. Munitions currently in the Umatilla Chemical Depot stockpile to be processed at the UMCDF are as follows:

2,635	HD Ton Containers;
47,406	GB 155mm Projectiles, M121/A1
14,246	GB 8-in Projectiles, M426
91,375	GB 115mm Rockets, M55
67	GB 115mm Rocket Warheads, M56
27	GB 500-lb Bombs, MK-94
2,418	GB 750-lb Bombs, MC-1
32,313	VX 155mm Projectiles, M121/A1
3,752	VX 8-in Projectiles, M426
11,685	VX Mines, M23
14,513	VX 115mm Rockets, M55
6	VX 115mm Rocket Warheads, M56
156	VX Spray Tanks, TMU-28B

XIV. (Cont'd)

The Inventory of leakers is provided in Attachment 1. The munitions in this attachment are also included in the above quantities of stockpile munitions.

An additional process code, TO4 also applies to line numbers 1 through 16, page 4 of 5, and lines 1 through 9 and lines 11 through 19, page 4a of 5.

Page 4a of 5

Line 1: The estimated annual quantity of waste for line 1 is based on the total M55 GB rocket inventory of 91,375 and 67 M56 rocket warheads. The approximate total weight per GB rocket is 74 pounds, which includes 16 pounds for the shipping and firing tube, the weight of the agent-fill, energetic components, and the metal rocket casing and motor. Each GB M56 rocket warhead weighs approximately 13.9 pounds. It is assumed that a campaign of less than 1 year will be necessary to destroy the M55 GB rockets.

Line 11: The estimated annual quantity of waste for line 11 is based on the total M55 VX rocket inventory of 14,513 and 6 M56 rocket warheads. The approximate total weight per VX rocket is 74 pounds, which includes 16 pounds for the shipping and firing tube, the weight of the agent fill, energetic components, and the metal rocket casing and motor. Each VX M56 rocket warhead weighs approximately 13.2 pounds. It is assumed that a campaign of less than 1 year will be necessary to destroy the M55 VX rockets.

XV. See Fig. B-2-1 in Section B of the permit application for the applicable map.

XVI. and XVII. Since this is a new facility, Sections XVI and XVII are not applicable. See Section B of the RCRA Part B permit application for appropriate facility drawings.

XVIII. As the operator of facility operations other than Umatilla Chemical Agent Disposal Facility (UMCDF) operations, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Marie L Baldo — 3-28-97

Operator Signature — Date Signed

LTC Marie L. Baldo, Commander UMCD

Name and Official Title

As co-operator of the Umatilla Chemical Agent Disposal Facility (UMCDF), I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert D. Orton — 3-27-97

Operator Signature — Date Signed

Major General Robert D. Orton, Program Manager Chemical Demilitarization

Name and Official Title

XVIII. (Cont'd)

This document and supporting information was prepared by the U.S. Army. As co-operator of the Umatilla Chemical Agent Disposal Facility (UMCDF), I certify under penalty of law that I have reviewed this information, and based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sam Kasley
Operator Signature

3/28/97
Date Signed

Samuel J. Kasley, Umatilla Project Manager, Raytheon Demilitarization Company
Name and Official Title

ATTACHMENT 1

Chemical Leaking Munitions On Hand

As of 06 Jan 97 (Unchanged since 07 Oct 96 report)

Report Number	Date Found	Item*	Lot Number	Qty
8-85	30 Oct 84	Proj VX 155MM	2011-43-114	1
108-85	11 Sep 85	Rocket GB M55	1033-53-1049	1
1-86	22 Oct 85	Rocket GB M55	1033-35-196	1
2-86	*22 Oct 85	Rocket GB M55	1033-35-196	2
20-86	^27 Feb 86	Bomb GB 750 lb	1036-32-127 1036-32-128	1 1
22-86	^10 Mar 86	Bomb GB 750 lb	1036-26-18	1
31-86	16 Apr 86	Rocket GB M55	1033-42-144	1
46-86	20 May 86	Rocket GB M55	1033-42-123	1
83-86	02 Sep 86	Bomb GB 750 lb	1036-32-120	1
85-86	04 Sep 86	Bomb GB 750 lb	1036-32-120	1
21-87	10 Dec 86	Rocket GB M55	1033-42-122	1

* Munitions listed in this table are also included in the munition quantities listed in section XIV.

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
31-87	11 Mar 87	Bomb GB 750 lb	1036-33-141	2
53-87	11 Jun 87	Rocket GB M55	1033-53-1049	2
55-87	29 Jun 87	Rocket GB M55	1033-53-1049	1
88-1	09 Oct 87	Rocket GB M55	1033-42-141	1
88-17	05 Feb 88	Bomb GB 750 lb	1036-32-128	1
88-20	^12 Feb 88	Proj GB 155MM	RMA-2-1	2
88-21	^22 Feb 88	Proj GB 155MM	RMA-2-12	2
88-22	^23 Feb 88	Proj GB 155MM	RMA-2-9	1
88-37	17 May 88	Bomb GB 750 lb	1036-31-117	1
88-44	*08 Jul 88	Rocket GB M55	1033-42-134	1
88-45	11 Jul 88	Rocket GB M55	1033-42-134	1
88-49	19 Jul 88	Ton Cntr HD	RM-113-92 RM-113-168 RM-113-253 RM-113-296	1 1 1 1
88-50	*20 Jul 88	Rocket GB M55	1033-42-140	1

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
88-53	04 Aug 88	Rocket GB M55	1033-53-1049	1
88-54	04 Aug 88	Rocket GB M55	1033-43-145	1
88-55	08 Aug 88	Rocket GB M55	1033-53-1049	1
88-58	15 Aug 88	Rocket GB M55	1033-53-1049	1
88-64	31 Aug 88	Rocket GB M55	1033-53-1049	1
89-04	11 Oct 88	Rocket GB M55	1033-45-179	1
89-07	20 Oct 88	Rocket GB M55	1033-53-1049	1
89-10	26 Oct 88	Rocket GB M55	1033-53-1049	5
89-11	**27 Oct 88	Rocket GB M55	1033-53-1049 (Previous rpt: 55-87)	1
89-16	04 Nov 88	Rocket GB M55	1033-53-1049	1
89-18	07 Nov 88	Rocket GB M55	1033-36-1109	1
89-87	06 Jun 89	Rocket GB M55	1033-53-1049	1
89-88	08 Jun 89	Rocket GB M55	1033-53-1049	1
89-98	13 Jul 89	Ton Cntr HD	UOD-600-19	1

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
89-121	18 Sep 89	Ton Cntr GB	UNKNOWN, Cntnr S/N D27384	1
90-16	05 Dec 89	Rocket GB M55	1033-41-12	1
90-181	13 Dec 89	Rocket GB M55	1033-42-122	1
90-19	13 Dec 89	Rocket GB M55	1033-42-123	1
90-51	22 May 90	Rocket GB M55	1033-53-1049	1
90-52	12 Jul 90	Bomb GB 750 lb	1036-26-18	1
90-54	25 Jul 90	Bomb GB 750 lb	1036-26-18	1
90-55	31 Jul 90	Rocket GB M55	1033-43-145	1
90-68	04 Sep 90	Rocket GB M55	1033-53-1049	1
90-70	06 Sep 90	Rocket GB M55	1033-53-1049	2
91-14	28 Nov 90	Rocket GB M55	1033-53-1049	2
91-29	^04 Apr 91	Proj GB 155MM	RMA-2-7	1
91-31	^08 Apr 91	Bomb GB 500 lb	1034-41-114	1
91-32	^08 Apr 91	Bomb GB 500 lb	1034-41-112	1

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
91-51	23 Jul 91	Ton Cntr GB	UNKNOWN (S/N UNKNOWN)	1
91-62	01 Aug 91	Ton Cntr HD	RMA 113-104	1
91-64	19 Aug 91	Rocket GB M55	1033-45-179	1
92-08	23 Oct 91	Rocket GB M55	1033-45-179	1
92-15	13 Nov 91	Rocket GB M55	1033-42-122	1
92-38	25 Mar 92	Ton Cntr GB	UNKNOWN (S/N UNKNOWN)	1
92-137	09 Sep 92	Rocket GB M55	1033-53-1049	1
92-138	15 Sep 92	Rocket GB M55	1033-53-1049	1
92-141	17 Sep 92	Rocket GB M55	1033-53-1049	1
92-143	21 Sep 92	Rocket GB M55	1033-45-179	1
92-036	07 Jul 93	Ton Cntr HD	RM-113-92 RM-113-135 RM-113-381	1 1 1
93-038	13 Jul 93	Rocket GB M55	1033-53-1049	2
93-040	26 Jul 93	Rocket GB M55	1033-42-122	1
93-01 (Start UMDA #s)	^09 Sep 93	Proj GB 155MM	RMA-2-1	1

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
94-01	04 Oct 93	Ton Cntr HD	RMA-113-160	1
94-02	07 Oct 93	Rocket GB M55	1033-35-196	1
94-08	^31 Aug 94	Proj GB 155MM	RMA-2-1	3
95-002	^09 Mar 95	Proj GB 155MM	1035-43-197	2
95-003	^21 Mar 95	Proj GB 155MM	1035-43-197	1
	^21 Mar 95		RMA-2-6	1
	^21 Mar 95		RMA-2-7	1
	^22 Mar 95		RMA-2-9	1
	^22 Mar 95		RMA-2-12	1
	^22 Mar 95		RMA-2-16	1
	**23 Mar 95		RMA-2-1 (Previous rpt: 88-20)	1
	**23 Mar 95		RMA-2-9 (Previous rpt: 88-22)	1
	**23 Mar 95		RMA-2-12 (Previous rpt: 88-21)	1
95-004	10 May 95	Rocket GB M55	1033-42-122	1
95-005	13 Sep 95	Rocket GB M55	1033-45-179	1
96-01 (Start UCA #s)	14 Nov 95	Rocket GB M55	1033-36-1109	1
96-02	11 Jan 96	Proj GB M155	RMA-2-5B	1

CHEMICAL LEAKING MUNITIONS ON HAND (continued)

Report Number	Date Found	Item*	Lot Number	Qty
96-03	08 Feb 96	Proj GB M155	RMA-2-5B	1

TOTALS BY MUNITION TYPE:

2	- Bomb, GB, 500 lb
13	- Bomb, GB, 750 lb
20	- Projectile, GB, 155MM
1	- Projectile, VX, 155MM
54	- Rocket, GB, M55
3	- Ton Cntr, GB
10	- Ton Cntr, HD
Total 103	

NOTES:
Locations listed above indicate the location of the item(s) at the time of the occurance and not necessarily the current storage location.

REPORT NUMBERs cited above are those used for the incident reports filed by the Safety Office IAW AR 50-6. Surveillance Leaker Reports submitted IAW SB 742-1 use the report numbering system specified in the SB 742-1; this may, or may not, match the AR 50-6 system at any given time. The current system was put into effect with the first report of 1995 and the '95 numbers are known to vary between the two systems.

LEGEND:
* = Containers with short bolts.
** = Rounds/Items were reported as leakers previously and therefore are not added a second time to munition type totals.
^ = Leaking items were Supplecam samples.

Attachment B

Liability Insurance Documentation

CERTIFICATE OF INSURANCE

Cert No.: 96-637-C | Issue Date: 10/28/96

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
Raytheon Demilitarization Company
30 South 17th Street
Philadelphia, PA 19101

AGENCY
ROLLINS HUDIG HALL OF MASSACHUSETTS, INC.
99 HIGH STREET
BOSTON, MASSACHUSETTS 02110-3271
(617) 482-3100

COMPANIES AFFORDING COVERAGE

CO. LTR A — National Union Fire Insurance Company

CO. LTR B

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES.

COVERAGES

CO. LTR	TYPE OF COVERAGE	POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE	LIABILITY LIMITS IN THOUSANDS	OCCURRENCE	AGGREGATE
A	GENERAL LIABILITY X COMPREHENSIVE FORM X PREMISES/OPERATIONS X UNDERGROUND EXPLOSION & COLLAPSE HAZARD X PRODUCTS/COMPLETED OPERATIONS X CONTRACTUAL X INDEPENDENT CONTRACTORS X BROAD FORM PROPERTY DAMAGE X PERSONAL INJURY BROAD FORM VENDORS	003197097	4/1/96	6/1/97	BODILY INJURY	$	$
					PROPERTY DAMAGE	$	$
					BI & PD COMBINED	$ 1,000	$ 2,000
					PERSONAL INJURY		$
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS (PRIV. PASS.) ALL OWNED AUTOS (OTHER THAN PRIV. PASS.) HIRED AUTOS NON-OWNED AUTOS LEASED AUTOS				BODILY INJURY (PER PERSON)	$	
					BODILY INJURY (PER ACCIDENT)	$	
					PROPERTY DAMAGE	$	
					BI & PD COMBINED	$	
	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				BI & PD COMBINED	$	$
	OTHER						

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Re: Contract No. DAAA09-97-C-0025. Approximately 57 months to construct, test, and startup Umatilla facility in Oregon. Raytheon contact: Howard Campbell.

Submitted with RCRA permit application to the State of Oregon.

CERTIFICATE HOLDER
HQ, IOC
AMSIO-ACE-D
Ron Ballard
Rock Island, IL 61299-6000

CANCELLATION
SHOULD ANY OF THE ABOVE POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

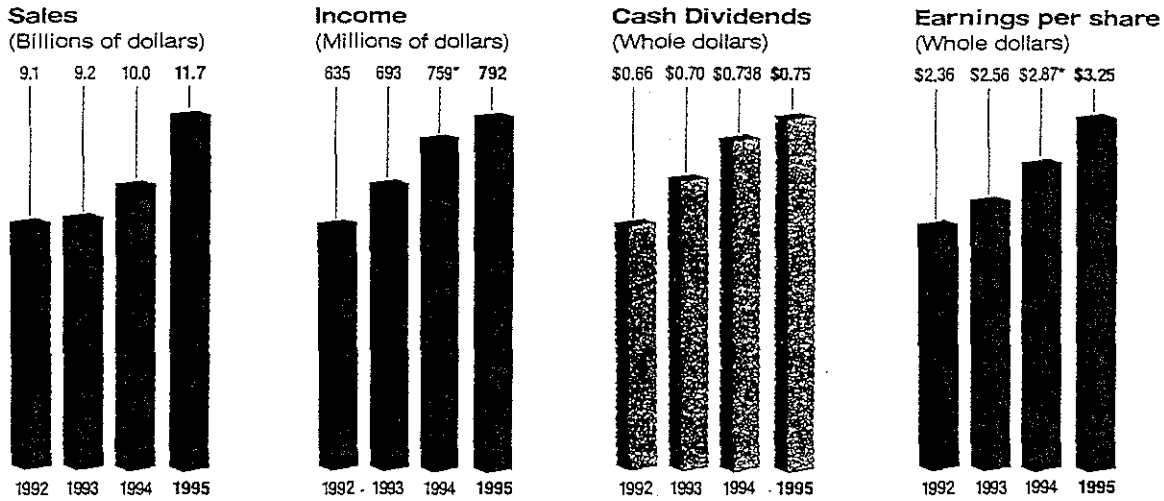
Raytheon

FINANCIAL STATEMENT

Raytheon Engineers & Constructors is a unit of Raytheon Company. As such, our balance and income statements are consolidated on the attached Raytheon report.

Comparative Highlights

(In millions, except per share, stockholder, and employee data)



Operations for the year	1995	1994	Change
Net sales	$11,715.6	$10,012.9	+17.0%
Net income	$ 792.5	$ 759.2*	+ 4.4%
Earnings per common share	$3.25	$2.87*	+13.2%
Average common shares outstanding (in thousands)	243,989	264,736	
Return on sales	6.8%	7.6%*	
Return on average equity	19.3%	17.4%*	
Dividends declared per common share	$0.75	$0.738	

Information at year-end		
Backlog: Total orders	$10,550.5	$8,069.8
Debt, net of cash and marketable securities	$ 2,493.5	$ 855.4
Net debt as percent of equity	58.1%	21.8%
Stockholders' equity	$ 4,292.0	$3,928.2
Outstanding shares of common stock (in thousands)	240,690	246,644
Stockholders of record	21,235	21,978
Total number of employees	73,200	60,200

*Exclusive of restructuring provision of $162.3 million after tax, or $0.61 per share

Note: Share data have been restated for two-for-one stock split in October, 1995.

Financial Statements

Management's Discussion and Analysis of Financial Condition and Results of Operations

1995 versus 1994

Raytheon Company reported increased 1995 net income of $792.5 million, or $3.25 per share compared with 1994 net income of $596.9 million, or $2.26 per share. The 1994 results include a first quarter after-tax restructuring charge of $162.3 million, or $.61 per share. The 1994 earnings excluding the restructuring charge were $759.2 million, or $2.87 per share.

Total Raytheon sales in 1995 reached $11.7 billion, the highest in the company's history, compared with sales of $10.0 billion in 1994. Raytheon's results in 1995 reflect the company's solid overall commercial sales and profits driven by continued strong performances at Raytheon Aircraft, Raytheon Engineers & Constructors, and commercial electronics, as well as the significant contribution of E-Systems, the Dallas-based defense and government electronics company acquired by Raytheon in 1995.

Total debt came down substantially to $2.7 billion at year end compared with a peak of approximately $4 billion earlier in 1995 following the acquisition of E-Systems. Raytheon ended the year with debt, net of cash and marketable securities, of $2.5 billion, or 36.7 percent of total capitalization.

Raytheon's total backlog ended the year at a record $10.551 billion reflecting a 47 percent increase in the backlog of Raytheon Engineers & Constructors compared with year-end 1994 and a record E-Systems backlog.

The company made three acquisitions in 1995: E-Systems, a leader in intelligence, reconnaissance and surveillance systems was acquired on April 29, 1995; assets of Litwin Engineers & Constructors, an international leader in hydrocarbon refining and process technology were acquired on July 26, 1995; and Anschütz, one of the world's leading manufacturers of gyro compasses, autopilots, and steering control systems—a high seas product line that complements Raytheon's existing marine electronics line—was acquired on February 15, 1995.

The company recorded in the fourth quarter of 1995 a net pre-tax gain of $210 million from the sale of D. C. Heath, its educational publishing unit. The company also recorded in the fourth quarter of 1995 a special pre-tax charge of $125 million related principally to real estate and goodwill valuation adjustments, and an additional charge of $77 million to cost of sales related principally to provisions for inventory and contracts. The above transactions resulted in a $5.2 million after-tax increase to net income, or $.02 per share.

The segment financial results are as follows:

The Engineering and Construction segment reported record sales and income for 1995. Sales increased to $2.873 billion in 1995. Income increased by 7.7 percent to $279 million due principally to higher returns on international projects.

The Aircraft segment reported record sales and income for 1995. Sales of $2.024 billion were up 17.5 percent based on strong unit sales growth of regional and general aviation aircraft. Segment income was up 16.7 percent to $272 million, before a nonrecurring charge of $30 million included as part of the previously mentioned $77 million charge, based principally on the increased sales volume.

Raytheon Aircraft was selected by the U.S. Air Force and U.S. Navy for the next generation primary trainer, the Joint Primary Aircraft Training System (JPATS). The JPATS program, a major win for Raytheon, is valued at up to $7 billion over more than 20 years. Additionally, there is the potential for significant international sales.

The Major Appliances segment had increased sales to $1.473 billion in 1995 due principally to the acquisition of UniMac, while income was down due to strong competitive price pressures and higher material costs.

The Electronics segment had increased sales and income in 1995 due to the contribution of E-Systems and commercial electronics. Raytheon's Massachusetts-based defense operations experienced declines in sales and income; however, the rate of decline was not as great as in prior years.

In 1995, Raytheon initiated sweeping changes in its defense business in Massachusetts, moving forward with management, workforce, legislative, and utility initiatives to achieve $600 million in cost savings to enable the company to remain competitive in defense manufacturing in the state. Raytheon Electronic Systems (RES) was formed through the consolidation of the Missile Systems and Equipment Divisions. In addition to management initiatives, Raytheon worked with local unions to achieve cost controls and enhance productivity. Working with Massachusetts lawmakers, the company won tax reduction legislation for manufacturing firms in the state and the company reached a groundbreaking agreement with a major Massachusetts utility to cut its electricity costs in the state. These initiatives are designed to make Raytheon more competitive with companies based in lower-cost areas.

Sales to the U.S. Department of Defense were $3.961 billion or 33.8 percent of consolidated sales in 1995 versus $3.546 billion or 35.4 percent of consolidated sales in 1994. Total sales to the U.S. government were $4.676 billion or 39.9 percent of consolidated sales versus $3.930 billion or 39.3 percent in 1994.

Administration and selling expenses increased to $1,085.8 million in 1995 versus $912.3 million in 1994 due principally to the acquisition of E-Systems.

Research and development expenses increased to $315.6 million in 1995 versus $269.6 million in 1994 due principally to the acquisition of E-Systems.

Operating income in 1995, excluding the special charge and non-recurring items, was $1,289.4 million or 11.0 percent of sales versus $1,078.4 million or 10.8 percent of sales in 1994. The 1994 results exclude the effect of the first quarter 1994 restructuring provision. Operating income for 1995 including the special charge and non-recurring items was $1,087.4 million or 9.3 percent of sales.

The company recorded in the first quarter of 1994 a restructuring provision of $249.8 million before tax. The restructuring was driven by the significant reductions in the defense budget and increasing commercial competition. Approximately 65 percent of the restructuring costs are attributable to Raytheon's defense business and the remainder to its commercial business. The company completed personnel reductions of 4,400 people under this restructuring provision, including both salaried and bargaining unit employees located in Massachusetts and other states and in foreign locations. Through the end of 1995, $240.4 million of restructuring costs have been incurred, of which $102.2 million was employee related costs and $138.2 million was related principally to asset disposals and idle facilities. Cash flow expenditures, net of tax recovery of $87 million, were $67 million in 1994 and $32 million in 1995. The spending is expected to be completed early in 1996.

Interest expense for 1995 increased to $196.6 million from $48.5 million in 1994. The increase was due to higher interest rates and higher average levels of debt outstanding, due principally to the acquisition of E-Systems.

Interest and dividend income was $46.3 million in 1995 versus $47.5 million in 1994. This income arises principally from the financing of customer long-term receivables.

Other income (net) for 1995 increased to $254.6 million from $72.3 million in 1994. The 1995 amount includes a $210 million net pre-tax gain from the sale of D. C. Heath.

Federal and foreign income taxes were $399.2 million in 1995 compared with $303.1 million in 1994. The 1995 effective tax rate was 33.5 percent versus 33.7 percent in 1994. The effective tax rate for 1995 reflects the statutory rate of 35 percent reduced by Foreign Sales Corporation (FSC) tax credits, partially offset by non-deductible amortization of goodwill.

For reasons discussed above, income increased by 4.4 percent to $792.5 million from the $759.2 million reported for 1994 before the restructuring provision.

Earnings per common share increased 13.2 percent to $3.25 per share from $2.87 per share in 1994 before the restructuring provision.

Earnings per common share calculations were based on 244.0 million average shares outstanding in 1995 and 264.7 million average shares outstanding in 1994. Common shares outstanding and all per share data have been restated to reflect the two-for-one stock split effective October 23, 1995. During 1995, outstanding shares were reduced by 8.1 million shares as a result of the company's purchase of outstanding shares at a cost of $320.0 million, partially offset by 2.2 million shares issued upon the exercise of employee stock options.

In November 1992, the Board of Directors authorized the purchase of up to 4 million shares of the company's common stock per year over the next five years to counter the dilution due to the exercise of stock options. During 1995, 2.2 million shares were purchased under this authorization. On February 23, 1994, the Board of Directors authorized the repurchase of up to 24 million shares of the company's common stock. In 1994, 23.4 million shares were purchased under this authorization and the balance purchased in 1995. On February 22, 1995, the Board of Directors authorized the repurchase of up to 12 million shares of the company's common stock. In 1995, 5.3 million shares were purchased under this authorization. The company will continue to repurchase shares in the open market under this authorization from time to time as conditions may warrant.

The book value of common shares outstanding at December 31, 1995, was $17.83 as compared with $15.92 at December 31, 1994. Return on average equity was 19.3 percent in 1995 versus 17.4 percent in 1994 excluding the restructuring provision.

Backlog consisted of the following at Dec. 31:

	1995	1994
	(In millions)	
Electronics	$ 7,411	$5,287
Engineering and Construction	2,240	1,522
Aircraft	836	1,203
Major Appliances	64	58
Total Backlog	$10,551	$8,070
U.S. government-funded backlog included above	$ 5,142	$3,641

Raytheon's total backlog of $10.551 billion at year-end 1995 was up 31 percent from year-end 1994. The increase in the Electronics backlog and the U.S. government portion of the total backlog reflects the acquisition of E-Systems. The Electronics backlog includes $1.1 billion related to the SIVAM contract awarded by the government of Brazil to monitor and protect the Amazon River rain forest. The Brazilian Senate is currently reviewing the President's request to modify the Senate financing resolutions that were approved in December of 1994. This vote is expected to take place during the first half of 1996.

For the year ended December 31, 1995, cash flows from operating activities were $1,134.2 million as compared to $1,088.6 million during the comparable 1994 period. In 1995 these funds were used for additions to property, plant and equipment of $328.6 million, dividends of $182.5 million, for the purchase of treasury shares of $260.7 million, net of the proceeds received on the exercise of employee stock options, and to pay down short-term debt. During 1995, $2.342 billion was expended for acquired companies, principally the acquisition of E-Systems. The funds for the acquisitions were provided by increasing long-term and short-term debt. In the fourth quarter of 1995, $449.2 million of funds were received from the sale of D. C. Heath and were used to reduce short-term debt.

In the third quarter of 1995, under the company's 1992 shelf registration of $500 million of debt securities and a 1995 registration of $1.5 billion of debt and/or equity securities, the company issued $1.125 billion of debt securities in a public offering comprised of $750 million of notes due 2005, which have a coupon rate of 6 1/2 percent, and $375 million of debentures due 2025 which have a coupon rate of 7 3/8 percent. The notes are not redeemable prior to maturity, and the debentures are not redeemable prior to July 15, 2005.

Lines of credit with certain commercial banks exist as a standby facility to support the issuance of commercial paper by the company. These lines of credit were $3.20 billion and $1.24 billion at December

31, 1995, and December 31, 1994, respectively. Through the end of 1995, there have been no borrowings under these lines of credit.

Debt, net of cash and marketable securities, was $2.494 billion at December 31, 1995, as compared with $855 million at December 31, 1994. Net debt as a percentage of total capitalization was 36.7 percent at December 31, 1995, as compared with 17.9 percent at December 31, 1994. The company expects that the cash flow from operations and available debt financing will be sufficient to meet its funding requirements in 1996.

Contracts in process increased to $2.213 billion at December 31, 1995, from $1.951 billion at December 31, 1994, due principally to the acquisition of E-Systems.

Property, plant and equipment increased to $1.584 billion at December 31, 1995, from $1.361 billion at December 31, 1994, due principally to the acquisition of E-Systems.

Other assets (net) increased to $2.982 billion at December 31, 1995, from $1.049 billion at December 31, 1994, due principally to the goodwill arising from the acquisition of E-Systems.

Capital expenditures were $328.6 million in 1995 versus $267.4 million in 1994. The increase was due principally to the acquisition of E-Systems. Capital expenditures in 1996 are expected to be above the 1995 level, excluding the effect of acquisitions.

Dividends declared to stockholders during 1995 were $182.5 million versus $192.7 million in 1994. The quarterly dividend rate was $.1875 for each quarter of 1995 versus $.175 in the first quarter of 1994 and $.1875 for the second, third, and fourth quarters of 1994.

Total employment was 73,200 at December 31, 1995, as compared with 60,200 at December 31, 1994. The increase in employment is principally due to the acquisition of E-Systems.

The company enters into interest rate swaps and locks and foreign currency forward agreements with commercial and investment banks to reduce the impact of changes in interest rates and foreign exchange rates on long-term debt and on purchases, sales, and financing arrangements with lenders, vendors, customers and foreign subsidiaries. The company meets its working capital requirements mainly with variable rate short-term financing. Interest rate swaps are primarily used to provide purchasers of the company's products with fixed financing terms over extended time periods. The company also enters into foreign exchange forward contracts to minimize fluctuations in the value of payments due to international vendors and the value of foreign currency denominated receipts. The hedges used by the company are directly related to a particular asset, liability, or transaction for which a firm commitment is in place. Swaps and foreign exchange contracts are normally held to maturity and no exchange traded or over-the-counter instruments have been purchased. In order to lock in favorable rates, interest rate swaps and locks were entered into six weeks prior to and unwound in connection with the 1995 issuance of $750 million ten-year notes and $375 million thirty-year debentures. The impact on the financial position, liquidity, and results of operations from likely changes in foreign exchange and interest rates is immaterial due to the minimizing of risk through the hedging of transactions related to specific assets, liabilities, or commitments.

The company adopted Statement of Financial Accounting Standard No. 121, Accounting for the Impairment of Long-Lived Assets, in the fourth quarter of 1995. In accordance with provisions of SFAS No. 121 and the past practices of the company, the company recorded a $125.0 million pre-tax special charge ($81.2 million after tax) related principally to real estate and goodwill valuation adjustments.

The company will adopt Statement of Financial Accounting Standard No. 123, Accounting for Stock-Based Compensation, in 1996. The standard defines a fair value based method of accounting for employee stock options. The compensation expense arising from this method of accounting can be reflected in the financial statements or, alternatively, the pro forma net income and earnings per share effect of the fair value based accounting can be disclosed in the financial statement footnotes. The company expects to adopt the disclosure alternative.

Recurring costs associated with the company's environmental compliance program are not material and are expensed as incurred. Capital expenditures in connection with environmental compliance are immaterial. The company is involved in various stages of investigation and cleanup relative to remediation of various sites. All appropriate costs incurred in connection therewith have been expensed. Due to the complexity of environmental laws and regulations, the varying costs and effectiveness of alternative cleanup methods and technologies, the uncertainty of insurance coverage, and the unresolved extent of the company's responsibility, it is difficult to determine the ultimate outcome of these matters. However, in the opinion of management, any additional liability will not have a material effect on the company's financial position, liquidity, or results of operations after giving effect to amounts already recorded.

1994 versus 1993

Raytheon Company achieved record sales, earnings and earnings per share in 1994, excluding a special restructuring charge in the first quarter of 1994. Earnings rose 9.6 percent to $759.2 million and earnings per share rose 12.3 percent to $2.87, compared with earnings of $693.0 million and earnings per share of $2.56 in 1993.

Net income for 1994 including the special restructuring charge of $162.3 million, or $.61 per share, was $596.9 million, or $2.26 per share. Spurred by increased commercial sales in the Engineering and Construction, Aircraft and Major Appliances segments, Raytheon's total 1994 sales were $10.0 billion, the highest in the company's history, and an 8.8 percent increase over 1993 sales of $9.2 billion. The 1994 results reflect the success of Raytheon's strategic transition to a commercial company while retaining its commitment to remain a leading competitor in defense. Raytheon's overall commercial business achieved record sales and profits in each quarter of 1994; commercial sales for the year increased to almost 65 percent of total sales and commercial profits increased to half of total profits.

The Engineering and Construction segment had record sales and income in 1994 due to the acquisition of Ebasco in late 1993 and increased sales activity on international turnkey construction projects. Operating margins increased significantly in 1994.

The Aircraft segment had record sales and income in 1994 due to increased sales of commuter and general aviation aircraft and improved operating margins. In 1994, Beech Aircraft and Raytheon Corporate Jets were combined into Raytheon Aircraft Company.

The Major Appliances segment had record sales and income in 1994 due to increased sales of refrigerator, cooking and laundry products and improved operating margins. Sales in 1994 benefited from new product introductions as almost 50 percent of

the segment's sales was generated by products not in production a year ago. In late 1994, the company expanded into frontload commercial washing machines with the acquisition of UniMac of Marianna, Florida.

The Electronics segment had lower sales and income in 1994 due to the decline in defense spending. The company successfully expanded its defense technologies into the commercial marketplace by winning an international competition for an environmental monitoring system. The company acquired Xyplex, a leader in data networking, in October 1994.

The Patriot surface-to-air missile system continued to be the company's largest program. Patriot sales were $1.089 billion and 10.9 percent of consolidated net sales in 1994 and $1.248 billion and 13.6 percent of consolidated net sales in 1993. The total funded backlog for Patriot at the end of 1994 was $1.734 billion. The Hawk surface-to-air missile system and the Advanced Medium Range Air-to-Air Missile (AMRAAM) also continued to be important sales contributors in 1994.

Sales to the U.S. Department of Defense were $3.546 billion or 35.4 percent of consolidated sales in 1994 versus $4.219 billion or 45.9 percent in 1993. Total sales to the U.S. government were $3.930 billion or 39.3 percent of consolidated net sales versus $4.501 billion or 48.9 percent in 1993. Commercial sales to domestic customers were $4.121 billion or 41.2 percent of consolidated net sales in 1994 versus $3.004 billion or 32.6 percent of sales in 1993.

Operating income, excluding the effect of the restructuring provision in the first quarter of 1994, was $1,078.4 million or 10.8 percent of sales versus $919.9 million or 10.0 percent of sales in 1993. The results for 1994, excluding the effect of the restructuring provision, were 17.2 percent above 1993 due to strong improvements in operating earnings in the Engineering and Construction, Aircraft and Major Appliances segments. Operating income after the restructuring provision was $828.6 million or 8.3 percent of sales.

The company recorded in the first quarter of 1994 a restructuring provision of $249.8 million before tax. The restructuring was driven by the significant reductions in the defense budget and increasing commercial competition. Approximately 65 percent of the restructuring costs are attributable to Raytheon's defense business and the remainder to its commercial business. Through year-end 1994, $92.5 million of restructuring costs have been incurred, of which $22.1 million were employee related costs and $70.4 million was related to asset disposals, idle facilities and rearrangement costs. Additionally, 3,600 employees have been notified of termination, of which 2,200 have actually been terminated.

Interest expense for 1994 increased to $48.5 million from $31.9 million in 1993. The increase was due to higher interest rates and higher average levels of debt outstanding.

Interest and dividend income decreased to $47.5 million in 1994 from $56.5 million in 1993. The decrease is due to lower customer long-term receivables in 1994.

Other income (net) for 1994 decreased to $72.3 million from $102.8 million in 1993. The decrease is principally due to lower 1994 license fee income on foreign missile contracts.

Federal and foreign income taxes were $303.1 million in 1994 compared with $354.3 million in 1993. The 1994 effective tax rate was 33.7 percent, after the restructuring provision, versus 33.8 percent in 1993. The effective tax rate for 1994 reflects the statutory rate of 35 percent reduced by foreign tax credits.

For reasons discussed above, income before the restructuring provision increased 9.6 percent or $66.2 million to $759.2 million from the $693.0 million reported for 1993. Net income after the restructuring provision was $596.9 million.

Earnings per common share, before the restructuring provision, increased 12.3 percent to $2.87 from $2.56 in 1993. Earnings per common share after the restructuring provision were $2.26. Earnings per common share calculations were based on 264.7 million average shares outstanding in 1994 and 271.2 million average shares outstanding in 1993. During 1994, outstanding shares were reduced by 25.4 million shares as a result of the company's purchase of outstanding shares at a cost of $804.9 million, partially offset by 1,832,000 shares issued upon the exercise of employee stock options and restricted stock awards.

In November 1992, to counter the dilution due to exercise of stock options, the Board of Directors authorized the purchase of up to four million shares of the company's common stock per year over the next five years. During 1994, approximately two million shares were purchased under this authorization. On February 23, 1994, the Board of Directors authorized the repurchase of up to 24 million shares of the company's common stock. In 1994, 23.4 million shares were purchased under this authorization. On February 22, 1995, the Board of Directors authorized the repurchase of up to 12 million shares of the company's common stock. The company will repurchase shares in the open market from time to time as conditions may warrant.

The book value of common shares outstanding at December 31, 1994, was $15.92 per share as compared with $15.89 per share at December 31, 1993. Return on average equity in 1994, excluding the restructuring provision, was 17.4 percent versus 17.0 percent in 1993. Return on average equity in 1994, including the restructuring provision, was 14.1 percent.

Backlog consisted of the following at Dec. 31:

	1994	1993
	(In millions)	
Electronics	$5,287	$4,800
Engineering and Construction	1,522	1,824
Aircraft	1,203	1,082
Major Appliances	58	50
Total Backlog	$8,070	$7,756
U.S. government-funded backlog included above	$3,641	$4,519

Raytheon's total year-end backlog of $8.070 billion was up more than $300 million over the year-end 1993 backlog of $7.756 billion, due to the company's strong commercial content, including the competition Raytheon won for an environmental monitoring system, valued at over $1 billion, to allow the government of Brazil to monitor and protect the Amazon River rain forest. The program financing was approved by the Brazilian Senate in December 1994

and the company is currently negotiating a definitive contract with the Brazilian government.

For the year ended December 31, 1994, cash receipts from operating activities of $1,088.6 million, a short-term debt increase of $159.9 million, and the sale of an equity investment of $85.1 million provided funds of $1,333.6 million. These funds were used to fund net additions to property, plant and equipment of $197.5 million, to pay dividends of $192.7 million, to purchase treasury shares for $804.9 million and for the purchase of acquired companies of $151.2 million.

Accounts receivable increased to $976.3 million at year-end 1994 from $727.7 million in 1993, principally as a result of increased sales volume in the Aircraft and Major Appliances segments and the acquisition of Xyplex and UniMac.

Other assets decreased to $1,049.1 million at year-end 1994 from $1,226.4 million in 1993. The decrease was due to the sale of $302.8 million of commuter airline long-term receivables to a bank syndicate partially offset by increased goodwill from the acquisition of Xyplex and UniMac.

Advance payments, less related contracts in process balances, increased to $466.4 million at year-end 1994 from $376.1 million at the end of 1993 due mainly to advance payments received on foreign missile contracts.

Federal and foreign income taxes, including deferred, consisted of a current asset of $165.6 million and a noncurrent liability of $134.6 million, for a net asset balance of $31.0 million at year-end 1994. The net balance at December 31, 1993 was a liability of $113.5 million, consisting of a current liability of $4.0 million and a noncurrent liability of $109.5 million. The change was due principally to 1994 tax payments to the U.S. government on items previously deferred under Internal Revenue regulations.

Other accrued expenses increased to $651.7 million at year-end 1994 from $497.6 million at year-end 1993 due principally to the unspent portion of the restructuring provision recorded in 1994.

Debt, net of cash and marketable securities, was $855.4 million at the end of 1994 as compared with $707.3 million at the end of 1993. Net debt as a percentage of equity was 21.8 percent at year-end 1994 versus 16.5 percent at year-end 1993.

Lines of credit with certain commercial banks exist as a standby facility to support the issuance of commercial paper by the company. These lines of credit were $1.24 billion and $1.11 billion as of December 31, 1994, and December 31, 1993, respectively. Through the end of 1994, there have been no borrowings under these lines of credit.

In September 1992 the company filed a shelf registration with the Securities and Exchange Commission registering the possible future issuance of unsecured debt securities of up to $500 million. Through the end of 1994, no debt securities have been issued.

Capital expenditures increased to $267.4 million in 1994 from $256.1 million in 1993.

Dividends declared to stockholders in 1994 increased to $192.7 million from $189.8 million in 1993. The dividend declared per common share was increased by 7 percent to $.1875 per quarter resulting in total dividends paid for the year 1994 of $.7375 per share.

The company employed 60,200 people worldwide at December 31, 1994, compared with 63,800 at December 31, 1993. During 1994 the employment level declined by 4,600 people and 1,000 people were added as a result of acquisitions. The total of salaries and wages paid employees during 1994 was $2.895 billion compared with $2.732 billion in 1993.

In December 1994 the company announced an agreement to purchase the marine navigation business of Anschütz & Co. GmbH. The acquisition was completed in the first quarter of 1995.

In 1994 the company adopted Statement of Financial Accounting Standards (SFAS) No. 112, Employers' Accounting for Post-employment Benefits, and SFAS No. 115, Accounting for Certain Investments in Debt and Equity Securities, the financial impact of which was immaterial.

BUSINESS SEGMENT REPORTING

The company operates in four major business areas: Electronics, both commercial and defense; Engineering and Construction, Aircraft, and Major Appliances. The principal contributor to Electronics sales and earnings are defense missile systems and other products. The Engineering and Construction segment does business in some 60 countries around the world. The Aircraft segment manufactures, markets and supports pistons, jetprops and medium and light jet aircraft for commercial, regional airline and military markets around the world. The Major Appliance segment manufactures and sells household and commercial appliances to dealers and distributors in the United States and to foreign locations.

Operations by Business Segment

	Sales to unaffiliated customers			Segment income		
	1995	1994	1993	1995	1994	1993
			(In millions)			
Electronics*	$ 5,346	$ 4,016	$4,732	$ 797[1]	$ 680	$ 815
Engineering and Construction	2,873	2,821	1,718	279	259	115
Aircraft	2,024	1,722	1,466	242[2]	233	182
Major Appliances*	1,473	1,454	1,285	81	87	45
Total Operating Segments	$11,716	$10,013	$9,201	$1,399	$1,259	$1,157
Restructuring and special charges				(125)[3]	(250)[4]	—
Corporate administrative and selling expenses				(90)	(74)	(78)
Corporate interest and other expense				(230)	(66)	(32)
Net gain on sale of D.C. Heath				210	—	—
Gain on sale of an investment				28	31	—
Income before taxes				$1,192	$900	$1,047

(1) Includes a nonrecurring charge of $47 million.
(2) Includes a nonrecurring charge of $30 million.
(3) The special charge relates to the business segments as follows: Electronics, $115, and Engineering and Construction, $10.
(4) The restructuring provision relates to the business segments as follows: Electronics, $193, Engineering and Construction, $37, Aircraft, $13, and Major Appliances, $7.
*In 1995 BSG/REMCO, a European manufacturer of components principally for the appliance industry, was reclassified from the Electronics segment to the Major Appliances segment. Sales and segment income for 1994 and 1993 were restated for comparability.

	Capital expenditures			Depreciation and amortization		
	1995	1994	1993	1995	1994	1993
				(In millions)		
Electronics	$147	$ 120	$ 146	$228	$ 167	$ 170
Engineering and Construction	26	22	16	32	31	22
Aircraft	80	74	54	51	52	52
Major Appliances	76	51	40	60	54	52
Total	$329	$ 267	$ 256	$371	$ 304	$ 296

	Identifiable assets at December 31,		
	1995	1994	1993
		(In millions)	
Electronics	$5,473	$2,867	$2,795
Engineering and Construction	1,544	1,359	1,248
Aircraft	1,832	2,171	2,409
Major Appliances	992	998	806
Total	$9,841	$7,395	$7,258

Operations by Geographic Areas

	United States	Outside United States (Principally Europe)	Consolidated
		(In millions)	
Sales to unaffiliated customers			
1995	$10,997	$719	$11,716
1994	9,224	789	10,013
1993	8,789	412	9,201
Net income			
1995	738	54	792
1994	547	50	597
1993	676	17	693
Identifiable assets at			
December 31, 1995	9,171	670	9,841
December 31, 1994	6,929	466	7,395
December 31, 1993	6,892	366	7,258

Sales between business segments and between geographic areas are immaterial. In the data by geographic area, U.S. sales in millions of $10,997, $9,224, and $8,789 include export sales, in millions, principally to Europe, the Middle East, and Far East, of $1,978, $1,173, and $1,284 for 1995 through 1993, respectively.

Sales in millions to major customers, principally in Electronics, for 1995 through 1993, respectively, are: U.S. government (end user), $4,079, $3,236, and $3,722; U.S. government (foreign military sales), $597, $694, and $779.

QUARTERLY FINANCIAL DATA

Fourth quarter 1995 net income and earnings per share increased over the comparable 1994 quarter. The company recorded in the fourth quarter of 1995 a net pre-tax gain of $210 million from the sale of D.C. Heath, its educational publishing unit. The company also recorded in the fourth quarter of 1995 a special pre-tax charge of $125 million related to real estate and goodwill valuation adjustments, and non-recurring charges of $77 million related principally to inventory and contract valuations. The net gain resulted in a $5.2 million after-tax increase to net income, or $.02 per share.

	First	Second	Third	Fourth
		(In millions except per share data)		
1995				
Net sales	$2,387.1	$2,816.1	$3,152.7	$3,359.7
Cost of sales	1,825.6	2,116.3	2,424.7	2,735.2
Net income	173.9	195.5	200.7	222.4
Earnings per common share	0.71	0.80	0.82	0.92
Cash dividends per common share				
Declared	0.1875	0.1875	0.1875	0.1875
Paid	0.1875	0.1875	0.1875	0.1875
Common stock prices per the Composite Tape				
High	37.19	39.81	42.69	47.25
Low	31.44	34.75	38.75	41.50
1994				
Net sales	$2,314.5	$2,527.0	$2,442.6	$2,728.8
Cost of sales	1,796.6	1,948.7	1,876.1	2,131.2
Net income	7.0	192.2	192.0	205.7
Earnings per common share*	0.03	0.71	0.73	0.80
Cash dividends per common share				
Declared	0.175	0.1875	0.1875	0.1875
Paid	0.175	0.175	0.1875	0.1875
Common stock prices per the Composite Tape				
High	34.44	33.57	34.32	33.00
Low	30.25	30.50	30.82	30.38

*Earnings per share by quarter do not equal the earnings per share for the year due to fluctuations in the average shares outstanding.

Note: Share data have been restated for the two-for-one stock split in October, 1995.

TEN-YEAR STATISTICAL SUMMARY

		1995	1994	1993
Statements of Income				
Net sales		$11,715.6	$10,012.9	$9,201.2
Cost of sales		9,101.8	7,752.6	7,174.3
Administrative and selling expenses (note A)		1,210.8	912.3	827.6
Research and development expenses		315.6	269.6	279.4
Total operating expenses		10,628.2	8,934.5[2]	8,281.3
Operating income		1,087.4	1,078.4[2]	919.9
Interest expense		196.6	48.5	31.9
Interest and dividend income		(46.3)	(47.5)	(56.5)
Other (income) expense, net (note A)		(254.6)	(72.3)	(102.8)
Non-operating income, net		(104.3)	(71.3)	(127.4)
Income before taxes		1,191.7	1,149.7[2]	1,047.3
Federal and foreign income taxes		399.2	390.5	354.3
Net income		$ 792.5	$ 759.2[3]	$ 693.0
Return on sales		6.8%	7.6%[3]	7.5%
Return on average equity		19.3%	17.4%[3]	17.0%
Earnings per common share [1][4]				
Outstanding shares		$3.25	$2.87[3]	$2.56
Fully diluted		$3.20	$2.85[3]	$2.53
Cash dividends declared per common share[4]		$0.75	$0.738	$0.70
Average common shares (in thousands)[4]				
Outstanding shares		243,989	264,736	271,166
Fully diluted		247,780	266,490	273,594
Financial Position at Year-End				
Assets	Current	$ 5,275.2	$ 4,985.5	$4,609.2
	Property, plant, and equipment, net	1,584.0	1,360.8	1,422.1
	Total (including other non-current)	9,840.9	7,395.4	7,257.7
Working Capital	Net working capital	1,584.8	1,702.4	1,809.0
	Ratio of current assets to current liabilities	1.43	1.52	1.65
Financial Structure	Long-term debt	1,487.7	24.5	24.4
	Total debt	2,703.8	1,057.6	897.6
	Stockholders' equity	4,292.0	3,928.2	4,297.9
	Per common share[4]	17.83	15.92	15.89
	Debt as a percentage of equity	63.0%	26.9%	20.9%
General Statistics				
Total backlog		$10,550.5	$ 8,069.8	$7,756.5
U.S. government-funded backlog (included above)		5,141.5	3,640.9	4,518.8
Property, plant, and equipment				
Capital expenditures		328.6	267.4	256.1
Depreciation and amortization		371.3	304.2	296.4
Total salaries and wages paid		3,450.7	2,894.7	2,731.5
Total number of employees (actual)		73,200	60,200	63,800
Outstanding shares of common stock (in thousands)		240,690	246,644	270,428

Notes:

(1) Earnings per common share: outstanding shares computed on average number of common shares; fully diluted assumes exercise of dilutive stock options.

(2) Excludes first quarter 1994 restructuring provision of $249.8 million.

(3) Excludes first quarter 1994 after-tax restructuring provision of $162.3 million or $.61 per share.

(4) All share data have been restated for the two-for-one stock split in October, 1995.

1992	1991	1990	1989	1988	1987	1986
	(In millions except per share data)					
$9,058.2	$9,274.2	$9,267.7	$8,796.1	$8,192.1	$7,659.4	$7,308.0
7,057.5	7,351.9	7,391.4	6,996.5	6,536.6	6,123.4	5,843.0
817.2	822.1	809.8	779.3	743.5	668.9	662.1
289.9	278.5	267.6	274.7	271.0	266.1	254.0
8,164.6	8,452.5	8,468.8	8,050.5	7,551.1	7,058.4	6,759.1
893.6	821.7	798.9	745.6	641.0	601.0	548.9
48.2	92.4	114.3	113.4	62.8	23.5	20.4
(60.7)	(81.3)	(94.7)	(79.0)	(57.8)	(58.8)	(71.0)
(49.9)	(62.1)	(57.6)	(46.5)	(69.5)	(49.6)	(53.1)
(62.4)	(51.0)	(38.0)	(12.1)	(64.5)	(84.9)	(103.7)
956.0	872.7	836.9	757.7	705.5	685.9	652.6
320.9	280.9	279.6	228.9	215.9	240.8	259.4
$ 635.1	$ 591.8	$ 557.3	$ 528.8	$ 489.6	$ 445.1	$ 393.2
7.0%	6.4%	6.0%	6.0%	6.0%	5.8%	5.4%
17.7%	19.2%	21.2%	23.3%	25.1%	22.0%	19.5%
$2.36	$2.24	$2.14	$2.00	$1.84	$1.53	$1.28
$2.34	$2.22	$2.12	$1.99	$1.83	$1.52	$1.27
$0.663	$0.613	$0.60	$0.55	$0.50	$0.463	$0.438
269,008	264,460	261,330	264,108	266,484	291,054	308,164
271,290	266,092	262,482	265,642	267,786	293,592	310,784
$3,775.8	$3,747.6	$3,603.5	$3,104.5	$2,844.3	$2,451.9	$2,023.6
1,420.0	1,516.5	1,532.1	1,456.3	1,355.2	1,217.4	1,103.7
6,015.1	6,087.1	6,119.4	5,338.3	4,739.5	4,162.5	3,656.2
1,639.0	1,031.5	457.8	282.4	267.1	183.2	370.7
1.77	1.38	1.15	1.10	1.10	1.08	1.22
25.3	39.3	46.4	46.0	41.3	44.7	48.7
732.0	1,143.7	1,471.6	1,229.6	952.8	595.4	180.9
3,843.2	3,323.4	2,846.5	2,426.1	2,121.0	1,849.1	1,954.6
14.16	12.45	10.89	9.24	7.99	6.83	6.60
19.0%	34.4%	51.7%	50.7%	44.9%	32.2%	9.3%
$7,273.2	$7,969.4	$8,809.5	$9,595.3	$8,712.4	$8,470.0	$7,766.5
5,310.6	5,759.2	6,566.4	6,973.5	6,759.1	6,362.3	5,448.2
307.7	348.5	390.7	413.9	421.3	354.2	346.4
302.1	306.1	303.5	281.6	259.0	236.5	237.9
2,957.7	3,017.4	2,972.7	2,816.4	2,659.8	2,457.9	2,245.2
63,900	71,600	76,700	77,600	76,200	76,500	75,000
271,320	266,880	261,420	262,480	265,494	270,796	296,312

BALANCE SHEETS

Raytheon Company and Subsidiaries Consolidated

Assets	December 31, 1995	1994
	(In thousands)	
Current assets		
Cash and marketable securities (notes A and B)	$ 210,284	$ 202,181
Accounts receivable, less allowance for doubtful accounts: 1995—$22,043,000; 1994—$21,290,000	926,800	976,278
Federal and foreign income taxes, including deferred (notes A and I)	196,711	165,615
Contracts in process (notes A and C)	2,212,689	1,951,270
Inventories (notes A and D)	1,502,983	1,499,458
Prepaid expenses (note M)	225,751	190,689
Total current assets	5,275,218	4,985,491
Property, plant, and equipment, net (notes A and E)	1,584,035	1,360,780
Other assets (notes A and F)	2,981,691	1,049,123
	$9,840,944	$7,395,394
Liabilities and Stockholders' Equity		
Current liabilities		
Notes payable and current portion of long-term debt (notes G and H)	$1,216,039	$1,033,081
Advance payments, less contracts in process: 1995—$586,792,000; 1994—$572,788,000	343,470	466,448
Accounts payable	1,041,848	894,911
Accrued salaries and wages	254,419	236,945
Other accrued expenses (note A)	834,647	651,680
Total current liabilities	3,690,423	3,283,065
Accrued retiree benefits (note M)	270,025	25,068
Federal and foreign income taxes, including deferred (notes A and I)	100,797	134,571
Long-term debt (note H)	1,487,735	24,522
Commitments and contingencies (note J)		
Stockholders' equity (note R)		
Preferred stock, no par value		
Authorized: 3,000,000 shares		
Outstanding: 1995 and 1994—none (note K)		
Common stock, par value $1.00 per share		
Authorized: 400,000,000 shares		
Outstanding: 1995—240,690,000 shares; 1994—246,644,000 shares (after deducting shares in treasury: 1995—114,245,000; 1994—108,292,000) (notes K and L)	240,690	246,644
Additional paid-in capital	258,708	209,468
Equity adjustments (note A)	5,071	(9,463)
Retained earnings	3,787,495	3,481,519
Total stockholders' equity	4,291,964	3,928,168
	$9,840,944	$7,395,394

The accompanying notes are an integral part of the financial statements.

STATEMENTS OF INCOME

Raytheon Company and Subsidiaries Consolidated

Years Ended December 31:	1995	1994	1993
	(In thousands except per share data)		
Net sales (note A)	$11,715,597	$10,012,855	$9,201,197
Cost of sales	9,101,847	7,752,567	7,174,279
Administrative and selling expenses	1,085,765	912,313	827,551
Research and development expenses (note A)	315,581	269,613	279,448
Restructuring and special charges (note A)	125,000	249,751	—
Total operating expenses	10,628,193	9,184,244	8,281,278
Operating income	1,087,404	828,611	919,919
Interest expense	196,627	48,504	31,867
Interest and dividend income	(46,338)	(47,492)	(56,496)
Other income, net (note A)	(254,568)	(72,340)	(102,799)
Non-operating income, net	(104,279)	(71,328)	(127,428)
Income before taxes	1,191,683	899,939	1,047,347
Federal and foreign income taxes (notes A and I)	399,195	303,063	354,356
Net income	$ 792,488	$ 596,876	$ 692,991
Earnings per common share (notes A and R)			
Outstanding shares	$3.25	$2.26	$2.56
Fully diluted	$3.20	$2.24	$2.53

The accompanying notes are an integral part of the financial statements.

STATEMENTS OF STOCKHOLDERS' EQUITY

Raytheon Company and Subsidiaries Consolidated Years Ended December 31, 1995, 1994, and 1993:	Common Stock Shares	Common Stock Par Value	Additional Paid-in Capital	Equity Adjustments	Retained Earnings
			(In thousands)		
Balance at December 31, 1992					
As previously reported	135,660	$135,660	$273,559	$(7,068)	$3,441,083
Two-for-one stock split (note R)	135,660	135,660	(135,660)		
As restated	271,320	271,320	137,899	(7,068)	3,441,083
Net income					692,991
Dividends declared—$.70 per share					(189,827)
Proceeds under common stock plans	3,334	3,334	65,632		
Treasury shares purchased	(3,956)	(3,956)	(2,452)		(107,990)
Treasury shares received on exercise of stock options	(270)	(270)	(7,804)		
Foreign exchange translation adjustments				4,755	
FAS No. 87 pension adjustment				213	
Balance at December 31, 1993	270,428	270,428	193,275	(2,100)	3,836,257
Net income					596,876
Dividends declared—$.738 per share					(192,681)
Proceeds under common stock plans	1,864	1,864	41,476		
Treasury shares purchased	(25,338)	(25,338)	(20,638)		(758,933)
Treasury shares received on exercise of stock options	(310)	(310)	(4,645)		
Foreign exchange translation adjustments				(3,613)	
FAS No. 87 pension adjustment				(3,750)	
Balance at December 31, 1994	246,644	246,644	209,468	(9,463)	3,481,519
Net income					792,488
Dividends declared—$.75 per share					(182,487)
Proceeds under common stock plans	2,388	2,388	64,502		
Treasury shares purchased	(8,144)	(8,144)	(7,844)		(304,025)
Treasury shares received on exercise of stock options	(198)	(198)	(7,418)		
Foreign exchange translation adjustments				10,374	
FAS No. 115 unrealized valuation adjustment				2,973	
FAS No. 87 pension adjustment				1,187	
Balance at December 31, 1995	240,690	$240,690	$258,708	$ 5,071	$3,787,495

The accompanying notes are an integral part of the financial statements.

STATEMENTS OF CASH FLOWS

Raytheon Company and Subsidiaries Consolidated

Years Ended December 31:	1995	1994	1993
		(In thousands)	
Cash flows from operating activities			
Net income	$ 792,488	$ 596,876	$ 692,991
Adjustments to reconcile net income to net cash provided by operating activities, net of the effect of acquired companies			
Depreciation and amortization	371,399	304,166	296,415
Net gain on sale of operating division	(210,000)	—	—
Gain on sale of an investment	(27,846)	(31,056)	—
Decrease (increase) in accounts receivable	116,406	(221,218)	(38,478)
Decrease in contracts in process	173,655	72,875	3,658
Decrease (increase) in inventories	44,748	23,826	(98,270)
(Increase) decrease in long-term receivables	(11,577)	77,456	48,356
Sales of commuter airlines long-term receivables	—	302,800	—
(Decrease) increase in advance payments	(216,762)	90,351	106,107
Increase (decrease) in accounts payable	37,003	71,820	(3,167)
Increase (decrease) in federal and foreign income taxes	83,322	(138,889)	95,073
Other adjustments, net	(18,667)	(60,389)	(152,628)
Net cash provided by operating activities	1,134,169	1,088,618	950,057
Cash flows from investing activities			
Additions to property, plant, and equipment	(328,617)	(267,376)	(256,131)
Disposals of property, plant, and equipment	61,861	69,844	36,516
(Increase) decrease in other assets	(133,729)	(3,218)	14,825
Payment for purchase of acquired companies, net of cash received	(2,341,522)	(151,209)	(566,400)
Proceeds from sale of operating division	449,200	—	—
Proceeds from sale of an investment	10,160	85,113	—
All other, net	355	(6,875)	(904)
Net cash used in investing activities	(2,282,292)	(273,721)	(772,094)
Cash flows from financing activities			
Dividends	(182,487)	(192,681)	(189,827)
Increase in short-term debt	139,692	159,912	166,407
Increase (decrease) in long-term debt, net	1,463,213	(929)	(894)
Purchase of treasury shares	(320,013)	(804,910)	(114,398)
Proceeds under common stock plans	59,274	38,386	68,966
All other, net	(4,612)	(4,122)	(7,169)
Net cash provided by (used in) financing activities	1,155,067	(804,344)	(76,915)
Effect of foreign exchange rates on cash	732	264	343
Net increase in cash and cash equivalents	7,676	10,817	101,391
Cash and cash equivalents at beginning of year	200,938	190,121	88,730
Cash and cash equivalents at end of year	$ 208,614	$ 200,938	$ 190,121

The accompanying notes are an integral part of the financial statements.

Note A: Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of the parent company and all domestic and foreign subsidiary companies. The books of the parent and all subsidiaries are maintained on a calendar year basis. All material intercompany transactions have been eliminated. Certain amounts in the 1994 and 1993 financial statements and notes have been reclassified to conform with the 1995 presentation.

Cash Equivalents and Marketable Securities

Cash and cash equivalents include only cash and short-term, highly liquid investments (those with original maturities when purchased of 90 days or less).

Cash equivalents and marketable securities are valued in accordance with the provisions of Statement of Financial Accounting Standards No. 115, Accounting for Certain Investments in Debt and Equity Securities (see note Q). Dividends are recorded as income when declared.

Contracts in Process

Sales under long-term contracts are recorded under the percentage of completion method, wherein costs and estimated gross margin are recorded as sales as the work is performed. Costs include direct engineering and manufacturing costs, applicable overheads, and special tooling and test equipment. Estimated gross margin provides for the recovery of allocable research, development (including bid proposal), marketing and administration costs, and for accrued income. Accrued income is based on the percentage of estimated total income that incurred costs to date bear to estimated total costs after giving effect to the most recent estimates of cost and funding at completion. When appropriate, increased funding is assumed based on expected adjustments of contract prices for increased scope and other changes ordered by the customer. Some contracts contain incentive provisions based upon performance in relation to established targets to which applicable recognition has been given in the contract estimates. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting in the current period earnings applicable to performance in prior periods. When the current contract estimate indicates a loss, provision is made for the total anticipated loss. In accordance with these practices, contracts in process are stated at cost plus estimated profit but not in excess of realizable value.

Inventories

Aircraft inventories at Raytheon Aircraft, except finished goods, are stated at the lower of cost (principally last-in, first-out) or market. Work in process is stated at total cost incurred reduced by estimated costs of units delivered.

All other inventories are stated at cost (principally first-in, first-out or average basis) but not in excess of net realizable value.

Research and Development Expenses

Research and development expenditures for company-sponsored projects are expensed as incurred.

Property, Plant, and Equipment

Property, plant, and equipment are stated at cost. Betterments and major renewals are capitalized and included in property, plant, and equipment accounts while expenditures for maintenance and repairs and minor renewals are charged to expense. When assets are retired or otherwise disposed of, the assets and related allowances for depreciation and amortization are eliminated from the accounts and any resulting gain or loss is reflected in income.

Provisions for depreciation are computed generally on the sum-of-the-years-digits method, except for certain operations, which use the straight-line or declining-balance method. Depreciation provisions are based on estimated useful lives: buildings—20 to 45 years; machinery and equipment, including production tooling—3 to 10 years; equipment leased to others—5 to 10 years. Leasehold improvements are amortized over the lesser of the remaining life of the lease or the estimated useful life of the improvement.

Excess of Cost Over Net Assets of Acquired Companies

The excess of cost over acquired net assets is amortized on the straight-line method over its estimated useful life but not in excess of 40 years. The company evaluates the possible impairment of goodwill at each reporting period based on the undiscounted projected cash flows of the related business unit.

Investments

Investments, which are included in "Other Assets", include equity ownership of 20 percent to 50 percent in affiliated companies and of less than 20 percent in other companies. Investments in affiliated companies are accounted for under the equity method, wherein the company's share of their earnings and income taxes applicable to the assumed distribution of such earnings are included in net income. Other investments are stated at cost or fair market value.

Commissions

The company pays commissions to sales representatives, distributors, and agents under various arrangements in return for services rendered in connection with obtaining orders. Such commissions are charged to income as related sales are recorded and, for income statement purposes, are applied as a reduction of sales. In some cases, payment of such commissions is made upon the company's receipt of advance payments under the related contracts or in accordance with schedules contained in the contracts governing commissions, and such amounts are applied as a reduction of advance payments received. Sales have been reduced by $36,958,000, $32,552,000 and $22,108,000 in 1995, 1994, and 1993, respectively, for commission expense.

Federal and Foreign Income Taxes

The company and its domestic subsidiaries provide for federal income taxes on pretax accounting income at rates in effect under existing tax law. The recovery of foreign tax credits related to foreign contracts, FSC (Foreign Sale Corporation) tax benefits, and other tax credits are recorded on a flow-through basis. Foreign subsidiaries have recorded provisions for income taxes at applicable foreign tax rates in a similar manner.

Lease Accounting

Revenue from certain qualifying non-cancelable aircraft lease contracts are accounted for as sales-type leases wherein the present values of all payments, net of executory costs, are recorded currently as revenues, and the related costs of the aircraft are charged to cost of sales. Associated interest, using the interest method, is recorded over the term of the lease agreements. All other leases for aircraft are accounted for under the operating method wherein revenues are recorded as earned over the rental aircraft lives. Service revenues are recognized ratably over contractual periods or as services are performed.

Pension Costs

The company and its subsidiaries have several pension and retirement plans covering the majority of employees, including certain employees in foreign countries.

Annual charges to income are made for costs of the plans, including current service costs, interest on projected benefit obligations, and net amortization and deferral (unrecognized net obligation (asset) at transition, unrecognized prior service costs, and actuarial net gains or losses).

increased or reduced by the return on assets. Unfunded accumulated benefit obligations are accounted for as a long-term liability on the balance sheet. It is the company's policy to fund annually those pension costs which are calculated in accordance with Internal Revenue Service regulations and standards issued by the Cost Accounting Standards Board.

Translation of Foreign Currencies

Assets and liabilities of foreign subsidiaries are translated at current exchange rates, and the effects of these translation adjustments are reported as a component of equity adjustments in stockholders' equity. The balances at December 31, 1995, 1994, and 1993 were $6,911,000, $(3,463,000), and $151,000, respectively. Foreign exchange transaction gains and losses in 1995, 1994, and 1993 were not material.

Employee Stock Plans

Proceeds from the exercise of stock options under the employee stock plans are credited to common stock at par value, and the excess of the option price over par value is credited to additional paid-in capital. There are no charges or credits to income with respect to the options. The market value at the date of award of restricted stock awards is credited to common stock at par value, and the excess is credited to additional paid-in capital. The market value is also charged to income as compensation expense over the vesting period. Income tax benefits arising from restricted stock transactions, employees' premature disposition of option shares, and exercise of non-qualified stock options are credited to additional paid-in capital.

The company will adopt statement of Financial Accounting Standard No. 123, Accounting for Stock-Based Compensation, in 1996. The standard defines a fair value based method of accounting for employee stock options. The compensation expense arising from this method of accounting can be reflected in the financial statements or, alternatively, the pro forma net income and earnings per share effect of the fair value based accounting can be disclosed in the financial footnotes. The company expects to adopt the disclosure alternative.

Earnings Per Common Share

Earnings per common share are based upon the weighted average number of common shares outstanding during each year.

Fully diluted earnings per common share include the additional shares resulting from the assumed exercise of all outstanding dilutive stock options reduced by the number of shares repurchasable from the assumed proceeds of such options.

Restructuring and Special Items

The company recorded in the fourth quarter of 1995 a net pre-tax gain of $210 million from the sale of D.C. Heath, its educational publishing unit. The company adopted statement of Financial Accounting Standard No. 121, Accounting for the Impairment of Long-Lived Assets, in the fourth quarter of 1995 which resulted in a $125 million pre-tax special charge ($81.2 million after tax) related to specific assets, liabilities or commitments, and non-recurring charges of $77 million, related principally to inventory and contract valuations. The net gain resulted in a $5.2 million after-tax increase to net income, or $.02 per share.

The company recorded in the first quarter of 1994 a restructuring provision of $249.8 million before tax. The restructuring was driven by the significant reductions in the defense budget and increasing commercial competition. Approximately 65 percent of the restructuring costs are attributable to Raytheon's defense business and the remainder to its commercial business.

Through year-end 1995, $240.4 million of restructuring costs has been incurred, of which $102.2 million was employee related costs and $138.2 million was related to asset disposals and idle facilties. The spending is expected to be completed early in 1996.

Interest Rate and Foreign Currency Interest Rate Swap Agreements, Rate Locks and Foreign Exchange Contracts

The company enters into interest rate and foreign currency interest rate swap agreements with commercial banks to reduce the impact of changes in interest rates and foreign exchange rates on long-term debt and on financing arrangements with customers and foreign subsidiaries. The company meets its working capital requirements mainly with variable rate short-term financing. Interest rate swaps are used to provide purchasers of the company's products with fixed financing terms over extended time periods. Cross-currency interest rates swaps have allowed the company's foreign subsidiaries to meet borrowing needs at lower interest rates compared to local borrowing. The company also enters into foreign exchange contracts to minimize fluctuations in the value of payments due to international vendors and the value of foreign currency denominated receipts. The hedges used by the company are transaction driven and are directly related to a particular asset, liability or transaction for which a commitment is in place. Swaps and foreign exchange contracts are held to maturity and no exchange traded or over-the-counter instruments have been purchased. The impact on the financial position and results of operations from likely changes in foreign exchange rates and interest rates is immaterial due to the minimizing of risk through the hedging of transactions related to specific assets, liabilities, or commitments.

Risks and Uncertaintles

Companies such as Raytheon, which are engaged in supplying defense-related equipment to the government, are subject to certain business risks peculiar to that industry. Sales to the government may be affected by changes in procurement policies, budget considerations, changing concepts of national defense, political developments abroad and other factors. As a result of the 1985 Balanced Budget and Emergency Deficit Reduction Control Act, the federal deficit and changing world order conditions, DOD budgets have been subject to increasing pressure resulting in an uncertainty as to the future effects of DOD budget cuts. Raytheon has, nonetheless, maintained a solid foundation of tactical defense systems which meet the needs of the United States and its allies, as well as servicing a broad government program base and wide range of commercial electronic businesses. These factors lead management to believe that there is high probability of continuation of Raytheon's current major tactical defense programs.

The company provides long-term financing principally to its aircraft customers. The company sells general and regional aviation long-term receivables to a bank syndicate and a fractional ownership in a defined pool of trade receivables to a financial institution. The banks have recourse against the company, at varying percentages, depending on the character of the receivables sold. The underlying aircraft serve as collateral for the receivables and the future resale value of the aircraft is an important consideration in the transaction. Based on the company's experience to date with resale activities and pricing, management believes that any liability arising from these transactions will not have a material effect on the company's financial position, liquidity, or results of operations.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Note B: Cash and Marketable Securities

Cash and marketable securities consisted of the following at December 31:	1995	1994
	(In thousands)	
Cash and cash equivalents	$208,614	$200,938
Marketable securities	1,670	1,243
	$210,284	$202,181

Under the company's cash management program, checks and amounts in transit are not considered reductions of cash or accounts payable until presented to the appropriate banks for payment. At December 31, 1995 and 1994, checks and amounts in transit amounted to $182,900,000 and $168,000,000, respectively.

Note C: Contracts in Process

Contracts in process consisted of the following at December 31, 1995:	Cost Type	Fixed Price Type	Total
		(In thousands)	
U.S. government end-use contracts			
Billed	$251,462	$ 182,320	$ 433,782
Unbilled	303,148	2,239,814	2,542,962
Less progress payments	—	1,368,878	1,368,878
Total	554,610	1,053,256	1,607,866
Other customers			
Billed	29,915	95,470	125,385
Unbilled	154,665	692,069	846,734
Less progress payments	—	367,296	367,296
Total	184,580	420,243	604,823
	$739,190	$1,473,499	$2,212,689

Contracts in process consisted of the following at December 31, 1994:	Cost Type	Fixed Price Type	Total
		(In thousands)	
U.S. government end-use contracts			
Billed	$121,800	$ 163,998	$ 285,798
Unbilled	149,278	2,347,635	2,496,913
Less progress payments	—	1,461,302	1,461,302
Total	271,078	1,050,331	1,321,409
Other customers			
Billed	78,535	372,990	451,525
Unbilled	156,460	115,992	272,452
Less progress payments	—	94,116	94,116
Total	234,995	394,866	629,861
	$506,073	$1,445,197	$1,951,270

The U.S. government has a security title to unbilled amounts associated with contracts that provide for progress payments.

Unbilled amounts are recorded on the percentage of completion method and are recoverable from the customer upon shipment of the product, presentation of billings, or completion of the contract. It is anticipated that substantially all of these unbilled amounts, net of progress payments, will be collected during 1996.

Billed and unbilled contracts in process include retentions arising from contractual provisions. At December 31, 1995, retentions amounted to $42,161,000 and are anticipated to be collected as follows: 1996—$30,305,000, 1997—$5,814,000, and the balance thereafter.

Note D: Inventories

Inventories consisted of the following at December 31:	1995	1994
	(In thousands)	
Finished goods	$ 596,080	$ 666,654
Work in process	728,792	812,626
Materials and purchased parts	456,402	379,842
Excess of current cost over LIFO values	(176,725)	(179,428)
	1,604,549	1,679,694
Less progress payments	101,566	180,236
	$1,502,983	$1,499,458

The inventory values from which the excess of current cost over LIFO values are deductible were $488,765,000 and $527,161,000 at December 31, 1995 and 1994, respectively.

Note E: Property, Plant, and Equipment

Property, plant, and equipment consisted of the following at December 31:	1995	1994
	(In thousands)	
Land	$ 53,090	$ 47,464
Buildings and leasehold improvements	1,184,072	926,628
Machinery and equipment	2,852,721	2,672,010
Equipment leased to others	25,866	44,899
	4,115,749	3,691,001
Less accumulated depreciation and amortization	2,531,714	2,330,221
	$1,584,035	$1,360,780

Accumulated amortization of equipment leased to others was $3,981,000 and $6,926,000 at December 31, 1995 and 1994, respectively.

Future minimum lease payments from non-cancelable Aircraft operating leases, which extend to 2003, amounted to $7,686,000. At December 31, 1995, these payments were due as follows:

	(In thousands)		(In thousands)
1996	$1,478	1999	$ 776
1997	728	2000	776
1998	744	Thereafter	3,184

Note F: Other Assets

Other assets consisted of the following at December 31:	1995	1994
	(In thousands)	
Long-term receivables		
Due from customers in installments to 2010	$ 102,261	$ 105,422
Sales-type leases, due in installments to 2010	48,277	33,539
Other, principally due from 1996 through 2010	21,707	21,707
Investments	183,034	73,884
Deferred charges and other non-current assets	80,129	73,474
Excess of cost over assets of acquired companies (net of accumulated amortization of $103.5 million at December 31, 1995 and $46.1 million at December 31, 1994)	2,532,358	725,260
Intangible pension asset	13,925	15,837
	$2,981,691	$1,049,123

Long-term receivables and sales-type leases due from customers, of $150.5 million at December 31, 1995, and $139.0 million at December 31, 1994, included commuter airline receivables of $47.1 million and $63.6 million, respectively. Since it is the company's policy to have the aircraft serve as collateral for the commuter airline receivables, management does not expect to incur any material losses against the net book value of the long-term receivables. The company sold general and commuter aviation long-term receivables to a bank syndicate and a fractional ownership in a defined pool of trade receivables to a financial institution. The interest rate on the general aviation receivables is LIBOR+.55% and on the commuter receivables LIBOR+.4% and +.35% and on the trade receivables commercial paper rate +.31%. The banks have a first priority claim on all proceeds, including the underlying equipment and any insurance proceeds, and have recourse against the company, at varying percentages, depending upon the character of the receivables sold. The balance of receivables sold to the banks and outstanding at December 31, 1995 and December 31, 1994, was $1,755.8 million and $1,026.0 million, respectively, of which 1995 proceeds of $729.8 million included $629.8 million for commuter and general aviation aircraft.

Note G: Notes Payable

Notes payable consisted of the following at December 31:	1995	1994
	(In thousands)	
Notes payable	$ 56,086	$ 83,247
Commercial paper	1,148,391	947,757
Weighted average interest rate on:		
Average note payable borrowings	6.30%	5.55%
Average commercial paper	5.94%	4.20%
Notes payable borrowings at December 31	5.70%	6.32%
Commercial paper at December 31	5.83%	5.92%
Aggregate borrowings outstanding		
Maximum month-end balance	$4,051,846	$1,223,800
Average during the year	$2,362,599	$1,012,992

Credit lines or commitments with banks were maintained by subsidiary companies amounting to $196.7 million in 1995 and $186.1 million in 1994. Compensating balance arrangements are not material. In addition, lines of credit with certain commercial banks exist as a standby facility to support the issuance of commercial paper by the company. These lines of credit were $3.20 billion at December 31, 1995 and $1.24 billion at December 31, 1994. Through December 31, 1995, there have been no borrowings under these lines of credit. Total interest payments were $196 million, $48 million, and $36 million for 1995, 1994, and 1993, respectively.

Note H: Long-term Debt

Long-term debt consisted of the following at December 31:	1995	1994
	(In thousands)	
30 year 7.375% debentures due 2025 and callable after July 15, 2005	$ 361,373	$ —
10 year 6.5% long-term notes due 2005, not callable prior to maturity	728,216	—
Commercial paper backed by 5 year fixed for variable interest rate swap at 6.40%	375,000	—
Notes (including $17,639,000 in 1995 and $12,378,000 in 1994 of mortgage notes and industrial revenue bonds), interest in the range of 4.6% to 13.75% payable in installments, maturing at various dates from 1996 to 2009	34,708	26,599
Less installments due within one year	11,562	2,077
	$1,487,735	$24,522

The aggregate amounts of installments due for the next five years are:

	(In thousands)		(In thousands)
1996	$ 11,562	1999	$ 2,347
1997	4,563	2000	384,487
1998	1,238		

Interest expense on long-term debt charged to income was $52,122,000, $1,158,000, and $1,257,000 for 1995 through 1993, respectively.

Commercial paper in the amount of $375,000,000 has been classified as long-term since the company has borrowed this amount backed by a 5 year Syndicated Bank Credit Agreement combined with a 5 year fixed for variable interest rate swap.

During 1995, the company issued $375,000,000 of 30 year 7.375 percent debentures due in 2025 with callability after ten years and $750,000,000 of ten year 6.50 percent notes due in 2005. The proceeds of these debt issues were used for the financing requirements of the E-Systems, Inc. acquisition. The principal amounts of debt were reduced by discounts and debt issue costs at December 31, 1995 as follows.

	30 Year Debentures	10 Year Notes
	(In thousands)	
Principal	$375,000	$750,000
Unamortized issue discounts	(9,190)	(8,799)
Unamortized interest rate hedging costs	(4,437)	(12,985)
Net debt	$361,373	$728,216

The company has bank agreement covenants which require that the ratio of total debt to total capitalization not exceed 55 percent at any time. The company was in compliance with these covenants during 1995 and 1994.

Note I: Federal and Foreign Income Taxes

Income reported for federal and foreign tax purposes differs from pretax accounting income due to variations between requirements of Internal Revenue codes and the company's accounting practices. The provisions for federal and foreign income taxes consisted of the following for the years ended December 31:

	1995	1994	1993
		(In thousands)	
Current income tax expense			
Federal	$263,489	$400,482	$273,656
Foreign	(23,347)	25,429	15,100
Deferred income tax expense			
Federal	123,858	(119,663)	66,700
Foreign	35,195	(3,185)	(1,100)
	$399,195	$303,063	$354,356

The provision for income taxes for 1995 through 1993 differs from the U.S. statutory rate due to the following:

	1995	1994	1993
Tax at statutory rate	35.0%	35.0%	35.0%
FSC tax benefit	(2.0)	(1.0)	(0.5)
Goodwill amortization	1.3	0.3	0.2
Recovery of foreign tax credits	(0.5)	(1.1)	(0.4)
Other, net	(0.3)	0.5	(0.5)
	33.5%	33.7%	33.8%

In 1995, 1994, and 1993 domestic profit before taxes amounted to $1,126,332,000, $827,258,000, and $1,015,695,000, respectively, and foreign profit before taxes amounted to $65,351,000, $72,681,000, and $31,652,000, respectively.

Actual cash income tax payments by year were $275,300,000, $425,800,000, and $248,800,000, respectively, for 1995, 1994, and 1993.

In 1995, net deferred tax assets were increased by $175,813,000 at the time of the acquisition of E-Systems, Inc.

Details of the balance sheet captions, "Federal and foreign income taxes, including deferred," at December 31, 1995, 1994 and 1993 are as follows:

	1995	1994	1993
		(In thousands)	
Current deferred tax assets (liabilities):			
Inventory and other	$ 78,377	$ 50,078	$ 52,643
Long-term contracts	115,992	97,054	(15,900)
Restructuring reserve	3,261	55,055	—
Inventory capitalization	27,689	29,546	33,355
Other	(17,803)	(7,203)	6,503
Net current deferred tax assets	207,516	224,530	76,601
Current period tax liability	(10,805)	(58,915)	(80,583)
Federal and foreign income taxes, including deferred—current	$ 196,711	$ 165,615	$ (3,982)
Non-current deferred tax assets (liabilities):			
Depreciation	$ (115,819)	$ (97,095)	$ (91,860)
Revenue on leases	(79,237)	(27,596)	(9,035)
Postretirement benefits	103,014	—	—
Other	(8,755)	(9,880)	(8,595)
Net non-current deferred tax liabilities	(100,797)	(134,571)	(109,490)
Federal and foreign income taxes, including deferred — non-current	$(100,797)	$(134,571)	$(109,490)

Note J: Commitments and Contingencies

At December 31, 1995, the company had commitments under long-term leases requiring approximate annual rentals on a net lease basis as follows:

(In thousands)		(In thousands)	
1996	$74,815	1999	$ 41,440
1997	64,757	2000	34,332
1998	52,025	Thereafter	201,087

Rental expense for 1995, 1994, and 1993 amounted to $102,925,000, $79,887,000, and $69,870,000, respectively.

Defense contractors are subject to many levels of audit and investigation. Among agencies that oversee contract performance are the Defense Contract Audit Agency, the Inspector General, the Defense Criminal Investigative Service, the General Accounting Office, the Department of Justice, and Congressional Committees. Over recent years, the Department of Justice has convened Grand Juries from time to time to investigate possible irregularities by the company in government contracting. Management believes that such investigations, individually and in the aggregate, will not have any material adverse effect upon the financial condition of the company.

The company self-insures for losses and expenses for aircraft product liability up to a maximum of $50 million annually. Excess insurance is purchased from third parties to cover excess aggregate liability exposure from $50 million to $750 million. This coverage also includes the excess of liability over $10 million per occurrence. The Aircraft product liability reserve at December 31, 1995 was $29.6 million.

Recurring costs associated with the company's environmental compliance program are not material and are expensed as incurred. Capital expenditures in connection with environmental compliance are immaterial. The company is involved in various stages of investigation and cleanup relative to remediation of various sites. All appropriate costs incurred in connection therewith have been expensed. Due to the complexity of environmental laws and regulations, the varying costs and effectiveness of alternative cleanup methods and technologies, the uncertainty of insurance coverage, and the unresolved extent of the company's responsibility, it is difficult to determine the ultimate outcome of these matters. However, in the opinion of management, any liability will not have a material effect on the company's financial position, liquidity, or results of operations after giving effect to provisions already recorded.

The company issues guarantees and has banks issue, on its behalf, letters of credit to meet various bid, performance, warranty, retention and advance payment obligations. Approximately $979 million and $519 million of these contingent obligations, net of related outstanding advance payments, were outstanding at December 31, 1995 and 1994, respectively. These instruments expire on various dates through the year 2003.

Various claims and legal proceedings generally incidental to the normal course of business are pending or threatened against the company. While the ultimate liability from these proceedings is difficult to determine, in the opinion of management, any additional liability will not have a material effect on the company's financial position, liquidity, or results of operations after giving effect to provisions already recorded.

Note K: Capital Stock

Holders of each outstanding share of common stock also hold one quarter of a preferred stock purchase right. Under certain conditions, each whole right may be exercised to purchase one one-hundredth of a share of a new series of participating preferred stock at an exercise price of $180, subject to certain anti-dilution provisions. Under certain circumstances, the rights entitle holders to purchase stock having a value of twice the exercise price of the rights. The rights would become transferable apart from the common stock, only 10 days after a person or group acquired 20 percent or more or announced or made a tender offer which, if completed, would result in that person or group owning 25 percent or more of the common stock. The rights would become exercisable in the event that any person or group acquires 25 percent or more of the company's common stock. Under certain circumstances, all rights owned or beneficially owned by any acquiring person will be null and void. Rights may be redeemed by the company at any time prior to the occurrence of certain events at $.05 per right.

The company has reserved for issuance upon exercise of the rights 1,000,000 shares of Series A Junior Participating Serial Preferred Stock.

Note L: Employee Stock Plans

The 1976 Stock Option Plan provides for the grant of both incentive and non-qualified options at an exercise price which is 100 percent of the fair market value on the date of grant. The 1991 Stock Plan provides for the grant of incentive options at an exercise price which is 100 percent of the fair market value and non-qualified options at an exercise price which may be less than the fair market value on the date of grant. The 1995 Stock Option Plan provides for the grant of both incentive and non-qualified options at an exercise price which is not less than 100 percent of the fair market value on the date of grant. The plans also provide that all options may be exercised in their entirety 12 months after the date of grant. Incentive options terminate 10 years from the date of grant, and those options granted prior to January 1, 1987 may not be exercised while a previously granted incentive option remains outstanding; this limitation does not apply to non-qualified options issued under the plans. Incentive options granted after December 31, 1986 first become exercisable to a maximum of $100,000 per year. Non-qualified options terminate 11 years from date of grant or 10 years and a day if issued in connection with the 1995 plan.

The 1991 plan also provides for the award of restricted stock and restricted units. Restricted awards are made at prices determined by the Compensation Committee of the Board of Directors and are compensatory in nature. Restricted stock and restricted unit awards vest over a specified period of time of not less than one year nor more than 10 years. The plans' expiration dates are March 22, 1998, March 26, 2001 and March 21, 2005.

Information for the years 1992 through 1995 with respect to the plans are as follows:

Stock Options	Shares	Option Price		
	(In thousands)			
Outstanding at December 31, 1992	8,990	$ 9.30	to	$25.34
Granted	1,538	26.09	to	31.91
Exercised	(3,366)	9.30	to	25.34
Expired	(108)	10.55	to	31.91
Outstanding at December 31, 1993	7,054	$ 9.77	to	$31.91
Granted	3,688	31.13	to	33.31
Exercised	(1,452)	9.77	to	29.63
Expired	(132)	10.55	to	32.88
Outstanding at December 31, 1994	9,158	$11.13	to	$33.31
Granted	4,071	33.00	to	43.50
Exercised	(2,132)	11.13	to	33.31
Expired	(316)	13.75	to	39.03
Outstanding at December 31, 1995	**10,781**	**$15.25**	**to**	**$43.50**

These options expire at various dates through April 2006. Options for 7,319,000 shares were exercisable at prices ranging from $15.25 to $33.31 at December 31, 1995.

Awards of 256,000, 380,000 and 82,000 shares of restricted stock were made to employees in 1995, 1994, and 1993, respectively. There were 51,383,000, 13,765,000, and 15,437,000 shares of common stock (including shares held in treasury) reserved for stock options and restricted stock awards at December 31, 1995, 1994, and 1993, respectively.

Note M: Pension and Other Employee Benefits

The company and its subsidiaries have several pension and retirement plans covering the majority of employees, including certain employees in foreign countries. The major plans covering salaried and management employees provide pension benefits that are based on the five highest consecutive years of the employee's compensation in the ten years before retirement. Plans covering hourly and union employees generally provide benefits of stated amounts for each year of service, but in some cases can also use a final average pay based calculation. The company's funding policy for the salaried plans is to contribute annually at a rate that is intended to remain at a level percentage of compensation for the covered employees. The company's funding policy on the hourly and union plans is to contribute annually at a rate that is intended to remain level for the covered employees. Unfunded prior service costs under the funding policy are generally amortized over periods from 10 to 30 years.

Total pension expense was $31,156,000, $29,908,000, and $77,161,000 in 1995 through 1993, respectively. Foreign pension expense was $8,287,000, $4,866,000, and $6,118,000 in 1995 through 1993, respectively.

Net periodic pension cost for the company and its subsidiaries in 1995 through 1993 included the following components:

Year ending December 31:	1995	1994	1993
		(In thousands)	
Service cost—benefits earned during the period	$ 98,207	$95,537	$96,915
Interest cost on projected benefit obligation	267,891	218,118	217,132
Actual (gain)/loss on assets	(955,942)	37,612	(334,134)
Net amortization and deferral	626,217	(323,866)	96,229
Curtailment adjustments	(7,815)	—	—
Net periodic pension costs	28,558	27,401	76,142
Defined contribution pension plans	2,598	2,507	1,019
Total pension costs	$ 31,156	$29,908	$77,161
Assumptions used in the accounting were:			
Discount rate	7.50%	8.25%	7.75%
Expected long-term rate of return on assets	9.0%	9.0%	9.0%
Rate of increase in compensation levels	4.5%	5.0%	5.0%

The following table sets forth the funded status of the plans at:

	December 31, 1995		December 31, 1994	
	Assets Exceed Accumulated Benefits	Accumulated Benefits Exceed Assets	Assets Exceed Accumulated Benefits	Accumulated Benefits ExceedAssets
		(In thousands)		
Actuarial present value of benefit obligations:				
Vested benefit obligation	$(3,399,386)	$(57,583)	$(2,439,495)	$(45,734)
Accumulated benefit obligation	$(3,538,658)	$(68,021)	$(2,511,274)	$(46,390)
Projected benefit obligation	$(3,998,382)	$(74,544)	$(2,842,534)	$(50,095)
Plan assets at fair value	4,451,725	—	3,031,587	4,368
Projected benefit obligation (in excess of) or less than plan assets	453,343	(74,544)	189,053	(45,727)
Unrecognized net (gain) or loss	(411,413)	11,907	(178,913)	12,017
Prior service cost not yet recognized in net periodic pension cost	212,270	13,723	202,730	15,302
Unrecognized net obligations (assets) at transition	(42,652)	1,138	(48,720)	1,366
Adjustment required to recognize additional minimum liability	—	(21,330)	—	(25,068)
Prepaid pension cost (liability)	$ 211,548	$(69,106)	$ 164,150	$(42,110)

Plan assets primarily include equity and fixed income securities and, in addition to normal funding contributions, include prepayments of $60,719,000, $1,900,000, and $32,700,000 made in 1995, 1994 and 1993 respectively.

The company's salaried pension plan provides that in the event of a termination of the plan within three years after an involuntary change of control of the company, the assets of the plan will be applied to satisfy all liabilities to participants and beneficiaries in accordance with Section 4044 of the Employee Retirement Income Security Act of 1974. Any remaining assets will be applied on a pro rata basis to increase the benefits to the participants and beneficiaries.

In addition to providing pension benefits, the company and most of its subsidiaries provide certain health care and life insurance benefits for retired employees. Substantially all of the company's U.S. employees may become eligible for these benefits if they reach normal retirement age while working for the company. Retiree health plans are paid for in part by employee contributions, which are adjusted annually. Benefits are provided through various insurance companies whose charges are based either on the benefits

Note M: Pension and Other Employee Benefits (continued)

paid during the year or annual premiums. Health benefits are provided to retirees, their covered dependents, and beneficiaries. Retiree life insurance plans are non-contributory and cover the retiree only.

In 1993, the company adopted Statement of Financial Accounting Standards No. 106, Employers' Accounting for Postretirement Benefits Other than Pensions, which requires recognition of an accumulated postretirement benefit obligation for retiree costs existing at the time of implementation, as well as an incremental expense recognition for changes in the obligation attributable to each successive year. Prior to 1995, all company segments had elected to amortize past service costs over the allowable 20 year period. During 1995 the company acquired E-Systems, Inc. who had elected in 1992 to recognize all its past service cost immediately upon implementation.

The company is funding the liability for many salaried and hourly employees and plans to continue to do so. The net postretirement benefit cost for the company and its subsidiaries in 1995, 1994 and 1993 included the following components:

Year ending December 31:	1995	1994	1993
		(In thousands)	
Service cost—benefits earned during the period	$ 8,265	$ 5,546	$ 8,346
Interest cost on accumulated postretirement benefit obligation	47,906	37,355	44,180
Actual (gain)/ loss on assets	(8,283)	600	(3,757)
Net amortization and deferral	16,041	18,514	24,841
Special termination benefits	18,900	—	—
Net postretirement benefit cost	$82,829	$62,015	$73,610
Assumptions used in the accounting were:			
Discount rate	7.50%	8.25%	7.50%
Expected long-term rate of return on assets	8.50%	8.50%	8.50%
Rate of increase in compensation levels	4.50%	5.00%	5.00%
Health care trend rate in the first year	7.50%	8.00%	10.00%
Gradually declining to a trend rate of	5.00%	5.00%	5.00%
In the years	2001 & beyond	2001 & beyond	2004 & beyond

The following amounts are recognized in the balance sheet at December 31:	1995[1]	1994	1993
Accumulated postretirement benefit obligation		(In thousands)	
Retirees	$(516,767)	$(356,573)	$(381,084)
Active employees eligible for benefits	(32,339)	(45,501)	(55,519)
Active employees not yet eligible for benefits	(138,888)	(73,674)	(83,252)
Total obligation	(687,994)	(475,748)	(519,855)
Plan assets at fair value	175,172	105,983	77,052
Total obligation (in excess of) plan assets	(512,822)	(369,765)	(442,803)
Unrecognized net (gain)	(127,279)	(89,074)	(48,624)
Unrecognized prior service cost	(14,214)	—	—
Unrecognized net obligation at transition	390,079	446,786	471,616
Accrued postretirement benefit cost	$(264,236)	$ (12,053)	$ (19,811)
The effect of a one percentage point increase in the assumed health care trend rate for each future year on:			
Aggregate of service and interest cost	$ 3,055	$ 3,706	$ 3,073
Accumulated postretirement benefit obligation	$37,979	$38,262	$31,574

The company has adopted Statement of Financial Accounting Standards No. 112 (FAS 112), Employers' Accounting for Postemployment Benefits, in 1994. FAS 112 requires that benefits to be paid for former or inactive employees after employment but prior to retirement must be accrued if certain criteria are met. The adoption of FAS 112 had no material financial impact on the company.

Under the terms of the Raytheon Savings and Investment Plan, a defined contribution plan, covered employees are allowed to contribute up to 17 percent of their pay limited to $9,240. The company contributes amounts equal to 50 percent of the employee's contributions, up to a maximum of 3 percent of the employee's pay. Total expense for the plan was $64,563,000, $49,436,000, and $42,761,000 for 1995 through 1993, respectively.

The company's annual contribution to the Raytheon Employee Stock Ownership Plan is approximately one half of one percent of salaries and wages, limited to $150,000 of substantially all United States salaried and a majority of hourly employees. The expense was $11,748,000, $11,768,000, and $10,964,000 for 1995 through 1993, respectively.

(1) 1995 data, including $17,117,000 of Net Periodic Pension Cost, $7,853,000 of Accrued Pension Cost, $15,041,000 of Net Periodic Postretirement Benefit Cost and $235,383,000 of Accrued Postretirement Benefit Cost, were a result of having acquired E-Systems, Inc. in April 1995.

(2) Various plan curtailments were recognized, as a result of work force reductions which were planned as part of the restructuring program.

(3) Benefit enhancements were made to various plans during the year in order to accelerate attrition through voluntary retirements.

Note N: Business Segment Reporting

For information regarding business segment reporting for 1995, 1994, and 1993, see page 46.

Note O: Acquisitions and Divestitures

The company has included in its consolidated results of operations the acquisitions under the purchase method of accounting of the following companies: E-Systems, Inc., assets of Litwin Engineers & Constructors, and Anschütz. Cash paid for the acquisitions, net of cash acquired, was $2.342 billion and goodwill of $1.814 billion was recorded. During the year the company also sold D.C. Heath, its educational publishing unit, for $455 million.

The following unaudited pro forma financial information combines Raytheon and E-Systems results of operations as if the acquisition had taken place on January 1, 1995, and on January 1, 1994. The pro forma results are not necessarily indicative of what the results of operations actually would have been if the transaction had occurred on the applicable dates indicated and are not intended to be indicative of future results of operations.

	(In millions except earnings per share)	
	1995	1994*
Net sales	$12,397	$12,046
Net income	794	584
Earnings per share	3.25	2.21

*Includes after tax restructuring provision of $162.3 million, or $.61 per share.

Note P: Quarterly Operating Results (unaudited)

For information regarding quarterly operating results for 1995 and 1994, see page 47.

Note Q: Financial Instruments

For certain financial instruments, including cash, cash equivalents, marketable securities, and short-term debt, it is estimated that carrying value approximates fair value, due to their short maturities.

The carrying value of notes receivable at December 31, 1995 and 1994 is estimated to approximate fair value based principally on the underlying interest rates and terms, maturities, collateral, and credit status of the receivables.

The carrying values of marketable securities and investments are based on quoted market prices or the present value of future cash and earnings which approximate fair value.

The value of the guarantees and letters of credit reflect fair value.

The fair value of long-term debt at December 31, 1995 and 1994 was estimated based on current rates offered to the company for similar debt with the same maturities and approximates the carrying value.

At December 31, 1995 and 1994, the company had outstanding interest rate swap agreements, with notional amounts, cross currency swap agreements and foreign currency forward exchange contracts which minimized or eliminated risk associated with interest rate changes and/or foreign currency exchange rate fluctuations. All of these financial instruments were related to specific transactions and particular assets or liabilities for which a firm commitment existed. These instruments were executed with credit-worthy institutions and the majority of the foreign currencies were denominated in currencies of major industrial countries:

	1995	1994
	(In thousands)	
Interest rate swaps	$394,268	$ 20,367
Cross-currency swaps	$ —	$ 14,864
Foreign exchange contracts	$335,068	$316,600

The following table summarizes major currencies and contract amounts associated with foreign exchange contracts:

	1995		1994	
	(In thousands)			
	Buy	Sell	Buy	Sell
Pound Sterling	$ 25,007	$ 2,784	$ 38,300	$ 66,800
Japanese Yen	2,292	58,453	15,100	45,300
Netherlands Guilder	90,144	—	49,400	—
German Mark	16,410	390	49,700	—
Canadian Dollar	35,562	2,021	10,100	—
French Franc	71,663	—	—	—
Australian Dollar	20,015	—	—	—
All others	6,885	3,442	12,800	29,100
Total	$267,978	$67,090	$175,400	$141,200

Foreign currencies are translated at current rates at the reporting date. "Buy" amounts represent the U.S. dollar equivalent of commitments to purchase foreign currencies and "sell" amounts represent the U.S. dollar equivalent of commitments to sell foreign currencies.

Swap contracts mature at various dates through the year 2000 and essentially fix the interest rates on that portion of debt at rates from 6.4 percent to 10.4 percent at December 31, 1995 and 1994, respectively. In addition, the cross-currency swaps reduced exposure to changes in foreign exchange rates.

The contract carrying value of cross-currency swaps is considered to be fair value due to the company's practice of holding contracts to maturity where the principal payable is the same as the initial exchange.

Foreign exchange forward contracts, used primarily to minimize fluctuations in the values of foreign currency payments and receipts, have maturities at various dates through July, 1998. Fair values for these contracts were determined by applying December 29, 1995 spot rates to the seven major currencies and comparing the U.S. dollar equivalents to the U.S. dollar contract amounts for the same currencies. The resulting difference was determined to be immaterial at the balance sheet date.

The company, in order to lock in favorable rates, entered into interest rate swaps and locks in connection with the 1995 issuance of $750 million ten-year notes and $375 million thirty-year debentures. Both the interest rate swaps and locks were unwound six weeks prior to the issuance of this debt.

Note R: Stock Split

On September 27, 1995, the Board of Directors voted to declare a two-for-one stock split. The additional shares resulting from the split were distributed on October 23, 1995 to stockholders of record, October 9, 1995. All share and per share information in this annual report has been adjusted to reflect the split. The company previously reported pre-split earnings per common share for 1994, 1993, and 1992 of $4.51, $5.11, and $4.72, respectively.

Company Responsibility for Financial Statements

Raytheon Company has prepared the financial statements and related data contained in this Annual Report. The company's financial statements have been prepared in conformity with generally accepted accounting principles and reflect judgments and estimates as to the expected effects of transactions and events currently being reported. Raytheon is responsible for the integrity and objectivity of the financial statements and other financial data included in this report. To meet this responsibility, the company maintains a system of internal accounting controls to provide reasonable assurance that assets are safeguarded and that transactions are properly executed and recorded. The system includes policies and procedures, internal audits, and company officers' reviews.

The Audit Committee of the Board of Directors is composed solely of outside directors. The Committee meets periodically and, when appropriate, separately with representatives of the independent accountants, company officers, and the internal auditors to monitor the activities of each.

Upon recommendation of the Audit Committee, Coopers & Lybrand L.L.P., independent accountants, have been selected by the Board of Directors to audit the company's financial statements and their report follows.

Peter R. D'Angelo

Executive Vice President and
Chief Financial Officer

Dennis J. Picard

Chairman and
Chief Executive Officer

Report of Independent Accountants

To the Board of Directors and Stockholders
Raytheon Company
Lexington, Mass.

We have audited the accompanying balance sheets of Raytheon Company and Subsidiaries Consolidated as of December 31, 1995 and 1994, and the related statements of income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 1995. These financial statements are the responsibility of the company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Raytheon Company and Subsidiaries Consolidated as of December 31, 1995 and 1994, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1995, in conformity with generally accepted accounting principles.

Coopers & Lybrand L.L.P.

Boston, Mass.
January 18, 1996

Attachment D

Technical Capability Information

SUMMARY OF EXPERIENCE

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
	RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:		
01	Johnston Atoll Chemical Agent Disposal System (JACADS) Equipment Installation Contract with Annex G Option (Program Manager for Chemical Demilitarization; USACE)	Raytheon Engineers & Constructors (RE&C) acquired, transported, and installed all major equipment (GFE and CFE) and bulk materials for JACADS plant for destruction of GB, VX, and HD. Under Annex G, procure equipment and spares and support software development and control system startup at eight CONUS chemical demilitarization facilities and the central training facility.	Similar to Umatilla contract in that JACADS one of only two full-scale chemical agent disposal facilities to date to be built, systematized, and operated. Relevance includes size, scope, and technical complexity and similarity in procurement and installation efforts, regulatory compliance requirements, equipment and systems, experience and training of personnel, and QA/QC requirements.
02	JACADS Operations and maintenance Contract (OMC) (Program Manager for Chemical Demilitarization; USACE)	RE&C provided systemization; operates and maintains the Johnston Atoll chemical agent disposal facility.	Similar to Umatilla in that JACADS is one of only two full-scale chemical agent disposal facilities to date to be built, systematized, and operated. Relevance includes size, scope, and technical complexity; required experience levels and training of personnel; regulatory compliance requirements, and ability to implement "lessons learned." RE&C/ RDC is the only company to accomplish large-scale destruction of GB, VS, and HD.
03	Delaware Refinery Maintenance and Operations Support (Star Enterprises)	RE&C provided program management, construction, systemization, and operations and maintenance for a major process facility.	This multimillion dollar, multiphased contract demonstrates the ability of the Raytheon organizations to provide long-term, safe and efficient operation of a large, complex chemical plant.

SUMMARY OF EXPERIENCE

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
	RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:		
04	Delaware Reclamation Project (Delaware Solid Waste Authority)	Raytheon Service Company (RSC) provided support services, O&M, product recovery analysis, engineering, procurement, security, QA/QC, environmental support, safety and health for a large-scale, solid waste processing facility.	A complex, multiphase program that demonstrates the experience of Raytheon Service Company (RDC sponsor) in the safe operation of large-scale waste material and handling equipment. Project terminated for convenience May of 1995.
05	La Barge Natural Gas Processing Plant (Exxon Corporation)	RE&C performed design, construction, module fabrication, precommissioning, training, and startup services for the world's largest sour (toxic) gas treatment facility.	Similar because of size, scope, and technical complexity. Efforts include design, engineering, procurement, construction, precommissioning planning, operator field training, and startup services.
06	Space Shuttle Main Engine Test Facility (Pratt & Whitney)	RE&C provided engineering and design, construction, management, and hazardous materials handling.	RE&C work at this facility demonstrates our process experience for a critical Government program that required the handling of dangerous materials at high pressures.
07	J-6 Large Rocket Test Facility (U.S. Army Corps of Engineers)	Raytheon Constructors, Inc. (RCI) performed construction and extensive safety planning for a rocket engine test facility that led to superior safety performance.	Demonstrates the ability of RCI (RDC's construction arm) to build and equip a large, complex facility with careful consideration and planning for safety issues.
08	Interim Response at Basin F, Rocky Mountain Arsenal (U.S. Army Corps of Engineers)	RCI performed engineering, construction, remediation, and closure of a highly contaminated Army site involving industrial chemicals and residual contaminants from the production of nerve and blistering agents.	The requirements for safety planning, medical surveillance, hazards analysis, personnel training and use of protective equipment, and accident prevention plans and procedures closely resemble those required for UMCDF.

SUMMARY OF EXPERIENCE

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
		RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:	
09	South Texas Nuclear Project (Houston Power & Lighting)	RCI completed construction of two partially constructed nuclear power plants.	Demonstrates relevant experience of our construction arm, RCI, in construction and maintenance of a complex nuclear facility and implementation of stringent QA/QC programs.
10	Management, Operations, & Technical Services in Nevada and the Pacific (USDOE, Nevada Operations)	As a part of this contract, RSC provided base support at Johnston Atoll including medical and industrial hygiene services, housing, and food services.	Demonstrates our ability to provide medical and industrial hygiene services at a facility with requirements similar to that of UMCDF.
11	U.S. Army Kwajalein Atoll (USAKA) Integrated Range Engineering (U.S. Army Space and Strategic Defense Command)	Raytheon 's Range Systems Engineering (RSE), a subsidiary of Raytheon Service Company, provides services to operate, maintain, design, develop, and integrate the systems that comprise the Kwajalein Missile Range. The Integrated Range Engineering contract consolidates support for the Kiernan Reentry Measurements Site (KREMS) and the Range Engineering, Data Acquisition, and Reduction Systems.	Demonstrates the capability of the Raytheon organization in providing management, personnel, services, and materials to ensure successful support of programs, missions, and tests. The effort includes operations, maintenance, engineering, and modification support and coordination with other contractors, range users, Government agencies, and management elements.
12	Sweeney Environmental Control Unit (Phillips Petroleum)	RE&C provides engineering design and environmental permitting support for a hazardous waste incinerator at Bartlesville, OK.	This project demonstrates experience in regulatory compliance, permitting for a hazardous waste incinerator, and development and implementation of a Community Action Plan.

SUMMARY OF EXPERIENCE

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
	RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:		
13	Hazardous Waste Incineration Facility (USPCI)	RE&C provided engineering design, procurement, construction support, systemization, environmental permitting and manual development services for this facility.	Demonstrates RE&C expertise in regulatory compliance for a facility similar to UMCDF and our ability to apply "lessons learned" in the areas of design, systemization, procurement, construction, and procedures development for a regional hazardous waste incinerator.
14	Miscellaneous Architect-Engineer Services at Idaho National Engineering Laboratory (USDOE-INEL)	RE&C provided design and permitting for nuclear laboratory site.	Demonstrates the experience of RE&C in design and permitting support for a site containing highly toxic waste.
15	Thorium Processing Plant (Confidential Client)	RE&C performed RCRA permitting and successful site cleanup and closure of an NRC-licensed facility in a densely populated metropolitan area.	Demonstrates capabilities in total waste management, regulatory compliance and permitting, site cleanup, and closure of a facility.
16	Colonie Cogeneration Plant (Albany Cogeneration Association)	RE&C provided startup, systemization and operation of a turnkey project.	Demonstrates the capability of RDC's parent firm in the areas of engineering, construction, start-up, and O&M engineering for a turnkey project.
17	M2S3 Turbogenerator Project (Great Northern Paper Company)	RE&C used the resources of its Operating Plant Services personnel in conjunction with construction subcontractor craft labor and a national testing company to accomplish systemization on schedule without disruption of the ongoing manufacturing process.	Demonstrates the ability of RDC's parent firm to provide systemization for a large turnkey project as well as provide training and operations and maintenance.

SUMMARY OF EXPERIENCE

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
	RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:		
18	Diesel Engine Peaking Plant (North Carolina Electric Co-op - NCEC)	RE&C provided services for engineering design, construction, systemization, and operator certification.	Demonstrates ability to provide dedicated, flexible, and versatile systemization engineers and quick-reaction corporate support. Also illustrates the time and cost savings realized by using systemization engineers who are already well acquainted with the specific equipment.
19	Watts Bar Nuclear Plant, Unit 1 (Tennessee Valley Authority)	RCI performed construction of a nuclear power plant.	Demonstrates the capability of RDC's construction arm, RCI, to perform a complex, large-scale nuclear construction contract.
20	Tokamak Fusion Test Reactor (Princeton Plasma Physics Lab)	RCI built the Tokamak Fusion Test Reactor - the largest single fusion project undertaken by DOE.	Demonstrates RCI's ability to assemble a multidiscipline team for efforts at separate locations; implement project management procedures; purchase and install equipment; and design and construct a complex facility.
21	Hanford Waste Vitrification Plant (DOE - Richland Operations)	RCI performed construction and plant equipment procurement.	Demonstrates RCI's capabilities in construction management, equipment procurement, and C/SCS criteria for a multimillion dollar, radioactive waste immobilization and storage plant.
22	Princeton-Pennsylvania Proton Accelerator Decommissioning (Princeton University)	RCI performed dismantling, decommissioning, and closure of the former Princeton Proton Accelerator at Princeton University. Also, performed studies and prepared decommissioning plan.	Demonstrates RCI's relevant experience in decommissioning and closure of a large, complex facility, handling hazardous materials, conducting health monitoring activities, and returning the site to a condition for unrestricted use.

SUMMARY OF EXPERIENCE

Instructions: Provide a "bullet" type of summary of accomplishments for all referenced contract's SOW (prime and subcontractors).
Use these reference numbers throughout Volume III.

Ref. No.	Program/Contract (CUSTOMER)	RAYTHEON RESPONSIBILITY	RELEVANCE TO UMATILLA PROJECT
	RAYTHEON DEMILITARIZATION COMPANY TECHNICAL EXPERIENCE:		
23	Shoreham Nuclear Power Station (Long Island Power Authority)	RE&C is currently decommissioning this nuclear power plant which includes plant modifications and planning and implementing closure.	Demonstrates RE&C experience in maintenance, modification, site characterization, plant dry lay-up, pre-decommissioning, engineering design, equipment installation, decommissioning, and dismantling.
24	Technical Support Services (Federal Aviation Administration)	RSC provides technical support services for site selection and preparation, environmental remediation, and installation and test in support of the FAA's National Airspace System Modernization.	Demonstrates relevant capabilities in the management of major Government programs.
25	Logistics Support Depot (NASA, Goddard Space Flight Center)	RSC manages and operates central logistics depot in support of NASA's worldwide tracking network which includes management of a 22,000 line-item warehouse.	Demonstrates relevant capabilities in the management of major government programs.

ATTACHMENT D

TECHNICAL CAPABILITY

The following section presents a more detailed discussion of selected, relevant, major Raytheon projects that serve as further demonstration of Raytheon capabilities. These projects are organized into three categories: Management, Operations, and Construction experience. In several cases, notably JACADS, Raytheon has been responsible for more than one of these functions.

RAYTHEON PROGRAM MANAGEMENT EXPERIENCE

Raytheon is organized to give flexibility to each business unit to manage its own business, focus resources on the unit's most important goals and objectives, and to accommodate differences in products, customers, and regulatory requirements.

Raytheon manages programs as separate, accountable units within well-defined organizational structures. Individual programs, like JACADS at RE&C, are led by program management teams inside an operating division or subsidiary. The program management team can be drawn from more than one operating business unit when complementary skills exist in two or more units. For example, RE&C and Raytheon Service Company teamed to compete for the Department of Energy Neyada Test Site contract and were successful. Subsidiary and division management is, in turn, responsible for personnel, facilities, capital equipment and controls within the business unit. Responsibility and authority for achieving goals at each unit level are assigned to the manager at that level. Each level operates under the oversight of the next level of organization up to the parent.

Within each autonomous business unit, program management uses engineering, manufacturing, contracting, finance and marketing resources from the staff, the plants and laboratories that serve the units, or from a sister business unit. Within this modified matrix structure each program or functional entity has a well-defined charter and the resources to carry out its mission. Each subsidiary President or Division General Manager is charged with profit/loss responsibility, and each has the resources to manage the day-to-day operations in their business units.

Company policies and procedures define the overall operating process for each unit, while management sets the strategy and operating goals. Raytheon's corporate policies focus on leadership, strategic planning, financial control, ethics, environmental protection, personnel safety and health, legal exposure, and contracting requirements. Raytheon also requires standard control and reporting elements from each division and subsidiary. Through this process Raytheon operates its plants, laboratories and office facilities worldwide.

JACADS Operations & Maintenance Contract (OMC), Program Manager for Chemical Demilitarization (PMCD)

JACADS is a large, complex, multiphased project for which RE&C provided equipment installation, work force hiring and training, development of a chemical surety program and plant systemization, and is currently providing operations and maintenance. The plant destroys GB, VX and HD chemical agents and is at this time one of only two full-scale chemical agent disposal facilities to have been built, systemized and put into operation. RE&C assisted, under various contracts at CAMDS and Tooele Army Depot in Utah, in developing the baseline process technology and equipment used at JACADS.

The JACADS Project best exemplifies RE&C's and RDC's (through imputation) abilities as prime contractor on a project which, like UMCDF, calls for contractor-provided construction management, equipment installation, plant systemization and plant operations and maintenance. RE&C's JACADS responsibilities are associated with two major contracts: one for Equipment Installation, the other for Operations and Maintenance. These responsibilities are further discussed in Section E-2, Raytheon Operational Experience.

Interim Response at Basin F, Rocky Mountain Arsenal (RMA)

The Basin F Project required the environmental remediation of waste attributed to the Army's production of nerve and blistering agents and Shell's production of pesticides. The project presented management challenges involving construction systemization, operations, maintenance and closure of a significant hazard on a Superfund site.

Description: Basin F was a 93-acre hazardous waste surface impoundment. One of several RMA areas contaminated with waste products from various chemical process operations, Basin F contained both liquid and solid wastes requiring remediation.

In addition to the typical management challenges related to cost and scheduling, labor relations and customer interface, and the design, construction, startup, operations and closure issues, the Basin F project involved the nontypical issues described in the following paragraphs.

Change Control: Although change control is a component of most projects, the RMA Basin F project involved the almost complete redefinition of scope when it was discovered that a second basin existed below a crystalline layer. This crystalline layer had formed a false bottom and led early investigative teams and planners to believe that Basin F contained only about one-half of its true volume. The partnering relationship between the U.S. Army Corps of Engineers (USACE) and Raytheon Constructors Inc. (RCI) project and corporate management allowed the work to proceed when many projects would have stalled. RCI management rescaled their manpower, equipment and support to meet the significantly increased scope.

Public Relations: Rocky Mountain Arsenal is located 14 miles from center city Denver. Operations involving the excavation and pumping of potentially volatile chemicals became a sensitive political issue. RCI management worked closely with USACE spokespersons to ensure that no surprises occurred. RCI management attended public meetings as technical representatives and were sensitive to the potential that negative publicity could stop the project. This special attention from RCI management facilitated continuing operations.

Multiple Interface Issues: Rocky Mountain Arsenal is a Superfund site and therefore subject to CERCLA regulations as well as multiple state regulations. The site is also a National Wildlife Refuge and home to several endangered species. These special circumstances required RCI management to work closely with numerous Government agencies including the USACE, the EPA, the Colorado Department of Health and the U.S. Fish and Wildlife Division, and with Shell Oil Company, a Potential Responsible Party (PRP) in the Superfund action. It was during the Basin F Project that many of the current multiparty interface programs presently used at the site were initially developed and implemented.

Extremely Hazardous Substances: Basin F contained residual chemicals that resulted from the production of nerve and blistering agents and from the production of pesticides and herbicides. Since the material was extremely hazardous, the safety of RCI and Government personnel was of utmost importance. RCI management took a conservative approach to safety on this project. The highest level of protective clothing and large exclusion zones were used when new tasks were initiated. As the full scope of the task became apparent, clothing levels and exclusion zone areas were reassessed. The reassessment often led to a relaxation of requirements, with attendant cost

savings and schedule improvement. RCI management was adept at integrating worker health, environmental concerns and cost and schedule demands in completing this unique project.

Kwajalein Missile Range (KMR), U.S. Army

RE&C's Range Systems Engineering (RSE) subsidiary - like RDC, a project-dedicated entity - is the Integrated Range Engineering contractor for the U.S. Army Strategic Defense Command at KMR in the Marshall Islands. This nine and one-half year contract, valued at over $400 million, provides operation, maintenance, engineering and modification support for the integrated Kiernan Re-Entry Measurements System (KREMS) and Range Engineering, Data Acquisition and Reduction (REDAR) systems at KMR. The work force is approximately 550 personnel. RSE's award fees for this contract, for the first two evaluation periods are 94.6 percent and 96 percent, with ratings of "excellent".

RSE competed successfully for the Logistics Support contract at KMR; phase-in which began early in 1995. The LSC is a nine and one-half year contract also, and is valued at more than $500 million.

Technical Support Services, Federal Aviation Administration

At over 100 national airport radar sites, RE&C removes old air traffic control equipment and installs new solid-state equipment in support of the Federal Aviation Administration. RSC has developed a nationwide Digital Equipment Corp. (DEC) VAX-based integrated Program Management System to coordinate planning, scheduling and resource allocation. All Raytheon and FAA regional and headquarters locations are networked with capabilities for on-line status monitoring. The extensive geographical requirements of this program required RSC to establish a national program office in Washington, DC, and nine regional offices around the United States for approximately 550 full time employees and over 1,000 craft workers.

Logistics Support Depot, Goddard Space Flight Center, NASA

RSC manages and operates the central logistics depot for NASA's worldwide tracking network, providing all spare parts, expendable material, and supplies for each station, ranging from sophisticated electronic components to janitorial supplies. Raytheon's logistics depot is highly automated, and uses a DEC-VAX computer system and Raytheon-developed applications software that provides batch and on-line interactive processing capabilities. NASA's current warehouse inventory is 26,000 line items valued at $20 million. RSC processes approximately 57,000 customer orders annually, along with 16,000 purchase orders and 9,600 MIL/FEDSTRIP requisitions. Purchasing places 40 percent of all orders with small businesses, with six percent to small disadvantaged businesses.

Hanford Waste Vitrification Plant, DOE

The Hanford Waste Vitrification Facility was a multimillion dollar, multiphased contract involving complex program management, construction using C/SCSC standards, extensive coordination and interfacing. It included complex chemical processing, startup, and operations using sophisticated, computer-controlled process systems. Similarities between the Hanford facility and UMCDF include procurement, construction, handling of hazardous wastes, computer controls and robotics.

Description: The Hanford Waste Vitrification Facility (HWVF), as proposed, was a $1.21 billion facility designed to immobilize high-level waste (HLW) from the Hanford nuclear reactors. The HWVF was planned to vitrify pretreated HLW into borosilicate glass, cast the glass into stainless steel canisters, and store the canisters at the Hanford site until they could be shipped to a federal Government repository.

The DOE's Richland Operations Office awarded a major systems acquisition contract to RDC's parent company, RE&C, in December, 1989. The scope of this project included project support services and construction services for a high-level radioactive waste processing facility. All programs and procedures were developed and managed in accordance with the requirements of DOE Order 4700.1; quality programs were in compliance DOE Order 5700.6C, DOE Office of Civilian Radioactive Waste Management RW-0214 and ASME NQA-1.

Project support services required close project management coordination with the DOE, and the A&E contractor, and Westinghouse Hanford Company during the development and implementation of the HWVP Project Management Plan and related procedures. RE&C was responsible for construction planning and work sequencing for design and procurement activities; development of the Plant Acquisition Plan; design and constructability review, and scheduling and cost estimating. Concurrent with these activities, RE&C completed development of programs and systems for facility and site management, project management control systems (in compliance with C/SCSC), procurement systems, environmental health, construction safety, and quality assurance. The design constructability review process enabled management to define alternative construction methods that were both cost and schedule effective. As an example of their effectiveness, the performance of these management reviews led to the significant use of modular construction methods for the HWP facility, a decision that resulted in significant cost savings and improved schedule performance.

RE&C management accomplished its contractual responsibility at Hanford in two phases. During Phase I, project support services (December 1989 to April 1992), RE&C personnel development HWVP-specified programs; performed constructability reviews of the provided design; and planned, scheduled and budgeted the front end portion of the project. Phase II, construction services (April 1991 to July 1998) was established to bring Phase I activities to a successful completion and to construct facility.

This contract was novated to Westinghouse Hanford Company, effective October 1, 1993. The DOE delayed the work for approximately ten years, pending redefinition of the process.

RAYTHEON OPERATIONS EXPERIENCE

The plant operations experience, inputted to RDC by our Raytheon sponsors, was gained on Government and commercial contracts, as well as from Raytheon's operation of its own manufacturing plants. Raytheon Missile Systems Division, an RDC sponsor and the HAWK and Patriot missile systems contractor, owns and operates four plants that produce seven different missile systems.

RDC's sponsors also design, engineer, build, operate and maintain plants for other entities. RE&C, RDC's primary sponsor, designs, engineers, equips, systemizes, operates, maintains and provides closure support for Government and commercial clients. RDC will draw on this experience in demilitarization, defense, petroleum, petrochemical, nuclear power, environmental services and other commercial undertakings and apply it to ensure a successful program at Umatilla.

Johnston Atoll Chemical Agent Disposal System (JACADS)
Equipment Installation Contract (EIC)

The JACADS EIC was awarded to RE&C (then known as Stearns-Catalytic) in September, 1984. The original contract, valued at $50 million, included procurement of equipment and materials, the transportation of these items to Johnston Island, and their installation in accordance with drawings and specifications provided by others. RE&C also contributed to the technical design effort. The EIC required installation of both Government-furnished and contractor-furnished equipment (GFE/CFE). A major EIC contract task called for programming the entire JACADS central control system, comprising the Process Data Acquisition and Recording (PDAR) system, 35 programmable logic controllers, and a network manager. The original EIC contract was completed ahead of schedule and under budget.

The Annex G option of the EIC was exercised in 1987. Under Annex G, RE&C is procuring all required major process and control equipment in accordance with Chemical Stockpile Disposal Program lessons learned and site-specific conditions. This includes performing necessary QA/QC; making equipment/vendor recommendations; procuring applicable spare parts; performing vendor drawing review to ensure conformance with specifications; and performing software development and control system startup support services for all plant equipment and operations at all eight CONUS chemical demilitarization facilities and the central training facility.

Major equipment items procured for each of the CONUS sites under the Annex G option include the Liquid Incinerator(s), the Deactivation Furnace, the Metal Parts Furnace, and the Dunnage Incinerator. Additionally the Pollution Abatement System equipment, a portion of the robotic equipment, and the control system equipment is being purchased.

The Annex G contract includes significant engineering support for each of the CONUS sites. Typical activities include preparation of technical provisions for the procurement Technical Data Packages; review of change narratives and technical documents; review of site-specific shop and installation drawings; resolution of review comments with vendors; assistance in cost estimating and price negotiations; preparation of design changes lists; and attachment preparation for rebaselined engineering change proposals.

Automation engineering support includes the responsibility for software development, hardware design, and startup and operations support for each of the sites. Specific tasks include specification review, preparation of site specific technical provisions, I/O count review and verification, modifying software for site specific changes, vendor bid proposal review, vendor drawing and document review, and acceptance tests. Following delivery of the hardware to the field site, RE&C automation engineers perform software installation and verification throughout the construction and systemization phases and into the operations phase.

The Annex G quality assurance program includes the development and review of technical data packages; review of requisitions and purchase orders; and review of vendor documents and related data. Quality assurance activities also include detailed surveillance of major equipment items. In some cases resident status at vendor shops is required throughout critical fabrication periods. Included in this surveillance are the review, concurrence, and overview of vendor quality programs; the development and resolution of noncomformance reports; and the administration of the trend analysis program and stop work order system.

JACADS Operations & Maintenance Contract (OMC), Program Manager for Chemical Demilitarization (PMCD

Systemization: Beginning in 1988, RE&C provided JACADS startup acceptance testing and systemization services. This effort mirrored the functions to be performed at UMCDF, including:

- Acceptance testing of all equipment applications and program verification. Acceptance testing established that the individual system components could be run safely in the automatic mode.
- Systems testing on major components including individual furnace and munitions-handling systems. These tests simulated thermal and capacity conditions that were expected during hot operations.
- Integration testing with systems and subsystems run as single operating units to adequate equipment interface and locate potential weak points.
- Conduct of continuous training to ensure that operations personnel were ready for all contingencies.
- A preoperational survey to demonstrate to the Government the readiness of personnel and facility for operations.

In June 1990, systemization activities were concluded and the plant entered the operational verification testing (OVT) phase, during which RE&C demonstrated the plant's ability to destroy various munitions and chemical agent at production rates.

Operations Experience: Since June 1990, RE&C operated the JACADS facility at sustained processing rates. The first campaign involved processing 7,565 M55-GB rockets between June 1990 and February 1991. During this campaign, RE&C personnel identified various mechanical and operational problems of the kind typically encountered during startup of a new facility using new technology and new plant design. RE&C subsequently provided the expertise needed to correct the problems. The implementation of system improvements caused the production rate during the second campaign to nearly double, with a total of 13,844 VX-filled M55 rockets destroyed.

In total from June, 1990 to March, 1997, RE&C has successfully treated over 72,000 M55 rockets, more than 121,000 projectiles, 5,617 bombs and 134 ton containers. More than 2,500,000 pounds of chemical agent (GB, VX and HD) have been destroyed. Currently, 155mm GB projectiles are being processed.

Delaware Refinery Maintenance and Operations Support, Star Enterprises

Relevance: This multimillion dollar, multiphased contract involved program management, construction, systemization, operations and maintenance. It illustrates RE&C, and through imputation, RDC's, ability to provide long-term, safe and efficient operation and maintenance of a large, complex chemical plant.

Description: RE&C, then United Engineers & Constructors, constructed this facility in 1956, systemized it and continued as operations and maintenance contractor. RE&C has provided operations and maintenance services at the facility through three different ownerships: Getty, Texaco and Star Enterprises. Approximately 350 craftsmen support this project.

For over 35 years, RE&C has remained responsible for nearly all site support activities. Our current team at the Delaware Refinery is integrated with that of Star Enterprises, an arrangement under which RE&C personnel are responsible for management of certain subcontracts in addition to their direct hire work in a partnering arrangement.

RE&C continues to provide construction services as part of its scope of work. Recent capital projects include a $16 million coker crude revamp; a major pipeline replacement from the central refinery to tanker load/offload docks; grass roots construction of a shop building, including installation of all equipment; and construction of a new addition at the site administration building. All RE&C construction and maintenance work has involved contractor-furnished equipment (CFE). RE&C personnel perform ASME Code repairs at this site and recently replaced the mid and lower sections of a sour water stripper tower. Turnaround tasks include regular overhaul of all plant equipment. Typical work includes fluid coker unit and crude unit turn-arounds (on a two-year cycle) and catalytic cracker turnarounds (every four years). Each of these tasks involves 200,000 labor hours.

Delaware Reclamation Project, Delaware Solid Waste Authority

This complex, multiphase program has included design, construction, startup, operation and maintenance of a large-scale solid waste processing facility. It demonstrates RE&C's past successful experience in the safe operation of a plant involving large-scale waste material handling and processing equipment.

Description: RE&C, a major Raytheon sponsor of RDC, was the full-service contractor for the Delaware Reclamation Project - one of the largest and most comprehensive solid waste and recycling facilities constructed in the United States.

RSC completed 11 years of a 20-year, full-service contract for the Delaware Solid Waste Authority. RSC has had responsibility for design, construction and installation begun in 1978. Total original capital cost for the plant was in excess of $70M. Plant design involved the application of several new and innovative recycling technologies, which were developed by RSC.

The facility, as originally constructed and operated, had a daily processing capacity of 1,000 tons of municipal solid waste (MSW) and up to 350 tons of sewage sludge. It recovers and markets ferrous metals, glass, nonferrous metals and organic compost. It also produces refuse-derived fuel which is combusted at a solid-waste-fired energy-generating facility to produce electricity for sale to a local utility.

RSC was required to continuously monitor plant operations and product recoveries. This effort included waste stream compositional analysis, compositional analysis of recovered products, product market research, recovery efficiency analysis and feasibility studies for process improvements.

The approximately 127 on-site-personnel work force during full-scale commercial operations comprised operators, multidisciplined maintenance personnel, plant engineers, business/ administrative personnel, vehicle operations and maintenance personnel, and grounds and facilities maintenance personnel.

Colonie Cogeneration Plant, Albany Cogeneration Associates, L.P.

RDC's parent firm, RE&C functioned as the engineer, constructor, startup engineer and O&M contractor on this turnkey project.

Description: The Colonie Cogeneration Plant uses a 25 MW natural-gas-fueled combustion turbine to generate electricity for sale to the local utility. It incorporates a heat recovery steam generator that produces steam to improve the heat cycle efficiency (power boost) and to export to the thermal host Dual-fuel-capable (oil and gas) auxiliary heaters enable continued thermal export during periods when the combustion turbine is out of service. The plant staff includes approximately 15 RE&C personnel who have operated and maintained the facility since the completion of systemization.

The facility is a cogeneration plant capable of producing 25 MW electrical output and 100 MMBTU/hr thermal production in the form of pressurized hot water, which is exported to the thermal host. The plant consists of one GE LM2500 combustion turbine equipped with steam injection, a heat recovery steam generator, backup heaters and related water treatment equipment. The facility is controlled by a Bailey Net 90 distributed controls system.

The plant utilizes natural gas to fuel the combustion turbine to produce electricity. Waste heat from the turbine exhaust is recovered and used to generate steam. The steam is used to heat water which is sold to an adjacent manufacturing facility.

Startup of the Colonie Cogeneration Plant was accomplished on schedule. The 30-day thermal loop demonstration test was satisfactorily completed on the first attempt. This enabled an early retirement of the thermal host steam plant. Facility performance satisfied all contract guarantees (heat rate and capacity). Facility electrical availability for the first half of 1992 exceeded 93 percent, and thermal availability was 100 percent.

RAYTHEON CONSTRUCTION AND EQUIPMENT ACQUISITION/INSTALLATION EXPERIENCE

RDC's Construction Division is resourced from Raytheon Constructors, Inc. (RCI, called Ebasco Services before its acquisition by Raytheon), a premier construction company with over one billion dollars in sales annually. RDC will draw on the expertise and experience of this prestigious firm.

Experience Overview: RCI is both an accomplished engineer/constructor and a major systems contractor for the Government. RDC will manage UMCDF construction and bring to the project the experience of having completed the JACADS Equipment Installation Contract on schedule and within budget. RDC's construction management team includes members who supported TOCDF installation efforts, which enhances the lessons-learned aspect of RDC's approach.

Throughout its 88-year history, RCI, as construction manager or constructor on numerous complex, first-of-a kind projects, has had outstanding performance as its hallmark. The RDC Construction Division will use the innovative construction techniques RCI has developed, integrating them with accelerated schedules and experienced installation procedures.

Extensive experience in nuclear and advanced facility development has evolved through RCI's completion of, and continued involvement in, more than 36 nuclear facilities and several unique facilities. RCI also has extensive experience on fusion reactors, nuclear waste processing facilities and advanced technology systems, gained through diversified construction projects for the public sector (i.e., DOE, DOD and NASA). RCI's first-of-a-kind Government programs include:

- Advanced Test Reactor-Idaho Falls, ID
- Power Burst Facilities-Idaho Falls, ID
- West Valley Demonstration Project-West Valley, NY
- Knolls Atomic Power Laboratory-West Milton, NY

RCI has also completed 38 fixed-price turnkey projects and is currently providing turnkey services on 13 additional projects. This knowledge of lump sum contracting has taught RCI the benefits and importance of forming a true teaming relationship with the owner. RCI, as the contractor, and the construction subcontractors will form such a team with the COE, PMCD and the Umatilla Depot Activity for UMCDF.

RCI's Corporate Quality Program group was established in the 1950s and has earned the reputation of being a pioneer in quality assurance throughout the nuclear industry. RCI was one of the founders and co-authors of current quality standards. This multifaceted quality organization, consisting of more than 1,000 full time career personnel, was honored for its excellence with an American Nuclear Society Award for "distinctive QA achievement in the nuclear energy field."

RCI safety programs have earned numerous safety recognition awards. At the Washington Nuclear Project 3 construction site, RCI established a significant record, logging more than 6,000,000 manhours without a single lost-workday case. This record was recognized by the National Safety Council and was unmatched in the nuclear construction industry until RCI exceeded ten million manhours without a lost-workday case at TVA's Watts Bar Nuclear Project. RCI's incidence rate for lost-time workday cases and lost workdays is significantly below the U.S. Labor Department's national average for construction.

RCI is and always has been a union contractor and regards it labor relations as a major company strength. Through many years of experience in working with the building trades, RCI has developed an effective labor relations policy. RCI's trust and confidence in the unions has cemented their confidence in and cooperation with RCI. This mutually respectful relationship has produced significant accomplishments, including job-specific agreements on numerous construction projects and very little lost time.

JACADS

Construction of a first-of-a-kind, full-scale chemical demilitarization facility, demonstrating the ability of RDC's parent firm, RE&C, to complete a major chemical demilitarization facility on schedule and within budget. This project has involved RE&C in the continuing acquisition of major equipment items for future CDFs.

Description: Johnston Atoll's location approximately 800 miles southwest of Hawaii imposes severe constraints on logistics and human resources. RE&C advanced planning, scheduling, procurement and expediting programs overcame these constraints to provide equipment and labor to construct this facility within budget and schedule constraints.

This project reflects RE&C experience in constructing ultra critical processing facilities requiring material confinement and complex HVAC. The equipment and automated systems are housed in heavily reinforced concrete structures, constructed above grade, with containment sections for munitions and nerve agent. Equipment includes high temperature furnaces (to 2500°F); air pollution control systems; unique mechanical equipment developed expressly for chemical weapons handling; and a state-of-the-art, PLC-based control system to monitor and control agent destruction process and safety interlocks.

RE&C JACADS demil equipment acquisition contract was significantly expanded in 1987 via exercise of the Annex G option in the contract. Under Annex G, RE&C is procuring all required process and control system equipment in accordance with all CSDP lessons learned and CDF site-specific conditions. This includes performing necessary QA/QC, making equipment/vendor recommendations, procuring applicable spare parts for initial provisioning in accordance with Government-defined criteria, performing vendor drawing review to ensure conformance with specifications, performing software development/verification and control system startup support

services for all plant equipment and operations at all eight CONUS chemical disposal facilities (TOCDF, ANCDF, UMCDF, etc.) and at the CDTF. The equipment for these sites is estimated to have a total value in excess of $235 million.

Large Rocket Test Facility (J-6) Construction, USACE

RCI was awarded a contract to construct the J-6 Large Rocket Test Facility at the USAF Arnold Engineering Development Center (AEDC), Arnold Air Force Base, in Tullahoma, Tennessee. This facility is capable of testing rocket engines ranging from 15,000 to 500,000 lbs. of thrust at simulated altitude of 100,000 ft. It includes:

- Concrete blast wall 166 ft long x 80 ft high
- Electronics Building and Control Building addition connected to existing AEDC facilities
- Fourteen gaseous nitrogen tanks
- Four 70-ton liquid nitrogen dewars
- Steel test cell 26 ft in diameter and 62 ft long
- Concrete dehumidification cooler 250 ft diameter x 100 ft high x 6 ft thick walls and 4 ft thick roof
- Three million gallon blast resistant elevated water tank
- 38,000 lb/hr steam boiler
- Six steam accumulators with 1.8 million lbs. of steam storage capacity weighting 200 tons each

Description: The completed J-6 facility with its auxiliaries complements other facilities at the AEDC. Since many support systems for the J-6 area were already in place and operational, RCI responsibilities encompassed integrating J-6 systems with numerous base systems, including steam and condensate systems, high pressure (4,800 psi) nitrogen supply systems, rewand potable water systems, mechanical exhaustor equipment, the vacuum exhaust system and all base utilities. RCI has completed the following tasks:

- PVC Conduit - 302,150 lf
- Field Mounted Instruments - 500
- RGS Conduit - 185,000 lf
- Cable Tray - 6,600 if
- Excavation - 223,150 cu yds
- P&C Cable - 1,435,001 lf
- Large and Small Bore Piping - 80,000 lf
- Lighting and Fire Detection Cable - 536,000 lf
- Backfill - 173,300 cu yds
- P&C Termination - 200,000 ea
- Formwork - 562,000 sq. ft.
- Rebar Installation - 8,511 tons
- Transformers - 9
- Concrete Installation - 80,500 cu yds

The instrumentation and control for the facility was a turnkey system for the control of the test facility and for acquiring test data.

RCI's management approaches for the J-6 Program parallel those proposed for the UMCDF. Our methodologies provide close interaction between program activities and effective coordination of numerous activities being performed in a tight working environment.

The most innovative and effective aspect of the J-6 Project was the partnering agreement between RCI, subcontractors, the A&E, the Corps of Engineers and the Air Force. This voluntary agreement promoted and enhanced cooperative management, and was used as a tool to maximize the benefits of team work. The success of this approach is attributable to three major factors: a commitment to success at all organizational levels, upper management support, and open communications and trust. The effects of partnering on the J-6 Project were extremely positive, and contributed to the project moving four months ahead of schedule. Partnering also created an environment that fostered innovative thinking, with the result that value engineering savings reached more than two million dollars.

South Texas Nuclear Construction Project

The South Texas Nuclear Project consists of two 1,250 MWe pressurized water reactors. The project, South Texas's first and largest nuclear power plant, began in 1975 as the largest single investment in energy-related construction in the client's history. Unit 1 was originally scheduled for commercial operation in October 1980, and Unit 2, in March 1981. Because of engineering deficiencies, construction was halted in 1981 after an investment of $2 billion. At this time, Unit 1 was 40 percent complete and Unit 2 was 15 percent complete. In February, 1982, RCI (then Ebasco Services) was selected as the new constructor to provide craft labor and construction supervision to complete the two units.

Description: RCI required, employed and managed a work force of as high as 8,000 craftsmen. This was a unique and difficult mobilization effort, given the remote Texas site.

To provide a cost-effective way to shorten construction time and improve production, a "Rolling 4-10" workshift with two teams was implemented. This provided for continuous 20-hour days, seven days per week with only holidays off, making more efficient use of labor. Despite the great demands placed on planning, control and supervision and management, project milestones continued to be met on or ahead of schedule. Over two million work hours were expended without lost time due to injury, making this project one of the safest in the industry.

In completing construction of the two units, RCI verified the adequacy of, and completed the placement of 459,000 cu yds of concrete; 5,017,000 sq ft of formwork; 66,000 tons of rebar; 20,000 tons of structural steel; 357,000 linear feet of small bore pipe and 547,000 linear feet of large bore pipe; 7,500,000 pounds of HVAC and 16,710,000 linear feet of wire and cable. RCI supplied construction completion and plant startup engineering, as well as technical services to the utilities startup and permanent operation and maintenance organization.

RCI implemented its quality assurance program at the site, and RCI employees reviewed all pertinent design, construction, and quality documents from the original designer/builder to assess their accuracy, thoroughness, and adherence to on-site quality programs. RCI utilized a union labor force and the South Texas Nuclear Project was placed under the Nuclear Project was placed under the Nuclear Construction Trades Stabilization Agreement, which provided a mechanism to avoid labor/management disputes throughout the duration of the project. RCI negotiated a wage freeze, equipped a local training school, and determined requirements for foremen by need, rather than by ratios.

Schedule Achievement: RCI's participation in the project began in 1982. Unit 1 loaded fuel in 1987 and achieved commercial operation in August 1988; Unit 2 loaded fuel at the end of 1988 and achieved commercial operation in June 1989. Our performance in meeting schedule and budget milestones resulted in RCI obtaining an ongoing maintenance contract for this project.

Watts Bar Unit 1 Construction, Tennessee Valley Authority (TVA)

TVA began work on the Watts Bar Nuclear Generating Stations Units 1 and 2 in Tennessee after receiving their construction permit in January 1973. The two-unit facility uses Westinghouse pressurized water reactors rated at 1,250 MW. After fuel was delivered to the site and before loading, TVA enacted a self-imposed work stoppage due to NRC concerns. During this period, TVA re-evaluated construction using direct-hire TVA labor and opted to proceed using contractor construction. RCI was selected to complete construction on the Watts Bar Project.

Project: In August 1992, RCI was awarded the Construction Completion Contract from the Tennessee Valley Authority to assume the work on Unit 1 and to perform the completion effort in a partnering effort with TVA and other contractors on-site. RCI's scope includes the direct hire, management and direction of the craft labor for the completion of work begun by another contractor. This work encompasses all disciplines and commodities. Large quantities of electrical, instrumentation and control commodities are currently being retrofitted or installed on this project.

RCI has implemented stringent inspection verification programs to ensure the highest level of quality. Before any permanent work was begun. TVA agreed to implement a Slow Monitored Restart program, as directed by the NRC. RCI provided essential data, resources and planning in an effort to persuade the NRC to restart construction of Watts Bar. In addition, RCI is providing maintenance services for Unit 2, startup and procurement assistance and staff augmentation support. RCI currently employs 1,450 craft laborers and 400 non-manual personnel on this project.

RCI developed a work breakdown structure and detailed work packages to estimate the work necessary for completion of construction. These data encompassed material requirements, work instructions, identification of trained and certified craft labor and a pre-job walk-down and planning session to ensure familiarization with the work and quality requirements. Completion of Unit 1 is currently ahead of schedule and within budget.

Tokamak Fusion Test Reactor (TFTR), Princeton University

The Tokamak Fusion Test Reactor (TFTR) is the largest single fusion project undertaken by the DOE. The unit is located at the Princeton Plasma Physics Laboratory (PPPL) of Princeton University. The facility consists of a main test cell, housing the TFTR and neutral beam injectors; a combined neutral beam test cell and hot cells for maintenance testing and calibration of the injection systems; and power supply building and support facilities for assembly of the TFTR components. The TFTR system comprises the following major subsystem: an 80-ton vacuum vessel assembly, a magnetic field system, plasma heating systems, electric power systems, tritium storage and delivery systems and control and diagnostic systems.

Project: RCI formed a multidisciplinary team of high energy physicists; electrical, mechanical, civil, instrumentation and control, environmental, nuclear, and cost/schedule engineers; and seasoned construction personnel for this project. Activities were performed at different locations concurrently. RCI's project management and engineering team and its subcontractor, Grumman Aerospace, established headquarters at Princeton University.

Each construction subcontract was a cost-plus, fixed-fee contract that required implementation of rigid management control procedures to ensure on-schedule/within-budget project completion. These procedures provided for periodic inspections of subcontractor progress through the checking of actual expenditures and work progress against the milestones included in the detailed work plan.

RCI purchased more than $100 million worth of equipment, assembled and installed the TFTR on a direct hire basis; and provided QA and inspection services. More than 400 subcontractors and vendors participated in the project, under contracts and purchase orders placed in accordance with

the FARs. Evaluating and incorporating changing design and construction parameters for the state-of-the-art design required multiple budget and schedule revisions. This involved extremely close coordination among RCI's engineering, design, procurement and construction departments and the M&O contractor's personnel. Using the input from these and other groups, RCI's modified management control system tracked and controlled schedule progress and budget expenditures. A site QA group developed site-specific protocols, which also required revision to remain pertinent to the design being implemented. In order to meet certain critical completion milestones, RCI assumed and completed tasks with its own work force.

Attachment I

JACADS Annual Noncompliance Reports for Past Five Years (1992 - 1996)

Self - Audits

These reports identify incidents of noncompliance discovered by Raytheon internal audits. They demonstrate Raytheon's willingness to support an aggressive audit program which identifies potential problems and implements corrective action.

THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

1992 ANNUAL REPORT OF RCRA NONCOMPLIANCE

1 MARCH 1993

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INTRODUCTION

BACKGROUND

The U.S. Army, Program Manager for Chemical Demilitarization (PMCD), operates the Johnston Atoll Chemical Agent Disposal System (JACADS) facility under EPA I.D. Number TTO-570-090-001. The JACADS mission and facility is described in the JACADS Resource Conservation and Recovery Act (RCRA) Part B Permit dated 15 May 1991, its associated attachments and permit modifications approved by the Environmental Protection Agency (EPA) since this date.

JACADS is operated by the Operations and Maintenance Contractor (OMC), United Engineers & Constructors, Inc. under the direction of the Program Manager, Department of the Army.

JACADS ENVIRONMENTAL COMPLIANCE COMMITMENT

The Army and its contractors remain committed to operating the JACADS facility in a manner that is fully compliant with its permits, and protective of human health and safety, and the environment. The 1992 Noncompliance Report shares the results of our activity towards establishing our goal of an exemplary compliance program.

Noncompliances do exist at JACADS, however, most are related to procedures and documentation issues which continue to be improved and corrected. Others can be attributed to interpretational discrepancies and inconsistencies in the permit itself, which make compliance difficult. The JACADS program has developed and implemented corrective actions for each identified noncompliance. In addition, it is responsive to resolving all identified regulatory compliance issues that arise during the course of the extensive audit/inspection program.

INTERPRETATION OF NONCOMPLIANCE

As stated earlier, the Army and its OMC are committed to operating the JACADS facility in compliance with all environmental and other regulatory requirements. A proactive compliance attitude exists at the JACADS facility. Several levels of oversight, inspection and auditing are conducted routinely. These range from day to day activities performed by the PMCD and OMC Environmental On-island staffs to the less frequent, but comprehensive audits conducted by PMCD Headquarters, EPA and other entities.

The philosophy is to aggressively identify a problem or potential problem and to immediately implement an appropriate corrective action. With this proactive attitude and the willingness to seek out problem areas, it is also more likely that problem areas will be discovered. The number of identified noncompliances are proportional to the amount of effort expended looking for them. At JACADS this effort is substantial.

NONCOMPLIANCE REPORTING

JACADS RCRA Part B Permit Condition I.D.16 requires submission of an Annual Noncompliance Report discussing all instances of noncompliance with the permit. This report is the third Annual Report of RCRA Noncompliance representing the period from 1 January 1992 through 31 December 1992.

The format of this report addresses each specific noncompliance item, or area of noncompliance in four parts.

1. Requirement: States the specific regulatory citation and/or permit requirement and cites the permit reference.

2. Noncompliance: Discusses the nature of the noncompliance.

3. Description: Presents a summary of the circumstances contributing to the noncompliance, any mitigating circumstances, etc.

4. Corrective Action: Describes corrective action(s) that has been or will be implemented to minimize reoccurrence of a similar noncompliance.

For ease of review, the reported noncompliances are grouped into eleven general categories, either by system or nature. Each type of noncompliance refers to a permit condition or regulatory requirement and may report more than one incident of noncompliance. Please note that, caution was taken to ensure a noncompliance was not reported more than once even though it may relate to several general categories. For instance, the noncompliance pertaining to ACAMS monitoring at the BRA, reported as Item F.2, could have been reported either under BRA Related Noncompliances or ACAMS Related Noncompliances.

SUMMARY

Comparison of previous JACADS Annual Noncompliance Reports with this report may indicate that the noncompliance situation has deteriorated at JACADS. This is far from the truth. The perceived increase in the number of noncompliances is a direct result of the increased staffing of the OMC and PMCD Environmental staffs in 1991 and 1992 which has provided for very thorough and complete self-inspections and it reflects the U.S. Army's commitment to operate in full compliance. Additionally, a review of the noncompliances will reveal that they are very specific in nature with over 80% of them resolved. Moreover, resolution of the unresolved noncompliances are actively being pursued with specific corrective actions identified. To assist and to ensure corrective actions are expeditiously completed, the OMC Environmental Department has recently implemented a data base program to track and document final disposition. This will ensure successful resolution of all outstanding noncompliances.

A. ATTACHMENT F RELATED NONCOMPLIANCES

1. Infeasible Attachment F Inspections Corrected by Class 2 Permit Modification

Requirement

Attachment F of JACADS Part B RCRA Permit, Revision 7 prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health. The inspections are listed in Table F2-1 of Attachment F.

Noncompliance

Some Attachment F inspections were not performed in accordance with the inspection schedule contained in Revision 7 of the RCRA Permit. Certain inspections pertaining to the demister vessels, storage tanks, blast gates, Heating and Air Ventilation Control (HVAC) System, Life Support System, Emergency Generator, DFS Heated Discharge Conveyor and availability of emergency equipment could not be performed due to equipment not being present or because there was not a viable method available to conduct a meaningful inspection. These inspections were:

a. Semi-annual tank shell and bottom thickness measurements on the main Pollution Abatement System (PAS) demisters, the Acid Wash Tank, the hydrogen chloride tank and the caustic storage tanks.

b. Semi-annual tank bottom thickness measurements on the Brine Reduction Area (BRA) storage tanks.

c. Weekly visual inspections of seals and latches to blast gates.

d. Daily blast gate interlock switch visual inspections.

e. Weekly HVAC motor-operated isolation and fire damper visual inspections.

f. Semi-annual emergency generator checks.

g. Daily checks of the remote valves on the Life Support System.

h. Daily verification of availability of emergency equipment listed in Addendum.

i. Daily HVAC system local visual inspections for corrosion and pressure readings.

j. Monthly DFS heated discharge conveyor (HDC) rate and temperature inspections when the DFS processed munitions during January - March and September - October time periods.

Description

a. The completion of tank shell/bottom thickness measurements were a continuing discrepancy for fiberglass reinforced plastic tanks (FRP). These FRP tanks are the demister vessels (PAS-DEMIS-101, 102, 103 and 104), the Acid Wash Tank (PAS-TANK-101), the Acid Storage Tank (HCL-TANK-101) and the caustic storage tanks (CDS-TANK-101 and 102). There was no viable method for directly measuring FRP wall thickness due to the natural variability in thickness of FRP tanks nor was it practical since the likely failure mode is due to delamination rather than corrosion. After investigating a number of methods, a visual inspection was identified as the most meaningful type of check. This method was approved by EPA in the revised Attachment F Inspection Schedule.

b. There was no viable method for performing meaningful floor thickness tests on the BRA storage tanks (BRA-TANK-101 and 102) since these are flat-bottom tanks placed directly on top of concrete. Shell thickness measurements of the tank wall were approved by the EPA in the revised Attachment F Inspection Schedule as an alternate acceptable method.

c. The seals and latches to blast gates were required to be visually inspected. This inspection requirement was not performed because there are no seals and latches on the blast gates.

d. The blast gate interlock switches were required to be visually observed by CCTV from the control room to assure proper sequence of gate operation with machine operation. However, it is impossible to observe the gates using the CCTV system. Operations fulfilled this requirement by operating the interlock switches and observing the appropriate icons on CON advisor screens.

e. The Attachment F Schedule required that HVAC motor-operated isolation and fire dampers be visually inspected for corrosion and loss of lubrication. Due to the inaccessible location of the dampers, exercising of the dampers from the CON was performed as a substitute for the visual inspection.

f. Semi-annual Emergency Generator station and field circuit insulation checks with a megger and stator checks at the circuit breaker were deemed meaningless by Engineering and were not performed. These inspections were replaced with more meaningful checks in the revised inspection schedule.

g. The Attachment F schedule required daily checks of the remote valves on the Life Support System for supplying air. This inspection requirement was not performed since there were no remote valves on the system.

h. Addendum 2 in Attachment F lists emergency equipment vehicles that were required to be checked daily to ensure availability. Some of this equipment did not exist on Johnston Island. On-island emergency organizations (i.e. the Dispensary and the Fire Department) are contacted daily to verify operational readiness of their emergency vehicles.

i. The daily local inspection of the zone pressure gauges of the HVAC was infeasible and redundant since the gauges are continuously monitored by the Programmable Logic Controller (PLC). The PLC alarms the operator advisor screen and sends an alarm indicator to the alarm printer and the

Process Data Acquisition Recording (PDAR) system whenever pressures are out of range. To alleviate a potential noncompliance situation, a permit modification requesting the inspection be changed from the local inspection criteria to monitoring the gauges from the Control Room was prepared and transmitted to the Army by the OMC on 12 September 1992. This request was submitted as a Class 2 modification to EPA by the Army on 11 January 1993.

j. The DFS heated discharge conveyor (HDC) rate and temperature inspections were not completed because there appeared to be no viable method for measuring the rate. However, the temperature inside the HDC housing was measured by PDAR and should satisfy this inspection requirement. The revised Attachment F Inspection Schedule changed the conveyor rate inspection to the measurement of rpms on the HDC headshaft to verify the conveyor speed.

Corrective Action

To resolve problem inspections, a review of all inspection requirements was conducted by the Operations and Maintenance Contractor (OMC) Environmental Compliance, Engineering, Operations and Maintenance Departments. This resulted in a modification to the portion of Attachment F which covers facility inspections. The revision eliminates impractical, unsafe, or meaningless inspection procedures and clarifies and/or adds additional procedures. The revised Attachment F Inspection Schedule was submitted to EPA on 3 March 1992 as a Class 1 modification request. In a 31 March 1992 letter from the EPA, the U.S. Army was notified that the requested change constituted a Class 2 modification which required public notification before it could be approved by the agency. The revised Attachment F Inspection Schedule was resubmitted to the EPA on 26 June 1992 as a Class 2 modification. The EPA approved the Class 2 Attachment F submittal in its entirety on 14 October 1992. Implementation of the Revised Attachment F Schedule commenced at JACADS on 1 November 1992.

2. Feasible Attachment F Inspections Missed Under Revision 7 Inspection Schedule

Requirement

Attachment F of JACADS Part B RCRA Permit, Revision 7 prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health. The inspections are listed in Table F2-1 of Attachment F. The Revision 7 Inspection Schedule was followed at JACADS during the first ten months of the year, January - 31 October 1992, after which time the Revised Attachment F Schedule (effective 1 November 1992) was implemented.

Noncompliance

a. Ninety four (94) daily Attachment F inspection checks were either not performed or not documented as being performed.

b. Weekly flame strength readings on the LIC and the DFS were not taken during a portion of 1992. Weekly voltage readings of the BRA Boiler flame safeguard sensors were not taken in 1992.

c. The BRA Triboflow Detector weekly response check was not performed until 19 August 1992. The inspection for the week of 6-13 September 1992 was also missed.

d. Twenty four (24) weekly Attachment F inspection checks, in addition to inspections already reported in this section, were either not performed or not documented as being performed.

e. Monthly visual inspections of the BRA Pollution Abatement System (PAS) containment area were not conducted until September 1992.

f. Three (3) monthly Attachment F corrosion inspection checks were either not performed or not documented as being performed.

g. Twelve (12) semi-annual Attachment F inspections were not completed in a timely manner.

h. Twenty (20) storage tank high level transmitters were not tested at the established calibration frequency.

Description

a. Approximately 8,500 daily Attachment F inspections were conducted by the OMC under the Revision 7 Inspection Schedule during the first ten months of 1992. The 94 daily inspections that are not documented as being completed represent 1% of the required inspections. These inspections involved visual checks of blast doors and gates, the BRA PAS, combustion system burners to the DFS and LIC, the Residue Handling Area (RHA), the BRA boiler system, and the HVAC system zone pressure gauges. These inspections were sporadically missed throughout the year.

b. Weekly flame strength readings on the LIC and the DFS were not taken during a portion of 1992 because they were deemed essentially meaningless values. Nevertheless, to comply with Attachment F requirements the DFS and LIC Standing Operating Procedures (SOPs) were revised to include these readings in 1992. DFS flame strength readings were missed during the January - March 1992 period and LIC readings were missed during the January - July 1992 period. Commencing in January 1993, weekly voltage readings of the BRA Boiler flame safeguard sensors are being taken by maintenance personnel.

c. The first weekly response checks of the BRA Triboflow Detector were completed on 19 August and 27 August by Maintenance personnel. Commencing the first week of September, a new procedure was developed for Operations personnel to use in performing the Triboflow Detector weekly check. The first check using the new procedure was conducted on 3 September 1992; however, no documentation could be found substantiating a response check was conducted during the week of 6-13 September. Subsequent response checks were performed and documented.

d. Approximately 2,700 weekly Attachment F inspections were conducted by the OMC under the Revision 7 Inspection Schedule from January through October 1992. The 24 weekly inspections that are not documented as being complete, not including inspections accounted for in other parts of this section, represent less than 1% of the required inspections. These inspections involved corrosion inspection of the SDS tanks, visual inspection of the DFS combustion air blower, inspection of the BRA containment curbs, oil day tanks and fuel pumps, inspection of the LIC agent control valve, visual inspection of the HVAC supply air handling units, and one weekly emergency generator check. These inspections were sporadically missed throughout the year.

e. The monthly visual inspection of the BRA Pollution Abatement System (PAS) containment area was inadvertently left off of the inspection checksheet. An audit of inspection checksheets in September discovered this discrepancy.

f. Of approximately one hundred twenty (120) monthly Attachment F inspection checks conducted under the Revision 7 Inspection Schedule from January through October 1992, three (3) inspections are not documented as being completed. The missing inspections represent 2.5% of the total monthly inspections required by the permit, not counting the inspections reported in Item e of this section. These missed inspections pertained to one monthly corrosion check on the DFS demister, one on the LIC demister and one on the BRA Baghouse hoppers and supports.

g. The twelve overdue semi-annual Attachment F inspections are listed below:

Tag No.	Item	Type of Inspection	Due Date	Completion Date
ACS-TANK-101	Agent Storage Tank	shell thickness	9 Jan 92	18 Jun 92
ACS-TANK-102	Agent Storage Tank	shell thickness	9 Jan 92	18 Jun 92
SDS-TANK-101	SDS Storage Tank	shell thickness	14 Apr 92	25 Jun 92
SDS-TANK-102	SDS Storage Tank	shell thickness	14 Apr 92	25 Jun 92
SDS-TANK-103	SDS Storage Tank	shell thickness	19 Feb 92	11 May 92
BRA-TANK-101	Brine Storage Tank	shell thickness	7 Mar 92	22 Apr 92
NAH-TANK-101	Caustic Storage Tank	shell thickness	26 Oct 91	30 Mar 92
NAH-TANK-102	Caustic Storage Tank	shell thickness	28 Jul 91	30 Mar 92
NAH-TANK-103	Caustic Storage Tank	shell thickness	26 Oct 91	30 Mar 92
EHM-FAPL-404	Fire & Smoke Alarms	operability	8 Mar 92	14 Apr 92
CON-FAPL-401	Fire & Smoke Alarms	operability	15 Jan 92	25 Feb 92
OBV-FAPL-401	Fire & Smoke Alarms	operability	17 Jan 92	3 Feb 93

The Maintenance Department proactively reported the first five listed items to the Environmental Department. The five overdue inspections were attributed to data input errors to the program system that tracks and schedules periodic maintenance at JACADS. To avoid similar data input errors in the future, the Maintenance Department has implemented a program to cross check data on a monthly basis. The availability of tanks for conducting shell thickness test was a contributing reason for the late completion tests. Completion of a number of thickness tests was delayed because the tanks were partially full during the VX campaign. The campaign was not completed until June 1992. The remaining seven inspections were primarily missed due to scheduling problems with plant operations.

h. The original list of tank level switches requiring Attachment F inspections was incomplete. The following level switches for the agent, SDS, brine, acid wash and caustic storage tanks were not included on the JACADS list of RCRA-required instrumentation. Consequently, functionally checks of these instruments were not performed.

11-LSHH-18	15-LSH-15	23-LSHH-06	26-LSHH-18
11-LSHH-28	15-LSH-37	24-LSHH-331	26-LSHH-30
11-LSHH-62	15-LSHH-16	26-LSH-02	26-LSHH-77
11-LSHH-91	15-LSHH-38	26-LSH-13	27-LSH-01
11-LSHH-111	23-LSHH-02	26-LSH-56	27-LSHH-04

New test equipment has been procured to function test the instruments while the tanks are full. A preventive maintenance procedure, addressing the use of this new test equipment, has been developed and is in the final stages of approval.

Corrective Action

The OMC Operations and Maintenance Departments are assigned responsibility for completing the majority of the Attachment F inspections. The OMC Environmental Department implemented monthly audits of Attachment F inspections and is currently working with both Departments to ensure that all inspections are performed and properly recorded. To assist in this effort, a new maintenance report was developed for Environmental Department oversight purposes.

3. Attachment F Inspections Missed Under the Revised Inspection Schedule

Requirement

Attachment F of JACADS Part B RCRA Permit prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to

human health. A Revised Attachment F Inspection Schedule was approved by the EPA on 14 October 1992. This inspection schedule was implemented at JACADS on 1 November 1992.

Noncompliance

1. The weekly inspection of the SDS storage tanks during the last week of December 1992 was missed.

2. The daily DFS inspections for 10 December 1992 were missed.

3. Weekly inspection of the LIC Furnace for the week of 22 November 1992 was not performed.

4. Weekly inspections of the BRA Boiler flame safeguard sensors were not completed.

5. The annual inspection of the Acid Storage Tank was not performed.

6. Daily HVAC system local visual inspections for corrosion and pressure readings were not performed.

7. The following tank level switches were not inspected in accordance with an established frequency:

11-LSHH-18	15-LSH-15	23-LSHH-06	26-LSHH-18
11-LSHH-28	15-LSH-37	24-LSHH-331	26-LSHH-30
11-LSHH-62	15-LSHH-16	26-LSH-02	26-LSHH-77
11-LSHH-91	15-LSHH-38	26-LSH-13	27-LSH-01
11-LSHH-111	23-LSHH-02	26-LSH-56	27-LSHH-04

Description

1. The weekly inspection of the SDS Storage Tanks (SDS-TANK-101/102/103) was not documented as being performed. The inspection primarily pertained to visual inspection for corrosion and leakage.

2. The inspection checksheet documenting the 10 December 1992 daily DFS Combustion System visual inspection and retort rotation speed is missing. There were two inspection sheets for 11 December 1992 which indicates the inspection may have been performed but was not documented properly.

3. The weekly inspection of the LIC combustion air blowers and agent control valves, consisting mainly of visual checks for corrosion and leakage, could not be documented as being performed.

4. Weekly voltage readings from the BRA boiler flame safeguard sensors were not taken in 1992. Commencing in January 1993, weekly voltage readings of the BRA boiler flame safeguard sensors became a regularly scheduled activity for Maintenance.

5. The annual inspection of the Acid Storage Tank (HCL-TANK-101) cannot be performed because of the size of the manway. Engineering is currently evaluating whether or not to deactivate the use of this tank since the Acid Wash System may not be placed in service.

6. The daily local inspection of the zone pressure gauges of the HVAC was infeasible and redundant since the gauges are continuously monitored by the Programmable Logic Controller (PLC). The PLC alarms the operator advisor screen and sends an alarm indicator to the alarm printer and the Process Data Acquisition Recording (PDAR) system whenever pressures are out of range. To alleviate a potential noncompliance situation, a permit modification requesting the inspection be changed from the local inspection criteria to monitoring the gauges from the Control Room was prepared and transmitted to the Army by the OMC on 12 September 1992. This request was submitted as a Class 2 modification to EPA by the Army on 11 January 1993.

7. The original list of tank level switches requiring Attachment F inspections was incomplete. The twenty (20) level switches are located on the agent, SDS, brine, acid wash and caustic storage tanks. These switches were not included on the JACADS list of RCRA-required instrumentation and, therefore, were not being performed.

Corrective Action

1-3. The first 3 items pertain to missing inspection records. Emphasis has been placed on the importance of completing these inspections by OMC Management. A thorough review of how inspections are conducted and documented is currently being undertaken to minimize recurrence of missing inspections.

4. The Boiler flame safeguard sensor inspection is being performed by Maintenance personnel weekly. Engineering is evaluating installation of meters to facilitate Operations personnel in performing this inspection.

5. To complete the annual internal shell inspection for the Acid Storage Tank, the tank manway must be enlarged. An Engineering Change Proposal was prepared by the OMC and approved by the Army to have the manway enlarged. However, before the manway is enlarged, an evaluation on whether or not the Acid Wash System will be deactivated is being conducted.

6. A Class 2 modification request was submitted to EPA on 11 January 1993 requesting this inspection requirement be revised. The modification changes the requirement from a local inspection criteria to monitoring the gauges from the Control Room. The gauges are continuously monitored by the Programmable Logic Controller (PLC). The PLC alarms the operator advisor screen and sends an alarm indicator to the alarm printer and the Process Data Acquisition Recording (PDAR) System whenever pressures are out of range.

7. New test equipment was procured to functionally test the instruments while the tanks are full. A preventive maintenance procedure, designed to use this new test equipment, has been developed and is in the final stages of approval.

4. Documentation of Attachment F Corrective Actions

Requirement

Federal Regulation 40 CFR 264.15(d) and Section F-2d of Attachment F of the RCRA Permit require facility inspections to be recorded in an inspection log or summary. The log or summary must document the date, time of the inspection, the inspector's name, a notation of the observation made and the date and nature of any repairs or other remedial actions.

Noncompliance

The date and nature of repairs, or other remedial action, to observations noted on Attachment F inspection sheets were not being recorded on some inspection forms. A relative small number of inspection sheets, estimated at less than 1%, were not completely filled out.

Description

The Attachment F inspections are recorded on a variety of forms. The majority of the inspections, approximately 110 out of 201 different types, are documented on inspection sheets specifically designed for recording Attachment F inspections. These forms are used by Operations Department personnel. The Operations Department also performs 11 additional types of Attachment F inspections that are recorded either in Logbooks, on SOP reading sheets or on Limiting Conditions of Operation (LCO) forms. The Maintenance Department performs approximately 73 types of Attachment F inspections. The specific work order used to complete an inspection serves as the inspection log. The remaining

inspections are performed by either the Laboratory, the Chemical Support Facility or the Engineering Department.

By sheer number, the majority of observations noted are made by Operation personnel. However, there was no systematic method for documenting corrective actions taken in response to these observations. The inspections that Operations is responsible for are conducted by two groups within the department. Outside Operators and Control Room Operators conduct the majority of inspections related to process equipment and readiness of the plant to respond to emergencies. A separate group, OECD personnel, is assigned to perform waste management related inspections.

Corrective Action

Corrective actions to Attachment F observations noted by OECD personnel are entered in a log specifically designated for this purpose. This log was initiated on 5 September 1992.

A system for documenting corrective actions noted by the Outside Operators and Control Room Operators was initiated on 26 December 1992. This system requires that a work order be filled out for any noted observation and that the work order number be recorded on the inspection sheet. When the work order is closed, the inspection sheet is noted with the completion date. Additionally, a copy of the work order is filed in the Area Supervisor Office and reviewed weekly to insure that corrective actions are completed.

The importance of complete and accurate documentation of Attachment F inspections was routinely emphasized to facility personnel by OMC management in 1992.

B. MAINTENANCE RELATED NONCOMPLIANCES

1. Calibration of Monitoring Equipment

Requirement

Permit Conditions V.D.5., V.D.6., V.F.4., and V.F.5. require various DFS and LIC monitoring equipment to be calibrated and maintained at specified frequencies during Shakedown and Post Trial Burn operations. In addition, quarterly calibration of BRA Flowmeter 23-FQI-103 was stipulated as a condition by EPA when the BRA modification package was approved in 1991.

Noncompliance

Ten (10) calibrations of instruments which monitor parameters identified in the above Permit conditions were not completed within the time frame allowed to satisfy quarterly calibration requirements.

Description

The following calibrations were not completed within the time frame allowed to satisfy RCRA quarterly requirements:

Tag No.	Instrument	Date Due	Date Completed
16-TE-20	DFS Kiln thermocouples	16 Feb 92	5 Mar 92
16-TE-92	DFS Afterburner thermocouples	16 Feb 92	5 Mar 92
16-TE-20	DFS Kiln thermocouples	14 Dec 92	23 Dec 92
16-TE-92	DFS Afterburner thermocouples	14 Dec 92	23 Dec 92
16-TE-197	DFS Afterburner thermocouples	14 Dec 92	23 Dec 92
13-TE-43	LIC Primary Chamber thermocouples	21 May 92	26 May 92
13-TE-103	LIC Afterburner thermocouples	21 May 92	26 May 92
ACS-TK-104	DFS Agent Quantification System	10 Jan 92	19 Jun 92
23-FQI-103	BRA Brine Flowmeter	10 Feb 92	17 Apr 92
23-FIQ-103	BRA Brine Flowmeter	17 Jul 92	7 Sep 92

Corrective Action

The brine flowmeter (23-FQI-103), located between the brine storage tanks and the evaporator, was calibrated just prior to the BRA Compliance Test performed during the first week of November 1991. The flowmeter was inadvertently left off the preventive maintenance schedule. The April 1992 calibration was completed using a corrective maintenance work order. The flowmeter was added to the Preventive Maintenance Instrument (PMI) program for periodic calibration in December 1992.

The Environmental Department is currently working with the Maintenance Department to ensure that all permit required calibration/maintenance items are covered and flagged properly. A new monthly report was developed by Maintenance and is forwarded to the Environmental Department for review and oversight purposes. Better scheduling and coordination between Operations and Maintenance Departments has significantly improved calibration conformance.

2. Maintenance and Operation of the Brine Reduction Area

Requirement

Permit Condition I.D.6 requires the permittee to properly operate and maintain the facility at all times.

Permit Condition II.A requires the facility to be properly maintained and operated to minimize the possibility of hazardous waste releases.

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the plans and specifications of the permit and its attachments.

Noncompliance

Operational history of the Brine Reduction Area (BRA) in the first four months of 1992 indicates the system was not, at times, properly maintained and operated in accordance with the above permit conditions.

Description

There were a number of operational and maintenance problems with the BRA pollution abatement system after it commenced hazardous waste operations at the beginning of November 1991. Many of these can be attributed to initial design deficiencies. Observed problems included:

(a) The buildup of sludge in the exhaust duct between the BRA processing equipment and the inlet to the baghouse.

(b) The near continuous leakage of liquid waste from the exhaust duct from the commencement of hazardous waste operations in November 1991 to shutdown of the unit on 26 April 1992. This resulted in two documented overflow incidents in March 1992 as well as numerous releases to the secondary containment dike installed around collection drum(s) located under the leak.

(c) Operation of the BRA PAS Baghouse while several bags were ripped/missing.

(d) Broken air supply headers and their associated discharge heads, designed to clean the filtration bags, in both baghouse modules.

(e) Continued operation of the BRA while the Triboflow detector gave readings above 100% (off-scale) indicating particulate breakthrough.

Corrective Action

A BRA Task Force was formed by the OMC in April 1991 to evaluate and recommend a course of action to correct problems with the unit. The Task Force recommended specific actions to bring the unit in compliance with environmental regulations

as well as increase efficiency of the system. Based on these recommended actions, a Corrective Action Plan was prepared and submitted to the EPA on 24 June 1992. The Corrective Action Plan was approved by EPA on 21 August 1992 and has been implemented. A Compliance Test of the BRA is currently scheduled to be conducted in March 1993 to demonstrate it operates in an environmentally acceptable manner and complies with permitted emission limitations.

3. Installation of DFS Thermocouple

Requirement

The JACADS RCRA Permit Condition I.D.6 requires that the Permittee properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to adhere with all conditions of the permit.

Noncompliance

DFS Afterburner thermocouple 16-TE-197B was not wired according to the system as-built drawing (P&ID). According to the P&ID, this thermocouple is used in conjunction with 16-TE-92A to monitor the afterburner temperature to ensure the unit operates within it's RCRA limits.

Description

On 16 November 1992, a work order (#931308) was initiated because operationally it did not appear that the thermocouple was wired back to the Programmable Logic Controller (PLC). Maintenance confirmed that thermocouple 16-TE-197B was not connected to the PLC when they inspected the thermocouple on 18 November 1992. It was also confirmed that the DFS Afterburner thermocouple (16-TE-197B) was not properly installed according to the as-built P&ID.

Corrective Action

The thermocouple was wired in as an averaging thermocouple on 19 November 1992. It was confirmed to be operating properly by verifying the signals with the Automation Engineers. It should be noted that although 16-TE-197B was not installed properly, the DFS Afterburner was continuously monitored by 16-TE-92A to ensure the system operated within permitted temperature limits.

4. Maintenance and Operation of Processing Support Systems

Requirement

Permit Condition I.D.6 requires that the Permittee properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used.

Permit Condition II.A requires the facility to be properly maintained and operated to minimize the possibility of hazardous waste releases.

Permit Condition V.A requires the permittee to construct and maintain the facility in accordance with the plans and specifications of the permit and its attachments.

Noncompliance

a. During the first half of 1992, the Emergency Generator was not timely maintained.

b. Two HVAC pressure indicating transmitters failed and were not repaired and calibrated for approximately six months.

c. The valve used to control makeup water to the LIC Scrubber did not function properly during the last quarter of 1992.

Description

a. Two preventive maintenance procedures (PMEs) pertaining to the Emergency Generator were not completed within their due dates. These two items were:

   * PME234-Q was developed to perform routine oil change, lubrication and filter changing, etc. to the emergency diesel generator engine on a quarterly basis. The previous completed PME is documented as having been completed on 1 October 1991. The subsequent PME, performed under Work Order #121892, was completed on 11 May 1992.

   * PME237-S was developed to perform routine megger checks and electrical tests on the emergency generator on a semi-annual basis. Work Order #122587 was issued with a due date of 9 January 1992 to complete this PME. The work order was completed on 11 May 1992.

b. HVAC Pressure Indicating Transmitters 76-PIT-536 and 76-PIT-588 failed in February 1992. Although open corrective maintenance work orders were issued in February for the instruments, repair and calibration of the transmitters was not completed until September 1992.

c. Valve 24-LV-115 controls the amount of makeup water fed to the LIC Pollution Abatement System (PAS) via the scrubber sump. This valve did not function properly during the last quarter of 1992. In order to provide sufficient makeup water, the high high temperature emergency spray nozzle on the quench tower was used more frequently to manually introduce makeup water into the PAS system.

Corrective Action

a. Both work orders were completed on 11 May 1992. In addition, the Emergency Generator received extra attention during the past eight months to ensure its full operational readiness. The Emergency Generator Standing Operation Procedure (SOP) and PMEs related to its maintenance were reviewed and have been updated as needed.

b. An open corrective maintenance work order (#922011) was issued on 20 February 1992 to repair Transmitter 76-PIT-536. The instrument was replaced and calibrated on 1 September 1992.

   An open corrective maintenance work order (#922008) was issued on 26 February 1992 to repair Transmitter 76-PIT-588. The instrument was replaced and calibrated on 2 September 1992.

   The original transmitters could not be calibrated to the proper pressure ranges. Replacement units with the proper sensing range had to be ordered. An inventory of replacement units is now maintained on-site to alleviate the long time lag in replacement of these units.

c. A new valve has been procured and is scheduled to be installed (Work Order #930939) on about 1 March 1993.

The importance of completing both unscheduled and scheduled maintenance items in a timely manner has been emphasized to OMC Department Management.

C. UNAPPROVED FACILITY CHANGES

1. Bypass of LIC Demister

Requirement

Permit Condition V.A requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. RCRA Regulation 270.42 requires certain modifications to a facility to be formally submitted to EPA.

Noncompliance

PAS-Demister-102 was reconfigured and used as a bypass of the LIC operational demister, PAS-Demister-101, during nonhazardous waste operations between 17 August 1989 and 10 January 1992.

Description

The LIC Pollution Abatement System (PAS) is designed with a demister located immediately downstream of the scrubber tower, just before the exhaust gas is released to the atmosphere. The main purpose of the demister was to remove the very fine phosphoric and other acid mist formed when acid laden gas, generated during hazardous waste operations, is cooled with water. The primary demister for the LIC is PAS-Demister-101 with PAS-Demister-102 designed to be used as a common spare for either the LIC or the MPF.

During August 1989, PAS-Demister-102 was reconfigured by removing the demister candle filters in the vessel such that the vessel would function as a bypass around PAS-Demister-101. Although PAS-Demister-102 was only used as a bypass during nonhazardous operations, this practice was not authorized by the RCRA permit.

It should be noted that the LIC SOP contained steps requiring the bypass valves to be closed before hazardous waste was introduced in the incinerator. The bypass was utilized to prevent blinding of the candle filters during startup and shutdown of the LIC and during nonhazardous waste operations.

Corrective Action

The use of PAS-Demister-102 as a functional bypass of PAS-Demister-101 was discontinued on 10 January 1992 after being identified as a permit noncompliance. EPA was notified of this non-compliance verbally in January 1992 and by writing in a U.S. Army letter dated 3 March 1992. In response to a Class 1 Modification request, on 30 December 1992 EPA approved the installation and use of a permanently installed bypass for the LIC demister with electronic damper interlocks to prevent its use during hazardous waste operations. Installation of this bypass is scheduled to be completed in March 1993.

2. Undocumented PAS Changes

Requirement

Permit Condition V.A requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. RCRA Regulation 40 CFR 270.42 requires certain modifications to a facility to be formally submitted to EPA. Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by March 1 of each year to reflect the facility as of December 31 of the preceding year.

Noncompliance

The following facility changes were implemented without documentation or notifications/approvals required per the above permit conditions:

a. The trickle valve on the DFS Cyclone was removed and replaced with a sliding gate valve.

b. Piping and controls involved in the brine transfer from the main PAS system to the Brine Reduction Area (BRA) have been bypassed with temporary hoses since approximately 1990.

c. Several BRA instruments including the Triboflow Detector and ACAMS were not shown on the facility as-built drawings.

Description

a. The P&ID drawing for the DFS (#4020-16-MP-102) shows a trickle valve at the discharge of the cyclone. This valve was used to isolate the waste collection drum from the active zone of the cyclone. The trickle valve was replaced with a sliding gate valve during the startup of the unit several years ago.

b. Temporary hosing is being used to transfer brines from the discharge of the DFS Scrubber discharge (PAS-PUMP-106/107) to the BRA. This temporary hose bypassed the strainers (PAS-FILT-110/111) shown on 24-MP-300-0001.

Temporary hosing from the MPF and LIC Scrubber discharges (PAS-PUMP-102/103 and PAS-PUMP-111/112, respectively) is being used to transfer brines to the BRA by tieing into the pipe immediately downstream of PAS-FILT-110/111.

c. The BRA Triboflow Detector and ACAMS were installed in mid-1991 and have been in operation since October 1991. Brine Flowmeter 23-FQI-104 has been in use since October 1991. The Triboflow detector and the ACAMS which monitor exhaust gases at the outlet of the BRA PAS were not shown on 23-MP-300-0001 or 23-FS-301-0001. As-built Drawing 4020-23-MP-102 did not show Flowmeter 23-FQI-104 although it was installed in 1991.

Corrective Action

a. The existing sliding gate valve on the DFS Cyclone is scheduled to be replaced with a tipping valve during the next major shutdown, installation is currently expect to be on about 15 May 1993. The tipping valve is designed to isolate the waste collection container from the active zone of the cyclone. On installation of the tipping valve, the as-built P&ID will be updated.

b. Engineering has initiated a work order (#930105) to have the brine transfer piping repaired in order to use the system in its original configuration. Materials to complete the work were received in January 1993. The work order is scheduled to be completed by 31 March 1993. Affected P&IDs will be updated to reflect the work completed and to correct the abandoned in place designation.

c. Flowmeter 23-FQI-104 was added to Drawing 4020-23-MP-102 on 16 September 1992. The ACAMS and Triboflow detector were added to Drawings 23-MP-300-0001 and 23-FS-301-0001 on 10 October 1992. These updated drawings are included in the Annual As-built package OMC forwarded to the Army on 15 February 1993 for submittal to EPA.

D. OPERATIONAL RELATED NONCOMPLIANCES

1. Weekly Testing of Waste Feed Cutoff Systems and Associated Alarms

Requirement

RCRA Regulation 40 CFR 264.347(c) requires the weekly testing of waste feed cutoff systems and their associated alarms to verify their operability. If the applicant demonstrates to the EPA that the weekly inspections are unduly restrictive or upset operations than less frequent testing may be allowed. Testing must occur at a frequency of at least monthly.

Noncompliance

The LIC and DFS waste feed cutoff systems and associated alarms were not tested on a weekly basis during hazardous waste operations until 19 January 1992. The following alarms were missed after weekly testing was implemented on 19 January 1992:

DFS and LIC ID fan ACAMS alarms from 19 Jan 92 to 23 Feb 92
DFS and LIC ID fan ACAMS alarms from 22 Mar 92 to 29 Mar 92
DFS agent feed alarm from 16 Feb 92 to 06 Mar 92*
DFS agent feed alarm from 13 Mar 92 to 01 Apr 92
LIC primary chamber pressure alarm from 19 Jan 92 to 28 Jun 92
LIC agent feed alarm from 1 Apr 92 to 26 Apr 92
LIC agent feed alarm from 3 May 92 to 9 May 92

The following alarms were missed after monthly testing was approved by EPA on 16 July 1992:

LIC 60-minute rolling CO average alarm for August 1992
DFS scrubber brine low low pH alarm for July - October 1992
LIC scrubber brine low low pH alarm for July - October 1992

* The DFS agent feed interlock was installed on 16 February 1992.

Description

Weekly testing of the DFS and LIC waste feed cutoff systems and associated alarms were not conducted until 19 January 1992 due to concerns about how to perform such tests without physically damaging or over-stressing the incinerators due to frequent stop feeds and furnace shutdowns. Several actions were initiated in an attempt to resolve this issue. A Class 1 modification requesting that actual waste feed cutoffs be allowed to satisfy the test requirement for the week in which they occur was submitted to EPA on 11 September 1991. This request was approved by EPA on 30 December 1991. EPA representatives were also consulted several times during the latter part of 1991 to resolve what type of testing would satisfy weekly associated alarm testing requirements.

A Class 1 modification request was submitted to the EPA on 19 May 1992 requesting that monthly testing be allowed to satisfy 40 CFR 264.347(c) requirements. The request identified how the alarms would be tested. This modification request was approved by EPA on 16 July 1992.

During the first half of 1992, the testing procedure was further refined to include the DFS and LIC ID fan ACAMS alarms, the DFS agent feed alarm and the LIC primary chamber pressure alarm. These alarms had been inadvertently omitted from the test procedure.

The DFS and LIC scrubber brine pH sensors were not installed as automatic waste feed cutoffs until July 1992. Rather, the pH automatic cutoff requirements in the Permit were interpreted to be satisfied by the scrubber clean liquor pH sensors which were connected to the automatic stop feed system. In July 1992, EPA directed that waste feed interlocks be implemented for both scrubber brine and clean liquor pH values below 7. The interlocks were implemented; however, the testing of the alarms was not incorporated in the test procedure at this time.

The LIC instantaneous carbon monoxide alarm instead of the 60-minute rolling average was mistakenly included in the test procedure.

Corrective Action

The first comprehensive weekly test of the LIC and DFS waste feed cutoff systems and associated alarms occurred on 19 January 1992. A procedure for testing the LIC and DFS waste feed cutoff systems and associated alarms was subsequently developed based on the experience gained in the 19 January 1992 tests. The procedure allows actual waste feed cutoffs and alarms which activate during normal operations satisfy the test requirement during the week they occur.

The procedure was further refined to include the DFS and LIC ID fan ACAMS alarms and the DFS agent feed alarm during the first half of 1992. The procedure was updated to include the LIC primary chamber pressure alarm during the first week of July. Weekly testing of the LIC primary chamber pressure alarm commenced on 5 July 1992.

The testing procedure was updated to include the LIC 60-minute rolling average for carbon monoxide in September. Initial monthly testing of the carbon monoxide 60-minute rolling average alarm occurred on 20 September 1992.

The testing procedure was updated to include the scrubber brine alarms in November 1992. Periodic alarm testing of DFS and the scrubber brine alarms commenced on 29 November 1992.

2. Failure to Record RCRA Operating Data

Requirement

Permit Condition V.F.5.b requires the monitoring and recording of various DFS and LIC parameters at a frequency of at least once a minute during the processing of hazardous waste.

Noncompliance

On 17 August 1992, RCRA operating data was not recorded at the required frequency of at least every one minute for 38 minutes while the LIC was processing HD agent.

DFS RCRA operating data was not recorded at the required frequency of at least every one minute during 15.4 hours over a three day period of processing 105MM projectile fuses/bursters in September 1992.

Description

The LIC RCRA operating data not recorded on 17 August 1992 was due to a loss of communications to PDAR. The communications loss occurred while software changes were being made to display a CO 60-minute rolling average on a CON advisor screen. The data was not recorded from 1946 to 2024. Agent processing terminated in the LIC at 2024 hours.

On 23, 24 and 26 September 1992, permit required parameters were not recorded at the required frequency by PDAR while the DFS was processing 105MM projectile fuses/bursters. Prior to 23 September 1992, the DFS was down for major maintenance and had not been used for processing hazardous waste since 31 March 1992. Failure to implement a software change to the Programmable Logic Controller (PLC) before bringing the DFS back online for hazardous waste operations was the cause of this incident. The failure to record RCRA operating data occurred for 5.4, 6.7 and 3.3 hours of hazardous waste operations on 23, 24 and 26 September 1992, respectively.

It should be noted that during the above time periods, all system alarms and set points functioned properly and no RCRA limits were exceeded. Additionally, the High Quality Data (HQD) capabilities of PDAR accumulates system data every three seconds and provides five minute minimum, maximum and average values. This data system was operational during the times of concern although data was only recorded on a five minute frequency versus the RCRA required frequency of one minute.

Corrective action

An acceptance test procedure (ATP) is followed when bringing an incineration system back online after major maintenance. Future system ATPs will be revised to include software testing of PDAR. In addition, special training was provided by the Environmental Staff to the Automation Manager on RCRA requirements for monitoring and recording.

3. LIC Oxygen Analyzer Stop Feed Delay

Requirement

Permit conditions V.F.2 and V.F.4 require the Permittee to maintain and calibrate systems to automatically cutoff hazardous waste feed to the incinerators when specified parameters are not met. One of these conditions require that if the

oxygen concentration in the LIC Afterburner Exhaust exceeds 10%, waste feed must be cutoff automatically.

Noncompliance

A delay on the automatic stop feed was put in place to "mask" the High High and Low Low O_2 Analyzer signals and delay the automatic stop feed for three seconds to avoid electronic noise from causing a stop feed.

Description

A "mask" was placed in the Jumper Log on 13 August 1992 to provide a 3 second delay on the automatic stop feed to the High High and Low Low O_2 Analyzer signals. This was in place during the LIC Test Burn which took place 19-25 August 1992.

Corrective Action

The "mask" was removed from the Jumper Log on 8 September 1992. Jumpers involving the automatic stop feed cutoffs are periodically reviewed by the Environmental Department to prevent similar occurrences involving stop feed alarms.

4. Agent Contaminated Strainer Waste and Absorbent Feed into the DFS

Requirement

RCRA Regulation 40 CFR 264.344 prohibits the incineration of hazardous wastes which are not specified in the permit. Permit condition V.D.2 identifies hazardous waste which can be fed to the DFS during shakedown. Permit Condition V.D.6 requires waste feed to the DFS to be monitored and recorded.

Noncompliance

VX contaminated strainer waste and cleanup wastes were fed into the DFS. These waste feeds were not specified in the permit and were not documented in accordance with the requirements of Permit Condition V.D.6.

Description

During M55 VX rocket processing, the strainer on the agent drainage system routinely clogged with fiberglass residue. To prevent clogging, Maintenance personnel entered the Explosive Containment Room (ECR) after rocket processing ceased for the day and emptied the contents of the strainer (occasionally the strainer element was also included) into a burlap bag. Associated cleanup wastes (agent contaminated rags, spill pillows and unserviceable small tools) were also placed in the burlap bag. On completion of maintenance activities in the ECR, the burlap bag was placed on the DFS feed chute. The bag was fed into the DFS after maintenance personnel had exited the ECR and the incinerator was at permit operating conditions. The feeding of this waste was not always logged in the Furnace Log and the operating conditions were not recorded on PDAR.

Corrective Action

On 18 February 1992, a Class 1 permit modification request was formally submitted to EPA to provide for the feeding of this agent waste into the DFS. On 27 March 1992, EPA verbally informed PMCD that the requested change qualified as a Class 2 modification and would require formal public notification before the request would be approved. This decision was formalized in a letter from EPA to PMCD on 30 March 1992 and no further processing of this waste was performed in this manner. A Class 2 modification to feed miscellaneous bulk solid wastes into the DFS was submitted to EPA on 26 June 1992. This modification was formally approved by EPA on 14 October 1992.

Based on this approval, a procedure has been prepared and is currently being followed by Operations which requires miscellaneous type waste feeds to be logged manually whenever these types of wastes are fed into the furnaces. PDAR is also required to be engaged while these wastes are incinerated.

5. Stop Feed Alarm on Agent Feed

Requirement

Permit Condition V.D.3 specifies the temperature operating range of the LIC Primary Chamber to be 2700 ± 150° F when processing hazardous waste. 40 CFR 264.345(e) specifies that an incinerator must be operated with a functioning system to automatically cutoff waste feed to the incinerator when operating conditions deviate from permit limits.

Noncompliance

The automatic waste feed cutoff for agent feed to the LIC Primary Chamber was jumpered out.

Description

On 9 August 1992, a decrease in fuel oil flow caused one set of thermocouples to drop to 2552°F and the other set to drop to 2549°F. The automatic Stop feed alarm did not activate. An investigation was conducted to determine why the automatic waste feed did not stop feed. The investigation revealed that the stop feed had been jumpered out on 15 June 1992 and this jumper was not taken out prior to processing.

Corrective Action

The average of the two thermocouples stayed above the RCRA low temperature limit of 2550°F. However, this flagged the fact that the automatic waste feed cutoff for the low temperature limit had been jumpered out. The jumper had been properly logged and was overlooked during a review of the log prior to startup. This oversight caused the jumper to remain in place. The jumper was immediately removed upon discovery and personnel were instructed on the importance of jumper documentation and review.

6. Stop Feed Alarm on SDS Feed

Requirement

Permit Condition V.F.1 specifies the maximum feed rate of SDS to the LIC to be 2000 lbs/hr. 40 CFR 264.345(e) specifies that an incinerator must be operated with a functioning system to automatically cutoff waste feed to the incinerator when operating conditions deviate from permit limits.

Noncompliance

An automatic waste feed cutoff for SDS feed to the LIC Secondary Chamber was not implemented until 5 August 1992. The waste feed cutoff was removed later in August and not reinserted until mid-September 1992.

Description

No automatic waste feed cutoff had been installed on the LIC for SDS feed because the permitted rate was in pounds per hour and the SDS feed rate was measured volumetrically. The requirement was discovered during a review of permit stop feed conditions. A direct conversion from pounds per hour to gallons per hour was impractical to resolve this discrepancy because the SDS varied considerably in density. Consequently, a permit modification was submitted to EPA requesting the maximum permitted rate be specified as 3.81 gallons per hour. EPA approved this modification on 16 July 1992.

On 5 August 1992, the stop feed was implemented without documenting the software change per the JACADS Engineering Change Proposal (ECP) procedure. Accordingly, an Army on-site representative directed the stop feed to be removed since the change was not implemented according to procedure. The stop feed was removed on 10 August 1992 and reinserted on 14 September 1992. Although the stop feed was removed during this time period, SDS processing occurred during 14 of the 35 days it was not in place. No exceedances of the SDS Allowable Flowmeter occurred.

Corrective Action

The Army was notified that this was a RCRA permit requirement. The automatic stop feed was put back into place on 14 September 1992. Direction on the proper procedure for implementing program changes was emphasized to facility personnel.

E. BRA RELATED NONCOMPLIANCES

1. Documentation of Brine Transfers

Requirement

RCRA Regulation 40 CFR 264.73(b) requires a written record of the location and quantities of each hazardous waste within a facility to be maintained.

Regulation 40 CFR 264.75 requires a biennial report be submitted to the EPA Regional Administrator detailing facility activities. A description and the quantity of each type of waste processed in a treatment unit is required along with the efforts undertaken to reduce the volume and toxicity of wastes generated.

Noncompliance

A written record was not being maintained to adequately document the types and quantities of brines being sent to the BRA for storage prior to processing. The origin of brines stored in isotainers was not sufficiently being documented.

Description

There was no methodology in place to distinguish and quantify brines generated from the different incinerator units (DFS, LIC, MPF and DUN). Routinely brines were being transferred to the main Pollution Abatement System (PAS) sump where they mixed with other brines or with rain water and condensate. In addition, there was no quantification of brines transferred to the BRA which thereafter commingled with other brines, rain water, wash water, etc. in the BRA storage tanks or in the Acid Wash Tank. The brines stored in isotainers were not being documented adequately regarding their point of origin.

Corrective Action

A BRA Task Force using Total Quality Management (TQM) principles of problem solving was established by management to recommend corrective measures to address BRA deficiencies. The Task Force has recommended that flow meters be installed at various transfer locations to measure amounts of brine being transferred to the brine storage tanks. The U.S. Army is currently evaluating a proposal to install three flowmeters in response to this recommendation. The practice of transferring brines into the main PAS sump was discontinued (reference Noncompliance G.2. of this report).

While the proposal to install the flowmeters is being evaluated, a "Brine Accountability" Log was implemented on 17 August 1992, to record brine transfers from individual incinerator systems to either the brine storage tanks or isotainers. In addition, the procedure for documenting brine transfers to and from isotainers (SOP JI-0000-L-099, Rev. 2) was updated on 19 November 1992.

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2. Missing Brine Feed Rates

Requirement

The RCRA Permit for processing hazardous brines in the BRA limited the amount of brine feed to the evaporator when processing brines through the drum dryers and required hourly recording of the brine feed.

Noncompliance

Brine feeds to the evaporator were not recorded for several periods while processing through the drum dryers.

Description

Totalizer readings for Flowmeter 23-FQI-103 are used to comply with this requirement. There were four (4) missing hour readings on 16 April 1992. It was documented on the reading sheet that the values were missing due to the Operator being busy with other tasks. On a separate occasion, totalizer readings could not be documented as being taken for eleven (11) hours between 24 August and 28 August 1992 while the BRA was processing brines.

Corrective Action

The importance of recording accurate and complete data has been emphasized by Operations Management. Further instances of missing data should not occur since Flowmeter 23-FQI-103 was connected to PDAR on 31 August 1992. A rolling hour average of the brine feed to the evaporator is recorded every 5 minutes on PDAR to document compliance with permit conditions.

Manual readings are also taken in order to account for actual quantities of brine fed to the drum dryers. This is due to the fact that the readings from 23-FQI-103 do not distinguish between brines which are processed in the evaporator and brines processed in the drum dryers.

3. Exceedance of BRA Waste Feed Rate Limitation

Requirement

The maximum allowable brine feed rate into the BRA evaporator was 635 gallons per hour (gph) when processing hazardous brines in the drum dryers during the first half of 1992. This is one half of the maximum rate achieved during the BRA Compliance Test conducted in November 1991. This operational condition was placed on the BRA in a 7 August 1991 letter from EPA to the U.S. Army.

Noncompliance

Audits of BRA operational records reveal the maximum allowable brine feed rate into the evaporator was exceeded for thirty five (35) hours during the 1st four months of 1992.

Description

The maximum permitted brine feed rate into the BRA evaporator was exceeded for:

2 hours on 17 Jan 92	1 hour on 27 Jan 92
3 hours on 11 Mar 92	2 hours on 12 Mar 92
1 hour on 16 Mar 92	3 hours on 30 Mar 92
5 hours on 16 Apr 92	1 hours on 18 Apr 92
4 hours on 19 Apr 92	4 hours on 20 Apr 92
6 hours on 24 Apr 92	3 hours on 25 Apr 92

Corrective Action

The brine feed limitation of 635 gph was re-emphasized to Operations as a RCRA operational limit that must not be exceeded. A Task Force was assigned by OMC management to evaluate current operations which included investigating alternatives to ensure compliance with permit conditions. The current methodology of manual entries to verify compliance with the brine feed rate limitation was replaced with an automated data collection system in August 1992.

The brine feed rate is fed to the Programmable Logic Controller (PLC) where the signal is recorded every five minutes to generate a rolling hour average. The brine feed rate rolling hour average is wired to a control room advisor screen to alarm the CON before the allowable feed rate is exceeded. The hour average is also automatically updated and recorded on PDAR every five minutes.

F. ACAMS RELATED NONCOMPLIANCES

1. DFS, LIC and MPF ACAMS Agent Monitoring/Automatic Stop Feeds

Requirement

Permit Conditions V.D.5 and V.F.4 require automatic waste feed cutoffs for the Automatic Continuous Agent Monitoring System (ACAMS) located on the outlet duct immediately downstream of the MPF, LIC and DFS Induced Draft (ID) fans. These permit conditions require the automatic stop feed system to be engaged when the allowable stack concentration for agent is exceeded. Also continuous monitoring is required by these conditions.

Noncompliance

a. The ACAMS on the LIC and DFS ID fan outlet ducts were not interlocked to automatically stop waste feed for their respective incinerators until 17 February 1992.

b. While processing agent on 27 February 1992, the LIC ID fan ACAMS (Station 15, ACAMS 127) did not monitor agent for several minutes due to power supply problems.

c. During a portion of the year, there were no provisions for automatically stopping feed to the DFS, LIC and MPF when the ACAMS were either off-line for maintenance or when the units indicated a malfunction.

Description

a. A review of the interlock matrix conducted in January 1992 for the DFS and LIC revealed that the ACAMS at the I.D. fan discharges were not programmed to automatically cutoff waste feed if allowable stack concentrations were exceeded. It should be noted that no agent stack concentrations at or above the emission levels specified in the permit have been recorded by either of the I.D. fan discharge ACAMS during the incineration of any type of waste. Also, it is important to recognize that the I.D. fan discharge ACAMS were set to alarm at 0.2 allowable stack concentration (ASC). Should an alarm occur at 0.2 ASC, Operators were instructed by Standing Operating Procedures (SOPs) to manually stop waste feed to the affected incinerator until the ACAMS was checked and the reading verified to be negative.

b. The 27 February 1992 incident is attributed to ACAMS power supply problems. A review of the operating records and interviews with monitoring personnel indicates that the ACAMS did not operate properly during an eighteen (18) minute period.

c. During the latter portion of 1992, it was ascertained that there was no provisions for automatically stopping feed to the DFS, LIC and MPF when the ACAMS were either off-line for maintenance or when the units indicated a malfunction. Further investigation revealed that automatic stop feeds

on the LIC furnace were a concern because automatic stops cause substantial operating delays and could potentially damage the system. This is because the LIC relies on the agent as a source of combustion fuel. Conversations were held with the EPA Regional Office that resulted in a permit modification being submitted to alleviate this potential problem.

Corrective Action

a. On 17 February 1992, the ACAMS at the DFS and LIC I.D. fan discharges were programmed in the Programmable Logic Control (PLC) system to automatically engage their respective waste feed cutoff systems. The waste feed interlocks are tested weekly to verify they are operationally functional.

b. The need for continuous operation of the ACAMS whenever hazardous waste is processed in the incinerators has been stressed to facility personnel.

c. Automatic stop feeds for the LIC, DFS and MPF furnaces were installed in the PLC logic matrix for any "malfunction" indication on the ACAMS at the I.D. fans. This change was completed on 26 November 1992. In the meantime, a permit modification request was prepared by the OMC on 12 November 1992 and submitted to the EPA on 15 January 1993. The agency approved this modification request on 25 January 1993. The modification allows the facility to monitor agent either directly downstream of the I.D. fans or at the Common Stack. If one of the monitors indicates a "malfunction" or is taken off-line for maintenance during processing, monitoring would be accomplished using the ACAMS at the alternate location and waste feed to the furnace would continue. Automatic stop feed will occur only if both the I.D. Fan ACAMS and the Common Stack ACAMS indicate a "malfunction" or if both are not functional.

Since initial toxic operations commenced in 1990, JACADS has operated an ACAMS Station at the Common Stack, which serves the DFS, LIC and MPF, in addition to the ACAMS at the ID fan outlets. Although the permit does not require this redundancy, the Common Stack ACAMS continues to be maintained.

2. ACAMS Monitoring at the BRA

Requirement

The RCRA Permit requires either the continuous monitoring for agent using an ACAMS during brine processing operations or batch analysis for agent of the feed brines before they are processed in the BRA.

Noncompliance

The ACAMS was not operational for eight (8) hours while processing brines on 27 August 1992. An analysis of the feed brines for agent had not been performed.

Description

The BRA ACAMS malfunctioned at 1020 hours on 27 August 1992 while brines were being processed through the evaporator and drum dryer. Brine processing continued until 1810 hours when operations were halted due to the ACAMS malfunction.

Corrective Action

Samples were taken from the drums containing salts processed between 1020 and 1810 hours on 27 August 1992 and from the brine storage tank. These samples were analyzed for the presence of agent. No agent was detected. The BRA SOP was revised to require terminating processing whenever the ACAMS is not monitoring PAS exhaust gases unless a previous chemical analysis of the feed brine was conducted and the brine found to be agent free.

3. Calibration of ACAMS

Requirement

Permit Conditions V.D.6.c and V.F.5.c require the ACAMS in the building ventilation stack and between the filter banks to be calibrated once per month by averaging four replicates of the equivalent hazard concentration for shakedown and post trial operations, respectively.

Noncompliance

a. Commencing on 25 October 1991, only three replicates of the equivalent concentration were used for the VX calibration of ACAMS. The number of replicates performed was reduced to two on 10 January 1992.

b. Commencing on about 11 October 1992, only two replicates of the equivalent concentration were used for the HD calibration of ACAMS.

Description

a. A detailed statistical study was completed demonstrating that four replicates for VX calibration was not needed. The statistical study showed that two replicates were sufficient to calibrate an ACAMS unit to produce the same response precision as four replicates. Accordingly, as a result of the statistical study, the number of replicates was reduced from four to three on 25 October 1991 and to two replicates on 10 January 1992. Laboratory personnel were not aware of the permit requirement for four replicates at the time these changes were implemented. This noncompliance was discovered in February 1992.

b. A study similar to the VX statistical study was completed for HD ACAMS calibration. On completion of the study, the number of replicates was reduced by the Laboratory based on the assumption that the previous submitted modification allowed this reduction in replicates. This oversight was discovered by the Environmental Department in October 1992.

Corrective Action

a. A Class 1 permit modification notice was prepared by the OMC, on 24 February 1992, changing the VX calibration requirement from four replicates to two replicates. This Class 1 modification notice was formally submitted by the Army to the EPA on 22 April 1992.

b. A Class 1 permit modification notice was prepared by the OMC, on 30 October 1992, changing the HD calibration requirement from four replicates to two replicates. This Class 1 modification notice was formally submitted by the Army to the EPA on 25 November 1992.

EPA has formally concurred with both of these modification notices.

G. SECONDARY CONTAINMENT RELATED NONCOMPLIANCES

1. BRA PAS Secondary Containment

RCRA Regulation 40 CFR 270.14(b)(8)(ii) and the JACADS RCRA Permit, Section F-4b of Attachment F, require the prevention of runoff from hazardous waste handling areas.

Noncompliance

Rain water in the BRA PAS secondary containment structure was pumped to ground.

Description

At 2145 hours, 28 August 1992, rain water in the BRA PAS secondary containment structure was pumped to the ground. At this time a heavy precipitation event had just occurred and the brine storage tanks were full.

Corrective Action

Facility operators and management were instructed on the proper disposition of accumulated rainwater in secondary containment structures. The RCRA Permit specified that accumulated liquid in the PAS secondary containment would be pumped from the PAS sump to the sump of the drum dryers on an as needed basis. The Permit has since been modified to require the rain water to be pumped to the BRA storage tank secondary containment area sump where it is then transferred into the storage tanks by a sump pump. This permit modification was approved by EPA on 2 February 1993.

2. Storage of Brines in the Main PAS Secondary Containment Area

Requirement

RCRA Regulation 40 CFR 264.196 (a) and (b)(2) requires the owner or operator to immediately stop the flow of hazardous waste into secondary containment upon discovery. The use of a secondary containment sump for the transfer of waste is not allowed. If the material released was to a secondary containment system, all released materials must be removed within 24 hours or as timely as is possible. Additionally, the regulation requires the system to be immediately removed from service until the release or spill is cleaned up and the cause corrected.

Noncompliance

On August 23 and 25, 1992, hazardous waste brine was transferred to the main PAS secondary containment for the handling of excess brines. Subsequent investigation revealed that the secondary containment sump had routinely been used for brine transfers from DFS, LIC and MPF incineration pollution abatement systems to the brine storage tanks and to isotainers.

On 4 September 1992, brine was transferred to the main PAS secondary containment sump from Demister 101 for the purpose of transferring it back to the LIC scrubber. Subsequent investigation revealed that the main PAS secondary containment sump had been used in the past to transfer brines from demisters back into the incinerator PAS scrubbers.

Description

On 23 August 1992, EPA Trial Burn Observers noticed the secondary containment area of the LIC PAS was partially filled with liquid brine. The PAS secondary containment was filled with approximately three (3) inches of reddish liquid, and sampling personnel were walking through the liquid in rubber boots collecting samples. These activities resulted in the spread of the hazardous brines outside of the containment area as evidenced by a reddish residue on portions of pavement. The EPA representatives informed JACADS management that this was unacceptable and violated RCRA regulations pertaining to tank management.

At approximately 2210 on 25 August 1992, an estimated 800 to 1000 gallons of brine from the LIC Scrubber sump was drained to the main PAS sump. The reason the scrubber was partially drained to the PAS sump was to lower the density of the LIC PAS brine.

On 4 September 1992, the contents of Demister 101 sump was lowered to normal levels by transferring excess brines to the main PAS sump. Just prior to this transfer, the LIC had been incinerating agent. The LIC primary burner had lost flame causing a system shutdown. The LIC could not be restarted with the Demister 101 sump level at high high due to Limiting Conditions of Operations (LCOs) established by the Army. The transfer pump (PAS-PUMP-115) could not

effectively transfer brines from the demister sump to the LIC scrubber due to excessive air leakage on the suction side of the pump. Consequently, the brines were drained to the main PAS sump. The brines were immediately transferred back to the LIC scrubber using the sump pump (PAS-PUMP-110).

Corrective Action

Management was advised that the diked area of the PAS must only be used for secondary containment purposes per RCRA regulations. Specifically, the use of the main PAS sump for operational transfer of brines and the storage of any type of waste in the main PAS sump or secondary containment area is not allowed. Subsequently, comprehensive guidelines on the allowable use/management of JACADS secondary containment areas was prepared by the Environmental Department and distributed to Operations Management. These guidelines have been implemented and are now being followed.

3. Disposal of Liquid Refractory Waste into Secondary Containment Area

Requirements

The JACADS RCRA Permit specifically lists the types of hazardous wastes that the facility is allowed to treat. 40 CFR 264, Subpart J requires that secondary containment be used only for spill/release purposes.

Noncompliance

Liquid wastes from the refractory work being performed on the LIC were disposed of by dumping them into the main PAS secondary containment area.

Description

On 22 October 1992, an internal OMC inspection of the LIC refractory repair work site located between the Munitions Demilitarization Building (MDB) and the Main PAS was conducted. The inspection revealed that the liquid mortar waste was being dumped into the secondary containment area of the abandoned LIC slag removal system. The waste was then being transferred to the main PAS secondary containment area and eventually to the brine storage tanks for treatment in the BRA.

Corrective Action

The site foreman (an outside contractor) was directed not to dispose of any more wastes in this manner and that the OMC Supervisor responsible for this project would assist him with proper disposal by instructing him on OMC requirements for segregating and accumulating the waste in 55-gallon drums. The on-duty Shift Superintendent and Area Supervisor and the Engineer responsible for this project were informed of the situation. The Engineer responsible for this project was instructed to set up a satellite waste accumulation area as outlined in Program Procedure (PP-43). The Environmental Department met with the Training Department to emphasize the importance of training on PP-43 and issued a guidance paper to OMC managers and supervisors on the proper management of secondary containment areas. A specific training course on PP-43 is in the final stage of development.

4. Improper Use of SDS Sumps

Requirement

RCRA regulations for hazardous waste storage tanks (40 CFR Section 264 Subpart J) require any releases or spills to secondary containment structures to be removed within 24 hours or in as timely manner as possible. Additionally, Regulation 40 CFR 264.196 requires the tank system to be immediately removed from service until a release or spill is remediated and the cause corrected.

Module IV of the RCRA Permit identifies SDS storage tanks (SDS-TANKS-101, 102 and 103) as hazardous waste storage tanks for the storage of spent decontamination solution. At the same time, it must be recognized that the storage tank sumps are designed to function as operational sumps for the routine collection of SDS

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for eventual transfer to the tanks. Accordingly, the above regulations are interpreted to be satisfied if a tank sump is promptly emptied when SDS reaches the high level of a sump.

Noncompliance

The Toxic Cubicle Sump, the secondary containment structure for the SDS and agent storage tanks, was at high alarm level for six (6) days.

Description

The transfer of SDS from the Toxic Cubicle Sump to the SDS storage tanks was delayed to meet Limiting Conditions of Operation (LCOs). This decision was made with U.S. Army concurrence in order to allow rocket processing to continue.

Operationally the Toxic Cubicle sump is allowed to rise to a high level before it is emptied. At high level, SDS-PUMP-152 LHH Alarm (#1256) activates to alert the CON. When the permissive SDS alarm is acknowledged by the CON, the pump transfers the SDS into one of the storage tanks. A visual alarm remains on and no pumping occurs when the tanks are full.

Toxic Cubicle Sump High Level Alarm #1256 activated at 2201 on 13 February 1992. The sump was emptied and Alarm #1256 deactivated at 1409 on 19 February 1992. At the time the alarm activated the Liquid Incinerator (LIC) was down for maintenance and was not brought back on line until 17 February 1992.

SDS-TANK-101, SDS-TANK-102 and SDS-TANK 103 were 62%, 87% and 0% full, respectively, on February 13th. Since the tanks were filled to their allowable limits per LCO restrictions, no additional SDS was added to the tanks until the LIC was on line.

Corrective Action

The need to promptly transfer SDS to the storage tanks when levels in SDS sumps reach a high alarm level has been emphasized to management. Additionally, a report of this incident has been forwarded to the Training Department in order to have the SDS Course updated to emphasize these management practices.

It should be noted that no releases to the environment occurred during any of these instances. The storage tanks, sumps and transfer lines are located inside a covered building. Moreover, the sumps have been permitted for the routine collection of spent decontamination solution and are expected to have some SDS in them during normal operations.

H. CONTINGENCY RELATED NONCOMPLIANCES

1. Contingency Response to Brine Releases

Requirement

RCRA Regulation 40 CFR 264.51 requires the procedures in the Contingency Plan to be carried out immediately whenever there is a release of hazardous waste constituents which could threaten human health or the environment.

Noncompliance

Two releases of brine which contained hazardous waste constituents from the BRA PAS occurred in March 1992. Neither the procedure for responding to hazardous liquid material releases contained in the JACADS permitted Contingency Plan or the revised procedure which was being used by the facility was followed in responding to these incidents at the time of discovery.

Description

Approximately 25 gallons of brine waste was released from an exhaust duct between the BRA processing equipment and the BRA baghouse on 12 March 1992. The release was not responded to in accordance with the contingency procedures even though the release qualified as a reportable event to the National Response Center under EPA Regulation 40 CFR 302. The operation causing the release was not halted until approximately 75 minutes after the release was originally discovered.

Another release of brine waste from the BRA exhaust duct occurred on 18 March 1992. The release was initially discovered at approximately 0600 and reported to the Control Room. The release was again reported to the CON at about 0835. Brine processing operations ceased at approximately 0910 and the release was remediated. This release was not reported to the National Response Center since only about a gallon actually overflowed a plastic tarp secondary containment area and this small amount was contained within a coral berm.

Corrective Action

Recognition of contingency events and more thorough training on contingency responses has been emphasized to project personnel. Additionally, a guidance paper was prepared and distributed to OMC Management summarizing permit requirements for implementation of the revised RCRA Contingency Plan which was approved by EPA on 14 October 1992 and is used by the facility now.

2. Contingency Plan

Requirement

RCRA Regulation 40 CFR 270.14(7) requires a copy of the contingency plan to be in a facility's Part B Permit. The contingency plan must reflect the standards in 40 CFR Part 264, Subpart D which require certain response actions to be described. Changes to the contingency plan must be made in accordance with the requirements of 40 CFR 270.42.

Noncompliance

JACADS uses revised contingency response procedures which were different from the response procedures in the Permit. Notification of these changes had not been made.

Description

JACADS contingency response procedures were revised in July 1990 because the Permit procedures were deemed inadequate for the plant staff organization and the configuration of the facility. Permit response procedures which were eliminated are listed below:

5.C. MDB agent Filter ID Fan Failure
5.D. CON Agent Filter Fan Failure
5.K. Hazardous Materials Response
5.P. Laboratory Waste Spill
5.Q. Acid/Caustic Leak/Spill Response
8.C. Spill of Explosive in the MDB

Procedure 5.K. was split into two procedures called "JI-CP-5L1 Hazardous Materials Response - Liquid Spills" and "JI-CP-5N Hazardous Materials Response - Solids".

New procedures added in July 1990 were:

JI-CP-2H Industrial Accident
JI-CP-5C1 Agent Filters Exhaust Fan Failure
JI-CP-5C2 CON Air Handler
JI-CP-5C3 LAB Agent Filter Exhaust Fan Failure

Corrective Action

A revised Contingency Plan was formally submitted to EPA as a Class 2 modification on 26 June 1992. The plan reflected current emergency response procedures being used on-site and required by 40 CFR 264 Subpart D. EPA approval of this modification request was received on 14 October 1992.

I. WASTE MANAGEMENT RELATED NONCOMPLIANCES

1. Overflow of Waste Collection Container at the BRA

Requirement

Wastes generated from JACADS processes are regulated by 40 CFR Part 262 regulations. Regulation 40 CFR 262.34 establishes management practices which must be complied with when collecting wastes. Applicable regulations include 40 CFR Part 265 Subpart I regulations pertaining to the use and management of containers. The overflow of hazardous wastes from a collection container is prohibited by 40 CFR Part 265 Subpart I regulations.

Noncompliance

A 55-gallon waste collection drum under BRA Baghouse Module 2 was overflowing with liquid wastes on the evening of 5 March 1992. After the drum was emptied on 6 March 1992, drippings of waste from the Module 2 outlet spilled on top of the drum and down the container side causing a buildup of salt waste in the secondary containment area.

Description

The full/overflowing drum of liquid brine was emptied after Operations was notified of the overflow on 6 March 1992. The BRA area was subsequently inspected on 7 March 1992. The drum under Baghouse Module 2 was observed to be misaligned causing liquid brine to drip onto the top and down the outside of the drum. As a result, an accumulation of waste salt occurred in the secondary containment area.

Corrective Action

The full/overflowing waste collection drum was expeditiously emptied into the BRA sump for reprocessing on 6 March 1992. Misalignment of the waste collection drum under Module 2 continued until it was corrected on 22 March 1992. Guidance was provided to project personnel regarding the need to prevent overflows from waste collection containers.

2. Exceedance of 90-day Storage Period for Brine Waste

Requirement

RCRA Regulation 40 CFR 262.34(b) allows for storage of hazardous waste at a facility for no more than 90 days unless the facility has a permit for permanent storage of the waste.

Attachment D-1 of the Permit allows for the temporary storage of hazardous brine in isotainers for no more than 90 days before it must be re-introduced into the BRA system for processing or manifested for off-site disposal as a hazardous waste.

Noncompliance

Hazardous brine was stored in Isotainer 170015-2 for 133 days (2 November 1991 - 14 March 1992) before being returned to the BRA for processing.

Description

A delay in processing the brine stored in Isotainer 170015-2, with an accumulation date of 2 November 1991, was initially encountered while the U.S. Army decided on how to properly dispose of the brine. The establishment of an "official" policy for potentially agent contaminated liquid wastes was required before the waste could be either disposed off-site or treated in the BRA. This was because the isotainer had previously been used for the temporary storage of GB spent decontamination solution. Consequently, the issue on whether the brine was a 3X agent contaminated waste arose. Subsequent testing to verify no agent was present was conducted. The 90-day time period for the storage of hazardous brines expired (31 January 1992) before the U.S. Army decided the brine could be reintroduced back into the BRA for processing. An additional delay was caused by operational and maintenance (heat exchanger plates) problems at the BRA after approval to process the brine was given to the OMC.

Corrective Action

With establishment of a policy on how to handle this type of brine by the U.S. Army, extended delays while waiting for approval to process should not occur. Also, it is not anticipated that further storage of SDS in isotainers will be needed; and if needed, prior approval of EPA will have to be received. The EPA allowed the one time storage of SDS because of an extended shutdown of the LIC system during the Summer 1991 for changeover from GB to VX operations and was verbally notified of brine storage in Isotainer 170015-2 on 13 November 1991.

A 30 day extension was prepared by the OMC and sent to the Army on 8 February 1992. This request was not transmitted to the EPA due to the fact that the waste was already eight (8) days in noncompliance. However, EPA was verbally notified of this situation. The brine was transferred back into the BRA on 14 March 1992 and subsequently processed.

3. Exceedance of 90-day Storage Period for DFS Residue Waste

Requirement

RCRA Regulation 40 CFR 262.34 (b) allows for storage of hazardous waste at a facility for only up to 90-days unless the facility has a permit for permanent storage of the waste.

Noncompliance

Seven (7) hazardous waste containers, flexible intermediate bulk containers (FIBCs), of DFS residue were stored for 103 days, from 7 November 1991 to 18 February 1992, before being shipped off-island for disposal at the Chem-Waste Management Kettleman Hills Facility.

Description

On 20 January 1992, during a pre-transport inspection of a 40-foot conex, it was observed that the conex had been damaged during transport from its 90-day storage area to the Main Wharf. The Matson Transportation Company Representative informed both Army and OMC personnel that the conex would not be accepted on the Matson barge for shipment off Johnston Island because of its weakened structure.

It was not possible to transfer all the FIBCs, 22 total in the conex, because there were no other 40-foot conexes available and the only available conexes were 20-footers which logistically could not be loaded with the FIBCs in time to meet the shipping schedule of the Matson barge.

Corrective Action

On 24 February 1992, the Army requested a temporary 30-day extension from the EPA. However, no reply was received. The FIBCs were shipped on the next scheduled Matson barge (18 February 1992).

4. Hazardous Waste (1X) Storage in the MDB

Requirements

40 CFR 262.34(a) allows a generator to accumulate hazardous waste on-site for 90 days or less without a permit or interim status, provided that (1) the waste is placed in containers and managed in accordance with container and inspection requirements of Part 265, Subpart I; (2) the accumulation date is clearly marked on each container; and (3) each container is clearly marked with the words, "Hazardous Waste".

40 CFR 262.34(c) allows a generator to accumulate as much as 55 gallons of hazardous waste in containers at or near any point of generation without a permit, interim status and compliance with 40 CFR 262.34(a) provided the container is in good condition (40 CFR 265.171), compatible with the waste (40 CFR 265.172), always closed [40 CFR 265.173(a)] and marked with the words, "Hazardous Waste" or with other words that identify the waste. Waste in excess of 55 gallons must comply with the requirements of 40 CFR 262.34(a) within three days.

Since the wastes generated from maintenance, operational and agent-changeover activities in the toxic areas of the Munitions Demilitarization Building (MDB) are potentially agent-contaminated, they were designated hazardous due to the RCRA characteristic of reactivity (D003). As such, accumulation of the agent-contaminated wastes must comply with 40 CFR 262.34(a) or (c).

Noncompliance

VX and HD agent-contaminated wastes including demilitarization protective ensemble (DPE) suits, rubber hoses and miscellaneous cleanup wastes were accumulated in the toxic areas of the MDB in excess of 55 gallons. The areas involved included the Munitions Processing Bay (MPB), DPE Support Area (DSA) airlocks, Toxic Maintenance Area (TMA) and the Explosive Containment Room B (ECR-B). Many of the waste containers (plastic bags) in the MPB were not marked with the words "Hazardous Waste" or other words identifying the waste. Accumulation dates were not marked on a majority of the bags. Inspections were not performed.

Description

Approximately one hundred thirty four (134) 55-gallon drums of agent contaminated waste associated with the M55 VX Rocket campaign and approximately two hundred seventy (270) 55-gallon drums of agent contaminated waste associated with the HD campaign were involved. The agent contaminated waste was generated from maintenance, operational and agent-changeover activities in the toxic areas of the MDB.

Personnel safety considerations contributed to the accumulation of these wastes. Personnel involved in these activities work in air-supplied DPE to protect themselves from agent contamination. The physical and mental stress placed on personnel in DPE makes simple tasks difficult and difficult tasks nearly impossible. Accomplishing the scope of work in the toxic areas, therefore, is greatly limited by the amount of time allowed for personnel in DPE. In addition, the physical layout of the toxic areas in the MDB inhibit easy access for personnel in DPE from the MBP to the TMA Drop Area. The MPB and the DSA (entry and exit for the toxic areas) are on the second floor and the TMA is on the first floor.

The TMA-C area could have been used as a 90-day hazardous waste storage area per 40 CFR 262.34 generator regulations for a limited quantity of drums. Also the RCRA permit allows the storage of agent-contaminated wastes in specific areas within the Red Hat Area. However, none of the areas were available for the JACADS HD-contaminated wastes, which represent the bulk of the agent-contaminated wastes in the MDB during the latter portion of 1992. Monitoring and handling logistics had to be worked out before the VX wastes could be moved to permitted storage. The majority of the VX waste was moved to permanent permitted storage in June 1992.

Corrective Actions

Agent contaminated waste generated during the first half of 1992 was containerized and transported for storage in Bunker 897, located in the Red Hat Area, during the first part of June 1992. Bunker 897 is permitted for the permanent storage of these wastes.

During the latter portion of 1992, a focused effort was made to review all procedures associated with the accumulation and processing of agent-contaminated wastes. Some procedures were found to be complicated or inconsistent with other procedures or present practices. Efforts are currently under way to revise and streamline the procedures which will expedite safe waste processing.

On 10 December 1992, OMC submitted a formal request to the U.S. Army for a suitable long term storage facility for JACADS HD-contaminated wastes which will meet both RCRA and Army Surety requirements. Subsequently, Building 852 was designated to be used as a long term storage facility for the wastes. However, before the building could be used, details related to space availability, timeframe, security, accessibility, air monitoring, and inspection needed to be worked out. On 15 January 1993, a Class 1 permit modification notice was submitted to the EPA by the U.S. Army detailing inspection/storage changes required to ensure the agent contaminated wastes were not leaking. Written concurrence of this modification was provided by EPA on 25 January 1993. All excess HD contaminated waste was moved to Building 852 by the first week of February 1993.

The U.S. Army is also pursuing regulatory resolutions to the hazardous waste accumulation problems in the MDB. Consideration is being given to permit the MDB, or specific parts of the building, as a container storage area (regulated under 40 CFR 264 Subpart I) or a containment building (regulated under 40 CFR 264 Subpart DD). Additionally, clarification through the EPA is being sought on the management of satellite accumulation areas.

5. BRA Container Storage/Loading Area Inspection Records

Requirements

Permit Section F-2b requires weekly inspections of containers of waste to satisfy RCRA Regulation 40 CFR 264.174 for hazardous waste storage areas. Since this area is also used for loading and unloading of wastes, it must be inspected on a daily basis per Regulation 40 CFR 264.15(b)(4).

Noncompliance

From 1 November 1992 to 25 January 1993, inspections of the drums of waste stored in the BRA were not performed.

Description

During the latter part of October 1992, a revision of JACADS inspection checklists was made in order to comply with revised Attachment F inspection requirements. The inspection checklist was inadvertently overlooked which resulted in a new checklist not being generated.

Corrective Action

The missed inspections were discovered on 23 January 1993. The daily inspection requirement of the BRA Container Storage/Loading Area was added to an inspection sheet on 25 January 1993. The inspections were initiated on 26 January 1993.

J. EPA NOTIFICATION RELATED NONCOMPLIANCES

1. Facility Class 1 Modification Notices

Requirement

RCRA Regulation 40 CFR 270.42 requires the permittee to formally notify the EPA Regional Administrator of certain facility changes. For a minor facility change, Class 1 modification, notification is required within seven calendar days after the change has been put into effect, with the exception of a few types of changes which require prior EPA approval. Major changes (Class 2 or 3 Modifications) require a public comment period and prior EPA approval before implementation.

Noncompliance

Twenty (20) Class 1 modifications, listed below, were implemented at the JACADS facility without proper notification to EPA within the required 7-day time period.

Description

The below Class 1 modifications to the facility were not reported in a timely manner during 1992. Some of these modifications were implemented in 1991 and were not reported until 1992 and some were just discovered. The majority of the late notifications occurred during the first half of 1992 (12 of 20 modifications).

Mod. #	Modification	Date Implemented	Date Submitted to EPA
1	Snoop test for DPE suits	prior to 1992	12 Feb 92
2	Agent strainer waste feed to DFS	prior to 1992	18 Feb 92
3	DFS demister prefilter removal	prior to 1992	28 Feb 92
4	Antifoam emulsion in PAS	prior to 1992	28 Feb 92
5	Location of decon stations	prior to 1992	3 Mar 92
6	Volumetric flow rate monitoring for SDS feed into the LIC	prior to 1992	19 Mar 92
7	MPF Afterburner dimensions	prior to 1992	22 Apr 92
8	VX ACAMS replicate calibration	prior to 1992	22 Apr 92
9	DFS water wash system	26 Jan 92	28 Feb 92
10	LIC demister prefilter removal	10 Feb 92	22 Apr 92
11	DFS agent feed interlock	16 Feb 92	29 May 92
12	Use of different types of Decon Solutions	31 Mar 92	19 May 92
13	Leaker campaign	31 Mar 92	17 Jul 92
14	Use of "Whistle" as a decon	1 May 92	20 Jul 92
15	Remove prefilters from MPF PAS	3 Aug 92	18 Dec 92
16	Rewiring of MPF thermocouples	19 Aug 92	14 Sep 92
17	BRA Corrective Action Mods	19 Aug 92	14 Sep 92
18	Use of up to 30% NAOH in main PASs	19 Aug 92	27 Oct 92
19	MPF Airlock ACAMS monitoring	21 Aug 92	14 Sep 92
20	HD ACAMS replicate calibration	13 Oct 92	25 Nov 92

Corrective Action

Analysis of the root cause indicates that a variety of circumstances were contributing to this noncompliance including existing engineering procedures for implementing facility changes, communication methods, review and approval requirements, and awareness of specific permit requirements. The need for the streamlining of Army permit modification notice approval and submittal is still apparent.

To ensure that actual facility configuration and operation is accurately reflected in the Permit, Environmental personnel continue to review and update the permit. Project permit modification procedures and approval requirements currently are being evaluated in order to remedy the late notifications. The RCRA requirements for documenting/notifying EPA of facility changes has been emphasized to project management.

The permit modification process was modified during 1992 to transfer the responsibility for updating and maintaining the permit from an off-island contractor to the OMC. Revision 7 of the RCRA Permit, prepared in the Spring of 1990, is being revised to incorporate over one hundred changes to the permit since it was last updated. The updated permit, includes all modifications approved by EPA up to 8 January 1993, is scheduled to be submitted to EPA in March 1993. This will facilitate project personnel in identifying new modifications.

2. Planned Change Notices

Requirement

Permit Condition I.D.10 requires the Permittee give notice to the EPA Region IX Administrator as soon as possible of any planned physical alterations or additions to the facility.

Noncompliance

Notices of planned facility changes for the first half of 1992 were not submitted to EPA in a timely manner.

Description

Three Planned Change Notices were prepared by the OMC and transmitted to U.S. Army for submittal to EPA during the first half of 1992. These notices were:

a. OMC Letter (JSU-K-4320 Rev.1) dated 17 January 1992,

b. OMC Letter (JSU-K-4732) dated 26 March 1992, which updated the 17 January 1992 Notice, and

c. OMC Letter (JSU-K-4736) dated 3 April 1992, which reported planned changes for the Dunnage Incinerator (DUN)

Corrective Action

The OMC has emphasized that these notifications are a requirement of the JACADS RCRA Permit and need to be submitted in a timely manner. A Planned Change Notice covering changes to the facility during the second half of 1992 was submitted to the Army on 1 August 1992. Additionally, an updated list of planned changes to the DUN was submitted to the Army on 30 July 1992. These two sets of planned changes were submitted by the Army to the EPA on 12 August 1992.

3. Annual Noncompliance Report

Requirement

Permit Condition I.D.16 requires all instances of noncompliance during the previous year be reported in an annual report. The report is required to be submitted to the EPA Regional Administrator no later than 1 March of the following year. RCRA Regulation 40 CFR 270.30(l)(5) allows a 14 day extension beyond the scheduled due date.

Noncompliance

The JACADS Annual Noncompliance Report for 1991 was submitted to the EPA Regional Administrator on 31 March 1992, thirty days after the due date.

Description

Compilation of noncompliances occurring in 1991 required extensive investigation in order to prepare an accurate report. Accordingly, after numerous revisions and rewrites, the final report was not transmitted by the OMC to the Army until 26 February 1992. Extensive review by the Army resulted in the report not being submitted to the EPA Regional Administrator until 31 March 1992.

Corrective Action

To expedite preparation of the annual report, the Army contracted the OMC to prepare monthly noncompliance reports for internal distribution/review commencing in the Spring of 1992. Under this contract, Monthly "Potential" Noncompliance Reports for June-December 1992 were prepared and submitted to the Army. Reports summarizing May/April and January/February/March 1992 potential noncompliances were also prepared and submitted to the Army. These reports were used in the preparation of the 1992 Annual Noncompliance Report. It should be noted that even though an extensive effort was made in 1992 to prepare for the 1992 Annual Noncompliance Report submittal, this report was still not completed and forwarded to the Army until 1 March 1993.

The project's experience in preparing an accurate and thorough monthly report is that it takes approximately 30 days from the end of the previous month to complete. Generally, before a Monthly Potential Noncompliance Report is generated, internal audits are conducted with a follow up report prepared for internal dissemination. Once a monthly report is drafted, it is circulated to management for internal review. Due to the detail of investigation in generating the monthly reports, and also to the holidays at the end of the year, the December 1992 Monthly Report was not completed until 12 February 1993. Major modifications made to the Permit (Attachment F, Module V, the Training Section and Contingency Plan as well as other sections) also contributed to the tardiness in submission of the 1992 Annual Report.

To alleviate this problem in the future, the OMC Environmental Department is evaluating the methodology used in preparation of the monthly reports in order to expedite completion of Annual Noncompliance Reports. In addition, the Project Management will evaluate means to expedite the Army review and approval phase once the report is submitted by the OMC.

K. MISCELLANEOUS NONCOMPLIANCES

1. Personnel Training

Requirement

RCRA Regulation 40 CFR 264.16 specifies the minimum requirements for a facility training program. Attachment G of JACADS Part B Permit details the requirements for training at JACADS to satisfy the requirements of 40 CFR 264.16. Attachment G, Section G-2 required employees to meet every 3 months for refresher reviews and updates of the training program or whenever process changes occur.

Noncompliance

Complying with the details of Attachment G, such as maintaining job titles and duties and detailed descriptions of individual courses in the permit, was not fully accomplished. Additionally, employees did not meet every 3 months for refresher reviews and updates.

Description

Attachment G contained details over and above the requirements of 40 CFR 264.16. The OMC Training Department became overwhelmed with details regarding course changes and job titles and duties, which were in a state of flux as the facility went into an operational mode. The OMC strongly felt that the requirement for refresher reviews and training updates every 3 months was impractical and beyond the intent of RCRA regulations.

Corrective Action

A completely revised Attachment G Training Section, reflecting the current training program, was formally submitted to the EPA Regional Administrator on 6 December 1991, requesting it be approved as a Class 1 modification. The EPA denied this request on 27 April 1992 because it qualified as a Class 2 modification and it did not contain enough details about the training program.

Subsequently, a more detailed Attachment G Training Section, reflecting the current training program, was prepared by the OMC and submitted as a Class 2 Modification to EPA on 26 June 1992. EPA approval of this modification request was received on 14 October 1992.

2. Prevention of Runoff from the Residue Handling Area

Requirement

RCRA Regulation 40 CFR 270.14(b)(8)(ii) requires the prevention of runoff from hazardous waste handling areas to other areas of the facility or to the environment. A facility is defined in 40 CFR 260.10 as "All contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste".

To satisfy the requirements of RCRA Regulation 40 CFR 270.14(b)(8)(ii), Section F-4b of the permit requires that runoff from hazardous waste handling areas be prevented by facility design.

Noncompliance

There are no structures at the Residue Handling Area (RHA) waste handling area to prevent the run off of precipitation during rain storms.

Description

The RHA area is used as a waste handling area for transferring DFS munitions waste contained in waste collection bins to flexible intermediate bulk containers (FIBCs) before being placed in conexes for transport off-island. The RHA qualifies as a waste handling area since DFS residue from the processing of M55 rockets is characteristically hazardous due to high levels of lead and cadmium. Currently there are no structures at the RHA to prevent run off during precipitation events.

Corrective Action

40 CFR 270(b)(8)(ii) allows the use of procedures and equipment in addition to structures to satisfy the intent of this regulation. Therefore, a permit modification will be prepared and submitted to EPA detailing the preventive measures taken to prevent contamination of rain water runoff during waste handling activities. These measures will be requested to substitute for physical structures.

3. Hazardous Waste Storage Tank Overfill Prevention Controls

Requirement

RCRA Regulation 40 CFR 264.194(b)(2) requires appropriate controls and practices to prevent spills and overflows from hazardous waste storage tanks and their containment systems. Section D-7 of the Permit specifies the design and management criteria for the agent, SDS and brine storage tanks required to satisfy this regulation.

Noncompliance

JACADS hazardous waste storage tank overfill controls do not comply with the requirements of Section D-7. These tanks were not operated in a mode to automatically switch to a second tank or stop transfer operations upon activation of high alarms. The high high alarm levels on SDS and brine storage tanks were exceeded several times during 1992.

Description

Section D-7 specifies the design/management criteria for operation of the SDS, agent and brine storage tanks. The criteria is:

* To initiate pumping into a tank, the tank cannot be at high level, this level is not specified by the Permit but must be preset.

* If a tank is at or above high level, then no additional waste may be added.

* When a tank is filled to the high alarm level, the system automatically switches to a second tank unless it also indicates a high level.

* If the second tank is at high level, the inlet valves to all tanks are automatically closed and pumping operations are terminated.

* If the switching of tanks does not take place, a high high level alarm annunciates in the control room to alert the operator to switch tanks in the manual mode.

* If the above operations are unsuccessful and the tank level continues to rise, a high high high level will be reached which will cause automatic closure of the inlet valve, automatic pump stoppage and annunciation of an alarm.

* The permit also specifies that the furnaces are not to be started up if the brine storage tanks are at high level.

There is a discrepancy in the RCRA Permit regarding high high high level alarms on the tanks. The agent, SDS and brine storage tanks are not designed to have high high high level alarms. Moreover, the Permit lists the instrument controls which each storage tank must have on Page D-7-17 and high high high instrumentation is not listed.

Currently, JACADS tanks are manually controlled. The agent, SDS and brine storage tanks high level alarms are set to activate at 75%, 82% and 80%, respectively. Due to limited brine and SDS storage capacity, the brine and SDS storage tanks are routinely filled to high high alarm levels before the transfer to a second storage tank is initiated.

The processing of wastes in the incinerators is not stopped when high levels of brine in the BRA storage tanks are reached. This is because isotainers are used for extra storage capacity due to unreliable BRA operations. A permit modification was approved by EPA to allow storage of brines in isotainers for up to 90 days in 1991.

The high high level alarm on each SDS tank is connected to a fixed point switch which automatically closes the inlet valve to the tank. On three occasions, between 11 August 1992 and 3 September 1992, SDS levels exceeded the high high level of the tanks. These exceedances are attributed to malfunction of the high high level instrumentation. No overflows from the SDS storage tanks occurred during this time.

High high level alarms on the brine storage tanks, including the Acid Wash Tank while it was being used for the storage of brines, were also exceeded during 1992. On several occasions, these exceedances resulted in apparent overflows from the BRA storage tanks. No releases outside of secondary containment occurred in any of the overflow incidents and the brine collected within the containment area was pumped back into the tanks. These overflows are attributed to malfunctions of the high high level switch in conjunction with a possible leak in a shutoff inlet valve.

Corrective Action

A permit modification request is being developed by the OMC to have the tank section of the permit revised to reflect actual tank design. The permit request will be prepared to satisfy the intent of Regulation 40 CFR 264.194(b)(2).

In the meantime, the existing tank transmitters and controls will continued to be used. When a high level is reached either the filling operation will be switched to another tank or transfer operations into the tank will be halted.

THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

1993 ANNUAL REPORT OF RCRA NONCOMPLIANCES

5 MARCH 1994

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JACADS 1993 ANNUAL RCRA NONCOMPLIANCE REPORT

INTRODUCTION

BACKGROUND

The U.S. Army, Program Manager for Chemical Demilitarization (PMCD), operates the Johnston Atoll Chemical Agent Disposal System (JACADS) facility under EPA I.D. Number TTO-570-090-001. The JACADS mission and facility is described in the JACADS Resource Conservation and Recovery Act (RCRA) Part B Permit dated 15 May 1991, its associated attachments and permit modifications approved by the Environmental Protection Agency (EPA) since this date.

JACADS is operated by the Operations and Maintenance Contractor (OMC), United Engineers & Constructors, Inc. under the direction of the Program Manager, Department of the Army.

JACADS ENVIRONMENTAL COMPLIANCE COMMITMENT

The Army and its contractors remain committed to operating the JACADS facility in a manner that is fully compliant with its permits, and protective of human health and safety, and the environment. The 1993 Noncompliance Report shares the results of our activity towards establishing our goal of an exemplary compliance program.

Noncompliances do exist at JACADS; however, most are related to administrative procedures and documentation issues which continue to be fine tuned and clarified. Others can be attributed to interpretational discrepancies and inconsistencies in the permit itself, which make compliance difficult. These are also being addressed and clarified in an ongoing effort. The JACADS program has developed and implemented corrective actions for each identified noncompliance. In addition, it is responsive to resolving all identified regulatory compliance issues that arise during the course of the extensive audit/inspection program.

INTERPRETATION OF NONCOMPLIANCE

As stated earlier, the Army and its OMC are committed to operating the JACADS facility in compliance with all environmental and other regulatory requirements. A proactive regulatory compliance attitude exists at the JACADS facility. Several levels of oversight, inspection and auditing are conducted routinely. These range from day-to-day activities performed by the PMCD and OMC Environmental on-island staffs to the less frequent, but comprehensive audits conducted by PMCD Headquarters, EPA and other entities.

The philosophy is to aggressively identify a problem or potential problem and to immediately implement an appropriate corrective action. With this proactive attitude and the willingness to seek out problem areas, it is also more likely that potential problem areas will be discovered before they become noncompliance issues. The number of identified noncompliances is proportional to the extent of effort expended in administering an effective environmental compliance program. At JACADS this effort is substantial.

NONCOMPLIANCE REPORTING

JACADS RCRA Part B Permit Condition I.D.16 requires submission of an Annual Noncompliance Report discussing all identified instances of noncompliance with the permit. This report is the fourth Annual Report of RCRA Noncompliance representing the period from 1 January 1993 through 31 December 1993.

The format of this report addresses each specific noncompliance item, or area of noncompliance in four parts.

1. Requirement: States the specific regulatory citation and/or permit requirement and cites the permit reference.

2. Noncompliance: Discusses the nature of the noncompliance.

3. Description: Presents a summary of the circumstances contributing to the noncompliance, any mitigating circumstances, etc.

4. Corrective Action: Describes corrective action(s) that has been or will be implemented to respond to the noncompliance and to minimize reoccurrence.

For ease of review, the reported noncompliances are grouped into 11 general categories, either by system or nature. Each type of noncompliance refers to a permit condition or regulatory requirement and may report more than one incident of noncompliance. Please note that, caution was taken to ensure a noncompliance was not reported more than once even though it may relate to several general categories.

SUMMARY

The Noncompliance Report for 1993 represents a substantial effort on behalf of PMCD/OMC to dedicate professional resources toward the specific goal of identifying potential instances of noncompliance that may have occurred. Just as importantly, this effort is focused toward correcting any deficiencies in the project and creating a strong project attitude and sensitivity toward compliance issues. Numerous significant improvements have been made over the course of the year. The majority of noncompliance issues are investigated and resolved in an expeditious manner whenever feasible. Permit modifications are processed when clarification or new issues are discovered. The Environmental Corrective Action Program, implemented in December 1992, has been successful in tracking and documenting final disposition of environmental issues.

The project's management and work force has grown in its sensitivity and responsiveness to resolving compliance problems in an expeditious manner. The year 1993 ended with a truly significant overall improvement in compliance awareness and should be an excellent foundation for an even more improved 1994.

A. ATTACHMENT F RELATED NONCOMPLIANCES

1. ATTACHMENT F INSPECTIONS - NOT PERFORMED

Requirement

Attachment F of the JACADS RCRA Permit, Revision 7, prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health.

Noncompliance

The following Attachment F inspections were not performed:

a. Semi-annual internal inspection of the Acid Storage Tank (HCL-TANK-101).

b. The weekly electronic response check of the BRA Triboflow Detector for nine weeks between January and July when processing brines.

c. Daily visual inspection of the LIC Furnace for leaks, spills, fugitive emissions and signs of tampering for 14 days in November.

d. Daily HVAC system local visual inspection for corrosion and pressure readings from January through March.

Description

a. The semi-annual inspection of the Acid Storage Tank (HCL-TANK-101) which involves inspecting the interior of the tank for cracks or deterioration could not be performed due to the size of the manway to the tank, precluding safe entry into the tank by Maintenance personnel.

b. The weekly Triboflow electronic response check was set up to be performed for the first day of each week. However, this day did not always correspond to when the BRA was operating and consequently the electronic check was not conducted during the remainder of the week. This resulted in the electronic response check not being performed for nine weeks when the BRA was operational and processing brines during the first half of 1993.

c. Daily visual inspection of the LIC furnace was normally conducted using CCTV cameras before November 1993. Furnace inspection observations in October 1993 indicated adequate coverage was not possible using the cameras; several major components of the furnace could not be visually observed using the cameras. This was attributed to the cameras being relocated and their associated mirrors being removed. Consequently, physical entries into the furnace room were initiated in November 1993.

d. The daily HVAC system inspection requiring a visual inspection for evidence of corrosion and a check for pressure differential both locally and at the Control Room was not completed for the local checks.

Corrective Action

a. To safely complete the annual internal shell inspection for the Acid Storage Tank, the tank manway had to be enlarged. An Engineering Change Proposal (ECP) was prepared by the OMC and received technical approval from the Army on 4 May 1993. However, funding to complete the project was not approved by PMCD until 13 September 1993. Concurrently, the OMC requested the Acid Storage Wash System be abandoned in place. The Army approved this request on 11 September 1993. Acid in the tank was removed on 18/19 December 1993. The rinsate solution in the tank after the acid was removed registered 0.2 pH; the tank was 9% full. The rinsate was removed from the tank on 27 January 1994 and the piping was blinded on 28 January to prevent introducing anything else into the tank. A permit modification will be submitted to the EPA to remove this tank from the Attachment F inspection schedule.

b. An interim Standing Operating Procedure (SOP) change form was generated to require that the electronic check be scheduled and performed when the BRA is in operation. This change required the inspection be completed on the first day the processing of brines occurs in a week. The permanent SOP was also revised to reflect this change.

c. A proposal to purchase additional cameras has been submitted by the OMC to the Army to ensure adequate coverage of the furnace. Until the cameras are procured and installed, the inspections are being conducted by physical entries into the LIC furnace room on a daily basis.

d. A Class 2 modification request was submitted to EPA on 11 January 1993 requesting this inspection requirement be revised. The modification changes the requirement from a local inspection criteria to monitoring the gauges from the Control Room. The gauges are continuously monitored by the Programmable Logic Controller (PLC). The PLC alarms the operator advisor screen and sends an alarm indicator to the alarm printer and to the Process Data Acquisition Recording (PDAR) System whenever pressures are out of range. The modification was approved by the EPA on 31 March 1993.

2. ATTACHMENT F INSPECTIONS - PERFORMED LATE

Requirement

Attachment F of the JACADS RCRA Permit, Revision 7, prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health.

Noncompliance

The following items were not performed within the time requirements specified by the Attachment F inspection schedule:

a. Annual function checks of the following 23 tank level switches:

24-LSHH-244	24-LSHH-313	24-LSLL-24
24-LSLL-294	24-LSHH-32	24-LSHH-511
24-LSLL-381	24-LSLL-315	24-LSHH-114
24-LSHH-377	24-LSLL-99	24-LSL-337
24-LSHH-146	24-LSLL-411	24-LSHH-163
24-LSLL-246	24-LSLL-144	24-LSHH-292
24-LSLL-513	24-LSLL-162	24-LSH-210
24-LSHL-333	24-LSHH-394	

b. Annual functional testing of 15-LSH-15 and 15-LSH-37 level switches on the CDS tanks.

c. Semi-annual testing of the Emergency Generator by initiating a loss of power test to the plant.

d. Semi-annual functional testing of the following four MPF high temperature safety shutdown thermocouples:

14-TE-71A 14-TE-72A 14-TE-79A 14-TE-87A

e. Semi-annual inspections to check the operability of following three fire panels:

EHM-FAPL-404 LIC-FAPL-403 COR-FAPL-408

f. Quarterly operability checks of the following four instruments:

Tag No.	System	Function
51-LT-100	ACS Tank 107	Level Transmitter
24-FIT-248	MPF Scrubber	Clean Liquor Flowmeter
11-LSHH-111	ACS-TANK-102	High High Level Switch
11-LSHH-91	ACS-TANK-101	High High Level Switch

g. Quarterly function checks of the following 18 tank level switches:

11-LSHH-18	23-LSHH-06	26-LSHH-18	11-LSHH-28
24-LSHH-331	26-LSHH-30	11-LSHH-62	15-LSHH-16
26-LSH-02	26-LSHH-77	11-LSHH-91	15-LSHH-38
26-LSH-13	27-LSH-01	11-LSHH-111	23-LSHH-02
26-LSH-56	27-LSHH-04		

Description

a. The original list of tank level switches requiring Attachment F inspections was incomplete. Additional level switches, 23 switches, were identified as requiring functional checks. These switches were identified after the OMC received a clarification letter from the EPA on 10 February 1993 requiring the functional testing of additional level switches.

Based on the 10 February 1993 EPA letter, preventive maintenance procedures (PMEs 606-A and 607-A) were finalized in July 1993 for the 23 level switches. The functional checks were completed on the below listed dates:

Tag No.	Completion Date	Tag No.	Completion Date
24-LSHH-244	9 Sep 93	24-LSHH-313	13 Aug 93
24-LSLL-24	11 Aug 93	24-LSLL-294	9 Sep 93
24-LSHH-32	11 Aug 93	24-LSLL-381	25 Aug 93
24-LSLL-315	13 Aug 93	24-LSHH-114	27 Sep 93
24-LSHH-377	13 Aug 93	24-LSLL-99	27 Sep 93
24-LSHH-146	27 Aug 93	24-LSLL-411	27 Sep 93
24-LSHH-163	27 Sep 93	24-LSLL-246	9 Sep 93
24-LSLL-144	27 Sep 93	24-LSHH-292	9 Sep 93
24-LSLL-513	9 Sep 93	24-LSLL-162	27 Sep 93
24-LSHH-394	27 Sep 93	24-LSH-210	31 Aug 93
24-LSHL-333	31 Aug 93	24-LSL-337	31 Aug 93
24-LSHH-511	19 Oct 93		

b. The OMC Maintenance Department gives a higher priority to instruments and equipment that are designated as RCRA required. These two level switches were not identified as RCRA required inspections until 8 June 1993 and accordingly had not received priority scheduling. The annual functional tests of the level switches were due on 14 April 1993. Functional testing (per PME-083) of 15-LSH-37 and 15-LSH-15 was completed on 12 June 1993 and 15 June 1993, respectively.

c. The semi-annual loss of power test is required to verify the Emergency Generator automatically restarts and assumes critical loads. This test had been conducted on 10 January 1993. The next test was therefore due on 10 July 1993; however, it was delayed due to the lack of a formal procedure to conduct the test. SOP JI-0000-M-031 Emergency Generator Startup, Operation and Shutdown was revised to incorporate and procedurize this test. The test was successfully conducted on 13 September 1993.

d. A preventive maintenance procedure did not exist to perform a functional test on the MPF high temperature safety shutdown thermocouples on a semi-annual basis. A procedure change form was generated on 20 May 1993 to include the additional MPF High Temperature Safety Shutdown thermocouples into a preventive maintenance procedure. On 9 June 1993, a Quarterly Preventive Maintenance Procedure (PMI-301) was issued which incorporated the functional testing of the MPF high safety shutdown thermocouples. Work orders were issued on 28 May 1993 to perform the functional tests on the respective thermocouples. The work orders were completed on 26 and 27 July 1993.

e. The semi-annual inspections of the fire alarms and smoke detectors for operability were required to be completed by the overdue date specified below which included a 10-day allowance period beyond the original due date. The date the inspections were completed are listed adjacent to the overdue dates.

Tag No.	Overdue Date	Completion Date
EHM-FAPL-404	7 Mar 93	13 Mar 93
EHM-FAPL-403	11 Mar 93	16 Mar 93
COR-FAPL-408	22 Oct 93	6 Nov 93

f. The three listed quarterly operability checks were not completed until over seven days after their due dates. The transmitter tag numbers, date the checks became overdue (seven days after the due date), and date each check was completed are listed below:

Tag No.	Overdue Date	Completion Date
51-LT-100	10 Mar 93	23 Mar 93
24-FIT-248	28 Aug 93	31 Aug 93
11-LSHH-111	31 Aug 93	2 Sep 93
11-LSHH-91	31 Aug 93	2 Sep 93

g. Periodic functional testing of the 18 level switches had previously not been conducted since a preventive maintenance procedure had not been developed for the switches. In March 1993, PME-985Q was issued for quarterly testing of the switches. The date each switch was tested is listed below.

Level Switch	Date Completed	Level Switch	Date Completed
11-LSHH-38	17 May 1993	11-LSHH-16	17 May 1993
11-LSHH-111	18 May 1993	11-LSHH-91	18 May 1993
11-LSHH-62	18 May 1993	11-LSHH-28	18 May 1993
11-LSHH-18	18 May 1993	23-LSHH-02	1 Jun 1993
23-LSHH-06	1 Jun 1993	24-LSHH-331	5 Jun 1993
26-LSH-02	15 Jun 1993	26-LSH-13	15 Jun 1993
26-LSHH-18	14 Jun 1993	26-LSHH-30	14 Jun 1993
26-LSHH-77	11 Jun 1993	27-LSH-01	15 Jun 1993
27-LSHH-04	15 Jun 1993	26-LSH-56	21 Jun 1993

Corrective Action

The importance of completing Attachment F inspections has been emphasized to management. It should be noted that better scheduling and coordination of activities between the Operations and Maintenance Departments has significantly improved the timely completion of Attachment F inspections performed by Maintenance. Additionally, the review of equipment maintenance lists and the preparation of new operational inspection checksheets has significantly reduced the number of late inspections.

3. ATTACHMENT F INSPECTIONS - INADEQUATE DOCUMENTATION

Requirement

Attachment F of the JACADS RCRA Permit, Revision 7, prescribes a series of daily, weekly, monthly and semi-annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health. RCRA regulation 264.15(d) requires that these inspections be kept in a log or summary and that they include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

Noncompliance

a. It is believed that the following daily inspections were performed but were not properly documented:

Date (s)	Inspection Description	Discrepancy
3 & 24 Jan	BRA Boiler System inspections for Boiler 101.	Either the inspections were not performed or the inspection sheet was lost.
3, 6 & 7 May	BRA Boiler System inspections for Boiler 102.	The back sides of the daily inspection sheets were not filled out.
6, 8 & 7 10 May	BRA evaporator for leaks & spills and sumps and containment areas for accumulation of liquids.	The inspection sheets were only partially filled out.
26 May	Emergency Generator inspections.	Inspection sheet is missing for 26 May 1993. There were two checksheets for 25 May.

Date (s)	Inspection Description	Discrepancy
9, 24, & 29 May	DFS Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost.
9, 24 & 29 May	DFS blast door	Either the inspections were not performed or the inspection sheets were lost.
9 & 31 May	LIC Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost.
5, 6 & 9 May	MPF Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost. Two daily checksheets had no dates on them which could account for two of the three missing checksheets.
12 May	DUN Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost. Two daily checksheets were dated 11 May which could account for the missing inspection sheet.
1, 2 & 5 June	BRA inspections.	Only one of the five areas requiring inspection on the daily sheet was completed.
19 & 29 June	DFS Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost. Two daily checksheet were dated 20 June which could account for one of the missing checksheets.
20 June	LIC Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost. Two daily checksheet were dated 20 June which could account for the missing inspection sheet.
19 & 29 June	MPF Combustion System visual inspections for leaks, spills, fugitive emissions and signs of tampering.	Either the inspections were not performed or the inspection sheets were lost. Two daily checksheets were dated 20 June and two daily checksheets were dated 28 June which could account for the missing checksheets.

b. The daily inspection of the first aid kit was not documented as being performed until 18 March 1993. Initially, individual first aid kits were located throughout the JACADS facility. This made inventory and inspection of the kits very difficult. The kits were removed and a centralized first aid kit was created in the DPE support area (DSA) during the latter portion of 1991. An inspection of the kit was required to be conducted daily and inventory conducted if the kit was used; however, the daily inspection of the first aid kit was not documented. Documentation of the daily inspections are now being made on the DSA Daily Inspection Checksheets.

c. The following weekly inspections were either not properly documented or performed:

Date (s)	Inspection Description	Discrepancy
Week of 16-22 May	DUN PAS inspection.	Either the inspection sheet was not performed or the inspection sheet was lost.
Week of 13-19 June	HVAC inspection for exercising the control room dampers and visual inspection for corrosion.	Either the inspection sheet was not performed or the inspection sheet was lost.

d. The annual/semi-annual inspection of the protective clothing (masks and TAP gear) were being performed at the frequency required; however, the time of the inspection was not being documented on the inspection form until July. The inspections of the masks and TAP gear are performed almost continuously throughout the year to ensure that the gear is inspected at the required frequencies. These inspections are documented on forms TP-030 and TP-043 which contain all the information required for the inspection except for the time of the inspection.

The nature of the inspections did not readily lend itself to recording the time that each article of clothing or mask is inspected. Nonetheless, time columns were added to the necessary inspection sheets to satisfy the requirements of 40 CFR 264.15(d) in July 1993.

e. The checksheets for the flame safeguard sensors on the LIC, MPF, DFS, DUN and BRA Boilers did not contain adequate information to meet inspection requirements during the first portion of 1993. An audit of the inspection checksheets for the flame safeguard sensors revealed that the checksheets only indicated whether or not the flame sensors readiness were acceptable. The checksheets did not identify the flame safeguard sensors to be checked, did not give the inspector criteria to determine if the reading was acceptable and did not provide a space for documenting corrective action as required in 40 CFR 264.15(d).

Operations initiated Standing Operating Procedure (SOP) change forms to have the individual flame safeguard sensors identified on the Operator Reading Sheets in the SOP, as well as provide criteria for its acceptability and space for corrective actions. All of the SOPs were revised to include the necessary information by October 1993.

Corrective Action

The importance of completing Attachment F inspections was emphasized to Operations and Management. A thorough review of how inspections are conducted and documented was undertaken to minimize recurrence of missing inspection checksheets. The review resulted in extensive revisions to the inspection sheets. It should be noted that the number of discrepancies found on the inspection sheets dramatically reduced during the second half of the year. This decrease coincided with a shift in responsibilities for maintaining the records.

4. ATTACHMENT F INSPECTIONS - SUMMARY OF CORRECTIVE ACTIONS

Requirement

Federal Regulation 40 CFR 264.15(d) and Section F-2d of Attachment F of the RCRA Permit require facility inspections to be recorded in an inspection log or summary. The log or summary must document the date, time of the inspection, the inspector's name, a notation of the observation made and the date and nature of any repairs or other remedial actions.

Noncompliance

Documentation of when corrective actions were being closed out was not completed to meet the requirements of 40 CFR 264.15(d) and the permit during the first portion of 1993. The date and nature of repairs, or other remedial action, to observations noted on Attachment F inspection sheets were not routinely being recorded on the inspection forms or in an inspection log or summary until May 1993. Compared to the entire population of Attachment F inspections completed during this time, a relatively small number of inspections, estimated at less than 1%, were affected by this omission.

Description

The Attachment F inspections are recorded on a variety of forms. The majority of the inspections, approximately 110 out of 201 different types, are documented on inspection sheets specifically designed for recording Attachment F inspections. These forms are used by Operations Department personnel. The Operations Department also performs 11 additional types of Attachment F inspections that are recorded either in Logbooks, on SOP reading sheets or on Limiting Conditions of Operation (LCO) forms. The Maintenance Department performs approximately 73 types of Attachment F inspections. The specific work order used to complete an inspection serves as the inspection log. The remaining inspections are performed by either the Laboratory, the Chemical Support Facility or the Engineering Department.

By sheer number, the majority of observations noted are made by Operation personnel. However, there was no systematic method for documenting corrective actions that were taken in response to noted observations. The inspections that Operations is responsible for are conducted by two groups within the Department. Outside Operators and Control Room Operators conduct the majority of inspections related to process equipment and readiness of the plant to respond to emergencies. A separate group, OECD personnel, is assigned to perform waste management related inspections.

Corrective Action

A system for documenting corrective actions noted by the Outside Operators and Control Room Operators was initiated on 26 December 1992. The system required that a work order be filled out for any noted observation and that the work order number be recorded on the inspection sheet. When the work order was closed, the completion date was to be entered on the inspection sheet. A copy of the work order was also required to be filed in the Area Supervisor Office and reviewed weekly to ensure that corrective actions are completed. This system of keeping a copy of the work order issued to correct the inspection deficiency never fully worked properly. This was partially due to the inaccessibility of the inspection records.

A new system was initiated on 5 May 1993 to have the Maintenance OPMIST program generate a list of RCRA-designated work orders on a weekly basis. OPMIST is the software program used to track and schedule maintenance of plant equipment/instrumentation. Using this list, Operations is able to track the progress of the work orders used to correct deficiencies noted from the RCRA inspection checksheets and the list provides a summary of the corrective actions as required in the federal regulations.

The importance of complete and accurate documentation of Attachment F inspections was routinely emphasized to facility personnel by OMC management during 1993.

B. MAINTENANCE RELATED NONCOMPLIANCES

1. CALIBRATION OF MONITORING INSTRUMENTATION

Requirement

Permit Conditions V.F.4. and V.F.5. require various DFS, LIC and MPF monitoring equipment to be calibrated and maintained at specified frequencies during Post Trial Burn operations. In addition, quarterly calibration of BRA Flowmeter 23-FQI-103 was stipulated as a condition by EPA when the BRA modification package was approved in 1991.

Noncompliance

Ten calibrations of instruments which monitor parameters identified in the above Permit conditions were not completed within the time frame allowed to satisfy monthly and quarterly calibration requirements.

Description

Per OMC guidelines, a five day period for monthly calibrations and a seven day period for quarterly calibrations are allowed after the regularly scheduled preventive maintenance (PM) due date before instruments are considered overdue for reporting purposes. The following calibrations were not completed by their PM overdue dates:

Tag No.	Instrument	Overdue date	Date Completed
23-FIQ-103	BRA brine flowmeter	1 Apr 93	2 Apr 93
24-AIT-224B	MPF PAS pH transmitter	17 Jul 93	26 Jul 93
24-AIT-116A	LIC PAS pH transmitter	15 Aug 93	25 Aug 93
24-AIT-116B	LIC PAS pH transmitter	15 Aug 93	25 Aug 93
24-AIT-91A	LIC PAS pH transmitter	9 Aug 93	11 Aug 93
24-AIT-224A	MPF PAS pH transmitter	22 Aug 93	25 Aug 93
24-AIT-224B	MPF PAS pH transmitter	22 Aug 93	25 Aug 93
24-AIT-247A	MPF PAS pH transmitter	23 Aug 93	25 Aug 93
24-AIT-224B	MPF PAS pH transmitter	8 Nov 93	23 Nov 93
24-AIT-07A	DFS PAS pH transmitter	3 Dec 93	28 Dec 93

Corrective Action

Several actions were taken by the OMC in 1993 to ensure RCRA required calibrations are performed on time. The list of instruments and equipment identifying what items must be inspected/calibrated according to the JACADS RCRA Permit was thoroughly reviewed and updated by the Environmental Compliance Department. A program was initiated to identify all maintenance related problems with RCRA required instruments and equipment as "RCRA" on work orders so they can be tracked by the OPMIST program. OPMIST is the software program used to track and schedule maintenance of plant equipment/instrumentation. Additionally, the OPMIST program was modified to identify all RCRA permit required instruments and equipment as high priority for completion. Operations also developed a database to notify them of scheduled preventive maintenance on a three-month advanced basis to help ensure PMs can be completed before they are due.

2. MAIN PAS pH CONTROL

Requirement

Permit Condition V.F.2.h. requires that during hazardous waste processing, the pH of the clean liquor and the scrubber brine shall be no less than seven units. Permit Condition V.F.5. requires the pH be monitored and recorded every 30 minutes while processing hazardous waste. Permit Condition V.A. requires the Permittee to construct and maintain the incinerators in accordance with the attached plans and specifications. Permit Condition I.D.6. requires the Permittee to operate and maintain all systems of treatment and control to achieve compliance with all conditions of the permit.

Noncompliance

pH controls/instrumentation on the DFS, LIC and MPF Pollution Abatement Systems (PASs) were not being maintained and operated in accordance with their original design. Rather than being operated under automatic control, the pH systems are operated in manual with Laboratory samples being taken twice a day to verify pH of the scrubber effluents since the pH monitoring equipment has not been reliable. Note that data from the PAS pH analyzers are monitored and recorded by PDAR at a frequency of at least once a minute to meet Permit Condition V.F.5. even though the values may not be accurate. As described below, the permit pH limits were routinely exceeded during the first portion of 1993.

Description

The DFS, LIC, and MPF PASs have two pH meters for monitoring the pH of the scrubber sump effluent and two pH meters for monitoring the scrubber clean liquor effluent. The meters and their associated transmitters connect to the facility Program Logic Controller (PLC) to automatically add caustic to the scrubber brine or clean liquor to control pH.

Three separate studies, reports published in May, June and July 1993, document that the current pH control system is not optimized and cannot be operated in its current configuration to automatically control the pH of the PAS brines. These studies report that, rather than being operated in the automatic mode, the pH systems are operated in the manual mode due to deficiencies in the control system, improper design of the equipment and inadequate maintenance and calibration of the sensors/controls. Specific instances of noncompliance are:

a. During hazardous waste processing in the LIC, the pH of the scrubber clean liquor flow, measured by 24-AT-116A, dropped below 7.0 from 0900 hrs to 1030 hrs and from 1100 hrs to 1630 hrs on 12 May 1993.

b. During hazardous waste processing in the MPF, PDAR data shows the pH of the scrubber brine dropped below 7.0 for the following times in May:

Tag No.	Date	Processing Time
24-AIT-224A	4 May	1530 - 1830 Hrs
	6 May	1730 - 1900 Hrs
	7 May	0900 - 1600 Hrs
	8 May	1000 - 1400, 1530 - 1700 Hrs
	13 May	0900 - 1030, 2200 - 2330 Hrs
	14 May	0700, 1100 - 1400, 1500-1600 Hrs
	19 May	0400 - 1500 Hrs
24-AIT-224B	21 May	1730 - 1930 Hrs
	22 May	0200 - 0300, 0445 - 0515 Hrs
		0800 - 0945, 1200 - 1300 Hrs
	25 May	1030, 1500-2000 Hrs
	26 May	2000, 2400 Hrs
	27 May	0000 - 0130 Hrs

c. On 25 May 1993, during MPF hazardous waste processing operations, the MPF scrubber brine was sampled and analyzed by the JACADS laboratory for pH. Results from samples taken at 1730 hrs and 1920 hrs indicated that the pH of the brine was 2.2 and 2.3 pH units, respectively. Upon investigation, it was revealed that PLC was set up to control the system based on the higher of the two meters.

On 25 May 1993 at approximately 1730 hrs, MPF PAS Scrubber Brine pH Meters 24-AIT-224A and 24-AIT-224B were sending signals of 9.4 pH and 3.5 pH units, respectively. However, due to the control logic, the PLC was controlling the system based on the input from the high pH meter (24-AIT-224A). The laboratory analysis verified that the wrong pH reading was being used. A similar situation occurred at 1920 hours on 25 May 1993.

d. On 13 August 1993 the processing of two loads of agent-contaminated wastes occurred while the MPF scrubber sump pH meters were not functioning. At 2054 hours on 13 August, a load of agent contaminated waste was in Zone 2 of the MPF when pH meter 24-AIT-224A failed and 24-AIT-224B was off line for repairs. At 2118 and 2228, additional loads of agent contaminated waste were introduced into Zone 1 of the MPF while maintenance was being performed on the pH meters.

Corrective Action

The OMC performed two of the above mentioned studies and submitted written reports to PMCD on 29 June 1993 and 3 July 1993. The third study was performed by SAIC, an independent contractor, with the report being submitted to PMCD on 13 May 1993. A meeting was held by PMCD at their offices in Edgewood, Maryland in September 1993 where it was determined a comprehensive study of the overall PAS systems would be conducted. As an interim measure to verify the accuracy of the pH monitors, samples from each operating PAS are being taken twice a day and analyzed by the laboratory to verify pH of the scrubber effluents. The pH sensors are also being calibrated daily. Additionally, short-term solutions are currently being investigated by the OMC Engineering Department.

A program change was initiated on 28 May 1993, to modify the PLC program to take the lower of the two pH readings for all pH controls systems for the PAS. This change was implemented on 19 June 1993.

The pH meters which were not functioning on 13 August 1993 were repaired and placed back into service at 2348 hours the same day. Brine samples were taken and analyzed on an hourly frequency during this event.

3. CLEANOUT OF PAS VESSELS

Requirement

RCRA regulation 40 CFR 264.196(a) and (b)(2) requires that the owner or operator immediately stop the flow of hazardous waste into the secondary containment system upon discovery. The primary function of the secondary containment is to contain unplanned releases, such as spills and leaks, and is not for primary containment use. In addition, waste released to the secondary containment system must be removed within 24 hours or as timely as is possible.

Noncompliance

a. On 1 February 1993, MPF PAS ducting between the quench tower and the venturi scrubber was cleaned out. During the cleaning process, waste was allowed to fall into the Main PAS secondary containment area. Failure to ensure the collection container was monitored to prevent discharge into the secondary containment area was not taken.

b. On 2/3 April 1993, hazardous waste brine was flushed from the Deactivation Furnace System (DFS) Quench Tower Discharge Duct into the secondary containment system. Failure to ensure the collection container was monitored to prevent discharge into the secondary containment area was not taken.

c. On 15 April 1993, the DUN Quench Tower system was flushed with process water into the DUN PAS secondary containment area.

Description

a. On 1 February 1993, MPF PAS ducting between the quench tower and the venturi scrubber was cleaned out. During the cleaning process, waste was allowed to fall into the Main PAS secondary containment area. This occurred when the ducting was being sprayed with a hose to loosen pieces of precipitated salt from the inside of the ducting. The resultant waste

fell into the MPF Quench Tower and then discharged through open lines at the bottom of the vessel. A 55-gallon drum was located on the bottom floor of the PAS; however, the quantity of the waste far exceeded the drum capacity plus the majority of the discharged waste missed the drum. As a result of the discharge, the Main PAS sump exceeded its capacity, back flowing into the secondary containment area. The contents of the sump, including the overflow, was later pumped into an isotainer and the PAS was thoroughly washed down to removed the cleanout waste. None of the spilled waste was released outside of the Main PAS secondary containment area.

b. On 2/3 April 1993, an elbow on the DFS Quench Bottom Discharge Duct was removed and the manway to the Quench Tower crossover duct was opened. A drum was placed under the discharge duct and a plastic bag was taped to the discharge line. The plastic bag was then extended to the inside of the drum. A water hose and a high pressure hose was then used to dislodge the accumulated salt. The generated liquid from the operation fell into the drum rapidly, overfilled it and accumulated in the secondary containment area. The level in the secondary containment area was about an inch deep. The Main PAS sump clogged due to the thick brine that was generated preventing the transfer of the waste to the BRA for treatment. The resultant waste was removed and the PAS thoroughly cleaned. None of the spilled waste was released outside of the Main PAS secondary containment area.

c. While maintenance work was being performed on the DUN Quench Tower on 15 April 1993, the system was flushed with process water which was allowed to fall into the secondary containment area. The water was then pumped to the main PAS secondary containment sump for use as make-up water.

Corrective Action

Management was advised that hazardous waste secondary containment areas must only be used for secondary containment purposes per RCRA regulations. Specifically, the use of the main PAS sump for the transfer of waste from maintenance cleanout activities and the storage of any type of waste in the main PAS sump or secondary containment area is not allowed.

After these incidents, maintenance procedures related to the cleaning or removal of wastes from the facility PASs were evaluated and revised to help ensure releases to secondary containment areas or to the environment are prevented to the maximum extent possible. Emphasis was placed on cleaning out PAS piping and vessels in a controlled and manageable manner. Additionally, the OMC Engineering Department investigated ways to reduce the formation of salt deposits.

4. GENERAL MAINTENANCE AND OPERATION

Requirement

Permit Condition I.D.6. requires the permittee to properly operate and maintain the facility at all times; Permit Condition II.A. requires the facility to be properly maintained and operated to minimize the possibility of hazardous waste releases; and Permit Condition V.A. requires the permittee to maintain the facility in accordance with the plans and specifications of the permit and its attachments.

Noncompliance

a. Valve 24-LV-115, used to control makeup water to the LIC Scrubber, did not function properly during the first two months of 1993.

b. On 4 and 8 June 1993, the BRA was operated with pressurized condensate being directed to the BRA Building containment area since the steam traps to both drum dryers were not functioning properly. Consequently, the nonhazardous condensate mixed with salt and brine wastes underneath the dryers resulting in greater waste generation.

c. The laboratory wastewater tank system, LAB-TANK-701, was not maintained in a proper operational condition in 1993.

Description

a. Valve 24-LV-115 controls the amount of makeup water fed to the LIC PAS via the scrubber sump. This valve did not function properly during the last quarter of 1992 (this was reported in the 1992 Annual Noncompliance Report) and the first two months of 1993. In order to provide sufficient makeup water, the high high temperature emergency spray nozzle on the quench tower was used more frequently to manually introduce makeup water into the PAS system.

b. On 4 and 8 June 1993, the processing of brines was being conducted while the steam traps which condense high pressure steam from the drum dryers were not functioning properly. To allow processing to continue, the steam trap bypass valves were opened and pressurized condensate was allowed to flow continuously into the drum dryer containment area. The discharged condensate then cross-contaminated with salt and brines leaking from the drum dryers to create additional waste and contamination in the general area. The resultant waste was transferred into the brine storage tanks, utilizing the BRA Building sump pump, for storage and eventual treatment in the BRA.

c. An investigation of the use and management of LAB-TANK-701 during the latter portion of December 1993 revealed the tank level transmitter and the tank transfer pump were not functional. The level transmitter was covered by a preventive maintenance procedure for the tank system (PME-314-M); however, the transfer pump was not included in the procedure. Additionally, the RCRA permit and facility drawings identify that the contents of LAB-TANK-701 are transferred to the SDS storage tanks for subsequent treatment in the Liquid Incinerator (LIC). However, although the tank system was used, there was no documentation on when and how the contents of the tank were disposed of.

Corrective Action

a. A new valve was procured and installed on the LIC PAS. The work order was completed on 1 March 1993. The importance of completing unscheduled maintenance items in a timely manner was emphasized to Management.

b. Operations was advised that bypassing existing equipment controls in order to continue to process was a RCRA noncompliance. The steam traps were repaired to prevent the need to discharge directly to the secondary containment area.

c. The need to ensure that the contents of LAB-TANK-701 are managed in accordance with the RCRA permit has been stressed to both the Laboratory and the Operations Department. Work Orders 94-2586 and 94-2587 were issued in January 1994 to repair the tank equipment. Also, an Engineering Assistance Form (REACT 0926) was initiated in January 1994 to have the entire tank system evaluated and a P&ID prepared for the system.

C. LOSS OF OPERATION DATA/RECORDS

1. DFS MISCELLANEOUS WASTE FEED

Requirement

Module V, Section V.F.5 requires the monitoring and recording of various DFS parameters at a frequency of at least once a minute during the processing of hazardous waste.

Noncompliance

During the processing of bulk solid waste in the DFS, the RCRA furnace operating parameters specified in Module V, Section V.F.5 were not recorded at the specified frequency for the following feed times:

23 January 1993 (2040 and 2106 hours)
27 January 1993 (1030 hours)
28 January 1993 (0215 hours)
29 January 1993 (0537, 2158 and 2230 hours)
1 February 1993 (1539 hours)
2 February 1993 (0030, 0125, 1245 and 1820 hours)

Description

As part of the corrective measures that resulted from the fire in the Explosive Containment Room (ECR), a daily cleanup of the ECR is required after processing has terminated for the day. During the cleanup, several pounds of solid waste contaminated with explosive waste are introduced into the DFS manually. Since the waste was manually introduced, no program was established to activate the recording system (PDAR) for the furnace operating parameters; therefore, no data was recorded at the required frequency stated in the Permit. Even though operational parameters were not being recorded, the programming Logic Controller (PLC) was functioning and would have alarmed if any operating conditions were exceeded.

Corrective Action

A procedure change was made on 4 February 1993 to initiate PDAR when miscellaneous waste is fed into the DFS. The procedure change should ensure that operating parameters are recorded to prevent recurrence of this event.

The importance of recording operating parameters imposed by the RCRA Permit and of the requirement to document the waste description, the date and time of the feed and the weight of the waste for waste feed accountability has been emphasized to Operations personnel.

2. **INCINERATOR OPERATING DATA - LOSS OF PDAR**

Requirement

Section V.F.5 of Module V requires that specific parameters be recorded at certain frequencies (usually once per minute) during hazardous waste processing in the furnace systems.

Noncompliance

During hazardous waste processing operations, the Process Data Acquisition and Recording System (PDAR) did not record operating data for approximately a total of 119 minutes for the LIC, 35 minutes for the MPF and 40 minutes for the DFS during 1993. RCRA operating parameters requiring once per minute recording frequency were not recorded during these periods.

Description

The primary cause of data loss was due to PDAR losing communication with the Network Manager (NWM). The periods of data loss were apparently due to noise in the communication network. As a result of the loss of communication, certain RCRA operating parameters that required a once per minute recording frequency were not recorded during seventeen (17) periods of hazardous waste operations. Times that data was lost while processing hazardous waste in the LIC, MPF and DFS are listed in the below table.

Date	LIC	MPF	DFS
04 Feb 93	----------	08:23:27 - 08:32:42	----------
04 Feb 93	----------	08:33:42 - 08:36:03	----------
08 May 93	----------	----------	06:35:09 - 06:42:28
08 May 93	----------	----------	06:43:28 - 06:54:32
12 May 93	----------	----------	00:49:17 - 01:04:17
01 Jun 93	14:31:01 - 14:36:04	----------	----------
02 Nov 93	22:12:31 - 22:18:54	----------	----------
08 Dec 93	----------	06:12:20 - 06:24:51	----------
12 Dec 93	13:39:33 - 14:27:29	----------	----------
12 Dec 93	18:22:54 - 18:34:13	----------	----------
12 Dec 93	19:14:28 - 19:44:22	----------	----------
30 Dec 93	00:02:10 - 00:08:00	00:02:07 - 00:08:00	00:02:20 - 00:08:00
30 Dec 93	16:00:02 - 16:03:18	----------	----------
31 Dec 93	08:10:55 - 08:15:09	08:10:55 - 08:15:09	----------

Corrective Action

The requirement to record RCRA parameters on a once per minute frequency was emphasized to facility personnel along with the requirement to stop feed in the event of a loss of communication between the Network Manager (NWM) and PDAR.

During the first portion of 1993, the Control Room Operators were not aware of the loss of PDAR because the Programmable Logic Controller (PLC) was functioning and there was no alarm to indicate data was not being sent to PDAR. On investigation of this problem, it was found that PDAR had a communications problem with the NWM. A program was developed to alarm at the furnace consoles in order to inform the Control Room Operators to stop the feed to the furnace systems whenever the PDAR system is not recording data. Until the program was thoroughly reviewed and approved, the Control Room and Data Acquisition personnel carefully monitored the PDAR System to prevent a recurrence. The alarm program was approved and installed on 1 April 1993.

Although the alarm was installed in April, the loss of PDAR reoccurred several time during the year. The PDAR loss in May 1993 was attributed to the PDAR disk system not collecting data even though data was received by the system. The feasibility of installing an alarm on the disk system to alert control room operators of the loss of PDAR was investigated but deemed not possible. The problem appeared to be due to communication interferences causing the system to malfunction.

The OMC is continuing to evaluate the problems and is investigating alternatives for upgrading the PDAR system. Additionally, the requirement to record RCRA parameters on a once per minute frequency has been re-emphasized to facility personnel along with the requirement to stop feed in the event of a loss of communication between the NWM and PDAR of greater than 60 seconds. The standing operating procedures (SOPs) are also being modified to ensure hazardous waste operations are halted when PDAR is lost for greater than 60 seconds.

3. BRA BRINE FEED RATE - LOSS OF PDAR

Requirement

The JACADS RCRA Permit requires the brine flow rate, measured as a rolling one hour average (ROHA), be recorded at a frequency of at least once a minute on the PDAR System whenever hazardous brines are processed.

Noncompliance

On 23 November 1993 and 12, 14 and 31 December 1993, brines were processed in the Brine Reduction Area (BRA) a total of approximately 15 hours and 41 minutes without brine feed rate readings being recorded on PDAR.

Description

The data loss was due to several problems associated with the PDAR system. Data losses on 23 November and 12 and 31 December were caused by PDAR losing communication with the Network Manager (NWM). These losses were apparently due to noise in the communication network. The loss of data on 14 December 1993 resulted when the PDAR system was taken down for troubleshooting after an inordinate number of problems occurred causing the loss of communications. The PDAR system would not reboot on 14 December and it required several days of troubleshooting before the system came back on line on 17 December 1993. Consequently, PDAR operating data for the entire day of 14 December was lost. As a result of these problems, the ROHA brine feed rate was not recorded for the following time periods:

Date	Times	Documentation
23 Nov 93	13:54:32 - 14:08:31	PDAR Report
12 Dec 93	13:39:33 - 15:02:40	PDAR Report
14 Dec 93	00:00 - 14:18	Operating Logs (No PDAR Report was recovered for 14 December 1993.)
31 Dec 93	08:10:55 - 08:15:09	PDAR Report

It should be noted that the system does not have an automatic waste feed cut-off for brine feed to the drum dryers.

Corrective Action

The OMC is currently evaluating alternatives for upgrading the PDAR system. Additionally, the requirement to record the brine feed rate, as a ROHA, to the evaporator on a once per minute frequency has been emphasized to facility personnel along with the requirement to stop feed in the event of a loss of communication for greater than 60 seconds between the NWM and PDAR.

4. RECORDING OF BRA BRINE FEED RATES

Requirement

RCRA Permit Condition I.D.12 for operation of the BRA requires the brine feed rate to the evaporator to be monitored and recorded on the Process Data Acquisition Recording (PDAR) System as a rolling one hour average. This requirement was a part of the Corrective Action Plan approved by the EPA on 31 August 1992.

Noncompliance

Hazardous brines were processed through the drum dryers during 18 days in March, April and May without PDAR readings from the flowmeter (23-FQI-103) upstream of the evaporator being recorded. In place of PDAR readings, hourly totalizer readings were manually recorded.

Description

The transmission card for transmitting the brine flow rate, as measured by 23-FQI-103, to the Programmable Logic Controller (PLC) for recording on PDAR was damaged on 25 March 1993. A replacement for the damaged card was not available on island. Consequently, in place of the PDAR readings, local 23-FQI-103 totalizer readings were being recorded by the BRA Operators on an hourly basis.

Corrective Action

Hourly drum dryer readings were initiated on 26 March 1993 and were continued until communications were re-established with PDAR on 25 May 1993.

5. BRA TRIBOFLOW CHARTS

Requirement

Permit Condition I.9.(b) requires records of all monitoring information, including all strip chart recordings, be kept for a period of at least three years from the date of the records.

Noncompliance

The weekly circular charts for the BRA Triboflow detector for the months of January, February and the first two weeks of March 1993 were lost.

Description

During the quarterly BRA audit conducted in March 1993, it was discovered that the weekly circular charts to show the operation of the Triboflow detector could not be located.

Corrective Action

Throughout March and April 1993, the OMC made a concerted effort to locate the missing circular charts but were unable to find them. The loss of these records was recorded in the Operating Record and the importance of records custody is being addressed in an updated version of the "Management of Required and Operating Records Procedure" (PP-19) which is currently being finalized.

D. OPERATIONAL RELATED NONCOMPLIANCES

1. EXCEEDENCE OF MPF FEED RATES

Requirement

Section V.F.1 of Module V specifies the Metal Parts Furnace (MPF) maximum feed rate of absorbents contaminated with GB, VX, HD, SDS is 100 lbs/hr and the maximum feed rate of miscellaneous metal items contaminated with GB, VX, HD, SDS is 500 lbs/hr.

Noncompliance

The absorbent feed rate of 100 lbs/hr was exceeded three times and the miscellaneous metal feed rate of 500 lbs/hr was exceeded three times.

Description

On 11 August 1993, 722.5 lbs of miscellaneous metal items contaminated with HD was introduced to the MPF in a one hour period. This occurred due to three separate loads of HD contaminated metal weighing 300, 65.5 and 357 lbs, being introduced into the MPF at 0254, 0329 and 0348 hours, respectively. No RCRA operating parameters were exceeded during the processing of the three loads of HD contaminated metal.

On 14 August 1993, 90 percent of the work force was evacuated due to an impending hurricane ("Keoni") which was forecasted to pass very near Johnston Atoll. In preparation for the storm, PMCD directed that as a precautionary measure, all agent-contaminated waste (agent sludge from the bottom of the tanks, sample jars containing residual agent, and metal canisters containing HD in absorbent material) be processed in the MPF as soon as possible to prevent the spreading of agent contamination which could occur if the hurricane struck and inflicted substantial damage.

At 2332 hours on 14 August and at 0022 hours and 0300 hours on 15 August the agent contaminated absorbent waste feed limit of 100 lbs/hr was exceeded when 222.7, 248.7 and 265.4 pounds, respectively, of HD-contaminated absorbent waste were introduced into the MPF. The first two loads were introduced within 50 minutes of each other giving an accumulated total of 471.4 pounds of agent (HD) contaminated absorbent waste fed to the MPF at 0022 hours on 15 August 1993. Although the maximum hourly feed rate was exceeded, the waste was processed in the furnace for an extended period of time. All of the loads had a residence time of at least 2½ hours. No RCRA operating parameters were exceeded during the processing of the three loads of HD contaminated absorbent waste. Again, there were precautionary measures in view of the impending hurricane.

On 23 August 1993, 216 pounds and 499 pounds of miscellaneous metal items contaminated with HD were introduced to the MPF 1643 hours and 1723 hours, respectively. This amounted to a total of 715 pounds of HD contaminated metal introduced into the MPF within 40 minutes. At 1810 hours another load of agent contaminated metal was introduced into the MPF. This load weighed 279 pounds which again caused the one hour feed rate to be exceeded, calculates to 778 pounds of feed within 47 minutes. No RCRA operating parameters were exceeded during the processing of the three loads of HD contaminated metal waste.

Corrective Action

In light of the potential disaster which could have occurred (August 14-15) if the hurricane struck Johnston Atoll, it was determined that the incineration of the agent-contaminated waste was required to prevent any human safety hazards due to the spreading of contamination. Therefore, the OMC, under PMCD direction, processed the above agent contaminated waste.

For the exceedances which occurred on 11 and 23 August 1993, it was stressed to the Operations personnel the necessity to adhere to standing operating procedures which limit the amount of waste allowed to be fed into the MPF. The procedures were also modified to clarify the waste feed limitations and to provide a clearer method for tracking the amounts of waste fed into the MPF.

2. TIME DELAY ON DFS PRIMARY CHAMBER PRESSURE STOP FEED

Requirement

Permit Condition V.F.3. requires fugitive emissions from the combustion zone of the Deactivation Furnace (DFS) to be controlled by maintaining a sealed system and by operating under negative pressure. Permit Condition V.F.8. prohibits hazardous waste feed into the DFS when operating conditions exceed the limits specified in the permit.

Noncompliance

The DFS Primary Chamber pressure high-high alarm was activated to stop feed only if the pressure exceeded -0.1 inches of water column for more than 20 seconds. This allowed the DFS to operate at positive pressure for up to 20 seconds before stopping feed.

Description

The DFS control program was baselined during systemization to allow a 20-second delay on the automatic waste feed cutoff activation when the kiln pressure exceeded -0.1 inches of water column. The purpose of the delay was to allow momentary pressure swings which occur when ignition of energetic waste is processed in the furnace. In addition, the time delay allows sufficient time to ensure all energetic waste located on the lower flapper gate is fed into the DFS. This also minimizes the potential for exposing energetic components to high temperatures at the lower flapper gate.

Corrective Action

The 20 second delay was removed from the control program on 15 June 1993. Since it was felt that the time delay was required to operate the DFS in a continuous mode, a Class 2 permit modification request was submitted to the EPA on 1 September 1993. However, after further investigation revealed the delay would not be needed, the modification request was withdrawn by PMCD.

3. DFS SCRUBBER LOW DIFFERENTIAL PRESSURE

Requirement

Permit Condition V.F.2.e. requires the differential pressure across the DFS Scrubber to be maintained at no less than one inch water column while processing hazardous waste. Permit Condition I.D.6. requires facility treatment and control systems to be properly operated and maintained to achieve compliance with all conditions of the permit.

Noncompliance

On 23 June 1993, the differential pressure across the DFS Scrubber dropped below 1.0 inches of water column 42 times while processing hazardous waste. Processing continued throughout the day without correction of cause for the low differential pressures.

Description

The problem of low differential pressure in the DFS Scrubber first surfaced on 22 June 1993 when the differential pressure dropped below 1.0 inches of water column on two occasions, automatic stop feed was initiated on each occurrence. On 23 June 1993, DFS processing commenced at 0710 and continued until 2140 hours with stop feeds throughout the day. During approximately 14 hours of processing, the scrubber differential pressure dropped below 1.0 inches water column 42 times with the automatic stop feed system engaging each time the pressure decreased to 1.0 inches. Operations attempted to identify the cause of the low pressure differential to no avail. On 24 June 1993, processing recommenced with two stop feeds occurring due to low differential pressure across the DFS Scrubber before the kiln shroud air flow was increased to 40% at 0619 hours, to maintain the pressure drop greater than 1.0 inches of water column. At 1631 hours on 25 June 1993, the differential pressure gauge sensing lines were purged with high pressure air and the differential pressure readings returned to normal. On 26 June 1993, the scrubber vessel was opened up and some rearrangement of the packed bed was observed. It was speculated that this also could have caused a slightly lower pressure differential across the packed bed scrubber. However, the main cause of the low readings was attributed to faulty sensor measurements due to cloggage of the instrument lines.

Corrective Action

It was emphasized to Operations and Management that the processing of hazardous waste must cease if RCRA operational limits are exceeded excessively. Additionally, the troubleshooting of system problems must not occur while hazardous wastes are being processed. The OMC extensively evaluated the occurrence of stop feeds at RCRA operating limits to determine how to reduce RCRA exceedances and automatic stop feeds. Written guidance on EPA's policy on automatic stop feeds was also distributed to OMC Management.

4. EXCEEDENCE OF FEED LIMIT TO THE DFS

Requirement

The JACADS RCRA Permit, Section V.F.1 states that bulk solid waste (metal hardware, unserviceable hand tools, clean-up materials etc.) contaminated with GB,VX,HD or SDS may be fed into the Deactivation Furnace (DFS) at a rate of 30 lbs/hr during the Post-Trial Burn period.

Noncompliance

The 30 lbs/hr bulk solid waste feed rate limit to the DFS was exceeded three times during the first portion of 1993.

Description

A modification to the JACADS RCRA Permit was approved by EPA on 14 October 1992 allowing the facility to feed miscellaneous bulk waste to the DFS at a rate of 30 lbs/hr. On 1 January 1993, Operations Procedure (OP-03) was approved and implemented which described the way in which miscellaneous waste would be fed into the DFS. However, these instructions were not incorporated into the Standing Operating Procedure (SOP) for the DFS.

On 29 January 1993, 34.75 pounds of bulk solid waste were fed into the DFS during a one-hour period which exceeded the RCRA required feed rate.

At 0030 hours on 2 February 1993, 100 pounds of bulk solid waste were fed into the DFS. Also at 0125 hours on 2 February, an additional 17 pounds were fed into the furnace. This caused the feed limit of 30 lbs/hr to be exceed twice during the day since a total of 117 pounds of bulk solid waste were fed into the DFS within 55 minutes.

Corrective Action

The importance of the feed rate limitation imposed by the RCRA Permit and of the requirement to document the waste description, the date, the time of the feed, and the weight of the waste was emphasized to Operations personnel. Additionally, procedural steps in Operations Procedure, OP-03, have been incorporated into the SOP for the DFS.

5. BYPASS OF THE DUN BAGHOUSE

Requirement

RCRA Permit Condition V.D.3.g requires that the differential pressure across the baghouse to the Dunnage Incinerator (DUN) be maintained between 1" W.C. and 20" W.C. while processing hazardous waste during the system Shakedown period. Maintaining this operating requirement, in addition to all other operating requirements, signifies that all RCRA Incinerator Performance Standards are being met.

Noncompliance

On 26 March 1993, differential pressure across the DUN Baghouse dropped below 1.0" W.C. 23 times within one hour after feeding an agent (HD) contaminated dunnage load into the DUN Primary Chamber. On the next load fed into the DUN, the differential pressure across the baghouse dropped below 1.0" W.C. 21 times within the first 27 minutes after being introduced into the primary chamber. The damper remained in the open position for the final 33 minutes of dunnage processing although the Quench Tower exhaust temperatures remained greater than 300°F. At the end of the first hour of processing, at approximately 2329 hours, the baghouse bypass was reset from its permit specified value of 300°F to 290°F.

Description

On 26 March 1993 at 2236 hours, a 50-pound cardboard box with 260 pounds of 105mm ammo box dunnage and 1.0 pound of HD agent absorbed in cellulose fiber was introduced into the DUN. During the hour required to completely process the dunnage, the baghouse was bypassed 23 times. The 300°F low temperature interlock to activate the baghouse bypass was reset to 290°F at 2329 hours on 26 March 1993. On 27 March 1993 at 0036 hours, a Dunnage box with 3.5 lbs of HD agent absorbed in cellulose fiber in a metal container was introduced into the DUN. The baghouse bypass activated 21 times before the bypass damper stuck in the open position at 0103 hours. The damper remained in the open position for the final 33 minutes of dunnage processing. After this event, DUN operations were terminated until the damper was repaired and the system reprogrammed to prevent activation of the bypass on low quench tower outlet exhaust temperature.

It should be noted that on 5 November 1992, the EPA approved a Class 1 Permit Modification to the process description of the DUN that allowed the Baghouse to be bypassed if the temperature of the inlet is less than 300°F. This was implemented to prevent the blinding of the bags. During the events described above, the temperature control system on the DUN Quench Tower was quenching the exhaust gas below 300°F which caused the bypassing of the baghouse.

Corrective Action

Management was advised by the on-site Trial Burn Representative, Ms. C. Massimino, that during hazardous waste processing the baghouse must not be bypassed except for incidents when baghouse inlet temperature is greater than 475°F, since higher temperature could result in burning of the bags. In response to the above events, the following two actions were taken:

(1) The Baghouse Inlet Low Temperature Interlock to bypass the Baghouse during waste processing was removed.

(2) A Class 1 Permit Modification request was submitted on 9 August 1993 by PMCD to EPA requesting an interlock be allowed for bypassing the DUN Baghouse when the processing of hazardous wastes is not occurring, such as while idling of burning nonhazardous waste. This modification request was approved by EPA on 30 November 1993.

6. DUN AFTERBURNER TEMPERATURE

Requirement

Section V.D.6.b. of Module V to the JACADS RCRA Permit requires that the recording frequency of the Dunnage Incinerator (DUN) Afterburner temperature be recorded at a minimum of once per minute.

Noncompliance

During hazardous waste operations on 26 and 27 March 1993, the Afterburner Exhaust Flue Gas temperature (Thermocouple 07-TE-55A) was recorded once per minute rather than the Afterburner temperature data (Thermocouple 07-TE-56A).

Description

The DUN Afterburner temperature is controlled by Thermocouple 07-TE-56A. During a charge of agent-contaminated dunnage (containing 1.0 lbs. of HD) at 2236 hours on 26 March 1993, and of agent-contaminated dunnage (containing 3.0 lbs of HD) at 0036 hours on 27 March 1993, the "DUN RCRA Operating Conditions Report" generated by the Process Data Acquisition and Recording (PDAR) System, recorded the Afterburner Exhaust Flue Gas temperature from 07-TE-55A on a once-per-minute interval. The recorded data indicated that the Afterburner temperature dropped below the permitted low temperature limit of 1800°F, when in actuality the data represented the Afterburner Exhaust Flue Gas temperature. It should be noted that these were the first two loads of hazardous wastes incinerated in the DUN during the Shakedown Period and that operations were terminated for the day after the second load of hazardous waste was incinerated.

Corrective Action

Results of an investigation determined that temperatures from 07-TE-55A were being recorded. Prior to introducing any more waste into the DUN, temperatures measured by 07-TE-56A were programmed to replaced the 07-TE-55A temperatures on the PDAR Report.

7. FAILURE TO MAINTAIN NEGATIVE PRESSURE IN DUN

Requirement

Section V.D.4 of the JACADS RCRA Permit requires that during hazardous waste processing in the Dunnage Incinerator (DUN) the Permittee shall control fugitive emissions from the combustion zone of the incinerator by maintaining a sealed system and by operating under a negative pressure.

Noncompliance

On two occasions in March 1993, hazardous waste was incinerated in the DUN Furnace and feed continued even though the furnace pressure was not operating under negative pressure.

Description

On 26 March 1993 at approximately 2336 hours, a load of dunnage containing 1.0 pounds of HD was introduced into the DUN Furnace. PDAR data indicated that the maximum pressure in the primary chamber reached 0.0 inches water column (W.C.) several times between 2323 - 2337 hours.

On 27 March 1993 at approximately 0036 hours, a load of dunnage containing 3.0 pounds of HD was introduced into the DUN. PDAR data indicated that the maximum pressure in the primary chamber reached 0.0 inches W.C. several times between 0042 - 0101 hours.

Upon further investigation, it was discovered that a 50-second delay was programmed into the automatic waste feed cutoff system for the pressure in the DUN Primary Chamber. Thus, the DUN System had 50 seconds to rectify a positive pressure condition in the furnace before the automatic waste feed cutoff system activated.

Corrective Action

The 50 second delay was removed and the OMC prepared a Class 2 permit modification requesting permission to reinstall the delay. This request was modified by PMCD to decrease the sensitivity of the DUN Primary Chamber internal pressure sensing device during and immediately after charging the furnace. The permit modification was submitted to EPA by PMCD on 1 September 1993. However, EPA disapproved this request on 30 November 1993 due to concerns about fugitive emissions potentially escaping from the primary combustion chamber.

E. BRA RELATED NONCOMPLIANCES

1. EXCEEDANCE OF PERMITTED BRINE FEED RATE

Requirement

Following the BRA Compliance Test, a maximum feed rate of 665 gallons per hour (gph) was stipulated by on-site EPA representatives, Catherine Massimino (EPA Region X) and Y.J. Kim (EPA Region IX), during a Test Exit Meeting on 25 October 1993. This feed rate limitation applied to both evaporation and drying operations and evaporation only operations. The feed rate limitation, calculated as a rolling one hour average (ROHA), was placed on brine feed to the BRA at the inlet of the evaporator (Flowmeter 23-FQ-103). This flow rate limitation applies until the EPA evaluates testing results and approves a higher brine feed rate.

The RCRA permit also requires the brine flow rate signal to the evaporator, 23-FQ-103, to be transmitted to the programmable logical controller (PLC) where a ROHA feed rate is calculated and a control room adviser screen alarmed if high and high high alarms are exceeded.

Noncompliance

During October to December 1993 the maximum allowed brine feed rate (665 gph) to the BRA evaporator was exceeded on 11 occasions.

Description

The high and high high alarms for the brine feed rate were not programmed into PLC until approximately the afternoon of 26 October 1993. Brine feed to the evaporator was stopped at 1331 hours on 26 October; however, since the brine feed rate is adjusted manually, the flowrate did not fall below its maximum ROHA feed rate until 1334 hours.

The BRA Standing Operating Procedure (JI-0000-M-026) requires the brine flow rate to be halted when the high level alarm, set at 630 gph, is exceeded. To alert the BRA operators, control room personnel have to communicate by telephone or some other means since the ROHA reading and alarms are not provided for locally.

Brine feed rate, measured by 23-FQI-103, to the evaporator exceeded the maximum allowed rate of 665 gph, calculated on a ROHA basis, at the following times:

0857 - 0959, 26 October 1993	highest rate - 790 gph
1013 - 1044, 26 October 1993	highest rate - 690 gph
1254 - 1334, 26 October 1993	highest rate - 703 gph
0455 - 0501, 17 November 1993	highest rate - 681 gph
0751 - 0755, 18 November 1993	highest rate - 675 gph
1603 - 1611, 19 November 1993	highest rate - 700 gph
1814 - 1833, 21 December 1993	highest rate - 723 gph
1903 - 1904, 22 December 1993	highest rate - 667 gph
0857 - 0959, 26 December 1993	highest rate - 790 gph
1013 - 1044, 26 December 1993	highest rate - 690 gph
1254 - 1334, 26 December 1993	highest rate - 703 gph

Corrective Action

The requirement to not exceed the maximum permitted feed rate has been emphasized to operating personnel. The high and high high level alarms were programmed into the PLC at approximately 1316 hours on 26 October 1993. However, after additional exceedances occurred, it was observed that there was no local brine feed rate readout device for the ROHA in the BRA, which makes adjusting the feed rate difficult at best. The OMC is currently pursuing the installation of a local readout device to indicate the ROHA brine feed rate to the evaporator.

On 7 January 1994, the OMC received a letter from the EPA approving an increase of the brine feed rate to 1078 gph measured on a ROHA basis. This increase is expected to alleviate the frequent exceedance of the brine feed rate limit since the system will be operating at close to maximum capacity. To prevent exceedances, the high level alarm was set conservatively at 970 gph on 7 January and the need to halt brine feed at this level has been emphasized to operating personnel.

2. INTRODUCTION OF A NON-PERMITTED WASTE INTO THE BRA

Requirement

Wastes generated from JACADS processes are regulated by 40 CFR 262 regulations. Regulation 40 CFR 262.11, establishes criteria for determination of whether a waste is hazardous, and Regulation 40 CFR 262.34 establishes management practices which must be complied with when collecting wastes. Additionally, the JACADS permit identifies which wastes are allowed to be processed through the BRA system. Neutralization of corrosive waste, which involves more than elementary treatment, is required to be permitted by RCRA Regulation 40 CFR 264.1.

Noncompliance

a. On 5 February 1993, citric acid from the stainless steel vat used for cleaning the BRA evaporator plates was transferred to the BRA sump and pumped to BRA-TANK-101 for processing.

b. On 3 April 1993, citric acid was rinsed off of the BRA Evaporator plates into the BRA sump. The sump was subsequently pumped to the brine tanks for processing.

c. On 7 April 1993, citric acid was introduced to the DFS PAS and circulated through the system to dissolve salt deposits on the piping. The spent citric acid was ultimately transferred to the BRA storage tank for processing.

d. On 26 April 1993, spent citric acid from cleaning the evaporator was pumped into the brine storage tanks for processing.

e. On 23 December 1993, citric acid was introduced to the DFS PAS system and circulated through the system to dissolve salt deposits on the piping of the brine lines. Approximately 800 gallons was transferred to the BRA storage tank, BRA-TK-101, due to valve misalignment. This waste was subsequently treated in the BRA.

Description

a. During a Chemical Surety Inspection (CSI) conducted on 5 February 1993, it was discovered that the stainless steel vat containing citric acid was leaking. On 6 February 1993, reinspection of the area revealed that the vat was empty. A BRA log entry dated 5 February 1993 stated that the citric acid was emptied to the sump and then pumped to BRA-TANK-101 to be processed.

b. On 3 April 1993, evaporator plates soaked in citric acid cleaning solution were placed onto pallets in the bermed area of the BRA and rinsed down with high pressure water. The cleaning solution was pumped to the brine storage tanks for processing through the BRA.

c. On 7 April 1993, a clean-up of the DFS PAS brine piping began. Operations introduced a 6% citric acid (approximately 300 lbs.) to the DFS PAS system and circulated this solution through the brine piping. After flushing the piping with this solution, the brine and spent citric acid was pumped to a brine storage tank and processed through the BRA.

d. On 17 April 1993, an entry in the BRA logbook indicated that the evaporator had been cleaned with citric acid and that the drums used to store the spent citric acid had been rinsed. The Shift Superintendent investigated and was informed by the operators that the citric acid had been placed in a Single Pallet Only Rocket Transport (SPORT) in order to clean the evaporator plates. On 26 April 1993, the SPORT was inspected and found to be empty. Since no drums of this waste were recorded for shipping off island, the citric acid was apparently put into the BRA sump and pumped to a brine storage tank.

e. Cleaning of the PAS brine piping was conducted on 23 December 1993 under the direction of the OMC Engineering Department. After flushing the piping with the citric acid solution, valving was lined up to pump the spent citric acid to an isotainer. However, block valve 23-LV-01 was not shut, consequently approximately 800 gallons of the spent citric acid and brine was pumped to BRA-TK-101 and processed through the BRA.

Corrective Action

Guidance was provided to project personnel regarding the required collection of the citric acid in drums for analysis and off-island disposal. On 15 March 1993, a Class 1 permit modification request to allow the neutralization and treatment of the citric acid waste in the BRA system was submitted to the EPA. However, the request was denied until details of the process were submitted for EPA evaluation. The details involved in the cleaning process using citric acid at the BRA was presented to PMCD for subsequent transmittal to EPA on 17 May 1993. Based on this information, the request was determined to be a Class 2 modification. A Class 2 modification request was submitted to EPA on 17 November 1993. This request was approved by EPA on 10 February 1994.

Due to the misalignment of the valve system on 23 December 1993, the valve alignment procedure in the brine transfer standing operating procedure (SOP-099) was revised. To minimize the need to clean the Main PAS piping, the OMC is replacing the existing carbon steel piping with FRP piping on an as-needed basis, where feasible.

F. ACAMS RELATED NONCOMPLIANCES

1. SINGLE AGENT MONITORING OF THE MDB FILTER BANKS

Requirement:

The JACADS RCRA Permit, Module V, F.5.C, states that the Permittee shall monitor the agent levels in the building ventilation stack and shall monitor between the filters to detect breakthrough using the ACAMS system.

Noncompliance:

The Automatic Continuous Air Monitoring Systems (ACAMS) used at JACADS for real time agent monitoring on the MDB filter banks were set up to only monitor for the agent that was being processed at the time.

Description:

The air filter/ventilation system for the JACADS Facility consists of seven charcoal filter units. Each unit consists of a prefilter, one set of high-efficiency particulate air (HEPA) filters, six banks of activated charcoal filters and a second HEPA filter.

The monitoring system consisted of a Depot Area Air Monitoring System (DAAMS) tube array to sample for all three agents and an ACAMS to sample in between the various filter banks for the agent being processed. When the campaign changed to another type of agent, the ACAMS monitoring system was switched over to sample for that agent only.

Corrective Action:

A letter of clarification was submitted to EPA on 30 March 1993. EPA responded on 28 April 1993 that it was their intent that the monitoring system was to be set up to monitor for any agent which may be present in the filter/ventilation system. Upon notification, toxic operations at the JACADS Facility were terminated on 29 April 1993 until additional ACAMS monitors could be set up to sample for all three agents at the ventilation stack. The system was installed and operations resumed on 30 April 1993.

2. LIC ID FAN ACAMS NOT MONITORING

Requirement

Permit Condition V.F.2.k. requires the LIC exhaust to be measured for agent concentration directly downstream of its ID fan.

Noncompliance

SDS and agent processing occurred in the LIC on 8 June 1993 for eight seconds when the ACAMS was not monitoring for agent directly downstream of the ID fan or at the common stack.

Description

On 7 June 1993, the sample line to the LIC ID Fan ACAMS accidently disconnected from the ACAMS unit at approximately 1945 hours. Time of the disconnect was established on review of the ACAMS Station Log. The last annotation in the log was at 1945 on 7 June 1993 when the ACAMS was checked due to a malfunction alarm. Corrective maintenance to the ACAMS was conducted which required the monitor cover to be lifted up. The disconnect was attributed to the line separating from the unit when the cover was lifted up. This problem was not discovered until 1530 hours on 8 June 1993 when it was immediately reconnected to the ACAMS unit.

Since the ACAMS appeared to be functioning properly, the PDAR System interface indicated the ACAMS was functional, the Control Room Operator had every indication that the ACAMS was monitoring for agent. Consequently, agent and SDS processing was conducted on 8 June 1993 at the following times:

Agent Processing	SDS Processing
0402 - 0403 hours	0837 - 0838 hours
0417 - 0423 hours	0847 - 0852 hours
0755 - 1038 hours	0856 - 1038 hours
1124 - 1154 hours	1111 - 1310 hours

It should be noted that agent monitoring utilizing either Station 18A or 18B ACAMS in the Common Stack occurred throughout the period the LIC ID fan ACAMS sampling line was disconnected. No Alarms or malfunctions were registered on the Common Stack ACAMS. One incident of an operator switching Station 18A ACAMS off-line before switching Station 18B ACAMS on-line did occur at 0819 on 8 June 1993. However, the total elapsed time that monitoring was not conducted was only for 8 seconds. Also no agent was detected at the Common Stack by DAAMS tubes that were monitoring during this period.

Corrective Action

Upon discovering that the sample line was disconnected, Laboratory personnel immediately reconnected the sample line on 8 June 1993 at approximately 1530 hours. The Laboratory also prepared a report detailing the events surrounding the noncompliance.

A permit modification was submitted to EPA in January 1993 to allow processing in the LIC, DFS and MPF to continue if either the ACAMS directly downstream of the furnace ID fan or the Common Stack ACAMS went into a malfunction mode or otherwise had to be removed for corrective maintenance. Processing is only allowed to continue if backup ACAMS monitoring, at the ID fan or the Common Stack, is being conducted. This modification was approved by the EPA on 25 January 1993. The OMC initiated procedural changes in the Summer of 1993 to implement this practice.

G. HAZARDOUS WASTE STORAGE TANK SYSTEM RELATED NONCOMPLIANCES

1. STORAGE TANK OVERFILL PREVENTION CONTROLS

Requirement

Section D-7 of the JACADS RCRA Permit specifies the design and management criteria for the agent, spent decontamination solution (SDS), and brine storage tanks to prevent spills and overflows.

Noncompliance

JACADS hazardous waste storage tank overfill controls did not comply with the requirements of Section D-7 during the first portion of 1993. Incineration operations were not halted when the brine storage tanks reached high alarm levels and there were not any high high high level alarms on the agent, SDS and brine storage tanks.

Description

Section D-7 specifies the design/management criteria for operation of the SDS, agent and brine storage tanks. The criteria included:

a. If a tank level continues to rise above its high high alarm level, a high high high level will be reached which will cause automatic closure of the inlet valve, automatic pump stoppage and annunciation of an alarm.

   It should be noted that there was two sections in Attachment D-7 that were contradictory pertaining to high high high alarms. Also, the tank drawings in the permit show that the agent, SDS and brine storage tanks were not designed to have high high high level alarms.

b. The furnaces are not to be started up if the brine storage tanks are at high level.

   The processing of hazardous waste in the incinerators was not stopped when high levels of brine in the BRA storage tanks were reached. This was not necessary because isotainers were used for extra storage capacity due to unreliable BRA operations. In 1991, a permit modification was approved by EPA to allow storage of hazardous brines in isotainers for up to 90 days.

Corrective Action

A permit modification request was submitted to have the tank section (Attachment D-7) revised to reflect the actual tank design and criteria used for halting operations. The modification request was approved by EPA on 9 June 1993.

2. EXCEEDANCE OF HIGH ALARM LEVELS ON HAZARDOUS WASTE STORAGE TANKS

Requirement

RCRA Regulation 40 CFR 265.194(b)(2) requires appropriate controls and practices to prevent spills and overflows from hazardous waste storage tanks or secondary containment systems. Section D-7 specifies the design and management criteria for operation of the SDS and brine storage tanks. The criteria requires:

a. When a tank is at or above the high level, no additional waste may be added.

b. When a tank is filled to the high level, the system is to automatically switch to a second tank unless it also indicates a high level.

c. If the second tank is at high level, the inlet valves to all tanks are to automatically close and pumping operations are to be terminated.

Noncompliance

The SDS storage tanks exceeded their high alarm levels on 14 occasions and the brine storage tanks exceeded their high alarm levels on seven occasions in 1993. These tanks were also not operated in a mode to automatically switch to a second tank or stop transfer operations upon the activation of the high level alarms.

Description

The high alarm levels on the SDS and brine storage tanks were set at 82% and 80%, respectively. The tanks exceeded their high alarm levels on the following times:

Tank System	Time/Date High Level Alarm Exceeded	Time/Date Level Dropped to High Level	Highest Recorded Level
SDS-TK-101	1118, 11 Jan 93	1520, 11 Jan 93	93%
SDS-TK-101	1012, 17 Jan 93	2200, 18 Jan 93	95%
SDS-TK-102	0329, 25 Jan 93	0520, 25 Jan 93	88%
SDS-TK-102	2038, 5 Feb 93	2236, 6 Feb 93	99%
SDS-TK-101	1741, 10 Apr 93	0630, 13 Apr 93	90%
SDS-TK-101	0743, 21 May 93	0610, 23 May 93	86%
SDS-TK-102	2130, 22 May 93	2346, 22 May 93	85%
BRA-TK-102	1522, 25 May 93	0528, 27 May 93	85%
BRA-TK-102	1326, 29 May 93	0941, 30 May 93	83%
BRA-TK-102	1310, 5 Jun 93	2247, 6 Jun 93	85%
SDS-TK-101	0326, 15 Jun 93	0827, 15 Jun 93	87%
BRA-TK-101	0112, 4 Jul 93	1540, 7 Jul 93	82%
SDS-TK-102	0705, 7 Jul 93	2133, 9 Jul 93	92%
SDS-TK-101	0347, 8 Jul 93	0811, 8 Jul 93	86%
SDS-TK-101	0829, 8 Jul 93	0900, 8 Jul 93	86%
SDS-TK-101	0142, 9 Jul 93	1317, 9 Jul 93	86%
BRA-TK-102	1731, 14 Jul 93	2355, 16 Jul 93	89%
BRA-TK-102	0129, 19 Jul 93	0908, 19 Jul 93	82%
SDS-TK-102	0400, 22 Aug 93	0900, 23 Aug 93	83%
SDS-TK-101	0600, 23 Aug 93	1450, 23 Aug 93	83%
BRA-TK-102	0130, 18 Oct 93	0700, 18 Oct 93	83%

Corrective Action

Operations has been notified that high alarm levels on hazardous waste storage tanks are not to be exceeded. In July, an Engineering request form (REACT 0745) was initiated to have the high level alarm set point on the BRA storage tanks evaluated and to have the tank controls investigated to identify why automatic filling of the tanks was not being used. Also, an Engineering request form (REACT 0747) was initiated to have a matrix developed to assist in tracking the high level alarm set points of all hazardous waste storage tanks.

An evaluation of the tank alarm set points was conducted by the Engineering Department in August. Both the SDS and brine storage tank alarm set points were determined to be properly set and a matrix was developed listing the set points. It was also determined that the brine storage tanks were designed to operate automatically; however, several valves were not operating properly. Work Orders 93-5742 and 93-5747 were completed on tank inlet/outlet valves on 6 August 1993 to allow automatic fill operations to occur.

Operations evaluated the problems in operating the SDS sumps in the automatic mode. Due to controller problems, the manual mode was determined to be the preferred and only reliable mode of operation. Therefore, to satisfy the permit condition for automatic halt in fill operations at high alarm levels, on 7 September 1993, the Programmable Logic Controller (PLC) was programmed to automatically close the SDS storage tank inlet valves whenever high level is reached in a tank. The tank inlet valves will now automatically close when the system is operated either in the "manual" or "automatic" fill modes.

In response to the exceedance on 18 October 1993, REACT 0894 was initiated on 13 December 1993 requesting Engineering to reexamine the brine storage tank fill system since it was evident that filling operations still were not automatically halting on high alarm. Based on this request, the PLC was programmed on 31 January 1994 to automatically close the brine storage tanks (BRA-TK-101 and BRA-TK-102) inlet valves whenever high level is reached in a tank. The tank inlet valves will now automatically close when the system is operated either in the "manual" or "automatic" fill modes.

3. IMPROPER USE OF THE MAIN PAS SECONDARY CONTAINMENT AREA

Requirement

RCRA regulation 40 CFR 264.196(a) and (b)(2) requires that the owner or operator immediately stop the flow of hazardous waste into the secondary containment system upon discovery. The primary function of the secondary containment is to contain unplanned releases (such as spills and leaks) and is not for primary containment use. If a waste is released to secondary containment, it must be removed within 24 hours or as timely as is possible.

The regulation also requires the system be removed from service until the release is cleaned up and the cause is corrected. The use of secondary containment, including its sump, for the transfer of brines or waste is not allowed.

Noncompliance

On 19 May 1993, the clean liquor in the MPF Scrubber Tower was drained to the Main PAS sump and stored for later use as makeup to the DFS Pollution Abatement System (PAS). On 21 May 1993, a 6-inch brine transfer line between the LIC Scrubber Tower discharge and the LIC Quench Tower was again drained to the Main PAS sump.

Description

Between 0100 and 0400 hours on 19 May 1993, clean liquor in the MPF Scrubber Tower was drained to the Main PAS. The clean liquor was drained in order to repair a clean liquor flow indicating controller (24-FIC-248). At approximately 1030 hours on 21 May 1993, a six-inch brine transfer line connecting the LIC Scrubber Tower discharge and the LIC Quench Tower was drained to the Main PAS sump. The brine transfer line had to be drained to repair several leaks. The drained clean liquor was stored in the main PAS sump for later use as makeup to the PAS units.

Corrective Action

Management was advised that the Main PAS diked area must only be used for secondary containment purposes per RCRA regulations. Specifically, the use of the main PAS sump for operational transfer of brines and the storage of any type of waste in the main PAS sump or secondary containment area is not allowed. Rather, secondary containment may only be used to collect condensation, precipitation or unplanned spills/releases.

H. WASTE MANAGEMENT RELATED NONCOMPLIANCES

1. HAZARDOUS WASTE (1X) STORAGE IN THE MDB

Requirement

RCRA regulation 40 CFR 262.34(a) allows a generator to accumulate hazardous waste on-site for 90 days or less without a permit or interim status, provided that (1) the waste is placed in containers and managed in accordance with container and inspection requirements of 40 CFR 265, Subpart I; (2) the accumulation date is clearly marked on each container; and (3) each container is clearly marked with the words, "Hazardous Waste".

Additionally, 40 CFR 262.34(c) allows a generator to accumulate as much as 55 gallons of hazardous waste in containers at or near any point of generation without a permit or interim status and without compliance with 262.34(a) provided the container is in good condition (40 CFR 265.171), compatible with the waste (40 CFR 265.172), always closed [40 CFR 265.173(a)] and marked with the words, "Hazardous Waste" or with other words that identify the waste. Waste in excess of 55 gallons must comply with the requirements of 40 CFR 262.34(a) within three days.

Since the wastes generated from maintenance and operational activities in the toxic areas of the Munitions Demilitarization Building (MDB) are agent-contaminated, they must be managed as if they are hazardous wastes due to the RCRA characteristic of reactivity (D003). Therefore, accumulation of the agent-contaminated wastes in the MDB must comply with 40 CFR 262.34(a) or (c).

Noncompliance

Agent-contaminated wastes, including demilitarization protective ensemble (DPE) suits, rubber hoses and miscellaneous wastes, were accumulated in the toxic areas of the MDB in excess of 55 gallons for over three days.

Description

HD-contaminated wastes associated with the HD-campaign and VX-contaminated wastes associated with the cleanup of ECR-B were involved. The agent-contaminated waste was generated from maintenance and operational activities in the toxic areas of the MDB. The bags of agent-contaminated waste were not contained or labeled within three days per 40 CFR 262.34(a) requirements.

Corrective Actions

Plant operations were shutdown from 30 May 1993 until 8 June 1993 to perform cleanup activities. A significant improvement was realized throughout the MDB toxic areas during this shutdown and by the end of July all of the accumulated wastes in the Toxic Maintenance Area (TMA) of the MDB had been processed to meet the requirements of 40 CFR 264.34.

Efforts are continuing to revise and streamline the procedures which will expedite safe waste processing in the MDB. This includes not only continuing revision to the applicable Standing Operating Procedures (SOPs), but also the assignment of personnel specifically responsible for the handling of waste processing within the TMA.

2. BRA CONTAINER STORAGE/LOADING AREA INSPECTION RECORDS

Requirements

Permit Section F-2b requires weekly inspections of containers of waste to satisfy RCRA Regulation 40 CFR 264.174 for hazardous waste storage areas. Since the BRA Container Storage Area is also used for loading and unloading of wastes, it must be inspected on a daily basis per Regulation 40 CFR 264.15(b)(4).

Noncompliance

From 1 November 1992 to 25 January 1993, inspections of the BRA storage/loading area and of the drums of waste stored in the area were not performed.

Description

During the latter part of October 1992, a revision of JACADS inspection checklists was made in order to comply with revised Attachment F inspection requirements. The BRA Container Storage Area inspection checklist was inadvertently overlooked which resulted in a new checklist not being generated.

Corrective Action

The missed inspections were discovered on 23 January 1993. The daily inspection requirement of the BRA Container Storage/Loading Area was added to the inspection sheet on 25 January 1993. The inspections were initiated on 26 January 1993.

I. EPA NOTIFICATION RELATED NONCOMPLIANCES

1. FACILITY CLASS 1 MODIFICATION NOTICES

Requirement

RCRA Regulation 40 CFR 270.42 requires the Permittee to formally notify the EPA Regional Administrator of certain facility changes. For minor changes, Class 1 modifications, notification is required within seven calendar days after the change has been put into effect with the exception of those types of changes which require prior EPA approval.

Noncompliance

Sixteen Class 1 modifications, listed below, were implemented at the JACADS facility without proper notification to EPA within the required seven-day time period.

Description

The below Class 1 Modifications were in affect at the JACADS but were not reported within the required time. Some of these modifications were originally implemented during the construction phase and just discovered in 1993; others were changes implemented in 1993. The modifications are listed with the date implemented and the date PMCD submitted a written notice to EPA.

Item #	Modification	Date Implemented	Date Submitted to EPA
1	BRA Duct Line Relocation	24 Feb 93	05 Mar 93
2	Clarifications on Agent Monitoring	29 Oct 91	30 Mar 93
3	Removal of DUN Gasket Cover Plates and Changes to the Water Sparge System	22 Feb 92	16 Mar 93
4	Update to RCRA Contingency Plan	16 Nov 92	30 Apr 93
5	Two Replicate GB Calibrations of ACAMS	13 Mar 93	22 Apr 93
6	Removal of Low Temperature Bypass on DUN Baghouse	27 Mar 93	30 Apr 93
7	Permanent removal of DUN ash gate gasket and changes to water sparge system	26 Mar 93	14 Jun 93
8	Revisions of Protective Clothing Section of Attachment F	Dec 92*	19 Jul 93
9	Contingency Plan Update pertaining to Fire Protection, JACADS Residual Force and PPE	Feb 93*	30 Aug 93

Item #	Modification	Date Implemented	Date Submitted to EPA
10	Cyclone Reconfiguration	1989*	22 Oct 93
11	Removal of SDS Feed line to the LIC	Sept 93*	08 Nov 93
12	Utilization of BRA Agitator	26 Oct 93	**
13	Demister 102 use as a permanent bypass for the MPF	July 1993*	05 Jan 94
14	DFS, LIC & MPF I.D. Fan ACAMS calibration	06 Dec 93	**
15	Attachment F PPE Update	Oct 93*	05 Jan 94
16	BRA Evaporator Heat Exchanger Cocurrent Flow	1989*	05 Jan 94

* Indicates the best estimate on date of implementation if not specifically known.

** Modification notices have been submitted to PMCD but as of 1 February 1994 have not been forwarded to EPA.

Corrective Action

Analysis of the root cause indicates that a variety of circumstances were contributing to this noncompliance including existing engineering procedures for implementing facility changes, communication methods, review and approval requirements, and awareness of specific permit requirements. The need for the streamlining of Army permit modification notice approval and submittal is still apparent.

A contributing factor to the late notifications was that an updated RCRA permit was not being maintained for JACADS. Consequently, actual facility configuration and operation were not accurately reflected in the permit. To rectify this situation, a complete updated version of the permit was prepared and submitted to the EPA on 30 April 1993. This document is called the Permit Reference Document and included all permit modifications approved by EPA from the time Revision 7 was prepared up to 8 January 1993. The OMC Environmental Department continues to review and update Revision 7 of the permit to ensure that actual facility configuration and operation is accurately reflected in the permit. The OMC has prepared two semiannual updates to the Permit Reference Document, revising this document to include all EPA approved modifications through 31 December 1993.

Finally, RCRA requirements for documenting and notifying EPA of facility changes continue to be emphasized to OMC and PMCD management.

2. **WASTE CHARACTERIZATION AND WASTE ANALYSIS PLAN UPDATE REQUIRED**

Requirement

40 CFR 264.341 specifies that the Part B permit application must include analysis of waste feeds sufficient to provide all information required by 40 CFR 270.19. 40 CFR 270.42, Appendix I, Item B.1. identifies changes to waste sampling and analysis methods as a Class 2 Modification.

Noncompliance

The Chemical and Physical Analyses (Section C-1) and Waste Analysis Plan (Section C-2) portions of Attachment C of JACADS Permit are deficient in describing waste feeds to the incinerators and test and analysis methods used. These sections also contained inaccurate information on current facility operations and testing performed.

Description

A number of waste feeds to the furnace systems have been permitted in the last two years which are not addressed in Attachment C. These waste feeds include miscellaneous agent contaminated bulk solid feeds into the DFS and MPF, agent contaminated metal and absorbents into the MPF and hydraulic fluid in the LIC. The resultant characterization of the incineration residuals for these wastes were also not addressed. Additional deficiencies in Attachment C include waste tracking procedures, dilution factors for SDS, the description of laboratory wastes sent to the SDS tanks, characterization of storage wastes, reactivity testing and agent analytical techniques.

Corrective Action

The OMC is currently preparing a Class 2 modification package for revision of deficient sections of Attachment C. Submittal to PMCD is scheduled for the first portion of March 1994 with an anticipated EPA submittal date of 31 March 1994.

J. UNAPPROVED FACILITY CHANGES

1. BRA DUCT DRAIN LINE TO THE BRA BUILDING SUMP

Requirement

A permit modification request was submitted to EPA on 5 February 1993 and temporarily approved on 23 February 1993 to allow the exhaust duct drain lines to discharge to the BRA storage tank secondary containment area sump. On 5 March 1993 a permit modification notice was submitted informing the EPA that the exhaust duct drain line was redirected to the BRA building secondary containment area sump. On 15 July 1993, the EPA denied the permit modification directing the sump only be used for secondary containment purposes.

Noncompliance

In March 1993, the exhaust duct drain line was rerouted from the BRA storage tank secondary containment area sump to the BRA building secondary containment area sump.

Description

In March 1993, it was determined that the BRA exhaust duct drain line should be directed to the BRA building secondary containment area sump to prevent the possible contamination of rain water which may accumulate in the storage tank secondary containment area.

Corrective Action

To satisfy the regulatory requirements for secondary containment areas, a Class 1 permit modification was submitted to EPA on 30 April 1993, to install a small transfer tank in the BRA building secondary containment. On 13 May 1993, EPA denied the Class 1 modification request stating that it would be classified as a Class 2 permit modification request. This request was resubmitted to the EPA as a Class 2 permit modification request on 1 September 1993.

EPA approved this modification request on 30 November 1993. In order to operate in compliance until the transfer tank is installed, a permit modification was submitted to EPA on 12 October 1993 requesting the drain line be approved on a temporary basis. EPA approved this request on 18 October 1993. The transfer tank was installed and the drain line re-routed to the tank on during the last week of December 1993.

2. DFS CYCLONE DISCHARGE VALVE MECHANISM

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. RCRA Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by 1 March of each year to reflect the facility as of 31 December of the preceding year. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The Deactivation Furnace (DFS) Pollution Abatement System (PAS) was not maintained according to the original Piping and Instrumentation Drawing (P&ID) or according to the RCRA Permit Section D-1, DFS Process Description. The trickle valve on the DFS Cyclone was removed and replaced with a sliding gate valve.

Description

According to the as-built DFS drawing (4020-16-MP-102), the cyclone should have a trickle valve at the discharge to isolate the 55-gallon dust collection drum from the cyclone. However, a review of equipment specifications revealed that a slide gate valve was installed instead which did not isolate the particulate collection container from the negative pressure condition of the cyclone.

Corrective Action

The tipping valve was designed to isolate the waste collection container from the active zone of the cyclone. Engineering reviewed the design and recommended the existing sliding valve be replaced with a two-gate valve which provides a dual-gate airlock seal. This valve was considered to be functionally equivalent to the original tipping valve. A permit Class 1 modification notice was submitted to the EPA on 22 October 1993 reflecting this upgrade. Installation of the two-gate valve was completed on 25 November 1993.

3. BRA DRUM DRYERS CONFIGURATION

Requirement

Section I.D.6, requires that the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed to achieve compliance with all conditions of this permit. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The BRA was originally designed and installed with a drain pan underneath each drum dryer to collect any liquid or solids which may leak from the drums. The dryers are currently configured with temporary wooden catch boxes to prevent liquid and solids from accumulating in the secondary containment area beneath the dryers since the original drain pans were removed.

Description

The original design, installation, and BRA acceptance test package (November 1988) included a drain pan underneath the drum dryers to collect liquids and solids which leak through the drums. In August 1989, the drain pans were removed to facilitate cleaning but were never reinstalled. Until September 1993, liquid and solids wastes have been accumulating in the secondary containment area beneath the dryers. In September, temporary wooden drain collection structures were installed.

Corrective Action

Temporary wooden drain collection structures were installed beneath the drum dryers in September 1993. A formal Engineering Change Proposal (ECP) for the permanent installation of stainless steel lined catch pans with floor grating and a sump and pump was submitted to PMCD on 12 October 1993. PMCD disapproved the ECP because of design deficiencies and returned it to the OMC for revision. Engineering is currently revising the catch pan design.

4. BRA EVAPORATOR HEAT EXCHANGER CONFIGURATION

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. RCRA Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by 1 March of each year to reflect the facility as of 31 December of the preceding year. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The as-built drawing showed the heat exchanger to the BRA evaporator to be installed with countercurrent flow when in actuality the flow was cocurrent.

Description

During the BRA Compliance Test, 20-24 October 1993, on-site EPA representatives, Catherine Massimino (EPA Region X) and Y.J. Kim (EPA Region IX), observed that the heat exchanger was not configured in accordance with its as-built drawing.

The configuration of the evaporator heat exchanger was for cocurrent flow of brine and steam. However, the as-built drawing showed the installed configuration for the heat exchanger to be for countercurrent flow. Mr. Kim's concern was that the current configuration was limiting the efficiency of the heat exchanger.

Corrective Action

Engineering reviewed the design and concluded that the efficiency is not reduced with the use of steam as the heat source medium. In addition, it should be noted that the evaporator and its heat exchanger, associated pumps and piping were supplied as a skid mounted unit with concurrent flow. Therefore, Engineering recommended the configuration of the evaporator not be changed.

The as-built drawing was revised on 13 November 1993 to correct the discrepancy between the as-installed condition and the drawing. The revised as-built drawing will be transmitted to EPA in the annual as-built package submittal due by 1 March 1994. A Class 1 modification notice was submitted to the EPA on 5 January 1994 informing the agency that the design of the heater exchanger would remain the same with cocurrent flow being maintained.

5. BRINE TRANSFER SYSTEM CHANGES

Requirement

Permit Condition V.A requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. RCRA Regulation 40 CFR 270.42 requires certain modifications to a facility to be formally submitted to EPA. Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by March 1 of each year to reflect the facility as of December 31 of the preceding year.

Noncompliance

Changes to the brine transfer system were implemented without the proper documentation or notifications/approvals required per the above permit conditions. The piping and controls associated with brine transfer from the main PAS system to the Brine Reduction Area (BRA) were bypassed with temporary hoses since approximately 1990. The PAS as-built drawings showed the permanent piping to be abandoned in place with no indication that temporary hosing was being used to bypass instrumentation and controls. No permit modifications were submitted to the EPA notifying the agency of these changes.

Description

Temporary hosing was used to transfer brines from the discharge of the DFS Scrubber discharge (PAS-PUMP-106/107) to the BRA. This temporary hose bypassed the strainers (PAS-FILT-110/111) shown on P&ID No. 24-MP-300-0001. Also temporary hosing from the MPF and LIC Scrubber discharges (PAS-PUMP-102/103 and PAS-PUMP-111/112, respectively) was being used to transfer brines to the BRA by tieing into the pipe immediately downstream of PAS-FILT-110/111.

Corrective Action

A work order was initiated in 1992 to have the brine transfer piping repaired in order to use the system in its original configuration. Materials to complete the work were received in January 1993. The work order was completed on 26 April 1993. The affected P&IDs were updated to reflect the work completed and to correct the abandoned in place designation.

K. MISCELLANEOUS NONCOMPLIANCES

1. PROTECTIVE CLOTHING

Requirement

Attachment F-1 (Protective Clothing) and Attachment K (Contingency Plan) of the JACADS RCRA Permit lists the various levels of protective gear that are required to be used at the facility.

Noncompliance

Personnel at the JACADS facility have been instructed to wear types and levels of protective clothing and equipment that are different than the levels specified in the JACADS RCRA Permit.

Description

A major effort is being made by the OMC to update Attachment F and K sections of the permit pertaining to protective clothing and equipment. A Class 2 Permit modification request to the JACADS RCRA Contingency Plan was submitted to the EPA in June 1992 and subsequently approved in October 1992. Since the time that the modification was submitted in June 1992, modifications in PPE were dictated in response to safety requirements. These changes were made by Safety personnel based on a review of the hazards associated with different tasks and areas at the JACADS facility. In 1993 four permit modifications pertaining to protective clothing and equipment were prepared by the OMC. All except the last modification notice, submitted by PMCD on 5 January 1994, have been acknowledged by the EPA as acceptable.

Corrective Action

A Class 1 Permit modification notice updating the Contingency Plan was submitted to the EPA on 11 May 1993. This modification notice identified the levels of protective clothing and described the different types of clothing and equipment currently required for different jobs and areas in the plant. On 9 June 1993, EPA denied the Class 1 modification requesting additional information. The OMC resubmitted the modification on 20 July 1993 to PMCD. The modification was sent to the EPA on 30 August 1993 and the agency approved this modification on 23 September 1993.

A Class 1 modification update to the Attachment F-1 Protective Clothing Section of the JACADS RCRA Permit was originally submitted to PMCD on 27 April 1993. The update was returned to the OMC for revision based on a review by the PMCD Safety Office. A revised Attachment F-1 notice was resubmitted to PMCD on 13 May 1993 which incorporated pertinent PMCD comments. The changes were submitted to EPA by PMCD on 19 July 1993. EPA approved this modification on 23 September 1993.

An additional Class 1 modification was submitted to PMCD on 18 November 1993 to reflect changes made since the above modifications were submitted. This modification was returned by PMCD for revision and was resubmitted on 9 December 1993. PMCD transmitted this modification notice to EPA on 5 January 1994.

The OMC is also evaluating how to revise the protective clothing sections to either remove or generalize detailed descriptions of the protective clothing. This is desirable in order to minimize the need to constantly modify the permit since continuous changes are made by Safety personnel in response to various hazards associated with different tasks and areas at the JACADS facility.

2. CURRENT LIST OF OMC JOB DESCRIPTIONS

Requirement

40 CFR 264.16(d)(2) and Attachment G of the JACADS RCRA Permit require that the owner or operator of a facility maintain a written job description for each position at the facility related to hazardous waste management.

Noncompliance

The facility did not have an up-to-date list of job titles, qualifications and duties for each position related to hazardous waste management at the facility until November 1993.

Description

The task of maintaining written job descriptions has been assigned to the OMC Human Resources Department. The descriptions used at the facility until November 1993 were developed and written in 1987. A subsequent, updated version was submitted to PMCD in 1990, but the revision was not approved.

Correction Action

OMC Departments reviewed the job descriptions including job titles, qualifications and duties, for each position at the facility during September - November 1993. Up-to-date job descriptions for each position were completed by the Human Resources Department by the end of November 1993. A list of OMC position job descriptions is included in the Human Resources Management Plan.

3. REQUIRED ANNUAL REVIEW TRAINING

Requirement

40 CFR 264.16(c) requires that facility personnel must take part in an annual review of the initial training that is required in paragraph (a) of this section of the regulations. This training is provided to facility employees by the JACADS II - Annual Refresher Training Course.

Noncompliance

A review of training records conducted in September 1993 showed that several facility personnel had not completed the required annual review training for 30 days beyond their previous year's anniversary date for completing the training. In October, one additional person exceeded his previous year's review training by more than 30 days.

Description

The OMC Cumulative Training Totals Report, dated 27 August 1993, showed that several key facility personnel had not completed the required course for their job title including a Department Manager, a Shift Superintendent, a Maintenance Supervisor and a Control Room Supervisor. There were 10 other personnel at the facility who were also delinquent by over 30 days in completing the review course which is titled "JACADS II - Annual Refresher Training". Subsequent followup showed that in October 1993 one additional employee was 30 days beyond the annual date he last received training.

It is the responsibility of Department Directors and Managers to review the Cumulative Training Totals Report which is issued monthly and provides 60 day advance notice of training requirements for each employee. Directors and managers are responsible for ensuring that their employees are scheduled to take required courses within the 60-day advance notice period. The 60-day advance notice is designed to provide ample time to schedule around off-island rotations.

Corrective Action

To ensure Directors and Managers are notified of delinquent employees, in October 1993 the Training Department commenced issuing a monthly notice identifying employees who are past due for a required course. This notice identifies the date by which the employee should have completed the course. After a grace period of 30 days past the due date for annual refresher training, the list of employees that are delinquent for refresher training are submitted to the Quality Compliance Director with instructions to enforce "red carding" the employees. Red carding prevents an employee from entering the facility site. The first notice was issued on 29 October 1993 which identified one employee to be delinquent; however, the redcarding procedure was not implemented and the employee did not complete training until he was 10 days over the 30-day grace period. The second notice was issued on 19 November 1993 and the only employee listed completed the Refresher Training within the 30-day grace period of the redcard policy.

4. IMPLEMENTATION OF THE CONTINGENCY PLAN

Requirement

40 CFR 264.56(1) requires that "Whenever there is an eminent or actual emergency situation, the Emergency Coordinator must immediately activate internal facility alarms or communications, where applicable, to notify all facility personnel. Attachment K, Section 5 of the Contingency Plan in the JACADS Permit prescribes the procedures to be implemented during an agent release incident. Initial actions in the procedure are don protective mask, activate the site alarm and make required notifications.

Noncompliance

On 31 May 1993, at approximately 1319 hours, an ACAMS alarm activated when a Waste Incineration Container (WIC), containing residue from the incineration of miscellaneous HD-contaminated bulk waste, was discharged from the MPF discharge airlock to the MPF cooling conveyor. The cooling conveyor is outside of engineering controls and exposed to the ambient atmosphere. The ACAMS read 7.62 TWA which is equivalent to 0.023 milligrams per cubic meter of HD. The prescribed contingency actions were not implemented at this time.

Description

Approximately 14 minutes after the WIC was discharge to the cooling conveyor it was returned to the MPF Discharge Airlock which is maintained under a negative pressure relative to the atmosphere. A computer controlled interlock, designed to prevent the immediate return of a WIC to the airlock, prevented the immediate return of the WIC to the airlock. After reprogramming the control system logic, the WIC was returned to the airlock at 1331 hours. Another ACAMS reading was then taken in the airlock which gave a reading of 46.5 TWA, equivalent to 0.14 milligrams per cubic meter of HD. The WIC was then re-introduced into Zone 3 of the MPF for additional processing.

It should be noted that both the 0.023 mg/m^3 (7.62 TWA) and the 0.14 mg/m^3 (46.5 TWA) ACAMS readings are suspect since there were a number of interferant peaks appearing before and after the peak which caused the alarm. DAAMS tubes which sampled during this same period of time were analyzed and indicated an agent presence; however, the chromatogram associated with this particular set of DAAMS tubes also displays a series of extraneous peaks which could have influenced the analysis. Also, at the time of the initial ACAMS alarm, a second WIC (#123) was being processed in Zone #2 of the MPF. This point may be significant because of the possibility of Primary Chamber exhaust gases migrating back to the ACAMS sample point.

Corrective Action

Considering all factors relevant to the unusual occurrence involving the MPF Discharge Airlock on 31 May 1993, it cannot be stated conclusively whether or not an agent release took place outside of engineering controls. A number of activities to identify the source of the anomaly and to preclude a potential recurrence of the event were undertaken.

All WIC processing with contaminated wastes was suspended until investigation of this event was completed. The WICs were modified to provide for greater air circulation around the waste to enhance the combustion process. A change was made to the Standing Operating Procedure (SOP 068) requiring WICs to remain in the Discharge Airlock long enough to ensure that they are monitored by the ACAMS for two complete cycles before being released for discharge to the MPF Cooling Conveyor. Finally, the importance of following contingency procedures was emphasized to OMC managers and supervisors.

5. PROJECTILE ACCOUNTABILITY/INVENTORY

Requirement

RCRA regulation 40 CFR 264.73(b) (2) requires that the location of each hazardous waste within a facility and the quantity at each location must be recorded and maintained in the Operating Record for the facility.

Noncompliance

An inventory documenting the quantity and location of HD-filled 105 mm projectiles in the MDB was not being maintained consistently during the HD projectile campaign. The projectile campaign ended on 3 August 1993.

Description

Unforeseen structural differences in the projectiles themselves along with mechanical problems involving the disassembly machines generated numerous projectile rejects during the campaign. The rejects mainly were caused by stuck fuzes, nose plugs, bursters or other small parts. Both from a process and a safety point of view, it was unreasonable to return these projectiles back to the Red Hat Area only to transport them back to the disposal facility at a later date for reprocessing.

In April, approximately 10 reject projectiles were discovered in the MDB that were unaccounted for. The 10 rejected projectiles could have been accumulating in the MDB since 26 January 1993 when processing recommenced following the 2 January 1993 fire incident. Daily inventory sheets were not maintained until April 1993. Only two daily inventories were filled out in April and May. Consistent daily inventory sheets were not taken until 3 June 1993. Only three daily inventories were missed from 3 June to 3 August 1993.

Corrective Action

An inventory of projectiles was conducted by the Plant Director on 21 April 1993 and again two days later. On 25 May 1993, the Operations Director issued a directive to have Operations personnel complete an inventory sheet at the end of each day to document the location and quantity of projectiles in the MDB. Daily inventory of the projectiles commenced on 3 June 1993, in accordance with the directive.

6. PREVENTION OF RUNOFF FROM THE RESIDUE HANDLING AREA

Requirement

RCRA Regulation 40 CFR 270.14(b)(8)(ii) requires the prevention of runoff from hazardous waste handling areas to other areas of the facility or to the environment. A facility is defined in 40 CFR 260.10 as "All contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste".

To satisfy the requirements of RCRA Regulation 40 CFR 270.14(b)(8)(ii), Section F-4b of the permit requires that runoff from hazardous waste handling areas be prevented by facility design.

Noncompliance

There are no structures at the Residue Handling Area (RHA) waste handling area to prevent the runoff of precipitation during rain storms.

Description

The RHA area is used as a waste handling area for transferring DFS and DUN residue waste from waste collection bins to flexible intermediate bulk containers (FIBCs) for shipment off island for disposal. The RHA qualifies as a waste handling area since DFS residue from the processing of M55 rockets is characteristically hazardous due to high levels of lead and cadmium. Currently there are no structures at the RHA to prevent run off during precipitation events.

Corrective Action

40 CFR 270(b)(8)(ii) allows the use of procedures and equipment in addition to structures to satisfy the intent of this regulation. Therefore, a permit modification notice was sent by PMCD to EPA on 30 April 1993 detailing the measures taken to prevent contamination of rain water runoff during waste handling activities. These measures were requested to substitute for physical structures. The modification was disapproved by EPA on 20 May 1993 due to insufficient information on the proposed operational procedures and measures to be implemented. Additionally information addressing EPA concerns was submitted to the agency as a Class 1 permit notice on 8 November 1993.

THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

1994 ANNUAL REPORT OF RCRA NONCOMPLIANCES

25 FEBRUARY 1995

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NONCOMPLIANCE REPORTING

JACADS RCRA Part B Permit Condition I.D.16 requires submission of an Annual Noncompliance Report discussing all identified instances of noncompliance with the permit other than those documented to EPA during the year as required by Permit Condition I.D.15. This report is the fifth Annual Report of RCRA Noncompliance representing the period from 1 January 1994 through 31 December 1994.

The format of this report addresses each specific noncompliance item, or area of noncompliance in four parts.

1. Requirement: States the specific regulatory citation and/or permit requirement and cites the reference.

2. Noncompliance: Identifies the noncompliance.

3. Description: Presents a summary of the circumstances contributing to the noncompliance, any mitigating circumstances, etc.

4. Corrective Action: Describes corrective action(s) that were or will be implemented to respond to the noncompliance and to minimize recurrence.

For ease of review, the reported noncompliances are grouped into seven general categories, either by system or nature. Each noncompliance refers to a permit condition or regulatory requirement and may report more than one incident of noncompliance. Caution was taken to ensure a noncompliance was not reported more than once even though it may relate to several general categories. For instance, the updating of piping and instrumentation drawings (P&IDs) for the noncompliances reported under Item E.1 (Caustic Line Connection to PAS-TANK-103) and under Item E.3 (Removal of Dunnage Incinerator Exhaust Flow Switch) are not reported in Item F.4 (As-built Drawings).

SUMMARY

The Noncompliance Report for 1994 represents a substantial effort on behalf of PMCD/OMC to dedicate professional resources toward the specific goal of identifying potential instances of noncompliance that may have occurred. Just as importantly, this effort is focused toward correcting any deficiencies in the project and creating a strong project attitude and sensitivity toward compliance issues. Numerous significant improvements have been made over the course of the year. The most notable improvement in 1994 was the reduction of Attachment F inspection deficiencies. The majority of the noncompliance issues were investigated and resolved in an expeditious manner whenever feasible. Permit modifications are prepared and submitted to the EPA when clarification or new issues are discovered which warrant a modification.

The project's management and work force has grown in its sensitivity and responsiveness to resolving compliance problems in an expeditious manner. The year 1994 ended with a truly significant overall improvement in compliance awareness and should be an excellent foundation for an even more improved 1995.

A. ATTACHMENT F RELATED NONCOMPLIANCES

A.1. ATTACHMENT F INSPECTIONS - NOT PERFORMED

Requirement

Attachment F of the JACADS RCRA Permit prescribes a series of daily, weekly, monthly, semi-annual and annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health.

Noncompliance

The following Attachment F inspections were not performed:

a. Semi-annual internal inspection of the Acid Storage Tank (HCL-TANK-101) during the first portion of 1994.

b. Daily inspections of centralized first aid kits from 1 January 1994 to 19 February 1994.

c. Daily inspections of JACADS facility in accordance with the Attachment F inspection schedule were not performed from 25 August 1994 through 28 August 1994 due to evacuation of Johnston Island because of Hurricane John.

Description

a. The semi-annual inspection of the Acid Storage Tank (HCL-TANK-101), which involves inspecting the interior of the tank for cracks or deterioration, was not performed due to the size of the entry manway of the tank. The small manway precluded safe entry into the tank for visual inspection.

b. The Attachment F Inspection Schedule required that the first aid supplies be inspected daily to ensure that expiration dates had not elapsed (where applicable) and that all listed equipment was present. There were small first aid kits located throughout the facility and to inventory each kit daily was impractical. Therefore, in 1991 the OMC decided to replace all of the individual kits with a central supply of first aid materials in the DPE Support Area (DSA) that would be placed in a sealed cabinet. The Attachment F inspection schedule was modified to require checking the cabinet daily to see if the seal was broken. If the seal was intact, an inventory of the first aid supplies was required. An OMC audit of Attachment F inspections on 14 February 1994 revealed that the first aid supplies were stored on the shelves of a cabinet in the DSA and not in a sealed cabinet.

c. Johnston Island was completely evacuated on 24 August 1994 due to the threat of Hurricane John. The island was reoccupied with only a minimal OMC workforce on 28 August 1994. The OMC workforce did not return to full strength until 20 October 1994 due to significant damage to the dining and residence facilities on-island.

Corrective Action

a. To safely complete the annual internal shell inspection for the Acid Storage Tank the tank manway had to be enlarged. An Engineering Change Proposal (ECP) was prepared by the OMC and received technical approval from the Army on 4 May 1993. However, funding to

complete the project was not approved by the Army until 13 September 1993. Concurrently, the OMC requested that the Acid Storage Wash System be abandoned in place. The Army approved this request on 11 September 1993. Acid in the tank was removed on 18/19 December 1993. The rinsate solution in the tank after the acid was removed registered 0.2 pH; the tank was 9% full. The rinsate was removed from the tank on 27 January 1994 and the piping was blinded on 28 January 1994 to prevent introducing anything else into the tank. On 20 April 1994, a Class 2 permit modification was submitted to the EPA requesting this tank be removed from the Attachment F inspection schedule. The modification was approved on 19 July 1994.

b. Essential first aid kit supplies were placed in a box mounted on the wall in the DSA and sealed after discovery of this discrepancy. On 19 February 1994, DSA personnel commenced inspecting the box on a daily basis to verify it is sealed.

c. Notices were filed in the Attachment F inspection records for the missing inspections stating that the inspections were missed due to evacuation of the island. In view of the limited workforce, the completion of all other daily and weekly inspections during the latter portion of August and first portion of September was an extraordinary effort by the OMC.

A.2. ATTACHMENT F INSPECTIONS - PERFORMED LATE

Requirement

Attachment F of the JACADS RCRA Permit prescribes a series of daily, weekly, monthly semi-annual and annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health.

Noncompliance

The following items were not performed within the time requirement specified by the Attachment F inspection schedule:

a. The operability of the fire detection alarms in TMA-C (Room 12-135) and the Munition Corridor (Room 05-132) were not tested within their prescribed time frame during the third quarter of 1994.

b. The seven inspections listed in Table A-1 were not completed within their prescribed time frame due to Hurricane John causing the evacuation of Johnston Island.

Table A-1: ATTACHMENT F INSPECTIONS NOT COMPLETED IN TIME DUE TO EVACUATION OF JOHNSTON ISLAND.

INSTRUMENT	INSPECTION	OVERDUE DATE	COMPLETION DATE
NAH-TANK-102 Level Indicating Transmitter (26-LIT-04)	Semi-annual operability check	26 Sep 94	22 Oct 94
NAH-TANK-103 Level Indicating Transmitter (26-LIT-29)	Semi-annual operability check	26 Sep 94	22 Oct 94
Main Oil Tank Level Switches (27-LSH-01) (27-LSHH-04)	Quarterly operability check	21 Sep 94	22 Oct 94
Fire Alarm Panel (DSA-FAPL-407)	Semi-annual operability check	18 Sep 94	15 Oct 94
Brine Storage Tank (BRA-TANK-101)	Semi-annual shell thickness measurement	14 Oct 94	17 Oct 94
Brine Storage Tank (BRA-TANK-102)	Semi-annual shell thickness measurement	11 Oct 94	15 Oct 94
SDS Storage Tank (SDS-TANK-103)	Semi-annual shell and bottom thickness measurements	18 Sep 94	27 Nov 94

Description

a. The scheduled inspection date was 28 July 1994. However, the Maintenance Department was under the conception that the areas were contaminated at high agent levels; therefore, the inspection could not be completed unless a DPE entry was made. Further investigation, on 13 August 1994, of the reasons for the late inspection revealed that the rooms were not at high agent levels. Consequently, the alarms were tested on 17 August 1994.

b. The primary reason why the seven listed inspections were performed late was due to the evacuation of Johnston Island on 24 August 1994. Only a limited amount of OMC personnel were allowed back on-island after the evacuation. The OMC workforce did not return to full strength until 20 October 1994 due to significant damage to the dining and residence facilities on-island.

Corrective Action

The importance of completing Attachment F inspections has been emphasized to the OMC management. It should be noted that better scheduling and coordination of activities between Operations and Maintenance has significantly improved the timely completion of Attachment F inspections during the past year.

B. MAINTENANCE RELATED NONCOMPLIANCES

B.1. CALIBRATION OF LIQUID INCINERATOR MONITORING INSTRUMENTATION

Requirement

Permit Condition V.F.5. requires various Liquid Incinerator (LIC) monitoring equipment to be calibrated and maintained at specified frequencies during the Post Trial Burn period.

Noncompliance

a. Quarterly calibration of the LIC Primary Chamber Pressure Indicating Transmitter (13-PIT-52) and the LIC SDS Flow Indicting Transmitter (13-FIT-102) were not completed within their prescribed time frames during the first quarter of 1994.

b. Quarterly calibration of LIC thermocouples (13-TE-43A), (13-TE-43B) and (13-TE-103A) were not completed within their prescribed time frames during the fourth quarter of 1994.

Description

a. A seven day period for quarterly calibrations is allowed after the regularly scheduled preventive maintenance due date before instruments are considered overdue for reporting purposes. Quarterly calibration of 13-PIT-52 and 13-FIT-102 were required to be completed by 13 January 1994, seven days after the actual due date of 6 January 1994. Maintenance reported that the reason the calibrations were overdue was that Operations had informed them the LIC could not be shut down until the processing of SDS and agent was complete. However, a review of operating records revealed that the LIC was down on 26 and 28 December 1993 as well as on 4 and 10 January 1994. The transmitters were calibrated on 17 January 1994.

b. Thermocouples 13-TE-43A and 13-TE-43B monitor the temperature of the primary chamber and Thermocouple 13-TE-103A monitors the temperature of the secondary chamber to document compliance with permitted operating conditions of the LIC. The primary reason why the calibrations were performed late was due to the evacuation of Johnston island on 24 August 1994. Only a limited amount of OMC personnel were allowed back on-island after the evacuation. The OMC workforce did not return to full strength until 20 October 1994 due to significant damage to the dining and residence facilities on-island. The calibrations were overdue on 13 October 1994; the calibrations were completed on 31 October 1994.

Corrective Action

The importance of completing RCRA required calibrations has been emphasized to Maintenance and Operations. It should be noted that better scheduling and coordination of activities between

Operations and Maintenance has significantly improved the timely completion of RCRA required calibrations during the past year.

B.2 CALIBRATION OF BRINE FLOWMETER TO EVAPORATOR

Requirement

Attachment D-7 of the RCRA permit requires the Brine Reduction Area (BRA) flowmeter to the evaporator be calibrated quarterly.

Noncompliance

Quarterly calibration of the BRA flowmeter (23-FQI-103) to the evaporator was not completed within the required time frame.

Description

Flowmeter 23-FQI-103 measures brine feed to the BRA evaporator. The flow rate measured by 23-FQI-103 is used to document compliance with the permitted feed rate limit allowed to be fed to the evaporator. The scheduled calibration date was 17 September 1994 with seven days allowed before it was considered overdue.

Corrective Action

Calibration of the flowmeter was performed on 6 October 1994. The primary reason why the calibration was performed late was due to the evacuation of Johnston Island on 24 August 1994. Only a limited amount of OMC personnel were allowed back on-island after the evacuation to restart the facility. The OMC workforce did not return to full strength until 20 October 1994 due to significant damage to the dining and residence facilities on-island.

B.3. MAIN PAS pH CONTROL

Requirement

Permit Condition V.F.5. requires the pH to be monitored and recorded every 30 minutes while processing hazardous waste to ensure the pH of the clean liquor and scrubber brine are no less than 7.0 pH units (Permit Condition V.F.2.h.). Permit Condition V.A. requires the Permittee to construct and maintain the incinerators in accordance with the attached plans and specifications. Permit Condition I.D.6. requires the Permittee to operate and maintain all systems of treatment and control to achieve compliance with all conditions of the permit.

Noncompliance

pH controls/instrumentation on the DFS and LIC Pollution Abatement Systems (PASs) were not maintained and operated in accordance with their original design in 1994. Rather than being operated under automatic control, the pH systems are operated in manual with Laboratory samples being taken twice a day to verify pH of the scrubber effluents since the pH monitoring equipment was not reliable.

Description

The DFS, LIC, and MPF PASs have two pH meters for monitoring the pH of the scrubber sump effluent and two pH meters for monitoring the scrubber clean liquor effluent. The meters and their

associated transmitters connect to the facility Programmable Logic Controller (PLC) to automatically add caustic to the scrubber brine and clean liquor to control pH.

Three separate studies, reports published in May, June and July 1993, documented that the current pH control system is not optimized and cannot be operated in its current configuration to automatically control the pH of the PAS brines. These studies report that, rather than being operated in the automatic mode, the pH systems are operated in the manual mode due to deficiencies in the control system, improper design of the equipment and inadequate frequency of maintenance and calibration of the sensors/controls.

Corrective Action

The OMC performed two of the above mentioned studies and submitted written reports to PMCD on 29 June 1993 and 3 July 1993. The third study was performed by SAIC, an independent contractor, with the report being submitted to PMCD on 13 May 1993. Based on these reports, a contractor was brought on-island in April 1994 to conduct testing on the MPF PAS system. This resulted in recommended system modifications which included control and piping arrangement changes and the installation of three tanks. A Class 2 modification was submitted to the EPA on 14 November 1994 requesting the recommended changes be approved. EPA approved the Class 2 modification on 10 February 1995. Detailed design of the system is currently in the process of being finalized. It is planned to upgrade the remaining wet PASs in a similar manner if the changes prove effective.

As an interim measure to verify the accuracy of the pH monitors, samples from each operating PAS are being taken twice a day and analyzed by the laboratory to verify pH of the scrubber effluents. The pH sensors are also being calibrated daily and the operators check the dual pH meters to ensure they do not significantly deviate. If the dual meters deviate significantly corrective measures are implemented. Thus, although the pH control systems may not be operating properly, the PAS systems are still operated within their permitted limits.

B.4. BRA TRIBOFLOW METER

Requirement

Permit Condition I. D. 6 requires that the Permittee properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the permit.

Attachment D-1 requires the BRA triboflow meter be on-line during BRA operations.

Noncompliance

During brine evaporation operations from 25 June 1994 to 27 June 1994, the triboflow meter, which monitors for breakthrough of particulate emissions from the BRA baghouse, was not on-line. This was due to the instrument not being properly connected after maintenance was performed on the triboflow meter.

Description

On 15 June 1994, Maintenance began to perform quarterly preventive maintenance (PMI) on the BRA triboflow meter. While performing the procedure, it was found that the cable was giving a false signal (noise) greater than 2%. For this condition, the PMI states to check the cable in place. However, this was not done; the cable was disconnected for a continuity check. Following this, the work was turned over to the nightshift Maintenance crew. The turnover was incomplete in that

the nightshift crew was not aware the cable was disconnected. Since the dayshift crew had completed the first step of the "System Zero Check Procedure", the nightshift crew continued the PMI from that step, assuming the first step was completed satisfactorily. The rest of the procedure was completed and the triboflow meter was assumed to be functional.

The triboflow meter was successfully function tested by Operations at 1115 hours on 24 June. The function test is simply an electronic function test, thus the cable disconnection was not identified. At 0645 hours on 25 June 1994, Operations began evaporating brine from BRA Tank 102. According to the BRA logs, the triboflow chart was changed at midnight on 26 June and at 0005 hours, the triboflow was again function tested satisfactorily. Additionally, the normal range when operating is so low on the chart (5%) that the erroneous readings being recorded did not seem unusual. At 0400 hours on 27 June 1994, evaporating operations were switched to BRA Tank 101. At 0722 hours, a BRA Operator noticed the triboflow indicator had dropped below "0" and began investigating. The triboflow meter cable was then found to be disconnected.

Corrective Action

On discovery of the disconnected triboflow cable at 0722 hours on 27 June 1994, brine processing operations were halted. Maintenance was notified and the triboflow meter was reconnected, function tested, and placed in service at 0900 hours, before brine processing operations recommenced. Once the triboflow was placed in service, there were no abnormal readings to indicate that particulate breakthrough of the baghouse had occurred. A followup investigation was performed by Operations to determine the cause of the event. It was determined that the event was due to (1) incomplete turnover from the Maintenance dayshift to the nightshift crew and (2) failure to follow the written preventive maintenance procedure. It was emphasized to Maintenance personnel the need for better turn over and the importance of following procedures.

C. LOSS OF OPERATION DATA NONCOMPLIANCES

C.1. INCINERATOR OPERATING DATA - LOSS OF OPERATING DATA

Requirement

Section V.F.5 of Module V requires that specific parameters be recorded at certain frequencies (usually once per minute) during hazardous waste processing in the furnace systems.

Noncompliance

During JACADS hazardous waste processing operations in 1994, the Process Data Acquisition and Recording System (PDAR) did not record RCRA operating parameters for an approximate total of four hours and 16 minutes for the LIC and four hours and 13 minutes for the DFS. These RCRA operating parameters require a once per minute recording frequency.

Description

The primary cause of data loss during 1994 was due to PDAR losing communication with the Network Manager (NWM). The periods of data loss were apparently due to noise in the communication network. As a result of the loss of communication, certain RCRA operating parameters that required a once per minute recording frequency were not recorded.

A different problem occurred during the afternoon of 25 February 1994 to cause data losses into 26 February 1994. The PDAR system underwent various hardware and software changes followed by system testing to verify the changes were successful. On 26 February, at approximately 0900 hours, it was discovered that the data being collected by PDAR were not being recorded.

Consequently, PDAR data were lost from 1643 hours on 25 February to 0900 hours on 26 February. Troubleshooting of the system revealed that a test version of a program had inadvertently been left in the system causing PDAR to appear as if it was functioning properly even though no data were being recorded. On discovery of this problem, rocket processing was terminated until the program could be changed and successfully tested. An alarm was added to the program to alert Operations when no PDAR data were being recorded on hard disk.

During the 25-26 February 1994 period, when data was being collected but not recorded due to the test version program being used, M55 rocket processing in the DFS occurred from 0014 to 0236 hours on 26 February 1994. No RCRA alarms were recorded in the Control Room logs during this time. Additionally, GB agent was processed in the LIC from 0525 to 0558 hours and the LIC primary chamber agent gun was purged from 0616 to 0651 hours. The processing time for purging of the agent gun extended to 0706 hours since there was a fifteen minute period after processing was completed that data must be collected. The Control Room logs indicate that the only unusual condition that occurred in the LIC during this time was high high pressure in the primary chamber at 0543 due to a manual stop feed. This parameter is a permit operation condition; however, no data were recorded to indicate whether the furnace actually went positive.

Times that data were lost while processing hazardous waste in the LIC and DFS during 1994 are listed in Table C-1. Some of the listed incidents show PDAR data losses after stop feeds have occurred. This is because the waste is still considered to be in the process of being treated until the waste has remained in the furnace for its designated residence time. The LIC residence time was 15 minutes and the DFS residence time is up to 45 minutes. On 26 September 1994, EPA approved a reduction in the LIC residence time to 2 minutes. During these times, all RCRA operating parameters must be complied with and recorded.

Table C-1: DFS AND LIC PDAR DATA LOSSES IN 1994

DATE	SYSTEM	WASTE PROCESSED	TIME OF DATA LOSS
11 Jan 94	LIC	SDS	08:55:05-09:04:28 (no stop feed)
11 Jan 94	LIC	SDS	09:05:28-09:15:21 (no stop feed)
11 Jan 94	LIC	SDS	09:16:21-09:26:55 (no stop feed)
11 Jan 94	LIC	SDS	09:27:55-10:00 (stop feed at 0945)
20 Jan 94	DFS	M55 Rockets	16:37:48-16:42:14 (stop feed)
4 Feb 94	DFS	M55 Rockets	22:56:48-23:09:46 (stop feed at 2300)
24 Feb 94	LIC	GB Agent	09:53:46-1006 (stop feed at 0951)
24 Feb 94	DFS	M55 Rockets	09:54:01-10:13:01(stop feed at 0951)
24 Feb 94	LIC	GB Agent	13:09:28-13:31:28 (stop feed at 1320)
24 Feb 94	DFS	M55 Rockets	13:09:28-13:29 (stop feed at 1244)
25 Feb 94	LIC	GB Agent	0712-07:55:39 (no stop feed)
25 Feb 94	LIC	SDS	0703-07:55:39 (stop feed at 0754)
26 Feb 94	DFS	M55 Rockets	0014-0321 (stop feed at 0236)
26 Feb 94	LIC	GB Agent	0525-0558 (stop feed at 0543)

Table C-1: DFS AND LIC PDAR DATA LOSSES IN 1994

DATE	SYSTEM	WASTE PROCESSED	TIME OF DATA LOSS
26 Feb 94	LIC	GB Agent	0616-0706 (stopped purging agent gun at 0651)
7 Mar 94	DFS	M55 Rockets	13:05:42 - 13:07:56 (no stop feed)
7 Mar 94	DFS	M55 Rockets	13:38:55 - 13:43:13 (no stop feed)
7 Mar 94	DFS	M55 Rockets	13:44:13 - 13:46:25 (manual stop feed at 13:01:25)
7 Mar 94	DFS	M55 Rockets	13:55:56 - 13:57:38 (no stop feed)
7 Mar 94	DFS	M55 Rockets	14:49:18 - 14:52:22 (stop feed at 14:41:53)
7 Mar 94	DFS	M55 Rockets	16:30:33 - 16:32:05 (stop feed at 16:30:55)
7 Mar 94	DFS	M55 Rockets	16:33:31 - 16:34:38 (stop feed at 16:32:52)
8 Mar 94	LIC	GB Agent	14:30:39 - 14:32:14 (stop feed at 14:23:43)
10 Mar 94	DFS	M55 Rockets	08:23:32 - 08:45:16 (stop feed at 08:27:09)*
5 Aug 94	LIC	GB Agent and SDS	12:12:26 - 12:24:30 (stop feed at 12:14:25)
11 Nov 94	DFS	M55 Rockets	07:47:49 - 07:53:01 (stop feed at 07:48:59)
11 Nov 94	DFS	M55 Rockets	16:53:34 - 16:57:27 (stop feed at 16:55:13 due to a hard disk failure)

* The loss of communication to PDAR alarm was cleared when the Programmable Logic Controller (PLC) main program communication to PDAR was reestablished. Feed recommenced at 08:37:09 although data were not collected on PDAR until 08:45:16. This problem was attributed to the loss of communication to PDAR alarm clearing without all of the data acquisition subprocesses being on-line and ready to collect data.

Corrective Action

The main cause of PDAR loss during 1994 is attributed to communication interferences causing the system to malfunction. The testing error that occurred on 25-26 February should not occur again since an alarm was installed to alert Operations when data are not being recorded on the PDAR hard disk system. The existing PDAR system is scheduled to be replaced with an upgraded system in the first quarter of calendar year 1995. The upgraded PDAR system is currently undergoing testing on-island. Additionally, the new system will have redundant recording capability.

In addition to replacing the PDAR system, the requirement to record RCRA parameters on a once per minute frequency has been emphasized to facility personnel along with the requirement to stop feed in the event of a loss of communication between the NWM and PDAR of greater than 60 seconds. In May 1994, the programs for the DFS, LIC, MPF and DUN were modified to require an automatic waste feed cutoff when a loss of communication between the NWM and PDAR occurs greater than 60 seconds. The standing operating procedures (SOPs) have also been modified to ensure hazardous waste operations are halted when PDAR is lost for greater than 60 seconds.

C.2. BRA BRINE FEED RATE - LOSS OF DATA

Requirement

The JACADS RCRA Permit requires the brine flow rate to the evaporator, measured as instantaneously and as a rolling one hour average (ROHA), be recorded at a frequency of at least once a minute on the PDAR System whenever hazardous brines are processed. To meet this requirement during periods of PDAR loss, a permit modification notice was submitted to the EPA on 11 March 1994 informing the agency that control room advisor trend analysis reports would be used to substitute for the PDAR generated reports in the event that a loss of PDAR communications occurs.

Noncompliance

a. During the first half of 1994, brines were processed in the Brine Reduction Area (BRA) for a total of approximately 5 hours and 11 minutes without brine flow rate readings being recorded due to a loss of communications between PDAR and the Network Manager (NWM). A list of the periods of data loss is provided in Table C-2.

b. During 18-22 February there were 22 occurrences when instantaneous and ROHA feed data were not recorded while processing brines. The amount of instantaneous and ROHA data lost during the 22 periods totaled approximately 7 hours 16 minutes and 6 hours 30 minutes, respectively. During this period, PDAR was down and the data were not recorded on the control room advisor trend reports, being used to a substitute recording method.

c. During the processing of brine in the BRA, there were a number of times when the evaporator brine feed rate was either erratic or so low that PDAR did not record data because the recording logic had been deactivated. A list of the documented times data were lost are provided in Table C-3.

Description

a. The data losses during the first quarter were primarily caused by PDAR losing communication with the Network Manager (NWM). The two incidents of data loss in May occurred while programs to the NWM were being downloaded. Table C-2 lists the dates and times of data loss occurrences.

TABLE C-2: LOSS OF BRINE FEED DATA DUE TO PDAR FAILING BECAUSE OF A LOSS OF COMMUNICATIONS

DATE	TIMES	DATE	TIMES
03 Jan 94	08:25:34 - 08:35:11	24 Feb 94	13:08:53-13:20
03 Jan 94	11:29:49 - 11:33:36	25 Feb 94	06:11:11-06:34
11 Jan 94	08:55:05 - 09:04:28	25 Feb 94	07:31-07:55:39
11 Jan 94	09:05:28 - 09:15:21	7 Mar 94	13:05:42 - 13:07:56
11 Jan 94	09:15:21 - 09:26:55	7 Mar 94	13:38:55 - 13:43:13
11 Jan 94	09:27:55 - 10:11:51	7 Mar 94	13:44:13 - 13:55:55
15 Jan 94	02:09:32 - 02:23:16	7 Mar 94	13:55:55 - 13:57:38
15 Jan 94	05:54:40 - 06:36:08	7 Mar 94	14:49:18 - 14:52:22
16 Jan 94	02:12:49 - 02:25:15	7 Mar 94	16:30:33 - 16:32:05
20 Jan 94	16:37:48 - 16:42:14	7 Mar 94	16:33:31 - 16:34:38
8 Feb 94	06:44:53-06:57:48	8 Mar 94	14:30:05 - 14:32:14
11 Feb 94	13:33:39-13:38:26	10 Mar 94	08:23:32 - 08:33*
12 Feb 94	16:24:19-16:38:54	5 May 94	23:37:42 - 23:48:26
24 Feb 94	09:53:46-10:10	17 May 94	14:04:20 - 14:07:18

* The brine feed to the evaporator was manually stopped at this time per the BRA Operating Log. The system does not have an automatic waste feed cut-off for brine feed to the evaporator or to the drum dryers.

b. The PDAR system was down for maintenance and troubleshooting while hazardous waste brine was processed in the BRA between 18 and 22 February 1994. When processing was being conducted during this time period, the BRA evaporator instantaneous feed rate and the ROHA feed rate were being documented on the control room advisor trend report which documents the parameters on a minute basis. A substantial amount of instantaneous and ROHA feed data were not recorded during this period for two reasons: (1) trend reports were not generated during processing periods and (2) when trend reports were generated, some data would not appear on the report. A review of the data showed these data losses totaled 7% and 6% of the time brine processing occurred for the instantaneous and ROHA parameters, respectively.

c. Until November 1994 the program logic for activating and deactivating the PDAR system to record brine feed flow rate data to the BRA evaporator was when Flow Meter 23-FQI-103 reached 15 gph. The program logic was originally written this way because of the insensitivity of the flow meter at low flow rates. This method of activating PDAR resulted in the failure of the system to record feed rates at low flows or when the flow was erratic. Table C-3 lists times that brine feed data was lost due to this method of activating the PDAR system.

TABLE C-3: LOSS OF BRINE FEED DATA DUE TO THE METHOD OF ACTIVATING THE PDAR SYSTEM

DATE	TIMES
10 Apr 94	23:45 - 23:27 23:32 - 23:38
11 Apr 94	07:39 - 07:46
05 May 94	20:49 - 20:57
18 May 94	20:47 - 20:49
04 Jun 94	13:17 - 13:21
12 Jun 94	14:35 - 14:41
25 Jun 94	06:36 - 06:50
26 Jul 94	10:54 - 11:00
07 Aug 94	00:13 - 00:16 00:23 - 00:28 10:43 - 10:47 13:03 - 13:08
08 Aug 94	05:04 - 05:08
09 Aug 94	21:11 - 21:14
14 Aug 94	05:33 - 05:35 09:08 - 09:10 09:14 - 09:16 09:53 - 10:10
15 Aug 94	22:56 - 22:24 22:25 - 22:40
16 Aug 94	01:11 - 01:33 03:19 - 03:26
10 Sep 94	11:31 - 11:33
12 Sep 94	06:25 - 06:28
13 Sep 94	19:19 - 19:22 19:27 - 19:42 19:42 - 19:48 20:01 - 20:06 20:08 - 20:14 20:19 - 20:21
15 Sep 94	14:24 - 14:34 21:50 - 21:53 22:23 - 22:25 23:34 - 23:36 23:40 - 23:45
16 Sep 94	02:58 - 03:01 04:10 - 04:13 04:59 - 05:01
12 Oct 94	01:48 - 01:53 01:54 - 02:00
14 Oct 94	10:07 - 10:10
15 Oct 94	03:17 - 03:22 03:25 - 03:27

TABLE C-3: LOSS OF BRINE FEED DATA DUE TO THE METHOD OF ACTIVATING THE PDAR SYSTEM

DATE	TIMES	DATE	TIMES
10 Aug 94	05:07 - 05:09 12:10 - 12:13 15:22 - 15:24 23:53 - 23:57	17 Oct 94	23:23 - 23:26
11 Aug 94	11:09 - 11:13 14:08 - 14:10 14:10 - 14:15 14:15 - 14:17 14:28 - 14:35	31 Oct 94	00:19 - 00:21 02:30 - 02:35
12 Aug 94	19:25 - 19:32	1 Nov 94	06:02 - 06:04 06:17 - 06:21
13 Aug 94	21:16 - 21:24 22:11 - 22:17		

Corrective Action

a. The requirement to record the brine feed rate to the evaporator on a once per minute frequency has been emphasized to facility personnel along with the requirement to stop feed in the event data is lost 60 seconds or more.

The existing PDAR system is scheduled to be replaced with an upgraded system in the first quarter of calendar year 1995. The upgraded PDAR system is currently undergoing testing on-island. Additionally, the new system will have redundant recording capability.

The incidents in May 1994 involving the loss of data are attributed to downloading of the programs to the NWM while processing brines. Normally the Automation engineers notify the Shift Superintendent that a program will be downloaded to verify no processing operations are in progress. Notification did not take place for the two incidents in May. It was emphasized to the Automation engineers that communication of this activity must occur prior to programs being downloaded.

b. To prevent future trend system data losses, the causes for the 18-22 February 1994 data losses were investigated by the OMC. To ensure trend reports are generated during all processing periods, the time period between report printouts was decreased from two hours to one hour and 45 minutes. The cause of lost data on the actual trend reports was attributed to the resetting of the control room advisor screens. To prevent the loss of data due to this problem, control room operators were instructed not to reset the advisor screens until the stored trend data was completely printed.

c. The original method of activating PDAR did not ensure brine feed rates were recorded during periods of low flows. A more positive means of identifying when brines are being fed was needed. To correct this problem, a program change to PLC was made on 21 July 1994 to have PDAR data collected for 15 minutes after the flow at 23-FQI-103 dropped below 15 gph. However, on 31 October 1994, due to the continuing problem of lost data, the program change was investigated and found to have an error in it which prevented the 15 minute timer from being activated. The program error was corrected on 1 November 1994.

D. OPERATION RELATED NONCOMPLIANCES

D.1. EXCEEDANCE OF DFS MISCELLANEOUS WASTE FEED RATE

Requirement

Permit Condition V.F.1 specifies that the maximum allowable feed rate for bulk solid waste (metal hardware, unserviceable hand tools, clean-up materials, etc.) contaminated with GB, VX, HD, or SDS into the Deactivation Furnace (DFS) is 30 lbs/hr during the Post-Trial Burn period.

Noncompliance

The 30 lbs/hr bulk solid waste feed rate limit to the DFS was exceeded on 9 July 1994; 50 pounds of bulk solid waste were fed into the DFS during a 53 minute period.

Description

At 0018 hours on 9 July 1994, 26 pounds of bulk solid waste were fed into the DFS. At 0111 hours on the same day, an additional 24 pounds were fed into the furnace. This caused the feed limit of 30 lbs/hr to be exceeded since a total of 50 pounds of bulk solid waste were fed into the DFS within 53 minutes.

Corrective Action

Operations was notified of this exceedance, and the importance of maintaining the waste feed rates at or below the permitted limit was emphasized. In addition, the OMC re-evaluated the permitted waste feed rates for the JACADS incinerators and on 18 January 1995 submitted to the Army a Class 2 modification request with accompanying technical justification for increasing various permitted miscellaneous waste feed rate limits.

D.2. EXCEEDANCE OF PERMITTED BRINE FEED RATE

Requirement

Following the BRA Compliance Test on 25 October 1993, a maximum feed rate of 665 gallons per hour (gph) was stipulated by on-site EPA observers, Ms. Catherine Massimino (EPA Region X) and Mr. Y.J. Kim (EPA Region IX), at a Test Outbrief meeting. This feed rate limitation applied to both evaporation and drying operations and evaporation only operations. The feed rate limitation, calculated as a rolling one hour average (ROHA), was placed on brine feed to the BRA at the inlet of the evaporator (Flowmeter 23-FQI-103). This flow rate limitation applied until EPA evaluated the test results and approved a higher brine feed rate of 1078 gph on 7 January 1994.

Noncompliance

a. The maximum allowed brine feed rate of 665 gph to the BRA evaporator was exceeded for eight minutes on 4 January 1994.

b. The maximum allowed brine feed rate of 1078 gph, as approved on 7 January 1994, to the BRA evaporator was exceeded for one minute on 10 March 1994.

Description

a. Brine feed rate, measured by 23-FQI-103, to the evaporator exceeded the maximum allowed rate of 665 gph from 1721 to 1729 hours on 4 January 1994. The maximum flow rate, calculated on a ROHA basis, was 728 gph during this time period.

b. Brine feed rate to the evaporator exceeded the maximum allowed ROHA rate of 1078 gph for one minute (from 1010 to 1011 hours) on 10 March 1994. The maximum flow rate, calculated on a ROHA basis, was 1082 gph during this time period. The recorded instantaneous brine feed rate was greater than 1078 gph from 1000 - 1008 hours and for one minute at 1011 hours. The highest instantaneous feed rate during these times was 1179 gph at 1002 hours.

   An alarm is provided to the control room to alert operators of high ROHA brine feed rates to the BRA evaporator. The alarm activates at high (970 gph) and high high (1078 gph) levels to warn the operators that the feed rate limitation is either being approached or exceeded.

It should be noted that the BRA Standing Operating Procedure (JI-0000-M-026) required the brine flow rate be halted when the high level alarm was exceeded. However, to alert the BRA operators, control room personnel had to communicate by telephone or by some other means (i.e. radio) since the ROHA reading and alarms are not provided locally in the BRA building.

Corrective Action

The high and high high level alarms had been programmed into the PLC; however, there was no local brine feed rate indicator or alarm for the ROHA in the BRA, which made rapid adjustment of the feed rate difficult. To alleviate this problem, a local indicator and alarm for the ROHA brine feed rate to the evaporator was installed in the BRA.

The approved increase of the brine feed rate to 1078 gph measured on a ROHA basis should alleviate future exceedances of the brine feed rate limit since 1078 gph is close to maximum capacity. Also to prevent future exceedances, the high level alarm was set conservatively at 970 gph on 7 January 1994 and the need to reduce brine feed at this level has been emphasized to operating personnel.

D.3. AFTERBURNER EXHAUST 0_2 AND CO MONITORING

Requirement

Permit Conditions V.F.4. and V.F.5.a. require continuous monitoring of the Liquid Incinerator (LIC) and Deactivation Furnace (DFS) afterburner exhaust for 0_2 and CO whenever hazardous wastes are being processed. Permit Condition V.F.4. also requires the automatic waste feed cutoff system to be engaged if the LIC and DFS afterburner exhaust 0_2 and CO deviates beyond its permitted limits.

Noncompliance

a. For approximately nine hours and six minutes of GB processing in the LIC on 5 January 1994, the 0_2 and CO continuous emission monitors (CEMS) backpurged, for a duration of five minutes each cycle, every 9-10 minutes. During this time, 0_2 and CO were not monitored for approximately 50% of the time.

b. During the processing of M55 GB rockets in the DFS on 3 February 1994, the afterburner exhaust was not monitored for 0_2 and CO from 0337 to 1346 hours.

c. During the processing of M55 GB rockets in the DFS on 21 July 1994, the afterburner exhaust was not monitored for 0_2 and CO from 1052 to 1923 hours.

d. During SDS processing in the LIC on 9 August 1994, the afterburner exhaust was not monitored for 0_2 and CO from 1106 to 1457 hours.

e. During SDS/agent processing in the LIC on 23 August 1994, the afterburner exhaust was not monitored for 0_2 and CO from 0349 to 0406 hours.

Description

a. At approximately 1430 hours on 5 January 1994, the 0_2 and CO CEMS at the afterburner exhaust of the LIC began backpurging for a duration of five minutes at a frequency of about once every 9 to 10 minutes. Normally, the CEMS backpurges for 5 minutes every 40 to 45 minutes. The increase in the frequency of backpurges was due to the CEMS operator inadvertently hitting the backpurge frequency adjustment control on the monitoring system. The increase in backpurge frequency was not detected until the CEMS was calibrated at midnight on 5 January 1994. GB processing occurred from 1430-1739 hours and 1754-2400 hours while the CEMS were backpurging at the higher frequency.

b. At 0115 hours on 3 February 1994, the DFS afterburner exhaust 0_2 monitor was taken offline for daily calibration. At 0149 hours, the Control Room received a call from the Lab technician stating that calibration of the CEMS was complete and the units were back on-line. M55 GB rocket processing in the DFS commenced at 0338 hours and continued until 1346 hours. During this time 194 M55 GB rockets and 66.1 pounds of GB agent were processed in the DFS. At 0115 hours on 4 February, the Lab technician was conducting the daily calibration of the DFS Afterburner exhaust 0_2 monitor and noticed the toggle switch indicating the monitor status had not been reset properly after the previous daily calibration. The switch was still set for the calibration mode. The monitor was calibrated and placed back on-line at this time.

The 0_2 and CO levels indicated on the PDAR DFS Daily Operating Conditions Report were false readings due to the 0_2 monitor being offline. Although the monitor was actually monitoring CO levels during this time period, the readings were inaccurate due to the fact that the 0_2 readings used for CO correction were false. Since the 0_2 monitor was set in the calibration mode, the Programmable Logic Controller (PLC) could not engage the automatic waste feed cutoff (AWFCO) system. Thus, even if the 0_2 or CO levels deviated beyond permitted limits the AWFCO system would not have engaged. The furnace operator did not observe the 0_2 or CO levels were abnormal because the system advisor screen indicates the 0_2 monitor is in the blowback cycle when it is in the calibration mode.

c. At 1052 hours, the DFS 0_2 and CO monitors went into a five minute purge cycle and the units continued to purge every 10-11 minutes. This continued until rocket processing ceased for the day at 1923 hours. Apparently, the purge cycle dial had been inadvertently altered when the units were placed into service. The dial does not have time divisions on it so the Lab technician was not aware of how frequently the purge would occur. The dial setting was adjusted and the monitor began purging at normal frequency (approximately every 45 - 60 minutes for five minutes) on 22 July 1994.

d. At 1054 hours on 9 August 1994, the LIC 0_2 and CO monitors were placed on-line; however, the sample probe for the monitors began to plug causing a stop feed while feeding SDS at 1056 hours. When SDS feed resumed at 1110 hours, the backup 0_2 and CO monitors were inadvertently placed on-line while they were being repaired. This resulted in no true 0_2 and CO measurements for the afterburner exhaust from 1110 to 1457 hours.

e. On 23 August 1994, the on-line LIC 0_2 and CO monitors were being calibrated at 0349 hours; however, the Control Room Operator thought the alternate set of monitors were being calibrated and continued processing SDS and GB agent. This oversight was not discovered until 0406 hours resulting in the afterburner exhaust not being accurately monitored from 0349 to 0406 hours.

Corrective Action

It was emphasized to Operations and Laboratory personnel that the furnace afterburner exhaust must be monitored continuously for 0_2 and CO whenever processing is being conducted except for the allowable back purge cycle for five minutes approximately every 45 minutes. The knob which adjusts the backpurge frequency of the 0_2 and CO monitors was taped over to prevent the control from being inadvertently adjusted.

During 1994, the DFS and LIC afterburner 0_2 and CO monitoring system was upgraded with a redundant set of monitors. The redundant monitors were installed to allow the afterburner 0_2 and CO to be monitored continuously without interruptions due to calibration/maintenance and in the event of problems with the monitors of record. Unfortunately, this attributed to several of the periods of missing data due to confusion on which set monitors were the actual monitors of record. The need to accurately document which set of monitors are on-line has been emphasized to Operations and Laboratory personnel.

D.4. UTILIZATION OF THE BRINE STORAGE TANK AGITATORS

Requirement

a. The Brine Reduction Area (BRA) process description section in Attachment D-1 of the JACADS RCRA Permit describes the use of agitators on the brine storage tanks to prevent excessive solids deposition in the tanks. Based on this description, during the BRA Compliance Test in October 1993, on-site EPA representatives informed the OMC that the agitators must be used unless a Class 1 modification notice was submitted notifying the agency that they will only be used on an optional basis.

b. 40 CFR 264.196 requires a hazardous waste tank system to be removed from service immediately if it leaks to secondary containment.

Noncompliance

a. During 1994, the processing of brines in the BRA occurred without the tank agitators in use until 13 November 1994. A Class 1 permit modification notice was submitted to the EPA informing the Agency of this practice on 25 April 1994; however, the Agency disapproved the modification notice on 18 July 1994.

b. When in use, the agitator seals periodically leaked to the brine storage tank secondary containment area.

Description

During the BRA Compliance Test in October 1993, several discussions were held with Mr. Y. J. Kim (EPA Region IX) and Ms. Catherine Massimino (EPA Region X) on the usage of the BRA tank agitators. Although the tank agitators were required to be in service to maintain the spiked metals in suspension during the test, the EPA representatives were approached with the request to use the agitators on an optional basis during normal operations. It was explained that the use of the agitators caused operational problems within the BRA system.

The suspended solids cause the plate and frame heat exchanger to become plugged more frequently than originally expected. Operational experience has revealed that the evaporator requires cleaning approximately every three to seven days, which results in approximately one full day of downtime. In addition, during normal operation, the inlet strainers of the brine feed pumps to the evaporator require cleanout every few minutes due to the suspended solids in the brine. Finally, the agitators periodically leaked to the secondary containment area of the brine storage tanks when in use. This is because the agitators are side mounted on the brine storage tanks and the agitator seals wear rapidly.

It was proposed to the EPA representatives that the use of the agitators become optional during normal operation. Although this may cause some solids deposition in the tank, it was explained that the Attachment F inspection schedule requires that the tanks be manually cleaned, at least every six months, to perform a tank bottom thickness measurement. By not utilizing the agitators, the BRA will operate for longer periods without plugging of the heat exchanger and will substantially reduce the cleaning of the brine strainers. Additionally, leakage from the agitator seals would no longer occur.

The EPA representatives stated that a Class 1 permit modification would have to be formally submitted to the EPA Region IX Administrator.

A Class 1 permit modification notice was submitted to the Army by the OMC on 9 November 1993 requesting the EPA be notified that the agitators would only be used on an optional basis when processing brines. The modification notice was submitted to the EPA on 25 April 1994. On 18 July 1994, the EPA disapproved the modification stating that the agitators must be used whenever brines are processed.

Corrective Action

To comply with EPA's rejection of the Class 1 modification notice on use of the agitator, an interim Standing Operating Procedure (SOP) change to BRA SOP-026 was initiated by the OMC on 13 November 1994 and approved by the Army on 21 November 1994. The evacuation of Johnston Island in August 1994 and the subsequent interruptions in implementing changes due to a reduced workforce allowed back on the island was a major contributing factor for the delay in implementing this change.

With the use of the agitators commencing in November 1994, the periodic leakage to the brine storage tank secondary containment area commenced. It should be noted that the leakage is

normally less than one gallon per minute and is directed by a funnel at each tank to the secondary containment area sump. Engineering is currently evaluating a means to collect the leakage and return it to the storage tanks before it falls to secondary containment.

E. UNAPPROVED FACILITY MODIFICATIONS

E.1. CAUSTIC LINE CONNECTION TO PAS-TANK-103

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The DUN PAS was modified by connecting a caustic line to the recirculation tank system without either prior notification or approval of the EPA.

Description

The DUN PAS quench tower was modified in February-March 1993 by installation of a recirculation tank. A permit modification request to install the recirculation tank was submitted to the EPA on 5 February 1993 and the request was approved by the agency on 22 February 1993. The modification request included a narrative description of the pumps, piping and controls the system would have, including a piping and instrumentation drawing (P&ID) showing the proposed change. The narrative and drawing detailed how the process water system would be connected to the recirculation tank; however, there was no indication of a caustic connection to the tank.

Installation was completed on 12 May 1994 when the DUN PAS was modified by connecting a caustic supply pipe to the process water pipe that enters the recirculation tank. This modification was performed to allow the waste in the tank to be neutralized in place. Review of the Engineering Change Proposal which this change was made under indicates the caustic connection to the tank was not adequately documented. The P&ID for the DUN PAS (4020-24-MP-105) was not updated to reflect this change until 9 August 1994.

This unauthorized change did not become apparent until the week of 23 October 1994 when an additional change was proposed to the system due to corrosion on the process water piping entering the recirculation tank. The corrosion was attributed to the tie-in of the caustic line to the process water line by the system engineer.

Corrective Action

A Class 1 modification notice was submitted to the EPA on 8 November 1994 informing the agency of this unauthorized change and notifying them of the intent to leave the system in its current

configuration. The EPA acknowledged and approved this change on 7 December 1994 provided it was reported in the 1994 Annual Noncompliance Report.

E.2. REMOVAL OF THE BRA EVAPORATOR VENT

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The evaporator vent was removed from the BRA PAS exhaust duct without either prior notification or approval of the EPA.

Description

The BRA evaporator was originally designed and constructed to vent to the atmosphere. In 1991, the EPA required a baghouse be installed on the system to control particulate emissions. After the baghouse was installed, the evaporator atmospheric vent and its associated damper were no longer needed since the exhaust from the evaporator flowed through the baghouse. During April 1994, severe corrosion of the evaporator vent and damper was discovered. Since this equipment was no longer needed, it was removed on 1 May 1994. This action was discussed with on-site EPA representatives, Mr. Y.J. Kim (EPA Region IX) and Ms. Catherine Massimino (EPA Region X) on 13 May 1994. The EPA representatives concurred with this system change provided it was documented in a Class 1 modification notice, Regulation 40 CFR 270.42 requires notices to be submitted within seven days of implementation, to the EPA Region IX Office.

Corrective Action

A Class 1 permit modification notice was submitted to the EPA on 23 June 1994 to document the removal of the evaporator vent and damper. The permit modification notice was acknowledged by EPA on 18 July 1994.

E.3. REMOVAL OF DUNNAGE INCINERATOR EXHAUST FLOW SWITCH

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by 1 March of each year to reflect the facility as of December of the preceding year. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The exhaust flow switch at the I.D. fan of the Dunnage Incinerator (DUN) was removed and replaced with a differential pressure indicating transmitter in September 1993 without either prior notification or approval of the EPA. Additionally, the change was not reflected on the system Piping & Instrumentation Drawing (P&ID 4020-24-MP-106).

Description

Investigation of a Step One shutdown of the DUN while burning nonhazardous dunnage on 16 December 1994 revealed that the flow switch (24-FSLL-432) had been removed and replaced with a differential pressure switch (24-PDIT-316). The flow switch was replaced with 24-PDIT-316 in September 1993 because it had deteriorated and a suitable substitute flow switch could not be located. There was no documentation of the replacement of 24-FSLL-432 with 24-PDIT-316 on the DUN interlock matrix or on the system P&ID. Consequently, a calibration was being performed on the differential pressure switch while the DUN was processing dunnage causing the Step One shutdown.

Corrective Action

It was emphasized to the Engineering personnel that unauthorized changes to permitted systems of JACADS are prohibited unless the changes are considered equivalent upgrades and proper EPA notification is completed. Proper notification may require updating the P&ID and/or informing the agency of permit modifications in accordance with the requirements of 40 CFR 270.42.

Based on a technical evaluation, Engineering will replace 24-PDIT-316 with a flow switch. Until a suitable replacement switch is located and installed, the P&ID and DUN Interlock Matrix have been updated to reflect the use of 24-PDIT-316.

E.4. BRA DRUM DRYERS CONFIGURATION

Requirement

Section I.D.6, requires that the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed to achieve compliance with all conditions of this permit. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The BRA was originally designed and installed with a drain pan underneath each drum dryer to collect any liquid or solids which may leak from the drums. The EPA was not informed of the removal of the drain pans and reconfiguration of the system at the time the pans were removed.

Description

The original design, installation, and BRA acceptance test package (November 1988) included a drain pan underneath the drum dryers to collect liquids and solids which leak through the drums. In August 1989, the drain pans were removed to facilitate cleaning but were never reinstalled. Until September 1993, liquid and solids wastes have been accumulating in the secondary containment area beneath the dryers. In September 1993, temporary wooden drain collection structures were installed. At the same time, engineering commenced design of stainless steel catch pans equipped with sump pumps and controls to automatically empty the sumps on high level. Final design of the system was submitted to the Army on 7 March 1994 and installation of the catch pans, with the exception of their sumps and associated alarms and controls was completed in December 1994.

Corrective Action

A Class 1 permit request was submitted to the EPA on 23 June 1994 for installation of the permanent stainless steel catch pans. EPA approved the modification request on 18 July 1994. Installation of the catch pans was completed in time for the Mass Balance Test conducted on 9-11 December 1994 although installation of the sump pumps was not completed at this time. The installation of the sump pumps which required additional electrical and plumbing work that was completed at the end of February 1995.

F. EPA NOTIFICATION RELATED NONCOMPLIANCES

F.1. FACILITY CLASS 1 MODIFICATION NOTICES

Requirement

RCRA Regulation 40 CFR 270.42 requires the Permittee to formally notify the EPA Regional Administrator of certain facility changes. For minor changes, Class 1 modifications, notification is required within seven calendar days after the change has been put into effect with the exception of those types of changes which require prior EPA approval.

Noncompliance

Fifteen Class 1 modifications, listed below, were implemented at the JACADS facility without proper notification to EPA within the required seven-day time period. Late Class 1 modification notices mentioned elsewhere in this report are not reported in this section to avoid duplicate reporting.

Description

The below Class 1 modifications were implemented at JACADS but were not reported within the required time. Some of these modifications were either implemented during the construction phase or during operations and just discovered in 1994; others were changes implemented in

1994. The date of implementation (estimated date where designated) are listed in Table E-1 along with the date the Army submitted written notice to EPA.

Table E-1: CLASS 1 PERMIT MODIFICATION NOTICES SUBMITTED LATE

ITEM #	MODIFICATION	DATE IMPLEMENTED	DATE SUBMITTED TO EPA
1	Demister 102 use as a permanent bypass for the MPF	Jul 93*	5 Jan 94
2	Attachment F PPE Update	Oct 93*	5 Jan 94
3	BRA Evaporator Heat Exchanger Cocurrent Flow	1989*	5 Jan 94
4	Contingency Plan Update	Oct 93*	7 Feb 94
5	Abandonment of Acid Wash System	Nov 93*	1 Mar 94
6	Recording of BRA Brine Flow Rate Data	18 Feb 94	11 Mar 94
7	Installation of BRA Screw Conveyors	19 Feb 94	11 Mar 94
8	Transfer of Containerized SDS	1993*	18 Apr 94
9	Facility Traffic Pattern and Site Map Information	1993*	25 Apr 94
10	Contingency Plan Update	30 Jun 94	4 Aug 94
11	SDS Collection System Update	1989*	29 Nov 94
12	Use of Pressurized N_2 as Standby Method for Maintaining the DUN Charge Door Closed	1993*	17 Dec 94
13	LIC Refractory Lining	1989*	--------**

* Indicates the estimated date of implementation, if not specifically known.

** The refractory of the LIC crossover duct and exhaust duct from the secondary chamber to the quench does not match the description in the trial burn plan of the permit. A permit modification notice to correct this inaccuracy is being prepared by the OMC.

Corrective Action

Analysis of the root cause indicates that a variety of circumstances contributed to this noncompliance including existing engineering procedures for implementing facility changes, communication methods, review and approval requirements, and awareness of specific permit requirements.

In January 1994, the Army commenced submitting a number of Class 1 permit modification notices directly to the EPA from its Johnston Island Office. This has improved the notification process dramatically, since the notices are generally delayed at the Army Edgewood Office.

The OMC continues to review the JACADS RCRA permit and has implemented additional procedures to ensure modification notices are submitted in a timely manner. Whenever erroneous information is found in the permit, modifications will continue to be submitted to correct the inaccuracies.

F.2. WASTE CHARACTERIZATION AND WASTE ANALYSIS PLAN

Requirement

40 CFR 264.341 specifies that the RCRA Part B permit application must include analysis of waste feeds sufficient to provide all information required by 40 CFR 270.19. Item B.1 of Appendix I to 40 CFR 270.42 identifies changes to waste sampling and analysis methods as a Class 2 Modification.

Noncompliance

The Chemical and Physical Analyses (Section C-1) and Waste Analysis Plan (Section C-2) portions of Attachment C of JACADS Permit were somewhat deficient in describing waste feeds to the incinerators and test and analysis methods used. These sections also contained inaccurate information on current facility operations and testing performed.

Description

A number of waste feeds to the furnace systems have been permitted in the last few years which were not addressed in Attachment C. These waste feeds include miscellaneous agent contaminated bulk solid feeds into the DFS and MPF, agent contaminated metal and absorbents into the MPF and hydraulic fluid in the LIC. The characterizations of the incineration residuals for these wastes were also not addressed. Additional deficiencies in Attachment C included waste tracking procedures, dilution factors for SDS, the description of laboratory wastes sent to the SDS tanks, characterization of storage wastes, reactivity testing and agent analytical techniques.

Corrective Action

The OMC submitted a Class 2 modification package which completely revised and addressed the deficient sections of Attachment C to the Army on 16 March 1994. Based on numerous PMCD comments, the modification package was revised by the OMC and resubmitted on 19 April 1994. The modification package was later modified to include additional details on agent analytical techniques which were included in the original permit application but inadvertently left out of the 30 April 1990 Class 3 permit modification approved by EPA on 15 March 1991.

On 15 August 1994, the Army submitted the Class 2 modification package to the Region IX EPA office. The EPA informed the Army on 10 November 1994, in accordance with 40 CFR 270.42(b)(6)(i)(E), that due to the complex nature of the request an additional 30 day extension was being taken to make a determination on the request. The 30 day extension expired on 9 December 1994. In accordance with the requirements in 40 CFR 270.42(b)(6)(iii), if the director fails to give a decision by the 120th day after submittal of the modification request, the permittee is automatically authorized to conduct the activities for up to 180 days without formal agency action. In addition, 50 days prior to end of the automatic authorization period, a public notice must be initiated before final approval is authorized.

F.3. NOTIFICATION TO EPA OF RELEVANT INFORMATION

Requirement

Permit Condition I.D.18 requires the permittee within 30 days of becoming aware that he failed to submit any relevant facts or reported incorrect information in the permit application or in a report to the Regional Administrator to submit such facts/information.

Noncompliance

Failure to report relevant information to the Regional Administrator regarding a discrepancy in the Deactivation Furnace System (DFS) combustion air data provided in a Trial Burn Report submitted to the EPA in March 1992 within 30 days of discovering the discrepancy.

Description

The actual discrepancy resulted from an improper calibration of the combustion air flow sensing device for the DFS Afterburner No. 1 Burner. Prior to the DFS Trial Burn in March 1992, the combustion air flow range for the Afterburner No. 1 Burner (16-FE/FIT-78) was zero to 518 pulses per second (pps) giving an output signal of four to 20 milliamperes (ma) which was converted to 0-1500 standard cubic feet per minute (SCFM). The combustion air flow range for Afterburner No. 2 Burner (16-FE/FIT-79) was zero to 1098 pps for an output signal of four to 20 ma signal which was converted to 0-1500 SCFM.

Just prior to the Trial Burn, both instruments were recalibrated. The range was changed from 0-518 pps to 0-1098 pps during the calibration on the combustion air flow meter for No. 1 Burner. Shortly after the Trial Burn, the No. 1 Burner flow meter was recalibrated to the proper range of 0-518 pps. A review of the combustion air data for the Trial Burn indicated that the flow through No. 1 Burner was 50% less than for No. 2 Burner.

This discrepancy was discovered by the OMC in November 1993 during the finalization of operating parameters for the DFS Toxic Substance Control Act (TSCA) operating permit. Both the Army and the EPA Office of Pollution Prevention and Toxic Substance (OPPT) were notified of this discrepancy in November 1993. Although OPPT was notified, the office responsible for issuing the TSCA operating permit, the EPA Regional Administrator responsible for the JACADS RCRA Permit was not notified.

Corrective Action

The Army submitted written notification of this discrepancy to the EPA Regional Administrator on 25 May 1994.

F.4. AS-BUILT DRAWINGS

Requirement

Permit Condition I.17 requires an updated package of facility as-built information be submitted to the EPA Regional Administrator by March 1 of each year. The as-built information is to reflect the as-built condition of the facility as of December 31 of the preceding year.

Noncompliance

Seven drawings in the RCRA permit did not reflect the as-built condition of the facility as of 31 December 1993 and consequently the changes were not reflected in the as-built package submitted to the EPA Regional Administrator on 17 February 1994.

Description

a. Drains from the exhaust ductwork on the BRA PAS, which were installed in January 1993, were not shown on Piping and Instrumentation Drawings (P&IDs) 23-MP-300-0001 and 4020-23-MP-101. P&ID 23-MP-300-0001 was updated on 24 May 1994 and P&ID 4020-23-MP-101 was updated on 26 November 1994.

b. Several changes resulting from the abandonment of the LIC salt removal system in 1989 were not reflected on as-built drawings. On 19 May 1994, P&ID 4020-24-MP-103 was revised to show the abandonment of a 3/4" line from the salt removal system and the installation of a check valve. Process Flow Diagram 4020-23-FS-101 was revised on 26 November 1994 to reflect an abandoned in place line from the salt removal system to the brine storage tanks.

c. The abandonment of the SDS feed system to the DFS was not reflected on P&IDs 4020-11-MP-101 and 4020-16-MP-101 although a Class 1 permit modification notice was submitted to the EPA on 8 November 1993 informing the Agency that the system had been abandoned. The P&IDs were updated on 26 May 1994.

e. P&ID 4020-23-MF-101 did not reflect the functional removal of a check valve on the feed system to the brine storage tanks which occurred prior to 1994. The P&ID was updated on 19 January 1995 to reflect the actual configuration of the piping to the hazardous waste storage tanks.

f. A four inch line (4"-HCL-104-WF) to the Acid Wash Tank was not shown on P&ID 4020-24-MP-104. The four inch line was installed prior to 1994 and should have been reflected on 4020-24-MP-104. The P&ID was updated on 26 November 1994 to reflect the four inch line.

Corrective Action

The seven drawings affected by the above changes have been updated to reflect the as-built condition of the facility, as of 31 December 1994. The annual as-built information package, required to be submitted to the EPA Regional Administrator by 1 March 1995, was transmitted by the OMC to the Army on 18 February 1995.

G. MISCELLANEOUS NONCOMPLIANCES

G.1. REMOVAL OF ACAMS SAMPLING PORTS ON MDB FILTER BANKS

Requirement

A permit modification was submitted to the EPA on 30 April 1993, requesting a change to Permit Conditions V.D.6.c and V.F.5.c regarding ACAMS monitoring in the building ventilation stack and the building ventilation filter banks. As an enclosure to the modification letter, a detailed monitoring scheme for ACAMS and DAAMS monitoring on the MDB ventilation filter banks was presented. The monitoring scheme stated that during GB and HD operations each filter bank (401-407) would be sampled sequentially between carbon beds 1-2, 2-3, and 4-5 by an ACAMS. During VX operations, the filter banks would be sampled sequentially between carbon beds 2-3 and 4-5 since limited access area between carbon beds 1-2 do not allow for installation and change-out of the necessary VX conversion pads.

Noncompliance

On 7 December 1993, the ACAMS sampling ports between carbon beds 1-2 for filter banks 403, 404, 406, and 407 were taken out of service. On 11 December 1993, the ACAMS sampling port between carbon beds 1-2 for filter bank 405 was taken out of service.

Description

The ACAMS in the HVC filter banks were originally configured to sequentially sample between carbon beds 1-2, 2-3, and 4-5. During the GB ton container campaign, which commenced in early December 1993, the ACAMS sampling point between carbon beds 1-2 for HVC filters 403, 404, 406, and 407 was indicating high levels of GB breakthrough. Since the ACAMS sampled three points sequentially, it was observed that the sampling points downstream of carbon beds 1-2 (i.e. carbon beds 2-3 and 4-5) were indicating high values of agent due to carryover from the first sampling point. As a result, the first sampling point (carbon beds 1-2) was removed since it had been confirmed that breakthrough had occurred.

Corrective Action

A permit modification notice was submitted to EPA on 2 March 1994 and approved by the Agency on 2 May 1994 to allow the flexibility to remove sampling points as long as there is at least one ACAMS sampling point monitoring between two carbon beds in a filter bank.

G.2. PREVENTION OF RUNOFF FROM THE RESIDUE HANDLING AREA

Requirement

RCRA Regulation 40 CFR 270.14(b)(8)(ii) requires the prevention of runoff from hazardous waste handling areas to other areas of the facility or to the environment. Several permit modifications were submitted to the EPA in 1993 and 1994 to ensure the Residue Handling Area (RHA) complied with this regulation.

Noncompliance

a. The RHA was used for 14 days in January, six days in February and two days in March without the area being properly cleaned after each shift to meet the requirements of a Class 1 permit modification notice submitted to the EPA on 8 November 1993.

b. Hazardous waste handling activities at the RHA from 1 July 1994 through the end of 1994 did not meet the requirements of Regulation 40 CFR 270.14(b)(8)(ii) since the EPA disapproved the Class 1 permit notification notice submitted on 8 November 1993 and a means to prevent run-off at the RHA was not implemented in this time period.

Description

The RHA area is used for transferring DFS and DUN residue waste from waste collection bins to flexible intermediate bulk containers (FIBCs) for shipment off island for disposal. The RHA was being used for transferring DFS residue from the processing of rockets during 1994. This waste is generally characteristically hazardous due to high levels of lead and cadmium.

Per the Class 1 modification notice submitted to the EPA on 8 November 1993, the RHA was required to be cleaned up after each shift the unit is used to satisfy the intent of 40 CFR 270.14(b)(8)(ii). Additionally, the permit was revised to state the RHA would not be used during precipitation events.

On 25 April 1994, EPA rejected the permit modification stating that the RHA must be provided with a means of removing rainwater, of preventing accumulation of rainwater and of preventing contact of rainwater with hazardous waste. On 20 May 1994, the Agency requested additional information on the RHA dust collection system and operational procedures.

The additional information and a Class 1 permit modification were submitted to the EPA on 3 November 1994. The submittal detailed operational procedures that would be implemented to prevent migration of any contamination from the RHA to other areas of the facility or the environment. These procedures were:

- The RHA will not be operated during or immediately after a rainfall.
- When the RHA is in use, operators will perform continuous visual monitoring to detect any releases or spillage. If releases occur, operators will immediately cease operation and collect, clean up or vacuum any debris.
- After each shift, when processing at the RHA, operators will visually inspect the area and collect, clean up or vacuum any debris.
- Removable panels will be installed on the sides about the hopper area and on the second floor of the RHA to prevent the infiltration of rainfall when the RHA is not in use.

a. The failure to clean the RHA was noticed during the first portion of February 1994, when the release of fugitive emissions was observed. An OMC investigation revealed that the main source of the observed emissions was from loose debris already accumulated on the outside surfaces of the RHA equipment. A gap in the discharge chute near where the FIBC clamps on to the hopper appeared to be the primary cause for the loose debris. It was observed that improper securing of the FIBC to the hopper also contributed to emissions.

b. After EPA disapproval of the 1993 permit modification on 25 April 1994, hazardous waste handling operations at the RHA did not recommence until 1 July 1994 due to shutdown of rocket processing operations. Several proposals were evaluated by Engineering during the summer of 1994 to prevent runoff from the RHA. The solution to install removable panels on the RHA was submitted to the Army on 4 August 1994 and technically approved by the Army on 16 August 1994.

Corrective Action

a. To satisfy the requirements of the 1993 permit modification notice, the RHA Standing Operating Procedure (SOP 023) has been revised to specify that the area be cleaned up after it is used to prevent contamination of rainwater runoff during waste handling activities.

Following discovery of the problem in February 1994, the RHA area was vacuumed and cleaned of debris on the subsequent work shifts. The need to adhere to the RHA SOP and to clean the area immediately after each shift the RHA is used was also emphasized to operating supervisors and personnel. A dedicated vacuum was procured for use at the RHA. The gap in the hopper was sealed by welding the area on 8 February 1994.

b. On 3 November 1994, following the return of the OMC work force after the evacuation of Johnston Island due to Hurricane John, a Class 1 permit modification was submitted to the EPA proposing the removable panels as an acceptable solution. The Agency approved this as an acceptable method on 7 December 1994. Following acceptance, materials were ordered by the OMC. Installation of the panels was completed on 24 February 1995.

G.3. 90-DAY WASTE STORAGE EXCEEDANCE

Requirement

40 CFR 264.34 prohibits hazardous waste from accumulating on-site for greater than 90 days without a permit for storage of the waste.

Noncompliance

One drum of ethylene glycol contaminated with VX was stored within the Munitions Demilitarization Building (MDB), an unpermitted storage area, for 200 days.

Description

Per 40 CFR 262 RCRA regulations, accumulated waste must be managed as hazardous waste until the waste is tested and verified to be nonhazardous, unless the generator can classify the waste nonhazardous by process knowledge or previous test results. Seventeen (17) drums of ethylene glycol waste had accumulated in the MDB during the first portion of 1994. This waste was transferred to the Toxic Maintenance Area (TMA), located within the MDB, in June 1994. In the case of the 17 drums of ethylene glycol, JACADS procedures required this to be managed as agent contaminated until it is tested and verified to contain no agent. When the 17 drums were tested, one of the drums tested positive for VX agent which rendered it a hazardous waste due to the characteristic of reactivity (D003). The accumulation date marked on the drum was 7 January 1994 and it was not moved to a permitted hazardous waste storage location, Bunker 897, until 26 July 1994. Thus, this drum of hazardous waste had exceeded its 90 day limit for accumulation by 110 days.

Corrective Action

The importance of complying with the 90 day limit for storing wastes within the MDB was emphasized to Operations personnel. Operations was advised of two options for handling the drum of VX contaminated ethylene glycol: (1) incinerate the waste in the LIC per operating conditions of the RCRA permit or (2) transfer the drum to permitted storage. Operations chose to place the VX contaminated ethylene glycol drum in permitted storage.

Additionally, JACADS operating procedures (SOP 101) require waste generated in the MDB to be moved into the TMA within three days of generation to ensure proper management and inspection of the waste containers. It was emphasized to Operations that the requirements of SOP 101 must be followed to ensure the facility stays in compliance with RCRA regulations pertaining to hazardous waste management.

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND 21010-5401

#10117

March 15, 1996

Contract Administration - JACADS (CD-CO-J-6472)

SUBJECT: 1995 Annual Report of RCRA Noncompliances

Mr. S. Kasley, Program Director
JACADS Operations & Maintenance Contract
Raytheon Engineers and Constructors
Johnston Island
APO AP 96558-0008

Dear Mr. Kasley:

Please refer to: your letter JI-96-61882.2 dated 28 February 1996 on the above subject; JACADS Field Office letter CD-CO-J- dated 4 March 1996 to your office on the above subject; meeting of 14 March 1996 between JACADS Field Office representatives and representatives of the Environmental Compliance Department on the above subject. You are directed to revise the subject report in accordance with guidance provided at the referenced meeting. Specifically, incorporate the editorial and technical comments contained in our 4 March 1996 letter as discussed in the meeting. Additionally, delete the following items:

Item 3.C. - Failure to Halt Processing of Brines After Stack LOQ ACAMS Alarm - This item is being deleted, because the ACAMS alarms cleared before the operators could have halted processing. The alarms cleared within approximately fifteen seconds.

Item 4.C. - Treatment of SDS in Permitted Storage Tanks - Use of Whistle as a decon solution is allowed by the permit. The permit also indicates that Whistle may be present in the decon solution in the SDS tanks.

Item 6.B. - Late Class 1 Permit Modification Notices - The references to the late submission of the modification notice for installation of liquid control measures on the DUN PAS recirculation tank is being deleted, because the legal requirement for submission of this modification is presently being evaluated by the PMCD environmental attorney. A decision on the submission of this item to EPA will be made upon receipt of the attorney's opinion.

Item 7.C. - Failure to Implement Contingency Plan in Response to Perimeter Station Reading - The LQCP included in the RCRA Permit references to the laboratory and site contingency plans refers to SOPs and internal procedures and not the RCRA Contingency Plan. Additionally, the RCRA Contingency Plan does not address a required response to perimeter station readings.

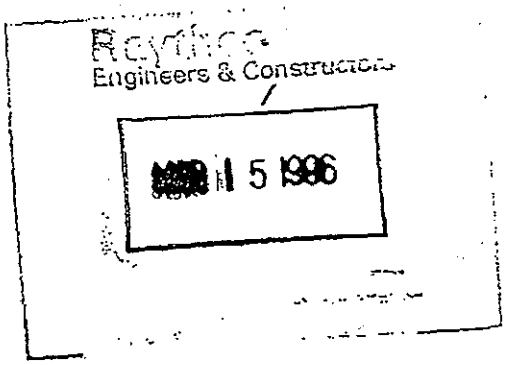
Item 9.B. - GB Emissions from Filters 401 - 407 on 16-17 March 1995 - Notifications were made in accordance with the requirements of the regulations. In addition, a letter was sent to EPA by PMCD within 30 days of PMCD receiving additional information on the agent readings outside the filter banks.

In order to meet the 15 March 1996 deadline for submittal to EPA, a revised noncompliance report should be submitted to the JACADS Field Office no later than 15 March 1996. Please refer questions to Mr. Robert Moll at 441-3958.

Sincerely,

Stephen C. DePew
for Gary W. McCloskey
Contracting Officer's
Representative

Copy Furnished:
Mr. R. Moll, SFAE-CD-CO-J
Mr. W. Stayer, SFAE-CD-ME
Mr. W. McLay, SFAE-CD-CO-I
Mr. M. McDonald, RE&C
Mr. A. Bean, RE&C



THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

1995 ANNUAL REPORT OF RCRA NONCOMPLIANCES

25 FEBRUARY 1996

(Revised 15 March 1996)

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JACADS 1995 ANNUAL RCRA NONCOMPLIANCE REPORT

INTRODUCTION

BACKGROUND

The U.S. Army, Program Manager for Chemical Demilitarization (PMCD), operates the Johnston Atoll Chemical Agent Disposal System (JACADS) facility under EPA I.D. Number TTO-570-090-001. The JACADS mission and facility is described in the JACADS Resource Conservation and Recovery Act (RCRA) Part B Permit dated 15 May 1991, its associated attachments and permit modifications approved by the Environmental Protection Agency (EPA) since this date.

JACADS is operated by the Operations and Maintenance Contractor (OMC), Raytheon Engineers & Constructors, Inc., under the direction of the Program Manager, Department of the Army.

JACADS ENVIRONMENTAL COMPLIANCE COMMITMENT

The Army and its contractors remain committed to operating the JACADS facility in a manner that is fully compliant with its permits, and protective of human health and safety, and the environment. The 1995 Noncompliance Report shares the results of our activity towards establishing our goal of an exemplary compliance program.

Noncompliances do exist at JACADS; however, most are related to administrative procedures and documentation issues which continue to be fine tuned and clarified. Others can be attributed to interpretational discrepancies and inconsistencies in the permit itself, which make compliance difficult. These are also being addressed and clarified in an ongoing effort. The JACADS program has developed and implemented corrective actions for each identified noncompliance. In addition, it is responsive to resolving all identified regulatory compliance issues that arise during the course of the extensive audit/inspection program.

INTERPRETATION OF NONCOMPLIANCE

As stated earlier, the Army and its OMC are committed to operating the JACADS facility in compliance with all environmental and other regulatory requirements. A proactive regulatory compliance attitude exists at the JACADS facility. Several levels of oversight, inspection and auditing are conducted routinely. These range from day-to-day activities performed by the PMCD and OMC Environmental on-island staffs to the less frequent, but comprehensive audits conducted by PMCD Headquarters, EPA and other entities.

The philosophy is to aggressively identify a problem or potential problem and to immediately implement an appropriate corrective action. With this proactive attitude and the willingness to seek out problem areas, it is also more likely that potential problem areas will be discovered before they become noncompliance issues. The number of identified noncompliances is proportional to the extent of effort expended in administering an effective environmental compliance program. At JACADS this effort is substantial.

NONCOMPLIANCE REPORTING

JACADS RCRA Part B Permit Condition I.D.16 requires submission of an Annual Noncompliance Report discussing all identified instances of noncompliance with the permit other than those documented to EPA during the year as required by Permit Condition I.D.15. This report is the sixth Annual Report of RCRA Noncompliance representing the period from 1 January 1995 through 31 December 1995.

The format of this report addresses each specific noncompliance item, or area of noncompliance in four parts.

1. Requirement: States the specific regulatory citation and/or permit requirement and cites the reference.

2. Noncompliance: Identifies the noncompliance.

3. Description: Presents a summary of the circumstances contributing to the noncompliance, any mitigating circumstances, etc.

4. Corrective Action: Describes corrective action(s) that were or will be implemented to respond to the noncompliance and to minimize recurrence.

For ease of review, the reported noncompliances are grouped into nine general categories, either by system or nature. Each noncompliance refers to a permit condition or regulatory requirement and may report more than one incident of noncompliance. Caution was taken to ensure a noncompliance was not reported more than once even though it may relate to several general categories. For instance, the first noncompliance, titled "Modification of the BRA PAS Ductwork Drainage System" of Section 3 Brine Reduction Area (BRA) Related Noncompliances could have been reported in Section 4 Unauthorized Facility Modification/Operation Related Noncompliances or in Section 6 Permit Modification Related Noncompliances.

SUMMARY

The Noncompliance Report for 1995 represents a substantial effort on behalf of PMCD/OMC to dedicate professional resources toward the specific goal of identifying potential instances of noncompliance that may have occurred. Just as importantly, this effort is focused toward correcting any deficiencies in the project and creating a strong project attitude and sensitivity toward compliance issues. Numerous significant improvements have been made over the course of the year. The most notable improvement in 1995 was the reduction in the loss of operating data in 1995 compared to 1994. This improvement was primarily due to the replacement of the Process Data Acquisition and Recording (PDAR) System with a new upgraded system in 1995.

The majority of the noncompliance issues were investigated and resolved in an expeditious manner whenever feasible. Additionally, permit modifications are prepared and submitted to the EPA when clarification or new issues are discovered which warrant a modification.

The project's management and work force has grown in its sensitivity and responsiveness to resolving compliance problems in an expeditious manner. The year 1995 ended with a truly significant overall improvement in compliance awareness and should be an excellent foundation for an even more improved 1996.

1. PERMIT REQUIRED INSPECTIONS/CALIBRATIONS

A. MODULE V INSPECTION/CALIBRATIONS

Requirement

Permit Condition F.5 in Module V requires that the Deactivation Furnace (DFS) thermocouples and the kiln pressure indicator be calibrated/inspected on a quarterly frequency.

Noncompliance

1. Temperature elements 16-TE-20A, 16-TE-62A (primary chamber), and 16-TE-92A, 16-TE-197B (afterburner) were calibrated/inspected on 10 January 1995. The next due date for calibration/inspection was 10 April 1995, with a window of seven days, making the latest compliance date of calibration/inspection 17 April 1995. It was discovered on 23 May 1995 that the thermocouples had not been calibrated/inspected.

2. Pressure indicating transmitter 16-PIT-18 was calibrated on 13 January 1995. The next due date for calibration was 13 April 1995, with a window of seven days, making the latest compliance date of calibration 20 April 1995. It was discovered on 23 May 1995 that the indicating transmitter had not been calibrated.

Description

During an OMC Environmental audit of the DFS for the months of March and April 1995, it was discovered that the four thermocouples and the pressure indicating transmitter had not been calibrated/inspected within their required time frame (including the seven-day window). The Maintenance Department was notified, and it was discovered that a data field in the OPMIST program had been utilized to generate work orders for shutdown schedules and budget costs. Use of this field interfered with the "RCRA" work order being generated for the scheduled calibration/inspection.

Corrective Action

The OPMIST program was modified to remove the problem field, and "RCRA" work orders were generated on 23 May 1995 to calibrate/inspect the thermocouples and the pressure indicating transmitter. The work order for the pressure indicating transmitter was completed on 26 May 1995 and the work order for the thermocouples was completed on 28 May 1995. In addition, the Maintenance Department conducted an audit of the RCRA required calibrations/inspections to ensure there were no other problems with the OPMIST program.

B. ATTACHMENT F INSPECTIONS

Requirement

Attachment F of the JACADS RCRA Permit prescribes a series of daily, weekly, monthly, semiannual and annual inspections which are required to be conducted to detect equipment deterioration and prevent possible equipment malfunctions that could cause a release of hazardous materials to the environment or pose a threat to human health. Section F-2d of Attachment F requires that at a minimum the following information be recorded for each inspection: (1) the date and time of inspection, (2) inspector's name, (3) a notation of the observation made, and (4) the date and nature of any repairs or remedial actions.

Noncompliance

1. Inspection records for documenting the completion of the annual piping corrosion inspection were not maintained in accordance with Attachment F requirements for the previous 12-month period.

2. The shell and bottom thickness measurements on the Main Oil Storage Tank (OIL-TANK-701) were not performed within their semi-annual required time frame during January 1995.

3. The halon system level indicator semi-annual check for volume content was not performed in a manner that fully met the inspection requirement.

4. Weekly visual inspections of the prefilters to Filters 401- 407 were not performed from the middle of April 1995 through June 1995 due to temporary enclosures being constructed over the portion of the filters which allowed visual observation.

Description

1. JACADS Procedure EN-13 "Piping Corrosion Inspection Program" was developed to direct how the inspections were to be performed and documented. An internal environmental audit conducted by the OMC in February 1995 revealed that the corrosion inspections were not conducted or documented in accordance with the procedure.

2. The scheduled inspection due date for the shell and bottom thickness measurements for OIL-TANK-701 was 12 January 1995. Allowing for the ten (10) day window provided by project procedures after the due date for semi-annual inspections, the deadline for completing this inspection was 22 January 1995.

3. The Attachment F Inspection Schedule requires that halon systems have their level indicators checked for volume content on a semi-annual basis; however, the systems did not have level indicators installed on them. Thus, in the past this inspection was not performed in a manner necessary to satisfy the permit requirement. The level of halon in the systems was checked by the use of an ultrasonic device on 28 February 1995.

4. The temporary airlocks were installed around Doors 6, 7 and 8 of the filters during the first portion of April 1995 to prevent the release of any agent that may have migrated through the door gaskets. The airlocks were required to be closed and sealed before rocket processing operations could commence on 14 April 1995. An audit of the Attachment F inspection records on 21 June 1995 revealed the weekly visual inspections of the prefilters were not being performed. The weekly inspection records during the time of concern document that the visual inspection could not be completed due to the presence of the temporary airlocks. During this time the control room was checking the differential pressure across the prefilters; however, this type of inspection does not fully meet the permit inspection requirement although it may satisfy the intent.

Corrective Action

1. To ensure all OMC organizations are aware of their responsibilities for completing Attachment F inspections, Plant Director's Operation Memorandum (PDOM-193) was revised and issued. Engineering records from 1994 were reconstructed in April 1995 to substantiate inspection of three of the 23 piping systems. Engineering revised EN-13 to ensure all piping systems are inspected and to require more explicit documentation. All inspections required by the revised inspection procedure were completed on 18 December 1995 and properly documented.

2. The need for advance planning was emphasized to Project management to ensure Attachment F inspections are completed on time. The inspection was completed on 25 January 1995.

3. On discovering this deficiency, JACADS pursued the installation of level indicators on the halon system. In the interim, since the installation of the indicators was delayed a number of months due to the unavailability of seal devices required to prevent halon emissions, the levels of halon were checked by the use of an ultrasonic device. The devices had to be specially manufactured. After receipt of the seal devices, the indicators were installed on all of the halon systems, except one, and the level checks were completed by the last week of July 1995. The exception was due to one small tank having a wall thickness too thin to install a level indicator. To correct this situation and to allow greater flexibility in completing the inspection requirement, a permit modification request was submitted by the Project to EPA on 31 July 1995 and subsequently approved by the Agency on 17 August 1995.

4. On discovery of this deficiency, the Project proceeded to evaluate procedures to complete the required weekly visual inspection with the airlocks in place. Before conducting a filter inspection, it was determined that an Exclusion Area Permit would have to be issued. Also, just prior to entering an airlock, the Laboratory is required to monitor the interior of the airlock and the air space under the plastic covering Door 8 of the filter to ensure elevated levels of agent are not present. On 30 June 1995, using this procedure, all of the prefilters to Filters 401 - 407 were inspected as required by the weekly Attachment F inspection requirement.

2. OPERATIONS RELATED NONCOMPLIANCES

A. EXCEEDANCE OF MPF WASTE FEED LIMIT ON 16 AUGUST 1995

Requirement

RCRA Permit Condition F.1. limits the feed of miscellaneous metal waste contaminated with agent to 500 lbs per hour into the Metal Parts Furnace (MPF).

Noncompliance

At 0324 hours on 16 August 1995, the miscellaneous metal waste feed limit of 500 lbs per hour was exceeded.

Description

The first load of hazardous waste feed fed in the MPF, since the system processed hazardous waste in 1993 for the HD projectile campaign, was introduced into the primary chamber at 1406 hours on 15 August 1995. On 16 August 1995, the waste feed limit was exceeded on the ninth load of agent-contaminated metal feed introduced into the MPF since startup the previous day. The waste feed exceedance is attributed to the operator introducing the waste into the furnace four minutes earlier than he should have, although he was fully trained and certified to operate the system.

At 0228 hours on 16 August, a load of agent-contaminated metal, weighing 343 lbs, was introduced into Zone 1 of the MPF. The load of metal exited the MPF primary chamber at 0321 hours. At 0324 hours, another load of agent-contaminated metal, weighing 361 lbs, was introduced into Zone 1 of the MPF. Since only 56 minutes had expired since the load of waste weighing 343 lbs of metal had been introduced into the MPF, the waste feed limit of 500 lbs per hour was exceeded. Namely, a total of 701 lbs of agent-contaminated waste was fed into the MPF in a 56-minute period.

The operator misinterpreted how the waste feed limit applied although he had been instructed on the waste feed limitation and the operating procedure had the correct form for tracking and documenting the waste feed. After the waste feed introduced into the MPF at 0228 hours had exited the furnace, the operator thought he could introduce the next load of agent-contaminated metal into the system. He failed to recognize that he needed to wait an additional four minutes. Thus, even though the waste feed exceedance did not cause any

type of environmental/safety concern, the failure to wait four minutes caused the waste feed limit to be exceeded.

Corrective Action

The need to ensure the waste feed rates were not exceeded was emphasized to the MPF operators. The operator responsible for the exceedance was reprimanded. Additionally, a software change (EN-05) was initiated to have the programmable logic controller (PLC) programmed to prevent reoccurrence of this type of exceedance in the MPF. The EN-05 was implemented in September 1995.

B. ON-LINE CALIBRATION OF DFS AFTERBURNER EXHAUST 0_2 MONITOR

Requirement

Permit Conditions V.F.4 and V.F.5.a. require continuous monitoring of the DFS Afterburner exhaust for 0_2 and CO whenever hazardous wastes are being processed. Permit Condition V.F.4 also requires the Automatic Waste Feed Cut-Off System (AWFCO) be engaged if the DFS Afterburner exhaust 0_2 and CO deviate beyond their permitted limits.

Noncompliance

1. On 15 March 1995, during the processing of M55 GB rockets in the DFS, the afterburner exhaust was not monitored for 0_2 and CO from 1353 to 1419 hours.

2. On 29 April 1995, during the processing of M55 GB rockets in the DFS, the afterburner exhaust was not monitored for 0_2 and CO from 0323 to 0347 hours.

Description

1. The processing of M55 GB rockets in the DFS commenced at 0724 hours and continued until 1943 hours on 15 March 1995. From approximately 1353 to 1419 hours, the daily calibration of the DFS Afterburner exhaust 0_2 monitor was performed while the monitor was on-line. The alternate 0_2 monitor was available as a backup unit; however, it was not placed in service to allow calibration of the unit already on line. Consequently, the 0_2 and CO levels recorded on the PDAR DFS Daily Operating Conditions Report from 1353 to 1419 hours were not indicative of actual processing conditions due to the on-line 0_2 monitor undergoing calibration. Since the 0_2 monitor was set in the calibration mode, the PLC was programmed not to engage the AWFCO system, even if the processing levels of 0_2 and CO deviated beyond permitted limits.

2. The processing of M55 GB rockets in the DFS commenced at 0041 hours and continued until 1908 hours on 29 April 1995. From approximately 0323 to 0347 hours, the daily calibration of the DFS Afterburner exhaust 0_2 monitor was performed while the monitor was on line. The alternate 0_2 monitor was available as a backup unit; however, it was not placed in service to allow calibration of the unit already on line. Consequently, the 0_2 and CO levels recorded on the PDAR DFS Daily Operating Conditions Report from 0323 to 0347 hours were not indicative of actual processing conditions. Since the 0_2 monitor was set in the calibration mode, the PLC was not programmed to engage the AWFCO system, even if the processing levels of 0_2 and CO deviated beyond permitted limits.

Corrective Action

It was emphasized to Operations and the Laboratory that the DFS Afterburner exhaust must be monitored continuously for 0_2 and CO whenever hazardous waste processing is being conducted, except during the five-minute purge cycle which occurs approximately every 45 minutes. It was also recommended that

if procedural controls are not sufficient to prevent recurrence of this event, an audible alarm be installed to alert the CON Operator of an extended blow back cycle/calibration of the on-line unit.

To prevent recurrence of this type of incident, programming changes were approved and implemented on all of the hazardous waste incinerators. These changes include:

- Altering the afterburner exhaust 0_2 and CO continuous emission monitors (CEMs) to enable the units to signal the Programmable Logic Controller (PLC) if they are in the "blowback" purge mode or in a "calibrate" mode. Up until now the CEMs provided a common signal for both modes of operation.

- Modifying the control room advisor screens to indicate the "on-line" CEMs with a green border and the "backup" CEMs with a magenta border. Additionally, both the on-line and the backup CEMs will flash their readings in yellow when the CEMs are in the "blowback" mode and red when in the "calibrate" mode.

- Programming the PLC to prevent the control room operator from selecting a CEM which is in the "calibrate" mode. Additionally, if the "on-line" monitor is locally placed in the "calibrate" mode, an automatic stop feed will occur and an alarm will activate. Also two outputs have been added to indicate locally which CEM has been selected by the control room as the "on-line" monitor.

C. LIC BRINE LEAKS IN THE PAS SECONDARY CONTAINMENT

Requirement

RCRA Regulation 40 CFR 264.196 requires a tank system from which there has been a leak or spill be removed from service immediately. The flow of hazardous waste into the secondary containment system must be stopped immediately. Additionally, within 24 hours after detection or at the earliest practical time, as much of the released waste as possible must be removed from secondary containment to prevent further release of hazardous waste and to allow inspection and repair of the tank system.

Noncompliance

The LIC brine piping system leaked to secondary containment from 8 - 18 March 1995.

Description

The LIC PAS consists of several treatment vessels (the scrubber, quench tower, and demister) which are connected by exhaust ducting and piping. The complete system is regulated as a hazardous waste tank unit under Subpart J of 40 CFR 264.

The LIC brine piping system started leaking on approximately 8 March 1995. At this time the area was cordoned off for safety purposes since the brine is hot (temperature of approximately 180° F). When first discovered during a plant inspection on 8 March 1995, there was a wet area within secondary containment but the actual leak was not observed. On 13 March 1995, the leak was evident and estimated to be approximately one (1) gallon every five (5) minutes. On the morning of 18 March 1995, the leak was observed to have increased substantially. At this point it was leaking at a rate of approximately one to two (1 - 2) gallons per minute.

Corrective Action

The need to halt processing to repair the PAS leaks to secondary containment was emphasized to the Project. Processing was halted on 18 March 1995 to repair the leaks. On 19 March 1995, leaks on the LIC brine piping system at valves (PAS-VALV-980, 981 and 983) to the venturi brine strainers, at the discharge of PAS-PUMP-112, and at 24-DE-83 brine density element were repaired.

D. PREVENTION OF RUNOFF FROM THE RESIDUE HANDLING AREA

Requirement

RCRA Regulation 40 CFR 270.14(b)(8)(ii) requires the prevention of runoff from hazardous waste handling areas to other areas of the facility or to the environment. A permit modification was approved by the EPA in 1994 to require panels be installed at the Residue Handling Area (RHA) to comply with this regulation requirement. The modification also required that after each shift, when processing at the RHA, any debris in the area would be cleaned or vacuumed.

Noncompliance

1. The panels to prevent rainwater infiltration were not installed on the RHA from 1 January 1995 to 24 February 1995.

2. The RHA area was not cleaned up after it was used during the early morning hours on 5 and 11 February 1995.

Description

The RHA area is used for transferring DFS and DUN residue waste from waste collection bins to flexible intermediate bulk containers (FIBCs) for shipment off island for disposal. The RHA was used for transferring DFS residue from the processing of rockets during January and February 1995, this waste was characteristically hazardous due to high levels of lead and cadmium.

1. The RHA was used during 17 working shifts in January - February 1995 to transfer DFS rocket residue to FIBCs prior to the rain panels being installed on 24 February 1995.

2. Twelve bins of rocket residue were emptied between 2100 hours on 4 February and 0130 hours on 5 February 1995. However, problems were encountered with the RHA hopper door during this time which required an emergency work order to be issued for repair of the door. Due to the maintenance activities and the changing of work shifts, cleanup of the area did not occur in a timely manner.

   Seven bins of rocket residue were emptied on the 10-11 February night shift with transfer operations terminating at approximately 0100 hours on 11 February 1995. The regular work crew assigned to the RHA were not on duty at the time which contributed to the failure to clean the area in a timely manner.

Per the Class 1 modification notice submitted to the EPA, panels were to be installed on the RHA to help satisfy the intent of 40 CFR 270.14(b)(8)(ii). The submittal also detailed other measures that would be implemented to prevent migration of any contamination from the RHA to other areas of the facility or the environment. These procedures were:

- The RHA will not be operated during or immediately after a rainfall.

- When the RHA is in use, operators will perform continuous visual monitoring to detect any releases or spillage. If releases occur, operators will immediately cease operation and collect, clean up or vacuum any debris.

- After each shift, when processing at the RHA, operators will visually inspect the area and collect, clean up or vacuum any debris.

- Removal panels will be installed on the sides about the hopper area and on the second floor of the RHA to prevent the infiltration of rainfall when the RHA is not in use.

Corrective Action

1. On 3 November 1994, a Class 1 permit modification was submitted to the EPA proposing the removable panels as an acceptable solution. The Agency approved this as an acceptable method on 7 December 1994. Following acceptance, materials were ordered by the Project. Installation of the panels was completed on 24 February 1995.

2. The RHA Standing Operating Procedure (SOP 023) requires that the loading area be swept/vacuumed after it is used to prevent contamination of rainwater runoff during waste handling activities. Following discovery of the failure to clean the area in February 1995, the RHA area was vacuumed and cleaned of debris on the subsequent work shifts. The need to adhere to the RHA SOP and to clean the area immediately after each shift the RHA is used was also emphasized to operating supervisors and personnel.

E. PROLONGED STORAGE OF DFS RESIDUE WASTE ON PAD 736

Requirement

Attachment D of the JACADS RCRA Permit provides for bins containing hazardous rocket residue discharged from the Heated Discharge Conveyor (HDC) to cool at Pad 736 prior to transfer of the waste to flexible intermediate bulk containers (FIBCs) at the Residue Handling Area (RHA). Pad 736 is not permitted for prolonged storage of the rocket residue waste and at this point in the process the waste is not managed as a 90-day accumulated waste, in accordance with 40 CFR 262 regulations.

Noncompliance

One bin of DFS residue from the processing of kicker chute waste was stored on Pad 736 for 36 days, from 10 November to 16 December 1995.

Description

Bins filled with rocket residue waste discharged from the HDC are transferred to Pad 736 for cooling purposes prior to being transferred to the RHA. At the RHA, the waste in the bins are transferred into FIBCs. Once the waste enters the FIBCs, it is managed in accordance with 40 CFR 262 generator regulations for shipment off-island for disposal at a hazardous waste landfill. Until the waste is transferred into FIBCs, it is managed as a hazardous waste still in the JACADS treatment process; therefore, the requirements of the permit apply.

Normally, after bins are transferred to Pad 736, the rocket waste requires a few days to cool to ambient temperatures, estimated cooling time is 2 to 4 days. The actual length of time for cooling is dependent on both ambient conditions and the number of full waste bins in the area. To ensure ample time is allowed for cooling, the JACADS Standing Operating Procedure (SOP 023) for bin transfer to the RHA allows up to 10 days for the bins to remain at the pad prior to being transferred to the RHA. If additional time is needed for cooling, the length of time the bins are stored on Pad 736 may be extended with approval of Plant Manager or Operations Manager.

On 10 November 1995, Waste Bin #126, filled with rocket residue waste, was placed on Pad 736. This bin was not moved to the RHA for transferring the waste into a FIBC until 16 December 1995.

Corrective Action

It was emphasized to Project Management that adherence to the SOP requirement of transferring the waste bin to the RHA within the 10 days must be met. It should be noted that the malfunction of the forklift used to transfer and dump the waste bins was an extenuating factor in the prolonged storage of Waste Bin #126 on Pad 736. The waste bin was removed from the pad on 16 December 1995.

F. DFS CYCLONE PLUGGAGE

Requirement

Permit Condition I.D.6 requires the permittee to properly operate and maintain the facility and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with all conditions of the permit. Permit Condition II.A requires the incinerator systems to be constructed and maintained in accordance with specifications and attachments to the permit.

Noncompliance

The Deactivation Furnace System (DFS) processed approximately 2400 rockets from 16 April to 27 April, 1995 while the cyclone settling chamber discharge mechanism was plugged with particulate. After confirmation that the cyclone discharge mechanism was plugged and the cyclone settling chamber high level sensor alarm had malfunctioned, 144 rockets were processed over a six hour period on 27 April 1995. On 28 April 1995, the DFS processed 295 rockets during an eight hour period while the high level alarm in the cyclone settling chamber indicated the discharge mechanism was plugged with particulate.

Description

The processing of rockets on 27 April 1995 commenced at 0232 hours in the DFS and continued until 1236 hours with 272 rockets being treated during this period. Inspection of the DFS cyclone settling chamber at 0636 hours on 27 April 1995 revealed the discharge chute was plugged. Further investigation revealed the high level sensor (16-LSH-140) in the cyclone settling chamber was not working. An attempt was made to clear the pluggage during the morning by applying three air purges, 3-minute duration each, via the cyclone air pulse system; however, this did not clear the pluggage.

After processing was halted on the afternoon of 27 April, seven and one-half drums of particulate, 2439 pounds, were removed from the settling chamber. The System Engineer reported the bottom of the cyclone settling chamber was filled above the vortex breaker level prior to cleanout. A review of particulate waste removed from the cyclone revealed no waste was removed from the cyclone settling chamber after 1930 hours on 16 April 1995. A total of 2439 rockets were processed between this time and when the cyclone was cleaned on 27 April 1995. During normal operations, the processing of less than 500 rockets generally fills up the collection container, a 55-gallon drum.

On 28 April 1995 the high level sensor (16-LSH-140) in the cyclone settling chamber was in alarm from 0528 to 1328 hours. At 0528 hours the collection drum under the settling chamber was checked and found to be empty. Maintenance investigated the problem while processing continued in the morning. After halting processing in the afternoon to correct the problem, approximately two buckets of particulate were removed from the discharge end of the tipping valve. Failure of the upper tipping valve to adequately open was found to be the cause of the high particulate level. Two hundred and ninety five rockets were processed in the DFS during the eight hours 16-LSH-104 was in an alarm condition.

Corrective Action

The processing of rockets was halted during the afternoon of 27 April 1995 to remove the particulate causing the pluggage problem. On the morning of 28 April 1995, the Project conitnued to attempt to correct the high

level alarm condition on the cyclone while processing continued. Processing was halted in the afternoon and the problem was corrected by adjusting the upper discharge valve on the tipping valve which was not fully opening.

As followup corrective action, the JACADS Programmable Logic Controller (PLC) was programmed to alert the DFS control room operator if more than 500 rockets have been processed without the particulate collection drum being changed. Additionally, the need to halt operations to correct malfunctioning equipment was emphasized to Project Management.

3. BRINE REDUCTION AREA (BRA) RELATED NONCOMPLIANCES

A. MODIFICATION OF THE BRA PAS DUCTWORK DRAINAGE SYSTEM

Requirement

RCRA Regulation 40 CFR 270.42 requires modifications to a hazardous waste facility to undergo a formal process of written notice to the regulatory agency. Depending on the type of modification, the change may require EPA approval prior to implementation.

Noncompliance

The permanent piping from the Brine Reduction Area (BRA) Pollution Abatement System (PAS) exhaust duct drain line to BRA-TANK-103 was replaced with a smaller size temporary hose due to salt pluggage. In addition, two of three drain points on the BRA PAS duct drain line were permanently blinded. These activities occurred in May and June 1995 and proper notification has not yet been make to the EPA.

Description

In response to corrective measures to prevent accumulation of liquid salt residue in the BRA PAS ductwork, three drain points, connected to a common 4-inch drain line, were installed in the bottom of the ducting upstream of the exhaust heater. The 4-inch drain line transferred the liquid residue from the BRA PAS exhaust duct to the BRA Transfer Tank (BRA-TANK-103). This corrective action was approved by the EPA on 23 February 1993, with the provision that the BRA was to be operated in a mode which would preclude accumulation of liquid and salt particulate from accumulating in the PAS exhaust ductwork.

In May 1995, the 4-inch drain line was replaced with a smaller diameter temporary hose due to pluggage of the permanent drain line causing the accumulation of excess salt particulate and sludge in the exhaust ducting. However, the temporary hose subsequently became plugged attributing to further accumulation of salt sludge waste in the ducting, approximately eight times the amount normally accumulated. To remediate this situation, in June 1995, the temporary hose was unplugged and the two drain points furthest upstream from the exhaust burner were blinded. Operational experience revealed that the drain point nearest the exhaust burner was the only location where liquid accumulation occurred. Since this location is the lowest point in the exhaust duct, any liquid carryover flows to this drain point.

Corrective Action

The temporary drain hose from the PAS exhaust duct to BRA-TANK-103 was replaced with permanent 4-inch piping on the weekend of 28-29 October 1995. Concurrently, a hot water flush system was installed on the drain line to prevent future pluggage.

The location of the drainage ports was re-evaluated and it was determined that the two drainage points should remained capped. A permit modification notice to change the configuration of the PAS exhaust duct drainage points to current as-built conditions was submitted by the Project to EPA on 5 March 1996.

B. BRINE STORAGE TANK AGITATOR SEAL LEAKAGE

Requirement

40 CFR 264.196 requires a hazardous waste tank system be removed from service immediately if it leaks to secondary containment.

Noncompliance

BRA-TANK-101 agitator seal leaked to the brine storage tank secondary containment area on an intermittent basis when the brine level was above the height of the agitator seal.

Description

Historically, the agitator seals to BRA-TANK-101 and BRA-TANK-102 have leaked to the brine storage tank secondary containment area whenever the agitators have been operated over a prolonged period of time. The leakage is primarily due to the tanks being designed and equipped with side-mounted agitators. The leakage occurs at a height equivalent to approximately 15% tank capacity. In the past, this problem had been recognized with a proposed solution to either relocate the agitators to top-mounted units or discontinuing the use of the agitators. Funding for top-mounted agitators was rejected by the Project as too expensive and the EPA rejected a Class 1 modification to discontinue the use of the agitators.

To remove the permit requirement to operate the agitators when processing brines, a Class 1 permit modification notice was submitted to the EPA on 25 April 1994 notifying the Agency that the agitators would only be used on an optional basis. On 18 July 1994, the EPA disapproved the modification stating that the agitators must be used whenever brines are processed in the Brine Reduction Area.

To comply with EPA's rejection of the Class 1 modification notice on use of the agitator, an interim Standing Operating Procedure (SOP) change to BRA SOP-026 was made on 21 November 1994. With the use of the agitators commencing in November 1994, periodic leakage to the brine storage tank secondary containment area commenced. It should be noted that the majority of the leakage was directed by a funnel to a secondary containment area sump.

Corrective Action

An Engineering request (REACT 1249) was initiated on 7 February 1995 for design and installation of a collection system to prevent seal leakage from falling to the tank secondary containment area. This resulted in an Engineering Change Proposal (ECP BRAS-0033) being approved on 1 April 1995 by Project management for installation of a liquid collection system to catch and return the leakage to the storage tanks before it falls to secondary containment. Based on this approval, JACADS proceeded to procure materials for installation of the liquid collection system and a Class 1 modification request was submitted to the EPA on 5 July 1995 to permit the installation and use of the liquid collection system. The Agency approved the request on 18 July 1995.

After arrival of the materials, the Project commenced arranging for installation of the leak collection system; however, a QC/QA discrepancy in the work order held up installation and additional materials had to be ordered. As an interim measure, on 19 July 1995, automatic pressure cup lubricators were installed on the agitator seals. Since installation of the lubricators, leakage reduced to only a few sporadic drops. Installation of the leak collection system was completed on 1 December 1995.

C. FAILURE TO USE WASH BASIN FOR CLEANING WASTE DRUMS IN BRA BUILDING

Requirement

Attachments D-1 and D-7 of the RCRA Permit require the use of a wash basin in the BRA Building for the washing of the outside surfaces of filled salt waste drums to prevent the discharge of the wash water to the building floor, which serves as secondary containment for the BRA. RCRA regulation 40 CFR 264.194 prohibits the discharge of wastes to hazardous waste tank secondary containment areas and requires adequate spill prevention controls.

Noncompliance

On 23 October 1995, the outer surface of sealed 55-gallon drums filled with salt waste were being cleaned with process water which was being allowed to fall to the BRA Building floor without any attempt to collect the rinse water in primary containment. Investigation revealed that this practice has been an ongoing activity when salt waste has been generated during previous periods of BRA operations in 1995.

Description

On 23 June 1994, in response to EPA on-site inspection observations, the Project submitted a Class 1 modification to the EPA requesting catch pans be installed and used to collect leakage from the BRA drum dryer units and a wash basin be used for collecting rinse water from the cleaning of the outside of sealed drums containing salt waste. This modification request was submitted to prevent the discharge of liquid wastes to the floor of the BRA Building which is regulated as a secondary containment area. The modification specified the wash basin would be designed and operated to allow collected rinse water to drain through a hose at the bottom of the basin into a collection pan under the drum dryers. The basin was designed to be portable to allow for other uses, such as the cleaning of heat exchanger plates. The EPA approved this modification request on 18 July 1994 and the wash basin was subsequently procured.

Corrective Action

At the time this problem was observed and recognized, the operators were informed of the need to use the wash basin when rinsing the drums. Review of the BRA Standing Operating Procedure (SOP-026) immediately after this observation verified this was a requirement per Step 7.6 of Operation 7. The General Plant Manager was then informed of this problem. Follow-up investigation and inspection have confirmed that the wash basin was placed into operation on 23 October 1995 and that it continues to be used for its intended purpose.

The importance of preventing liquid spillage/discharge to secondary containment areas was stressed to Facility personnel at a Monthly Environmental Seminar, held on 10 November 1995.

D. LOSS OF BRA OPERATING DATA

Requirement

The RCRA permit and existing JACADS procedures require the rolling one-hour average (ROHA) for the brine feed rate to the evaporator to be recorded at least once per minute. The permit allows trend reports to be used to collect brine feed rate data as a backup means of recording data in the event the Process Data Acquisition and Recording (PDAR) System fails.

Noncompliance

There was a loss of PDAR on 23 September 95 from 16:21:30 to 16:23:53 which resulted in a data record loss of one (1) minute and 23 seconds. During the PDAR outage, the BRA continued to operate.

Additionally, the BRA trend report was discarded, which contained the backup rolling one-hour average (ROHA) of the brine feed rate to the evaporator. Therefore, there is no record of the brine flow rate to the BRA evaporator during the PDAR outage.

Description

If the PDAR system fails to record the information within the required 60-second frequency, a Control Room alarm is sounded and trend reports are generated by the Control Room until the PDAR system resumes data acquisition at the desired frequency.

A loss of PDAR occurred at JACADS on 23 September 95 from 16:21:30 to 16:23:53. Upon further review of the incident, it was documented that there was a PDAR system outage from 16:22:26 through 16:23:53 which resulted in a data record loss from 16:22:30 to 16:23:53 (1 minute and 23 seconds). Due to the events of the PDAR outage and the configuration of the Network Manager, there was a 20 second delay before the Control Room received the alarm to start printing BRA trend reports. The loss of PDAR alarm cleared 59 seconds after it was activated. The Control Room Operator discarded the trend report under the assumption that the loss of data was for less than one minute and retention of the trend report was not necessary.

Corrective Action

Operations was notified of the PDAR loss. This resulted in a memorandum being issued to the Control Room Operators instructing them to document any loss of PDAR event and print BRA trend data reports regardless of the PDAR outage duration.

4. UNAUTHORIZED FACILITY MODIFICATION/OPERATION RELATED NONCOMPLIANCES

A. FILTER BANK AIR WASHING OPERATIONS

Requirement

RCRA Regulations 40 CFR 270.14(b)(8)(v) and 40 CFR 270.14(b)(8)(vi) require procedures to prevent undue exposure of personnel to hazardous waste and procedures to prevent releases to the atmosphere, respectively, to be identified in a facility's Part B permit application. JACADS RCRA Permit Condition I.D.18 requires submittal within 30 days of relevant information pertaining to a permit application.

Noncompliance

Procedures for performing air washing of the Munitions Demilitarization Building (MDB) Cascade System filter banks to minimize personnel exposure to agent and to prevent fugitive emissions to the atmosphere were not incorporated in the JACADS RCRA Part B permit application. These procedures were identified as pertinent information requiring submittal to the EPA in July 1995.

Description

Air washing of off-line filter banks is necessary for performing maintenance activities while the MDB Cascade Ventilation System is on-line. The reason for adding the air wash procedures to the permit is that the air wash procedures qualify as procedures to prevent undue exposure of personnel to hazardous waste. Additionally, air washing is performed to prevent the release of fugitive agent emissions to the atmosphere when the doors of a filter bank are open.

The MDB Cascade System filter units must be operated in an "air wash" mode to allow personnel ingress and egress from the structures to perform routine activities such as inspections, changing of the ACAMS silver fluoride pads, and changeout of the prefilters, HEPAs and charcoal filter units. During the air wash

mode, which may vary from approximately 15 minutes to several days in duration, ambient air is drawn into the filter unit using the filter exhaust fan and commingles with the exhaust from other on-line filters prior to entering the ventilation stack and being discharged to the atmosphere. The duration of an air wash is primarily dependent on the type and concentration of agent present; the more persistent agents (HD and VX) generally require longer air wash times. Air wash operations prevent fugitive air emissions to the atmosphere and protect personnel by allowing them to work in a lower level of protective clothing.

The need to add air washing procedures to the JACADS RCRA permit became apparent during the Summer of 1995 when the filter bank operations were undergoing intense scrutiny due to the sealing problems with the door gaskets. Also, since the filter banks are being permitted as miscellaneous treatment units under 40 CFR 264 Subpart X in the new JACADS RCRA permit application, information on how filter banks will be operated, maintained and monitored is required to be described in the permit application.

Corrective Action

A description of the air wash procedures and why they were required at JACADS was submitted to the EPA on 24 January 1996 as a Class 1 permit modification notice.

B. REMOVAL OF DUNNAGE INCINERATOR EXHAUST FLOW SWITCH

Requirement

Permit Condition V.A. requires the permittee to construct and maintain the facility in accordance with the permit plans and specifications. Permit Condition I.D.17 requires updated as-builts be submitted to the EPA by 1 March of each year to reflect the facility as of December of the preceding year. Reconfiguration of the facility must be performed in accordance with the notification requirements of 40 CFR 270.42.

Noncompliance

The exhaust flow switch at the ID fan of the Dunnage Incinerator (DUN) was removed and replaced with a differential pressure indicating transmitter in September 1993 without prior notification or approval of the EPA. Additionally, the change was not reflected on the system Piping & Instrumentation Drawing (P&ID 4020-24-MP-106).

Description

Investigation of a Step One shutdown of the DUN while burning non-hazardous dunnage on 16 December 1994 revealed that the flow switch (24-FSLL-432) had been removed and replaced with a differential pressure switch (24-PDIT-316). The function of Flow Switch 24-FSLL-432 was to shut off the fuel supply to the DUN in the event of low air flow. Unfortunately, the switch was susceptible to moisture in the exhaust stream which caused spurious shutdowns of the furnace.

The flow switch was replaced with Switch 24-PDIT-316 in September 1993 because a suitable substitute flow switch could not be located. Although 24-PDIT-316 provided a measurable indication of flow, the switch would not detect system failures such as duct ruptures or damper failures. Also, there was no documentation of the replacement of 24-FSLL-432 with 24-PDIT-316 on the DUN interlock matrix or on the system P&ID. Subsequently, a calibration was performed on the differential pressure switch, while the DUN was processing dunnage, causing the Step One shutdown.

Corrective Action

To resolve the replacement of 24-FSLL-432 with 24-PDIT-316, two new low flow switches were procured. One switch was scheduled to be installed on the DUN 30-inch exhaust duct to replace the pressure differential switch (24-PDIT-316). This switch is similar to the original switch (24-FSLL-432); however, it is designed

to operate at higher temperature and moisture conditions. The second flow switch was procured for installation on the 10-inch bypass loop around the DUN ID fan. An Engineering Change Proposal (PASS-0036) was approved by the Project on 19 April 1995, and the switches were delivered in May 1995. However, final design was delayed due to a determination that an additional limit switch was needed to ensure the system worked properly. On re-evaluation of the design in June 1995, it was determined that existing controls could be used rather than an additional limit switch. Based on this determination, a Class 1 modification request was submitted to the EPA on 31 July 1995 for installation of the flow switches. The Agency approved the request on 17 August 1995.

On 17 August 1995, during startup of the DUN, several Step One shutdowns occurred due to low flows. Investigation by JACADS on 18 August 1995 for the cause of the Step One shutdowns revealed that only one of the flow switches had been installed and at a different location than specified in the permit modification, between the quench tower and the baghouse; the flow switch was installed on 1 August 1995. The investigation also revealed that further testing was still needed to verify if flow control could be maintained by flow switch at this location.

It was emphasized to the Project that unauthorized changes to permitted systems of JACADS are prohibited unless the changes are considered equivalent upgrades and proper EPA notification is completed. It was also emphasized that the testing of the current switch must be completed as soon as possible in order to resolve this issue. Due to PAS ductwork corrosion problems, the DUN was not operational until September 1995; therefore, the testing was not completed until 24 September 1995. Based on the successful test of the switch, a permit modification notice was submitted to the EPA on 28 November 1995 and subsequently acknowledged by the Agency on 12 January 1996.

C. TRANSFER AND STORAGE OF SDS OUTSIDE THE MDB

Requirement

Attachments B, C, D-1, D-7, F and K prescribe how SDS is stored, managed and treated at JACADS. Information in these attachments is included to comply with 40 CFR 270 regulations including Section 270.14 for closure, Section 270.15 for design and management, and Section 270.16 for design and operation of permitted hazardous waste storage tanks.

Noncompliance

Due to limited permitted storage capacity within the MDB, several times in 1995 SDS was transferred from JACADS permitted SDS storage tanks to isotainers for storage outside the MDB. This practice was limited to times when the Liquid Incinerator (LIC) has not been operational, mainly due to refractory work. The dates of SDS transfer to and from isotainers and the quantities of SDS transferred during 1995 are tabulated below.

DATE(S) OF SDS TRANSFER TO ISOTAINER	DATE(S) OF SDS TRANSFER FROM ISOTAINER BACK TO STORAGE TANKS	AMOUNT OF SDS TRANSFERRED (APPROXIMATE IN GALLONS)
12-23 January 95	31 January - 3 February 95	3,565
27 February 95	6 March 95	1,748
4 July - 17 August 95	2-14 September 95	19,314

Description

Until July 1995, the transfer of SDS from inside the MDB to isotainers for temporary storage at Area 973 was performed in response to short-term storage problems at JACADS. The transfer and temporary storage of the SDS was performed after the PMCD-Edgewood Office had obtained verbal approval from the EPA Region IX Office to conduct these activities in 1991 and 1995. However, during July 1995 the possibility of transferring substantially greater amounts of SDS to isotainers for a prolonged period of time to allow evaluation of the LIC refractory was identified. This possibility initiated a thorough review of the JACADS RCRA permit and of pertinent RCRA regulations by the OMC. The review concluded that JACADS is not currently permitted to transfer SDS from within the MDB to isotainers and then back into the permitted tanks for eventual treatment in the LIC.

Corrective Action

Based on this review and further discussions with the EPA Region IX Office, on 24 November 1995, the Army directed the OMC to cease the transfer of any additional SDS to isotainers unless PMCD provides written direction to the contrary.

All of SDS stored in isotainers was transferred back into the SDS permitted storage tanks by 14 September 1995. The SDS was subsequently incinerated in the LIC.

D. LIQUID INCINERATOR REFRACTORY LINING

Requirement

RCRA Regulation 40 CFR 270.42 requires the Permittee to formally notify the EPA Regional Administrator of certain facility changes. For minor changes, Class 1 modifications, notification is required within seven calendar days after the change has been put into effect with the exception of those types of changes which require prior EPA approval.

Noncompliance

The refractory lining to the Liquid Incinerator (LIC) was changed without proper notification to the EPA per 40 CFR 270.42 requirements.

Description

The refractory of the LIC crossover duct and exhaust duct from the secondary chamber to the quench did not match the description in Attachment D-4, the LIC Trial Burn Plan, of the RCRA permit. The Construction Materials section of Attachment D-4 stated that the crossover duct between the primary combustion chamber and the afterburner was lined with SR Ruby brick refractory. This section also described the exhaust duct between the LIC afterburner and the quench tower as being lined with SR Ruby brick refractory. Neither of these statements was accurate.

The crossover duct was originally, and is currently, lined with a 90% alumina hot face refractory brick (SR-90). The afterburner exhaust duct was originally lined with castable refractory; the exhaust duct is currently lined with Ruby SR brick from the secondary chamber exit to the point where the ductwork from the LIC furnace room was formally connected to the exhaust duct. The remaining section of ductwork to the quench is lined with castable refractory.

Corrective Action

A permit modification notice to correct this inaccuracy was submitted to the EPA on 10 March 1995 and the Agency acknowledged acceptance of the notice on 31 March 1995.

E. DFS HDC DISCHARGE GATE INTERLOCKS

Requirement

Attachments D-1 and D-3 of the RCRA Permit require that the two discharge gates on the HDC be interlocked so that the waste bin cannot be exchanged unless both gates are closed.

Noncompliance

On 20 February 1995, a software jumper was installed to allow waste bin changeouts with only the lower HDC gate closed during M55 GB Rocket processing in the Deactivation Furnace (DFS).

Description

During GB M55 Rocket processing on 20 February 1995, the upper HDC Discharge Gate was not able to meet the closed limit switch. This was attributed to an aluminum buildup on the upper gate which prevented the gate from closing completely. A software jumper was installed to allow the waste bin changeouts to occur with only the lower HDC gate closed. This operation continued throughout the day until the software jumper was removed near the end of the day. The DFS was shutdown at approximately 2308 hours in order to clean out the aluminum buildup.

Corrective Action

A draft Class 1 Permit Modification was faxed to the EPA Region IX Office on 23 February 1995 for review. The Agency was contacted on 24 February and 1 March 1995 to discuss the draft modification request. This resulted in the EPA requesting additional technical justification that one gate closed provides the necessary blast protection. Based on this request, a permit modification request, with supporting safety information, was submitted to the EPA on 31 July 1995 and the Agency approved the request on 17 August 1995.

5. WASTE MANAGEMENT RELATED NONCOMPLIANCES

A. IMPROPER WASTE DRUM STORAGE CONFIGURATION IN BUNKER 897

Requirement

The JACADS RCRA permit, Section D-2a (Drum Storage In Enclosed Structures) and Figure D2-2 (Floor Plan For Drum Storage At The Red Hat Storage Facilities), requires hazardous waste stored in Bunker 897 to be maintained in a specific configuration while in storage.

Noncompliance

Rows of drummed hazardous waste in Bunker 897 are stored four drums wide [*i.e.*, two pallets] versus the permit requirement of two drums wide [*i.e.*, one pallet].

Description

The discrepancy in how the JACADS hazardous wastes are stored in Bunker 897 surfaced during a scheduled quarterly environmental audit by the OMC in November 1995. To ensure all JACADS generated hazardous waste was stored with adequate aisle space, the audit focused on waste container aisle space/configuration in permitted storage buildings. This emphasis was pursuant to an EPA site inspection on 18-19 September 1995 which raised concerns about the aisle space being maintained.

Bunker 897 is under the control of U. S. Army Chemical Activity Pacific (USACAP). Per JACADS request in 1992, USACAP arranged the waste drums in Bunker 897. The drums were placed in a configuration similar to that used by USACAP for storage of chemical munitions within the bunker. However, this configuration does not reflect the floor plan for drum storage in munitions bunkers as presented in the JACADS RCRA permit, Section D-2a and Figure D2-2. One fifty four (154) 55-gallon drums of waste were stored in rows which were four drums wide (*i.e.*, two pallets).

Corrective Action

On 12 March 1996, JACADS completed reconfiguring the waste drums in Bunker 897 in accordance with the floor plan for drum storage in munitions bunkers as presented in the JACADS RCRA permit, Section D-2a and Figure D2-2.

B. BUNKER 761 STORAGE CONFIGURATION

Requirement

Section D-2a titled Drum Storage in Enclosed Structures of the JACADS RCRA Permit describes the floor plan for pallets with containers and how the pallets must be stored in the storage facilities.

Noncompliance

Commencing on 7 July 1994, hazardous waste was stored in Bunker 761 without the proper aisle spacing as required by Attachment D-2 (Figure D2-2 floor plan) of the RCRA Permit.

Description

Hazardous waste stored in Bunker 761 was not configured in the manner specified in the RCRA permit. The permit requires an 8-foot aisle space for forklift access and a 4-foot aisle space for personnel access. The hazardous waste was stored in Bunker 761 with a 2½-foot aisle space along the sides of the bunker, a 2-foot aisle space at the back of the bunker, a 6-foot aisle space at the front of the bunker, and 4-foot aisle spaces between three pallet columns. This is the storage configuration proposed in the new permit application, which was recently submitted to the EPA, but is not in effect yet.

Corrective Action

The root cause of this noncompliance was miscommunication. The Project was under the misconception that the current JACADS RCRA Permit had been modified to allow waste to be stored in Bunker 761 in the new configuration. This was not the case; the new configuration only applied for the new JACADS RCRA Permit application, submitted to EPA in February 1995, which is currently being reviewed by the Agency. The containers of hazardous waste in Bunker 761 were reconfigured on 15 May 1995 to satisfy the floor plan of the current permit.

C. FAILURE TO ANALYZE GB M55 ROCKET WASTE RESIDUES FOR AGENT

Requirement

The JACADS Permit Waste Analysis Plan, Section C-2 of Attachment C, requires LIC slag, DFS ash/residue, and RHA dust collector residue waste streams to be analyzed for agent at least once a year and after the start of a campaign.

Noncompliance

Samples of LIC slag, DFS ash/residue, and RHA dust collector residue were not analyzed for agent during the GB M55 Rocket Campaign.

Description

The GB M55 Rocket Campaign commenced on 19 January 1994. The last M55 rocket was processed on 17 July 1995 with some rocket residue from the campaign being processed after this date. The GB 750 lb. Bomb Campaign commenced on 1 September 1995. Although the total rocket processing time covered a period of 544 days, between 19 January 1994 and 17 July 1995, there was no agent analysis of LIC slag, DFS ash and residue, or RHA dust collector residue waste streams performed.

Methods of analysis for the above waste streams were reviewed by the OMC Laboratory and the Environmental Compliance Department. There was no existing procedure for total agent detection applicable to slag or DFS residue. Leachable agent could be determined; however, the laboratory did not have adequate equipment to perform this analysis. Data obtained from headspace sampling was considered inappropriate.

Corrective Action

To alleviate the sampling requirements, a Class 2 modification request to remove the sampling and analysis requirements for the LIC slag, DFS ash/residue, and RHA dust collector residue waste streams from the Waste Analysis Plan was submitted to the EPA Regional IX Office on 28 June 1995. On 26 October 1995, EPA approved the deletion of the requirement for agent analysis of the LIC slag, and RHA dust collector residue waste streams. However, the Agency denied the request to delete the requirement for agent analysis of the DFS ash/residue. Subsequently, it was clarified that the agent analysis had to only be performed on the ash portion of the waste stream. Therefore, a representative sample could be obtained of the waste and analyzed to give legitimate results.

D. FAILURE TO ANALYZE GB 750-LB BOMB MPF RESIDUE FOR AGENT

Requirement

Attachment C, Section C-2 of the RCRA Permit and Table C-2-1 requires Metal Parts Furnace (MPF) residue to be analyzed for agent after the start of each bulk container or munition campaign or at a minimum of once per year. Section C-4c of Attachment C specifies an extraction method followed by analysis using the Depot Area Air Monitoring System (DAAMS) system shall be used to determine agent concentration in solid matrices.

Noncompliance

No agent analysis was performed on the MPF residue during the 750-pound bomb campaign.

Description

A Class 2 permit modification was submitted to EPA on 28 June 1995 requesting that this requirement for furnace residue be eliminated from the permit, except for DFS Cyclone Ash and DUN Baghouse Ash. EPA approved the elimination of the agent analysis requirement in the text on 26 October 1995, but denied the removal of the requirement from the table. Due to the inconsistency, the Project felt that it was an inadvertent error in the denial of the similar change to Table C-2-1. JACADS prepared an appeal request to rectify this inconsistency for transmittal to the EPA Environmental Appeals Boards in accordance with 40 CFR 270.42(f)(2). However, Project Management decided not to submit the appeal request; therefore, a Class 1 permit modification notice was prepared to correct the discrepancy by deleting the analysis requirement from Table C-2-1.

Prior to submittal of the permit modification notice, a telephone conversation with EPA was held on 12 January 1996 to discuss this apparent oversight. The EPA Region IX representative clarified that an extraction method is required for agent analysis of furnace residue and the approval of the text modification was an oversight. Therefore, the agent analysis requirement must be complied with to remain in compliance. By this time, the MPF waste residue waste had been shipped off-site for disposal at a RCRA permitted hazardous waste landfill and the 750-lb bomb campaign was completed. Consequently, no analysis of the MPF residue was obtained during the 750 lb bomb campaign.

Corrective Action

Samples of MPF residue were collected for the 500 lb bomb campaign, which immediately followed the 750-lb bomb campaign. The samples were analyzed for agent using the extraction method specified in Attachment C, Section C-4c of the RCRA Permit. Additionally, the Project is developing a sampling and analysis matrix for each future munition campaign to ensure all requirements of Attachment C are met.

6. PERMIT MODIFICATION RELATED NONCOMPLIANCES

A. ATTACHMENT C - OUTDATED AGENT ANALYTICAL TECHNIQUES

Requirement

40 CFR 264.341 specifies that the RCRA Part B permit application must include analysis of waste feeds sufficient to provide all information required by 40 CFR 270.19 and 40 CFR 270.62(b). Regulation 40 CFR 270.62(b) requires a detailed description of sampling and monitoring procedures. To comply with these regulations for agent analysis, six laboratory SOPs and the Laboratory Quality Control Plan (LQCP), Revision 1 are contained in the RCRA Permit as Appendix A to Attachment C.

Noncompliance

The laboratory SOPs and the LQCP (Revision 1) are outdated and have been superseded with revised procedures and Revision 4 of the LQCP.

Description

The original RCRA permit application dated 1 October 1984 contained agent analytical techniques as Attachment D-2 in the application. In 1994, it was discovered that the agent analytical techniques, which were included in Attachment D-2, were inadvertently omitted from Revision 7 of the RCRA permit application, dated 30 April 1990. Revision 7 was submitted to the EPA in 1990 and subsequently approved by the Agency on 15 May 1991. To correct this omission, Appendix A was included with a Class 2 modification to revise Attachment C of the permit on 15 August 1994. Appendix A contained six laboratory SOPs (ELS-1, ELS-2, ELS-3, ELS-4, ELS-5 and ELS-6) and Revision 1 of the LQCP which were already outdated at the time of submittal; the SOPs had been superseded by other procedures and Revision 4 of the LQCP was currently effective.

In accordance with 40 CFR 270.42(b)(6)(i)(E), the EPA informed the Project on 10 November 1994 that due to the complex nature of the permit modification request, an additional 30-day extension was being taken to make a determination on the request. The 30-day extension expired on 9 December 1994; therefore, the modification, including Appendix A, was automatically authorized for up to 180 days. On 14 April 1995, a notice was issued to the public informing them of the facility's intent to incorporate the Class 2 modification request as a permanent change to the permit. The modification became effective for the life of the permit on 13 June 1995.

Corrective Action

A Class 1 modification notice to replace Revision 1 with Revision 4 of the LQCP and a Class 1 modification request to remove the six laboratory SOPs were submitted by the Project to EPA on 2 August 1995. Subsequently, during an EPA site inspection on 18-20 September 1995, the EPA inspectors expressed their concerns with the changes between Revision 1 and Revision 4 of the LQCP. On 20 September 1995, a rejection letter of the permit modification was received by the Project from EPA Region IX. On 13 December 1995, the Project submitted to EPA the additional information that the site inspector had requested during the site inspection.

However, the information was not submitted as a permit modification submittal; the information contained Revision 4 of the LQCP. Thus, the EPA informed the Project that the package submitted on 13 December 1995 needed to be submitted as a permit modification. On 20 December 1995, the Project transmitted a Class 1 permit modification to the EPA which included the listing of the Laboratory Standing Operating Procedures. The notice was subsequently acknowledged and accepted by the Agency on 12 January 1996.

B. LATE CLASS 1 PERMIT MODIFICATION NOTICES

Requirement

RCRA Regulation 40 CFR 270.42 requires the Permittee to formally notify the EPA Regional Administrator of certain facility changes. For minor changes, Class 1 modifications, notification is required within seven calendar days after the changes have been put into effect with the exception of those types of changes which require prior EPA approval.

Noncompliance

The ten Class 1 modifications, listed below, were implemented at the JACADS facility without proper notification to EPA within the required seven-day time period.

Description

The ten modifications listed in the below table, which qualify as Class 1 notices, were implemented at the JACADS facility without proper notification within the time required by 40 CFR 270.42. The date of implementation along with the date the written notice was submitted to the EPA are provided.

MODIFICATION	DATE IMPLEMENTED	SUBMITTAL DATE TO EPA
Addendum to the Contingency Plan for updating PPE Figures	20 Jan 95	15 Jun 95
1st Quarter Contingency Plan Update	Jan-Mar 95	22 Jan 96
2nd Quarter Contingency Plan Update	Apr-Jun 95	15 Nov 95
3rd Quarter Contingency Plan Update	Jul-Sep 95	28 Nov 95
Withdrawal of mod for installation of bubbler on AQS tanks	23 May 95	31 Jul 95
Withdrawal of mod for installation of air blast system on the HDC	25 May 95	31 Jul 95
Clarification of PAS Level Switch Inspection	19 Jul 95	5 Sep 95
Use of Airlocks on Doors 6, 7, and 8 of Filter Banks 401-407	1 Aug 1995	22 Aug 95
Use of Airlocks on Door 5 of Filter Banks 401-407	3 Nov 95	4 Dec 95
Installation of BRA hot water flush system	30 Oct 95	4 Dec 95

Corrective Action

Raytheon continues to review the JACADS RCRA permit and has implemented additional procedures to ensure modification notices are submitted in a timely manner. Whenever erroneous information is found in the permit, modifications will continue to be submitted to correct the inaccuracies. Additionally, in order to increase the efficiency of communications between PMCD and the EPA, PMCD Headquarters has instituted procedures shifting responsibility to the PMCD Field Office on Johnston Island for submittal of Class 1 Permit Modifications to the EPA.

7. CONTINGENCY PLAN RELATED NONCOMPLIANCES

A. FAILURE TO SUBMIT NOTICE OF IMPLEMENTATION OF CONTINGENCY PLAN WITHIN 15 DAYS

Requirement

RCRA Regulation 40 CFR 264.56(j) and Attachment K, Section 1.F of the JACADS RCRA Permit require written notification to EPA within 15 days of events causing implementation of the Contingency Plan.

Noncompliance

Written reports for implementation of the JACADS RCRA Contingency Plan on 17 March 1995, 18 March 1995, 1 April 1995, 15 May 1995, 7 June 1995, 20 August 1995, 26 August 1995, 2 September 1995, and 7 October 1995, addressing the requirements of 40 CFR 264.56(j) and the RCRA Permit, were not submitted to EPA within the required 15-day time period.

Description

The nine written reports for implementation of the JACADS RCRA Contingency Plan, listed below were not submitted to the EPA within the 15-day time period. The date of the incident, along with the date the report was submitted to the EPA, is also provided.

INCIDENT	DATE OF INCIDENT	SUBMITTAL DATE TO EPA
GB Concentrations in the Ambient Air Outside the MDB	17 March 1995	4 April 1995
Loss of Ventilation in the Laboratory Building	18 March 1995	4 April 1995
GB Concentrations in the Ambient Air Outside the MDB	1 April 1995	18 April 1995
ACAMS Alarm for GB at the Common Stack	31 May 1995	5 July 1995
ACAMS Alarm for VX at the LIC	7 June 1995	5 July 1995
Small Fire in Hot Water Heater Exhaust Vent at the PSC	20 August 1995	10 October 1995
Shutdown of Furnaces and HVAC due to Electrical Power Loss During Preventative Maintenance on Electrical Supply System	26 August 1995	21 September 1995
ACAMS Alarm for VX at the LIC	2 September 1995	2 January 1996
Leaking Bomb Containing GB in Bunker 831 of the Red Hat Area (three incidents on 7 October 1995)	7 October 1995	28 October 1995

Corrective Action

In order to increase the efficiency of communications between PMCD and the EPA, PMCD Headquarters has instituted procedures shifting responsibility to the PMCD Field Office on Johnston Island for submittal of incident reports of implementation of the RCRA Contingency Plan to the EPA.

B. OUTDATED RCRA CONTINGENCY PLAN

Requirement

40 CFR 264.53(a) requires that "a copy of the contingency plan and all revisions to the plan must be maintained at the facility." 40 CFR 264.54(d) and (e) require that "the contingency plan must be reviewed and immediately amended whenever the list of emergency coordinators changes; or the list of emergency equipment changes." Changes to the RCRA Contingency Plan must be made in accordance with the requirements of 40 CFR 270.

Noncompliance

Control copies of the RCRA Contingency Procedure (PL-07) located in the OMC Data Control Center (DCC) and in the JACADS Control Room were outdated (PL-07 Rev. 1, dated March 1994). The control copies of PL-07 did not incorporate permit modifications approved by EPA on 25 April 1994, 8 June 1994, 4 October 1994, and 6 March 1995. Additionally, a number of changes in PL-07, Revision 1, were not reflected in the RCRA Permit.

Description

A review of the RCRA Contingency Procedure (PL-07), which is part of the Emergency Response Plan (PL-23), was conducted on 31 July 1995 in order to prepare a submittal of the quarterly modification of the RCRA Contingency Plan to the EPA, for the period of April-June 1995. The audit revealed that although the Record of Changes form indicates the RCRA Contingency Procedure was updated on 9 March 1995, the actual changes were never incorporated into the document.

A change form (PRF 94-419), issued 29 June 1994, was implemented on 9 March 1995 and intended to incorporate modifications approved by EPA on 25 April 1994, 8 June 1994 and 4 October 1994. Additionally, a change form (PRF 95-218) was issued on 29 March 1995 to incorporate a permit modification approved by EPA on 6 March 1995. However, the changes were never formalized, printed or distributed to the controlled document holders. It was also noted in August 1995 there were a number of changes made to PL-07 that had not been incorporated in the RCRA Permit Contingency Plan.

Corrective Action

Past changes made to the Contingency Plan in the JACADS RCRA Permit were incorporated in control copies of the RCRA Contingency Procedure (PL-07) in September 1995. Also, the Project implemented procedures to ensure that any changes to PL-07 are issued by the OMC Emergency Preparedness Manager in conjunction with OMC Environmental Department to ensure the RCRA Permit is maintained current.

A permit modification notice to update the RCRA Contingency Plan to agree with PL-07 was submitted to the EPA on 28 November 1995. The Agency subsequently acknowledged the permit modification notice on 12 January 1996.

C. FAILURE TO IMPLEMENT CONTINGENCY PLAN FOR LIC ID FAN ACAMS ALARM

Requirement

The JACADS RCRA Contingency Plan, Attachment H, requires the implementation of the Contingency Plan for an agent alarm at the furnace ID fan ducts.

Noncompliance

The Liquid Incinerator (LIC) ID fan ACAMS (127A) alarmed twice, initially at 4.19 ASC for GB and again at 12.32 ASC for GB, following an ID fan trip on 13 November 1995.

Description

The JACADS RCRA Permit Contingency Plan (Attachment K, Table 3A-3) requires implementation of the Contingency Plan for agent alarm at or above 0.7 ASC at the furnace ID fan ducts. The required responses include a stop feed be initiated to the furnace, the site be masked and notification of the incident be made to appropriate personnel.

On 13 November 1995, the LIC ID fan tripped off line at 1726 hours due to heavy rains causing an electrical failure and subsequent power loss while GB agent was being processed. At 1734 hours ACAMS 127A, which monitors the LIC ID fan duct, alarmed at 4.19 ASC for GB. The laboratory was notified; however, the Contingency plan was not implemented. At 1739 hours the ACAMS cleared, a DAAMS sample was taken and the Laboratory determined that the alarm was due to an interferant.

At 1804 hours ACAMS 127A alarmed again at 12.32 ASC for GB. The laboratory again was notified and responded; however, the Contingency plan was not implemented. At 1809 hours the alarm cleared and at 1814 hours the laboratory reported that the cause of the alarm was interferant.

It should be noted that after the ACAMS alarmed at 1734 hours, the LIC was not placed back on line until 2140 hours on 13 November 1995. Also, the stack ACAMS did not record any values above 0.00 ASC for agent at any time during this event.

Corrective Action

A summary of the facility required actions for ACAMS/DAAMS readings outside of engineering controls was prepared and provided to JACADS Management on 9 December 1995. In addition, review of the response actions required for various agent alarm conditions was covered in a Monthly Environmental Seminar to facility personnel, held on 13 January 1996.

8. LATE REPORTS TO EPA

A. LATE NOTIFICATION OF NEWLY IDENTIFIED SWMUs

Requirement

RCRA Permit Condition VIII.4.A requires the permittee to notify EPA in writing of any newly identified Solid Waste Management Unit (SWMU) no later than 30 calendar days after discovery.

Noncompliance

Written notification to EPA was not submitted within 30 calendar days after discovery of four newly identified SWMUs (J24, J25, J26 and J27).

Description

JACADS discovered and documented two new SWMUs (J24 and J25) on 19 April 1995. These new sites were reported to EPA on 30 June 1995, 72 days after discovery. Information on these two SWMUs are as follows:

(i) J24 covers an area of approximately 450 square feet immediately adjacent to the southeast wall of the main Pollution Abatement System (PAS) secondary containment area. Approximately 50% of the area is paved with concrete and the remaining portion consists of hard-packed coral. The primary waste managed at this SWMU was sludge from the main PAS secondary containment area sump and brine solids collected in strainers located on the Liquid Incinerator, Deactivation Furnace and Metal Parts Furnace PASs.

(2) J25 covers an area of approximately 6,000 square feet. This SWMU is located about 30 feet north of the seawall at the southern end of Hama Point. The majority, approximately 97%, of the area consists of concrete, commonly designated as Pad 279. The remaining portion of J25 is hard-packed coral. Waste stored at this SWMU primarily consists of scrap metal debris.

JACADS discovered and documented two new SWMUs in June 1995. One of the new SWMUs (J26) was discovered on 6 June 1995, and the second new SWMU was discovered on 24 June 1995. Information on these two SWMUs are as follows:

(1) J26 is located north of Pad 279 at the southern end of Hama Point and covers an area of approximately 7,225 square feet. The majority of the area, approximately 85%, is comprised of Pad 278 and is paved with concrete. The remaining portion consists of hard-packed coral which extends beyond Pad 278 for about 15 feet on the north side and about 15 feet on the west side. The primary waste managed at this SWMU is scrap metal and wood debris.

(2) J27 is an uncontained open area located within the JACADS facility along the southwest fence line between Building 706 and Pad 736. J27 consists of a pad with a wide-sloped gutter which channels into a rectangular sump covered by a wood grate. The SWMU covers an area of approximately 960 square feet. The unit, including the pad, gutter and sump, is completely paved with concrete. A ground level cement trough, originating off site near Building 706 emergency showers, enters the gutter and sump of J27. The pad is utilized by JACADS for temporary storage of empty waste bins that normally transport process wastes, including aluminum and fiberglass residue. The waste consists of sump liquids and sludge, Building 706 drainage and runoff from waste storage bins.

Corrective Action

A written report describing SWMUs J24 and J25 was submitted by the Project to EPA on 30 June 1995. Written notification of the discovery of SWMUs J26 and J27 was submitted by the Project to EPA on 4 December 1995.

B. LATE REPORTING OF BRINE RELEASE FROM THE DEACTIVATION FURNACE SYSTEM TO CORAL

Requirement

40 CFR 264.196 (d)(2) requires that any release of hazardous waste, greater than one pound, from a tank system to the environment be reported to the Regional Administrator within 24 hours of detection.

Noncompliance

The release of hazardous brine from the DFS PAS system which occurred on 16 April 1995 was not reported to the EPA until 18 April 1995.

Description

At 0030 hours on 16 April 1995, the outside operator identified that the Deactivation Furnace System (DFS) Pollution Abatement System (PAS) brine pH probe was leaking. Brine was released to the coral outside of the secondary containment of the DFS PAS area. Approximately 10 to 15 gallons (84 - 126 pounds) of brine were released outside of secondary containment.

When the leak was identified, Operations personnel isolated the pH meter and excavated the contaminated coral which was placed in a drum for disposal. Approximately 430 pounds of coral were removed (excavated to a depth of approximately five inches) from the affected area.

Corrective Action

At the time of the occurrence, the Project interpreted that the spill incident fell only under the reportable quantity requirements of 40 CFR 302. Since the spill did not contain high enough levels of lead and cadmium to qualify as a reportable release under 40 CFR 302, it was not immediately reported. However, after further research, it was recognized that any release of hazardous waste over one pound from a hazardous waste tank system is immediately reportable to EPA under 40 CFR 264.196(d)(2) regulations. Since the Main PAS area serves as secondary containment for several hazardous waste treatment tank systems, the release qualified as a reportable incident.

As follow up, in May 1995 the OMC Environmental Compliance Department presented a summary to Operation personnel at a weekly Safety meeting. The presentation delineated those events which require immediate reporting (within 24 hours) to either the EPA or the National Response Center.

C. FAILURE TO SUBMIT WRITTEN REPORT ON RELEASE TO THE ENVIRONMENT WITHIN 30 DAYS

Requirement

RCRA Regulation 40 CFR 264.196(d)(3) requires the submission of a written report to the EPA within 30 days for a release of hazardous waste from a hazardous waste tank system greater than one pound in quantity.

Noncompliance

A written report addressing the requirements of 40 CFR 264.196(d)(3) for a small release of hazardous brine from the Liquid Incinerator (LIC) Pollution Abatement System (PAS) on 4 November 1995 was not submitted to EPA within the required 30-day time period.

Description

At approximately 0900 hours on 4 November 1995, an Outside Operator observed that the LIC PAS pH analyzer piping had a pinhole leak causing a mist of brine to be released outside of the Main PAS secondary containment area. From process knowledge, brine from the LIC PAS is characteristically hazardous for chromium (D007). It was estimated by on-site observers that approximately two pints (about two pounds) of brine were released outside of secondary containment. The pH analyzer was isolated and the leak was halted. Plastic was placed around the piping section to contain any other possible leakage. The LIC furnace was not taken off-line because the backup pH analyzer was utilized while the piping section was being repaired.

Corrective Action

A written report on this incident, meeting the requirements of 40 CFR 264.196(d)(3), was submitted to EPA on 6 December 1995, two days after the 30-day deadline.

D. LATE SUBMITTAL OF THE DUNNAGE INCINERATOR TRIAL BURN REPORT

Requirement

Permit Condition V. F. 1. and 40 CFR 270.62(b)(7) requires that the Dunnage Incinerator (DUN) Trial Burn Report be submitted within 90 days after completion of the last trial burn test run. An extension to the submittal date for DUN Trial Burn Report was applied for via a Class 1 permit modification to the EPA Region IX Office. EPA approved the Class 1 modification extending the submittal deadline to 31 March 1995.

Noncompliance

The DUN Trial Burn Report was not submitted to the EPA Region IX Office until 5 April 1995, five days after the extended submission due date.

Description

The last trial burn test run on the DUN was completed on 8 December 1994. Therefore, the DUN Trial Burn Report was originally required to be submitted to the EPA by 8 March 1995 (90 days). However, unforeseen analytical instrument problems resulted in an irrecoverable delay for the completion of the report. On 8 March 1995, a Class 1 permit modification notice was transmitted to the EPA which extended the deadline for submittal of the report to 31 March 1995; however, due to delays in obtaining approval signatures, the report was not submitted until 5 April 1995.

Corrective Action

The DUN Trial Burn Report was submitted to the EPA Region IX Office on 5 April 1995.

9. MISCELLANEOUS NONCOMPLIANCES

A. WET ELECTROSTATIC PRECIPITATOR PURGE/IN-LEAKAGE AIR

Requirement

Per RCRA Regulation 40 CFR 270.42 (b), major changes to a hazardous waste treatment facility must be submitted and approved by the EPA as Class 2 modifications prior to implementation. A description of the change is required by 40 CFR 270.42(b)(i)-(iv) in the Class 2 modification submittal. Permit Condition I.D.6 requires the facility to be properly operated and maintained at all times, including systems of treatment and control and related appurtenances, to achieve compliance with the conditions of the permit.

Noncompliance

1. The Wet Electrostatic Precipitator (WESP) unit was installed and operated in a configuration which it was not permitted for in the JACADS RCRA Permit. Namely, the use of outside ambient air to purge electrode probes inside the WESP were not addressed in the Class 2 modification approved by the EPA.

2. The Liquid Incinerator (LIC) treated SDS on 29-30 January 1995 and 1 February 1995 while excessive in-leakage of ambient air into the WESP was occurring.

Description

On 2 June 1994, a Class 2 permit modification was submitted to EPA requesting approval to install and operate the WESP for short-term testing purposes on the Deactivation Furnace (DFS) and Liquid Incinerator (LIC). The Agency approved this request on 2 September 1994. Subsequently, the WESP was tested while hazardous waste was being processed in late 1994 and early 1995.

Per the Class 2 modification request approved by EPA, during WESP testing operations a portion of the exhaust flow through either the DFS or LIC would be diverted by the WESP downstream of the packed-bed scrubber and reintroduced into the pollution abatement system (PAS) before entering the demister. Other than the exhaust tie-ins, the only connections to the WESP identified in the modification request were inlet process water, an electrical connection to an independent generator, and a blowdown return line to the scrubber sump. The modification stated that the operation of the WESP would be essentially independent of incineration operations; that is, there should not be any interaction between the WESP operator and the incinerator operator.

Testing of WESP on the DFS commenced 18 December 1994; however, due to insufficient sampling supplies, testing on the DFS was not completed. No further activity took place with the unit until it was disconnected from the DFS on 27 January 1995 in preparation for installation on the LIC. The WESP was connected to the LIC PAS at 0023 hours on 28 January 1995. At 1955 hours on 29 January 1995, just after the commencement of SDS feed, it was noticed that the I.D. fan recirculation flow was low. A work order was written to recalibrate the recirculation flow transmitter (24-FIC-521) on the I.D. fan recirculation line. Further, investigation revealed that in-leakage from the WESP unit was causing the low flow conditions in the recirculation line. The WESP I.D. fan seal was repaired to reduce the amount of leakage before SDS processing resumed on 30 January 1995.

SDS processing in the LIC recommenced at 1548 hours on 30 January 1995. However, proper pressure in the LIC furnace could not be maintained with controller 13-PIC-52. To compensate for this, the system was operated with 13-PIC-52 manually closed in the 0% position. At 1107 hours on 1 February 1995, SDS processing was halted until the source of the excessive in-leakage from the WESP unit could be located and corrected. To allow processing to continue on 1 February, the WESP unit was disconnected from the LIC PAS and a blind was installed on the flanges to the PAS.

While investigating the in-leakage problem, it was discovered the WESP also utilized outside ambient air for purging of the unit's electrode probes. Review of the Class 2 permit modification, approved by the EPA, revealed that the use of outside ambient air for purging purposes was not included in the request. The modification only identified process water entering and blow down leaving the unit as the influent/effluents to the WESP, other than the exhaust stream. There was no mention that the WESP was equipped with an air inlet line for purging the electrode probes.

The amount of outside purge air continuously introduced into the WESP was approximately 200-400 acfm, this amounts to less than 5% of the total exhaust flow (approximately 9000 acfm) through the LIC PAS. The purge air commingled with the LIC exhaust before being released through the Common Stack. It should be noted, since the amount of outside air introduced into the exhaust stream was less than 5%, the removal efficiency of the LIC PAS equipment and the detection ability of the ACAMS monitors were not compromised since the monitors are programmed to alarm at 0.2 of the allowable stack concentration for agent.

The WESP was reconnected to the LIC PAS on 13 February 1995 and testing of the unit, while processing SDS and agent, proceeded until 18 February 1995. Equipment problems on the WESP caused testing to be halted on 18 February and no further testing occurred. The unit was disconnected from the LIC PAS on 24 February 1995.

Corrective Action

The cause of the in-leakage was investigated. The investigation revealed that the leakage of ambient air into the PAS exhaust stream was due to the access inspection ports on the unit not being tightly clamped and to a deteriorated seal at the WESP I.D. fan. A port downstream of the WESP I.D. fan was installed to measure leakage. The WESP was reconnected to the LIC PAS on 13 February 1995, after the seal at the I.D. fan was replaced and the inspection ports were properly sealed. There was no detectable leakage measured on 13 February 1995 (the lowest detectable amount was approximately 250 acfm based on the method used) and the LIC operating pressure and I.D. fan recirculation loop operated properly.

To meet the requirements of Permit Condition I.D.18, to inform the EPA of relevant information, a description of the discrepancies in the Class 2 modification and the in-leakage problems was faxed to the Region IX Office on 20 February 1995. A telephone conference call with EPA, on 24 February 1995, resulted in additional information being sent to the EPA Region IX Office on 27 February 1995. After review of this information, EPA determined that the practice of purging the probe with outside air would have to be submitted to the Agency and subsequently approved as a Class 2 permit modification prior to recommencing the WESP test. After investigating alternatives, the WESP testing program was terminated and the unit was disconnected and returned to the U. S. Mainland.

B. MAIN PAS pH CONTROL

Requirement

Permit Condition V.A. requires the Permittee to construct and maintain the incinerators in accordance with the attached plans and specifications.

Noncompliance

pH controls/instrumentation on the DFS and LIC Pollution Abatement Systems (PASs) were not maintained and operated in accordance with their original design. Rather than being operated under automatic control, the pH systems are operated in manual with laboratory samples being taken twice a day to verify pH of the scrubber effluents since the pH monitoring equipment is not reliable.

Description

The DFS, LIC, and MPF PASs have two pH meters for monitoring the pH of the scrubber sump effluent and two pH meters for monitoring the scrubber clean liquor effluent. The meters and their associated transmitters connect to the facility Programmable Logic Controller (PLC) to automatically add caustic to the scrubber brine and clean liquor to control pH.

Three separate studies (reports published in May, June and July 1993) documented that the current pH control system is not optimized and cannot be operated in its current configuration to automatically control the pH of the PAS brines due to deficiencies in the control system and improper design of the equipment.

Corrective Action

Raytheon performed two of the above mentioned studies and submitted written reports to PMCD on 29 June 1993 and 3 July 1993. The third study was performed by SAIC, an independent contractor, with the report being submitted to PMCD on 13 May 1993. Based on these reports, a contractor was brought on island in April 1994 to conduct testing of the MPF PAS system. This resulted in recommended system modifications which included control and piping arrangement changes and the installation of three tanks. A Class 2 modification was submitted to the EPA on 14 November 1994 requesting the recommended changes be approved. EPA approved the Class 2 modification on 10 February 1995. The system has been installed and

is scheduled for tie-in and testing in February-March 1996. It is planned to upgrade the remaining wet PASs in a similar manner if the modification proves effective.

As an interim measure to verify the accuracy of the pH monitors, samples from each operating PAS are taken twice a day and analyzed by the laboratory to verify pH of the scrubber effluents. The pH sensors are also calibrated daily and the dual pH meters checked to ensure they do not significantly deviate. If the dual meters deviate significantly, corrective measures are implemented. Thus, although the pH control systems may not be operating optimally, the PAS systems are operated within their permitted limits.

C. ANNUAL REFRESHER TRAINING NOT COMPLETED WITHIN ONE YEAR

Requirement

40 CFR 264.16 (c) and Attachment G, Section G-3 of the JACADS RCRA Permit requires facility personnel to receive an annual review of their initial training.

Noncompliance

A review of the training records showed that one operator was due for annual refresher in February 1995. The operator did not complete annual refresher training until 12 June 1995.

Description

During an environmental audit of the DFS for the months of March and April 1995, conducted 18-20 May 1995, it was discovered that an operator was due for his annual refresher course in February 1995. However, the training computer program had not generated a report indicating that this individual was due or overdue for training. Further investigation showed that this individual had departed the JACADS project and returned approximately six months later. When this individual's records were reactivated in the training program, a departure date field was not cleared, which the computer program continued to read, thereby indicating that this individual was no longer employed on the JACADS project.

Corrective Action

The departure field for this individual was cleared and the operator was scheduled to take the next available annual refresher course (early June 1995). In addition, a search of all JACADS employees' records was completed to ensure this was an isolated incident. A program was also designed so that any time an employee returns to the project, the computer will not allow the individual's records to be entered until the departure field is cleared. The operator completed the annual refresher course on 12 June 1995.

D. RCRA OPERATING RECORD REQUIREMENTS

Requirement

JACADS RCRA Permit Condition I.H.4. requires the Permittee to maintain an Operating Record as required by 40 CFR 264.73 and the RCRA Permit at the facility. Permit Condition II.J.1. requires the Permittee to maintain a written Operating Record at the facility in accordance with 40 CFR 264.73(a), (b)(1) and (b)(2). Permit Condition V.F.5.a. requires the Permittee to maintain signed Waste Feed Logs for the DFS, MPF, DUN, and the LIC.

Noncompliance

The JACADS recordkeeping system in 1995 did not satisfy all of the operating record requirements stated above. Specifically, the operating records for the applicable JACADS hazardous waste management units either entirely omitted or did not consistently include the following information:

- The four-digit EPA Hazardous Waste Code(s);
- A description of the waste's physical form (liquid, solid, sludge, etc);
- A description of the process that produced the waste(s);
- The quantity of each waste received, treated, stored at the facility;
- The method(s), by handling codes(s) as specified in Table 2 of Appendix I to 40 CFR Part 264, of treatment for each waste received at the facility;
- the date(s) of each waste received, treated, stored at the facility; and,
- the location of each waste received, treated, stored at the facility.

Additionally, the operating records did not include signed waste feed logs for all wastes that are treated in the DFS, MPF, DUN and the LIC as required by Module V.F.5.a. of the RCRA Permit with one exception. This exception was the agent waste feed logs for the LIC were signed by the Control Room Operator and the Control Room Supervisor.

Description

The operating record requirements of the RCRA Permit and 40 CFR 264.73 are applicable to each of the hazardous waste storage and treatment units within the JACADS. In accordance with the permit process description, a description and the quantity of any munitions, bulk chemical containers or other hazardous wastes received at the MDB must also be recorded in the facility operating record. An audit of the facility operating record determined that there are some deficiencies in the JACADS record keeping system.

At the time of the audit, some of the RCRA operating record requirements were already incorporated into existing SOPs and Program Procedures. The system operating SOPs for the DUN, DFS, and MPF contain appendices with waste feed incineration logs which address specific information that is to be recorded at the time hazardous waste is fed to the furnaces. Although there were no waste feed logs in the LIC system operating SOP, Program Procedure PP-22 directed the LIC operator to record agent waste feed on a log sheet which is signed by both the operator and the Control Room Supervisor.

The ACS, SDS and BRA tank systems are RCRA permitted hazardous waste storage tanks which are subject to the applicable facility operating record requirements. The PDAR system recorded tank level data for each of the storage tanks, but the requirements for recording the hazardous waste code(s), storage code, and other operating record information were not satisfied.

Section C-1 of Attachment C to the permit discusses waste tracking system procedures at the JACADS that provide accountability for munitions and bulk containers that are processed through the facility. The specific accountability procedures are documented in JACADS Program Procedure PP-22 which requires authorized JACADS personnel to complete a Daily Munitions Accountability Worksheet. However, the worksheet information did not satisfy all of the requirements for receiving waste munitions at the facility

Corrective Action

In response to the deficiencies that were identified, the Environmental Compliance Department (ECD) provided Operations with: 1) revised waste feed logs for the MPF and the LIC furnace systems; 2) a revised Daily Munitions Accountability Worksheet for the UPA; and, 3) guidance for preparing daily Tank Level Reports for the ACS, SDS and BRA tank systems in December 1995. Operations initiated SOP Interim Change Forms (ICF) in December 1995 to incorporate the waste feed logs into the appropriate LIC and MPF SOPs which were subsequently adhered to.

The revised waste feed logs and Munitions Accountability Worksheet include pre-printed information and data-entry fields that comply with the operating record requirements. Most of the information that is required to be recorded in the data-fields on the revised forms was previously recorded by the Control Room Operators. Commencing with the implemented ICF in December 1995, all logs that are part of the operating record are now required to be completed and signed, where appropriate, on a daily basis.

As of 31 January 1996, the daily Tank Level Reports for all storage tanks equipped with level indicating transmitters have been modified to include the required operating record information. On 27 February 1996 the final outstanding correction to the operating record deficiency was implemented by the incorporation of Interim Change Form (ICF) 6204 into BRA SOP 099 which addressed the recording of manual feed additions to BRA-Tank-103 along with other required RCRA waste and operating record information.

E. EXCEEDANCE OF MAXIMUM NUMBER OF MUNITIONS ALLOWED IN THE MDB PER CLOSURE PLAN

Requirement

Attachment H (Closure Plan) of the JACADS RCRA Permit describes the allowable munitions inventory within the Munitions Demilitarization Building (MDB). Section H-1c, Maximum Waste Inventory, indicates that a 4-hour inventory of munitions awaiting demilitarization will be present in the MDB during the facility operations and a 1-hour inventory may be present in the processing line.

Noncompliance

During the period between 31 August 1995 and 24 November 1995, the maximum inventory of MC-1 GB bombs allowed in the MDB was exceeded. During the period of 25 November 1995 through 15 December 1995, the maximum inventory of MK-94 GB bombs allowed in the MDB was exceeded.

Description

The estimate of the maximum munitions inventory in the MDB is described in Attachment H to satisfy the regulatory requirement for estimating the maximum inventory of hazardous wastes on site over the active life of the facility [40 CFR 264.112(b)(3)]. Table H1-1 indicated that the estimated maximum number of MC-1 (750-lb GB bombs) allowed in the MDB would be 12 and the estimated maximum number of MK-94 (500-lb GB bombs) would be 21.

During the MC-1 GB bomb campaign, changes were made to the standing operating procedures (SOP JI-0000-M-001, Elevator Capacity for Munitions, and SOP JI-0000-M-103, UPA Operations for Ton Containers, Bombs and Projectiles) to allow for the maximum utilization of the available staging capacity within the MDB. This resulted in approximately 130 bombs being maintained within the MDB during peak periods of processing.

On 30 November 1995, a Class 1 permit modification notice was submitted by the Project to the EPA Region IX Office to update the RCRA Permit with the maximum number of MC-1 and MK-94 GB bombs which were allowed by current SOPs in the MDB. The modification was written to allow a maximum of 130 MC-1 or MK-94 GB bombs within the MDB.

On 14 December 1995, EPA formally denied the Class 1 permit modification due to the modification being incomplete. The denial was based on the permit modification notice not specifying the specific classification of the permit modification per the criteria under 40 CFR 270.42, Appendix I. Since the modification was denied by EPA, measures to comply with the requirement to maintain the inventory of MK-94 GB bombs in the MDB to 21 bombs were implemented.

Corrective Action

On 14 December 1995, Project Management was informed of the necessity to reduce the maximum inventory of MK-94 GB bombs to 21. SOP changes were subsequently initiated to limit the maximum of undrained MK-94 GB bombs to be staged within the MDB to 21. The maximum inventory of 21 MK-94 GB bombs was not exceeded after 15 December 1995. On 15 December 1995, a Class 1 permit modification request, which included the information on the criteria for classification of the modification, was submitted to EPA. Written approval of the permit modification request was received from the Agency on 9 January 1996.

THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

ADDENDUM TO

1995 ANNUAL REPORT OF RCRA NONCOMPLIANCES

1 MAY 1996

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ADDENDUM
TO
JACADS 1995 ANNUAL REPORT OF RCRA NONCOMPLIANCES

INTRODUCTION

The Johnston Atoll Chemical Agent Disposal System (JACADS) 1995 Annual Report of RCRA Noncompliances was submitted to the Environmental Protection Agency (EPA) Region IX Office by the Army on 15 March 1996. The report was submitted to comply with JACADS RCRA Permit Condition I.D.16.

After submittal of the Annual Noncompliance Report on 15 March 1996, the Army re-evaluated several additional incidents which could be construed to be noncompliances with the JACADS RCRA Permit. Based on the re-evaluation and subsequent followup with the EPA Region IX Office, this addendum is being submitted to the 1995 Annual Report of RCRA Noncompliances. Three noncompliances are reported in this addendum; they are:

- Failure to Halt Processing of Brines after Stack LOQ ACAMS Alarms
- Failure to Implement Contingency Plan in Response to Perimeter Station Reading
- GB Emissions from Filters 401-407 on 16-17 March 1995

Details on each of these incidents are provided below.

1. FAILURE TO HALT PROCESSING OF BRINES AFTER STACK LOQ ACAMS ALARM

Requirement

The JACADS Contingency Plan requires brine feed to be halted if an alarm of 0.2 allowable stack concentration (ASC) or greater occurs on the ACAMS monitoring the Brine Reduction Area (BRA) stack. SOP 026 directs the processing of brine be halted if an ACAMS alarm occurs.

Noncompliance

The processing of brines in the BRA did not halt although alarm conditions at the Limit of Quantification (LOQ) level for GB occurred for six 5-minute cycles of the stack ACAMS between 0902 and 1132 hours on 1 October 1995.

Description

The processing of brine from BRA-TANK-102 commenced at 1006 hours on 30 September 1995. The contents to BRA-TANK-102 were sampled on 30 September 1995, and analysis results verified the brine was below the drinking water level for GB.

At 0902 hours on 1 October 1995, ACAMS 166 alarmed at the LOQ (0.2 ASC) for GB; the reading fell below the LOQ after one 5-minute cycle. Commencing at 1022 hours, three 5-minute cycles of the ACAMS recorded readings at 0.2 ASC for GB. Two subsequent ACAMS 5-minute cycles, at 1112 and 1127 hours, also recorded LOQ levels of GB. The processing of brines was not stopped during these alarms. At 1120 hours, the brine feed to Drum Dryers 101 and 102 was

halted; however, brine feed to the evaporator continued. At 1125 hours, the brine feed was switched from BRA-TANK-102 to BRA-TANK-101.

Laboratory air monitoring personnel responded to the ACAMS alarm (which occurred at 0902 hours) at approximately 0910 hours; however, the ACAMS reading had fallen below LOQ by the time they arrived. The Control Room Alarm Report indicates that the "alarm" conditions were followed within 15 seconds by alarm clear messages; therefore, brine processing was not halted for any of the alarms. Another sample of the brine was taken at 1110 hours from BRA-TANK-102, the brine level was down to 6% at this time. The sample tested negative for GB. At 1119 hours, a DAAMS sample collected at 0700 hours from the BRA Stack was analyzed by GC/FPD and gave a reading of 0.2 ASC for GB. Subsequent analysis and evaluation of additional DAAMS samples indicated that the material detected was due to an interferant and was not GB.

Corrective Action

The cause of the ACAMS alarm was verified not to be GB agent. In addition, the possible source of the material detected was investigated by reviewing the origination of the brines in BRA-TANK-102; the specific source was not identified.

The need to halt processing operations whenever an ACAMS alarm above 0.2 ASC in the BRA Stack occurs was emphasized to Operations. A guidance document on implementation of the RCRA Contingency Plan was prepared and distributed to appropriate OMC Departments. Also, review of the response actions required for various agent alarm conditions was covered in a Monthly Environmental Seminar to Operations, held on 13 January 1996.

2. FAILURE TO IMPLEMENT CONTINGENCY PLAN IN RESPONSE TO PERIMETER STATION READING

Requirement

The Laboratory Quality Control Plan (LQCP) contained in Attachment C and Procedure 5.G.3. in Attachment K of the JACADS RCRA Permit for Agent Release/Spill Outside of Engineering Controls requires implementation of the Contingency Plan if there is a confirmed agent reading at a perimeter station and if there is indication of an agent release outside of engineering controls.

Noncompliance

On 2 March 1995, confirmed GB agent readings at Perimeter Station 100 were detected above the limit of quantification (LOQ). Although the facility took precautionary actions and informed the EPA of the event, the contingency plan was not formally implemented or documented in accordance with permit/regulatory requirements.

Description

On 2 March 1995, GB agent concentrations were confirmed in the ambient air at Perimeter Station 100 of up to 0.39 GPL for 1-2 March 1995 samples. The measured concentrations of GB at Perimeter Station 100 were considered very low and not a threat to human health or the environment. The Emergency Coordinator (Plant General Manager) was notified of the

measurements. He made an assessment of the severity of the situation and directed followup investigation. The site was not masked or alarmed. The EPA Region IX Office was notified both verbally and by fax on 3 March 1995 of the low level agent concentrations detected.

Initial investigation on 3 March centered around Filter 407 as being the suspected source of GB emissions since meteorological conditions indicated the emissions originated from this location. A smoke test was conducted on Filter 407 which indicated that slightly positive pressures existed in the unit when not in use. The filter was thoroughly inspected. At about 1700 hours, several clamps on Door 6 were found not to be cinched completely; the clamps were tightened. Loose fittings on a capped sample probe were discovered and tightened at approximately 2030 hours. Subsequently, on 3-4 March, Filters 401-406 were inspected thoroughly, including the gaskets on doors 5, 6, 7 and 8, sample ports, valves, ports and ACAMS access panels. Additionally, Filters 401-406 were verified to be under negative pressure when not in use. An Unusual Occurrence Report was issued by the Laboratory on 16 March documenting the activities taken up to 15 March 1995.

Corrective Action

The criteria for implementation of the Contingency Plan were not clearly identified and were contained in several different sections of the RCRA permit. Consequently, a review of the RCRA Permit and Contingency Plan requirements was undertaken in March 1995 by Raytheon. This resulted in a position paper being developed by the Environmental Department summarizing actions to be taken in the event agent is detected at various levels/locations at the facility. The report was disseminated to Raytheon management. In addition, the RCRA Contingency Plan will be updated and clarified.

3. GB EMISSIONS FROM FILTERS 401-407 ON 16-17 MARCH 1995

Requirement

Permit Condition II.H.2. requires the Permittee to immediately notify EPA, under the requirements in 40 CFR 264.56(d)(2), of any release of GB agent in excess of 0.0003 mg/m^3 to the atmosphere outside the MDB.

Noncompliance

On 16-17 March 1995, GB concentrations in excess of 0.0003 mg/m^3 were measured in ambient air outside the MDB but were not reported to the EPA in accordance with the requirements of Permit Condition II.H.2. The three following incidents of GB in excess of 0.0003 mg/m^3 were measured:

- GB concentrations up to approximately 0.0007 mg/m^3 were detected on the outside of door gaskets to Filters 404, 405 and 406 on 16 March 1995 using a modified VX ACAMS. This instrument was used as a qualitative method of identifying the source of emissions.
- GB concentrations up to 0.000894 mg/m^3 outside of Filter 405 and up to 0.000789 mg/m^3 outside of Filter 404 were measured on the morning of 17 March 1995, from approximately 0848 to 1007 hours.
- From 1026 to 1046 hours on 17 March 1995, GB agent concentrations of up to 0.0180

mg/m^3 were measured within a temporary air wash structure attached to Filter 404, which was partially open to the atmosphere. These concentrations were reported to EPA as being measured in a temporary airlock as opposed to being measured in an air wash partially open to the atmosphere.

Description

On 2 March 1995, confirmed GB agent concentrations were measured in the ambient air at Perimeter Station 100. Subsequently, low levels of GB agent in the ambient air were detected in the vicinity of Filters 401-407 sporadically during the first portion of March 1995. Ambient monitoring for GB in the vicinity of the filters during this time indicated that Filter 407 was the primary source of agent emissions; however, further investigation revealed door gaskets to Filters 401-407 were leaking.

The use of a VX calibrated ACAMS with an expanded retention time window was initiated to qualitatively seek out the source of the intermittent low level readings first observed in early March 1995. The ACAMS was configured and calibrated in accordance with standard practice as described in SOP JI-000-M-506. Once calibrated, the AgF conversion pad assembly was removed from the sampling apparatus and the instrument was challenged with 1.0 *ul* of 0.0293 ng/ml GB standard solution, this is the calibration standard routinely used to challenge GB ACAMS at the LOQ level. The agent retention time window was expanded to 20 seconds in order to include the GB response since the GB retention time under these conditions is some 3 to 8 seconds longer than G analogue, the signature analyte for VX.

Under these conditions, the GB challenge corresponds to:

1.0 *ul* x 0.0293 ng GB/*ul*/(6 min x 0.800 1/min) = 0.0061 ng GB/1 air
0.0061 ng GB/1 air x 1 GPL/(.003 ng GB/1 air) = 2.03 GPL GB

Since the value displayed on ACAMS for this challenge was 1.26, the conversion between the ACAMS response and GB GPL units is roughly:

GB GPL value = ACAMS display value x (2.03/1.26)
= ACAMS display value x (1.61)

On 15-16 March this VX calibrated ACAMS with an expanded retention time window was used to detect the presence of GB agent on the outside of the filter door gaskets. GB concentrations of 0.0003 to 0.0007 mg/m^3 (3-7 TWA) were indicated when the sensor was held against the outside of the door gaskets to Filters 404, 405 and 406 on 16 March 1995. When the sensor was held one inch away from the gasket, there was no indication of agent. When first used, there was never any intent to use these data in any quantitative way. The goal was only to sacrifice quantitation for sensitivity in order to locate the origin of the perimeter readings at Perimeter Station 100.

Due to the 16 March 1995 measured GB concentrations, a temporary air wash structure was erected around doors 6, 7 and 8 of Filter 404 on the morning of 17 March. The purpose of the structure, completed at approximately 0900 hours, was to channel an air wash across doors 6, 7 and 8 of Filter 404 during replacement of the door gaskets. The structure consisted of wood

framing covered with plastic on two sides and on the roof. Filter 404 served as another side of the structure and the West side was open to the atmosphere. Plastic sheeting was draped from the roof over the upper half of the West side of the structure to partially close this side.

Using a GB ACAMS, the air within the temporary structure was measured for GB agent from 1023 to 1046 hours on 17 March. GB agent concentrations of 0.0022 - 0.0180 mg/m^3 (22-180 TWA) were measured during this time. The JACADS Contingency Plan was implemented after confirmation of these agent readings and site personnel masked.

On 24 March 1995, Perimeter Station 100 positive DAAMS agent readings on 1-2 March were correlated with positive DAAMS and ACAMS readings at Filter 407. This correlation was discovered due to unexplained ACAMS alarms from monitoring MDB filtered air within the filter units. This discovery lead to the conclusion that GB levels of up to 2.14 TWA on 1 March 1995 and 1.12 TWA on 2 March 1995, measured with a GB ACAMS used for monitoring Filter 407 exhaust gases, were actually GB readings in ambient air outside of Filter 407. This correlation also identified the GB concentrations of up to 0.000894 mg/m^3 (8.94 TWA) measured just outside of the temporary air wash structure between Filters 404 and 405 on 17 March as being ambient air samples.

Corrective Action

Due to the high GB readings measured inside the temporary structure, the Contingency Plan was implemented and agent processing was halted at 1203 hours on 17 March 1995. From 17 March to 20 March 1995, the gaskets on doors 6, 7, and 8 of Filters 401-407 were replaced with new gaskets. Additionally, all doors to Filters 401-407 were sealed by taping plastic sheeting over the outside of the doors. During this period, the filters were monitored for GB. Hazardous operations did not recommence at JACADS until 21 March 1995, after all filter door gaskets were replaced and each door was covered with plastic sheeting taped to the filter structure.

On 18 March 1995, implementation of the Contingency Plan was reported to the EPA, both verbally and by fax. The verbal report was submitted within 24 hours of implementation of the Contingency Plan on 17 March 1995. The fax notification reported GB agent concentrations in excess of 0.009 mg/m^3 (90 TWA) as being measured inside a temporary airlock. A subsequent written report to the EPA was submitted on 4 April 1995 reporting agent levels of 0.0022 - 0.0180 mg/m^3 were monitored inside the temporary airlock from 1026 to 1046 hours on 17 March 1995.

A meeting consisting of PMCD and Raytheon representatives was held on 5 May 1995 to discuss how to address previous reporting discrepancies and high GB concentrations measured by the ACAMS internal to the filters. It was agreed that a report would be submitted to EPA to correct previously reported erroneous information and to report the GB readings above 0.0003 mg/m^3. Raytheon recommended that a comprehensive report be submitted to the EPA covering all pertinent information related to GB agent releases. Based on this meeting and subsequent follow-up meetings, a letter was submitted by PMCD to EPA on 31 May 1995 reporting GB concentrations reached 0.000894 mg/m^3 (8.94 TWA) outside of the temporary air wash station between Filters 404 and 405 on 17 March 1995.

The 31 May 1995 PMCD letter to EPA also reported the temporary airlock was partially open for air wash purposes. Although the letter did not explicitly state that ambient air GB concentrations

in excess of 0.0003 mg/m^3 (up to 0.0007 mg/m^3) were measured by the VX calibrated ACAMS on the outside of the door gaskets to Filters 404, 405 and 406 on 16 March 1995, this information was inferred in the report.

THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

1996 ANNUAL REPORT OF RCRA NONCOMPLIANCES

28 February 1997

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JACADS 1996 ANNUAL RCRA NONCOMPLIANCE REPORT

INTRODUCTION

BACKGROUND

The U.S. Army, Program Manager for Chemical Demilitarization (PMCD), operates the Johnston Atoll Chemical Agent Disposal System (JACADS) facility under EPA I.D. Number TTO-570-090-001. The JACADS mission and facility is described in the JACADS Resource Conservation and Recovery Act (RCRA) Part B Permit dated 15 May 1991, its associated attachments and permit modifications approved by the Environmental Protection Agency (EPA) since this date.

JACADS is operated by the Operations and Maintenance Contractor (OMC), Raytheon Engineers & Constructors, Inc. under the direction of the Program Manager, Department of the Army.

JACADS ENVIRONMENTAL COMPLIANCE COMMITMENT

The Army and its contractors remain committed to operating the JACADS facility in a manner that is fully compliant with its permits, and protective of human health and safety, and the environment. The 1996 Noncompliance Report shares the results of our activity towards establishing our goal of an exemplary compliance program.

Noncompliances do exist at JACADS; however, most are related to administrative procedures and documentation issues which continue to be fine tuned and clarified. Others can be attributed to interpretational discrepancies and inconsistencies in the permit itself, which make compliance difficult. These are also being addressed and clarified in an ongoing effort. The JACADS program has developed and implemented corrective actions for each identified noncompliance. In addition, it is responsive to resolving all identified regulatory compliance issues that arise during the course of the extensive internal audit/inspection program.

INTERPRETATION OF NONCOMPLIANCE

As stated earlier, the Army and its OMC are committed to operating the JACADS facility in compliance with all environmental and other regulatory requirements. A proactive regulatory compliance attitude exists at the JACADS facility. Several levels of oversight, inspection and auditing are conducted routinely. These range from day-to-day activities performed by the PMCD and OMC Environmental on-island staffs to the less frequent, but comprehensive audits conducted by PMCD Headquarters, EPA and other entities.

The philosophy is to aggressively identify a problem or potential problem and to immediately implement an appropriate corrective action. With this proactive attitude and the willingness to seek out problem areas, it is also more likely that potential problem areas will be discovered before they become noncompliance issues. The number of identified noncompliances is, to an extent proportional to the level of effort expended in administering an effective environmental compliance program. At JACADS this effort is substantial.

JACADS 1996 ANNUAL RCRA NONCOMPLIANCE REPORT

NONCOMPLIANCE REPORTING

JACADS RCRA Part B Permit Condition I.D.16 requires submission of an Annual Noncompliance Report to the EPA Regional Administrator by 1 March of each year. This report describes all instances of noncompliance with the permit other than those documented to EPA during the year as required by Permit Condition I.D.15. The report will contain information listed in permit condition I.D.15.b, regardless of whether the instances of noncompliance endangered health or the environment. This report is the seventh Annual Report of RCRA Noncompliance representing the period from 1 January 1996 through 31 December 1996.

The format of this report addresses each specific noncompliance item, or area of noncompliance in four parts.

1. Requirement: States the specific regulatory citation and/or permit requirement and cites the reference.

2. Noncompliance: Identifies the noncompliance.

3. Description: Presents a summary of the circumstances contributing to the noncompliance, any mitigating circumstances, etc.

4. Corrective Action: Describes corrective action(s) that were or will be implemented to respond to the noncompliance and to minimize recurrence.

For ease of review, the reported noncompliances are grouped into five general categories. Each noncompliance refers to a permit condition or regulatory requirement and may report more than one incident of noncompliance. Caution was taken to ensure a noncompliance was not reported more than once even though it may relate to several general categories.

SUMMARY

The Noncompliance Report for 1996 represents a substantial effort on behalf of PMCD/OMC to dedicate professional resources toward the specific goal of identifying potential instances of noncompliance that may have occurred. Just as importantly, this effort is focused toward correcting and preventing recurrences of any deficiencies in the project and creating a strong project attitude and sensitivity toward compliance issues.

The majority of the noncompliance issues were investigated and resolved in an expeditious manner whenever feasible. Additionally, permit modifications were prepared and submitted to the EPA when clarification or new issues were discovered which warrant a modification.

The project's management and work force has grown in its sensitivity and responsiveness to resolving compliance problems in an expeditious manner. The year 1996 ended with a truly significant overall improvement in compliance awareness and should be an excellent foundation for an even more improved 1997.

JACADS 1996 ANNUAL RCRA NONCOMPLIANCE REPORT

PERMIT REQUIRED INSPECTIONS/CALIBRATIONS

A. MISSING ATTACHMENT F INSPECTIONS RECORDS

Requirement

Attachment F (Procedures to Prevent Hazards) of the JACADS RCRA Part B Permit requires that the Munitions Demilitarization (MDB) Zone Pressure Differentials be verified daily from the Control Room. Attachment F also requires that inspection records be kept at the JACADS facility. The inspection records will record, at a minimum, the date and time of the inspection, inspector's name, a notation of the observation made, and the date and nature of any repairs or other remedial actions.

Noncompliance

The Control Room Operator Reading Sheets, which contain the Attachment F inspections of the MDB zone pressure gauges, could not be located to prove that the inspections were conducted on 13-15 May 1996.

Description

During the May 1996 RCRA Permit Attachment F Inspection audit on 15-19 June 1996, the Reading Sheets which contain the MDB Zone Pressure Gauge readings, could not be located for 13-15 May 1996. Although other records indicate that the reading sheets were filed, the reading sheets could not be found in any of the May or June Reading Sheet files.

Corrective Action

Operations personnel instituted a thorough search to locate the missing reading sheets, however they were unable to locate them. The missing data was recreated from PDAR data, annotated as replacement records, and placed in the operating record.

B. LATE QUARTERLY CALIBRATION OF LIC THERMOCOUPLES

Requirement

RCRA Permit Condition V.F.5.a requires the Permittee to calibrate the Liquid Incinerator (LIC) thermocouples which monitor RCRA operating parameters on a quarterly frequency.

Noncompliance

LIC thermocouples 13-TE-43A/B, 13-TE-103A, 13-TE-125, 13-TE-127A/B, and 13-TE-128, which monitor the RCRA operating parameters of LIC primary and secondary temperature, were calibrated 16 days after the calibration due date.

Description

LIC thermocouples 13-TE-43A/B, 13-TE-103A, 13-TE-125, 13-TE-127A/B, and 13-TE-128, which monitor the RCRA operating parameters of LIC primary and secondary chamber temperature on a continuous basis, are included in preventive maintenance procedure PME-325Q. This PME is scheduled to be conducted on a quarterly frequency (within 90 days from the previous calibration/inspection). Based on the calibration/inspection program established at the facility, quarterly PMEs have a calibration window of ±7 days.

Work order (WO) # 15-5142 for PME-325Q was due on 2 August 1995 and was completed on 27 July 1995. The work order was signed off as complete by the Maintenance Supervisor on 18 August 1995. Since the work order was completed within 7 days of the due date the next scheduled due date for the quarterly PME should have been 3 months from the previous due date (2 November 1995). However, the date that the Maintenance Supervisor signed the work order was used to schedule the next calibration and therefore the due date was scheduled for 18 November 1995. Although the work order (WO# 16-0603) was completed by the scheduled due date, since the due date was incorrect, the calibration was completed 16 days later than required by JACADS procedures to meet the requirements of the RCRA permit.

Corrective Action

The Maintenance Department is conducting an audit to ensure that all work orders for calibrating instruments and inspecting requirement meet the permit specified calibration frequencies. In addition, the computerized PM generation program was modified to calculate the next PM due date based on the actual field performed completion date and not the date that the Maintenance Supervisor completes the paperwork.

C. IMPROPER INTERNAL INSPECTION OF FIBERGLASS TANKS

Requirement

Attachment F (Procedures to Prevent Hazards) of the JACADS RCRA permit requires annual internal inspections of PAS-TANK-101, CDS-TANK-101, CDS-TANK-102, PAS-DMIS-101, PAS-DMIS-102, PAS-DMIS-102, and PAS-DMIS-104. The inspection requires a visual check of the interior shell for delamination, cracks, and other signs of deterioration. The inspections are to be performed in accordance with ASTM-D-2563, Standard Practice for Classifying Visual Defects in Glass Reinforced Plastic Laminate Parts.

Noncompliance

Internal inspections of PAS-TANK-101 (Acid Wash Storage Tank), CDS-TANK-101, CDS-TANK-102, PAS-DMIS-101, PAS-DMIS-102, PAS-DMIS-103 and PAS-DMIS-104 were not conducted in accordance with ASTM-D-2563. The inspections are conducted without entering the tanks. ASTM-D-2563 requires identifying chips, cracks, crazing, delaminations, blisters, pimples, pits, pinholes, and scratches as small as 1/8". Visual inspections without entering tanks of these sizes (5,000 and 20,000 gallons) do not provide the required resolution to identify such defects.

Description

In August 1996, during a Quality Assurance review of the 26 November 1994 work order for the annual preventive maintenance of CDS-TANK-102, which included the visual internal inspection of the tank, it was noted that the visual inspection was conducted from the manway. A procedure change request was initiated in November 1994 to modify the preventive

maintenance procedure to allow inspection from the manway. The procedure change was never implemented. The inspections continued to be performed by looking in the manway. The procedure to inspect the demister vessels does not include a requirement to remove the candles prior to conducting the internal inspection.

Based on the inspection criteria, it is apparent that these criteria cannot be evaluated in tanks the size of the Acid Wash Storage Tank (AWT) and CDS tanks without entering the tanks. It is physically impossible for a person to be able to resolve defects on the order of ⅛" by conducting an inspection by looking in the manway. The demister vessels cannot be properly inspected without removing the candles and personnel entering the vessels.

Work orders for the inspections of the AWT, CDS tanks, and demister vessels since 1992 were reviewed. It was determined that the internal inspections of the AWT and the CDS tanks had never been conducted by persons entering the tank and that the demister vessels had been inspected from the manways with the candles still installed.

Corrective Action

The Project is investigating other appropriate inspection criteria for fiberglass tanks. Safety concerns associated with personnel entering the AWT and CDS tanks to conduct internal inspections were evaluated and addressed. PAS-DMIS-101, PAS-DMIS-102, PAS-DMIS-103, PAS-DMIS-104, PAS-TANK-101, CDS-TANK-101, and CDS-TANK-102 were properly inspected in accordance with the inspection criteria on 29 August 1996, 31 August 1996, 19 September 1996, 14 September 1996, 26 September 1996, 29 September 1996, and 30 September 1996, respectively.

D. MPF PAS TANKS ATTACHMENT F INSPECTIONS NOT CONDUCTED AT SPECIFIED FREQUENCY

Requirement

Attachment F (Procedures to Prevent Hazards) to the JACADS RCRA permit states that "JACADS will be inspected according to a prescribed inspection schedule designed to detect equipment deterioration and prevent possible equipment malfunctioning that would cause a release of hazardous materials to the environment or pose a threat to human health. At a minimum, the inspection program will include inspections of equipment items listed in Table F2-1." Table F2-1 requires that the exteriors of PAS-TANK-105, -106, and -107 be visually inspected daily for signs of deterioration.

Noncompliance

The exteriors of the MPF PAS tanks (PAS-TANK-105, -106, and -107) were inspected monthly rather than daily since the initiation of the system inspections in May 1996.

Description

The JACADS RCRA permit requirements for the operation of the MPF PAS pH Control System include an Attachment F inspection schedule for the MPF PAS tanks (PAS-TANK-105, -106, and -107). Prior to the start of the GB 155-mm projectile campaign in May 1996, the MPF PAS pH Control System was installed and tested. Monthly external vessel inspections were conducted

on the storage tanks in accordance with the guidance provided by the Environmental Compliance Department (ECD). However, the guidance was based on a version of a permit modification request which was subsequently changed to indicate daily, rather than monthly, inspections prior to submittal for approval by the EPA. ECD was not able to use the JACADS Permit Reference Document to provide the inspection frequency because the Permit Reference Document was not up-to-date at that time. Operations personnel prepared the inspection checksheets in accordance with the monthly inspection schedule provided to them by ECD and immediately started conducting the inspections.

Corrective Action

Operations was immediately notified following the discovery of this noncompliance. Operations modified the inspection forms for the visual exterior inspections of PAS-TANK-105, -106, and -107 and started conducting the inspections daily commencing on 18 September 1996.

In order to prevent a similar situation from occurring in the future with the upcoming issuance of the new JACADS/Red Hat RCRA Permit, the Environmental Compliance Department is developing a protocol, in conjunction with PMCD and EPA, to incorporate modifications into the permit as the modifications are approved and acknowledged by the EPA.

E. INCOMPLETE ATTACHMENT F INSPECTIONS

Requirement

Attachment F (Procedures to Prevent Hazards) to the RCRA Permit states that "JACADS will be inspected according to a prescribed inspection schedule designed to detect equipment deterioration and prevent possible equipment malfunctioning that would cause a release of hazardous materials to the environment or pose a threat to human health. At a minimum, the inspection program will include inspections of equipment listed in Table F2-1. The inspection records will record, at a minimum, the date and time of inspection, inspector's name, a notation of the observation made, and the date and nature of any repairs or other remedial actions."

Noncompliance

Eleven inspection checksheets from July and August 1996 were not completed properly. Certain criteria were not documented as being inspected on each of the checksheets.

The nature of any repairs or remedial actions were not properly documented on the checksheets. The checksheets identified work orders to correct deficiencies which were not included in the Maintenance work order tracking system.

Work orders written during non-inspection activities to correct deficiencies against inspection criteria were not documented on the inspection form when the deficiency still existed during the subsequent inspection.

In cases where a deficiency had not yet been corrected, subsequent inspections did not always indicate that the deficiency still existed. In addition, some of the inspection criteria on the checksheets were marked "Satisfactory" when there was a deficiency against the inspection criteria.

Description

During the ECD Attachment F Inspection audit for July and August 1996, conducted September 1996, the following deficiencies were identified:

a. Eleven inspection checksheets from July and August 1996, listed below, were not fully completed. Each checksheet may contain several items to be inspected. Each of the checksheets in question contained at least one inspection item that was not documented as completed, i.e., no information regarding the inspection of the particular item was included on the checksheet.

Date	Inspection	Portion of Inspection Not Completed
7/12/96	Daily Blast Doors (ECR & DFS)/Blast Gates	Item 1: ECR-BLDR-103 and ECR-BLDR-104
7/13/96	Daily Blast Doors (ECR & DFS)/Blast Gates	Item 1: ECR-BLDR-103 and ECR-BLDR-104 and Item 2: MMS-GATE-101 and MMS-GATE-102
7/20/96	Weekly HVAC	Item 1: Exhaust Filter Units HVC-FILT-404 and Item 2: Motor Operated Isolation & Fire Dampers - Damper 649
7/21/96	Weekly MPF	PAS Induction Fan - PAS-BLOW-202
7/29/96	Daily LIC System	Combustion System
8/3/96	Weekly Acid Wash Tank	Item 2: Pump
8/10/96	Weekly HVAC	Item 4: Motor Operated Isolation & Fire Dampers - Dampers 414K, 637, 638, and 639
8/16/96	Daily MPF PAS System	Item 1: Piping and Valves
8/20/96	Daily Boiler System	Boiler 102 Item 2: Feed Water Pumps and Item 3: Level/Pressure Control
8/20/96	Daily Hazardous Material Transfer Lines & Secondary Containment Berms	Item 2: Common PAS
8/29/96	Daily Acid Wash Tank	Item 2: Containment Berm

Since August there were no deficiencies of this nature.

b. The work orders listed below were identified on inspection checksheets to correct inspection deficiencies. These work orders were found not to have been entered in the OPMIST work order tracking system. They may have been cancelled because they were duplicates or misplaced.

- 96-6700 was included on the Daily MPF PAS System RCRA Inspection for 8/1/96
- 96-6695 was included on the Daily MPF PAS System RCRA Inspection for 7/12/96 and on the Daily Hazardous Materials Transfer Lines and Secondary Containment Berms RCRA Inspection for 7/20/96
- 96-2954 was included on the Daily Acid Wash Tank RCRA Inspection for 7/30/96
- 96-7456 was included on the Daily LIC System RCRA Inspection for 8/19/96
- 96-0696 was included on the Daily LIC System RCRA Inspection for 7/30/96

Since October there were no deficiencies of this nature.

c. Work orders may be written at any time to correct deficiencies against inspection criteria. However, if they are written at times other than during an inspection and the work is not completed for several days, the deficiency will still exist. In these cases, these deficiencies and the work orders to correct them were not documented on subsequent inspection checksheets.

   Deficiencies of this nature continued since August but were reduced to one occurrence during the month of October and none during the month of November.

d. In cases where a deficiency had not yet been corrected, subsequent inspections did not always indicate that the deficiency still existed. In addition, some of the inspection criteria on the checksheets were marked "Satisfactory" when there was a deficiency against the inspection criteria.

   Deficiencies of this nature continued since August but were reduced to one occurrence during the month of October and none during the month of November.

Corrective Action

The Operations Department will continue to self-audit the Attachment F Inspection program on a weekly basis to ensure that the inspection checksheets are being completed properly. The Attachment F Inspection program was reviewed and revised in order to address the inconsistencies identified in the noncompliance and to ensure the proper tracking of work orders written to correct inspection deficiencies. Additionally, the Attachment F Inspection program training is being updated by the Training Department to include the requirements for conducting the inspections.

This noncompliance was closed based on an audit conducted in December 1996 on the Attachment F inspection program which identified no deficiencies.

2. HAZARDOUS WASTE OPERATIONS RELATED NONCOMPLIANCES

A. NOT FURNISHING THE PROPER MPF AFTERBURNER EXHAUST O_2 MONITOR SIGNAL TO THE AUTOMATIC WASTE FEED CUTOFF SYSTEM

Requirement

Permit Condition V.F.4. and V.F.5.a require continuous monitoring of the MPF Afterburner exhaust for O_2 and CO whenever hazardous wastes are being processed. Permit Condition V.F.4 requires engagement of the Automatic Waste Feed Cut-Off System (AWFCO) if the MPF Afterburner exhaust O_2 and CO deviate beyond their permitted limits.

Noncompliance

During the processing of MK-94 GB bombs in the Metal Parts Furnace (MPF), the afterburner exhaust which was monitored for O_2 was not connected to the AWFCO system from 1546 on 2 January 1996 to 1331 hours on 3 January 1996.

Description

The processing of MK-94 GB bombs in the MPF commenced at 1133 hours on 2 January 1996 and continued until 1331 on 3 January 1996. From approximately 1546 hours on 2 January 1996 to 1331 hours on 3 January 1996, the daily calibration of the MPF Afterburner exhaust O_2 monitor was performed while the monitor was on-line. The alternate O_2 monitor was available as a backup unit; however, it was not placed in service to allow calibration of the unit already on-line. Consequently, the O_2 levels recorded on the PDAR Daily Operating Conditions Report from 1546 to 1331 hours on 2-3 January 1996 were not indicative of the actual processing conditions due to the O_2 monitor undergoing calibration. Subsequent review of the strip chart monitoring data documents that no exceedances of O_2 occurred. However, since the programmable logic controller (PLC) is programmed not to engage the AWFCO system when the O_2 monitor is in the calibration mode, even if O_2 levels deviated beyond the permitted limits the AWFCO system could not have engaged.

Corrective Action

To prevent recurrence of this type of incident, programming changes were implemented on the MPF, DFS, and LIC hazardous waste incinerators. The afterburner exhaust O_2 and CO continuous emission monitors (CEMs) were altered to enable the units to signal the Programmable Logic Controller (PLC) when they are in the "blowback" purge mode or in a "calibrate" mode. The control room advisor screens were modified to indicate the "on-line" CEMs with a green border and the "backup" CEMS with a magenta border. Additionally, both the on-line and the backup CEMs flash their readings in yellow when the CEMs are in the "blowback" mode and in red when in the "calibrate" mode. The PLC was programmed to prevent the CON operator from selecting a CEMS which is in the "calibrate" mode. Additionally, if the "on-line" monitor is locally placed in the "calibrate" mode, an automatic waste feed cutoff will occur and an alarm will activate.

These programming changes were implemented for the Deactivation Furnace System (DFS) and the Liquid Incinerator (LIC) in 1995. However, programming changes to the MPF were not implemented since it was not being used to process hazardous waste at the time the problem was discovered. The programming changes were tested on 20 January 1996 and implemented in the MPF operating procedure on 25 January 1996.

B. EXCEEDANCE OF PERMITTED BRINE FEED RATE

Requirement

The JACADS RCRA permitted brine feed rate limit, calculated as a rolling one hour average (ROHA), of 1078 gallons per hour (gph) was approved by the EPA on 7 January 1994. This feed rate limit applies to both evaporation and drying operations and evaporation only operations.

Noncompliance

The maximum allowable brine feed rate of 1078 gph to the Brine Reduction Area (BRA) evaporator was exceeded for three minutes on 16 April 1996.

Description

On 16 April 1996, the feed rate to the BRA evaporator, as recorded on flowmeter 23-FQ-103, exceeded the maximum allowable ROHA rate of 1078 gph for approximately three minutes (from 18:37:30 to 18:40:28). During this time period, the maximum flow rate, calculated on a ROHA basis, was 1084 gph.

An alarm is provided to the Control Room and to the BRA to alert operators of high and high-high ROHA brine feed rates to the evaporator and to warn operators that the feed rate limit is either being approached or exceeded. BRA Standing Operating Procedure (SOP JI-0000-M-026) requires brine processing to be halted when the evaporator feed high-high alarm occurs on the Advisor Screen in the Control Room.

On 16 April at approximately 1730 hours, the strainer on the brine feed line plugged causing a reduced brine flow to the evaporator flash chamber. This condition was not noticed until an alarm activated indicating a low flash chamber brine level. The low brine level was due to plugging of the in line strainer upstream of the evaporator. The level control valve automatically opened to increase the flow to the evaporator. After the plugged strainer was cleaned, the flow to the evaporator rapidly increased. Due to the slow response of the level control system the ROHA feed rate exceeded 1078 gph. The operator took manual control of the level control valve to decrease the feed rate, however it was too late to prevent the ROHA exceedance. After the feed rate alarm had cleared, the operator placed the level control system back in automatic.

Corrective Action

Work orders were prepared to troubleshoot and repair the BRA evaporator flash chamber level control system to correct the slow response of the level control valve. Procedural changes to the alarm response for strainer differential pressure and brine flow to the evaporator were made on 30 April 1996. A sign addressing proper alarm acknowledgments was posted at the BRA alarm panel as an operator aid. An additional local display of the instantaneous brine feed rate to the evaporator was installed at the evaporator control panel. The original local display of the instantaneous brine feed rate was mounted on the northeast wall of the BRA building which is not within visual range of an operator adjusting the flow control.

C. PDAR LOSS WHILE PROCESSING IN THE DFS

Requirement

Permit Condition V.F.5.b requires that various incinerator parameters be recorded at least once a minute during Post-Trial Burn period.

Noncompliance

1. Simulant 155-mm projectile parts were fed to the Deactivation Furnace System (DFS) from 1532 to 1727 hours on 22 April 1996 and processed without the operating parameters specified in permit condition V.F.5.b being recorded by the Process Data Acquisition and Recording (PDAR) System.

2. On 28 May 1996, during the treatment of energetic waste from 155-mm GB projectiles in the Deactivation Furnace System (DFS) and treatment of spent decontamination solution (SDS) in the Liquid Incinerator (LIC), the RCRA permitted operating parameters were not recorded for 68 seconds (09:25:10 to 09:26:18).

Description

1. The operating parameters specified in permit condition V.F.5.b are required to be recorded at specified frequencies for all post-trial burn operations. This requirement applies to nonhazardous waste fed to the DFS unless the system has undergone temporary shutdown; 15 days notice to the EPA is required prior to a system undergoing temporary shutdown. JACADS had not submitted a notice to the EPA for the DFS to operate under temporary shutdown conditions and, therefore, was required to comply with permit condition V.F.5.b even though only simulant projectile waste was being processed in the DFS.

   Prior to 22 April 1996, a planned shutdown of the PDAR system to allow an upgrade of the PDAR and Network Management (NWM) system was scheduled for late in the afternoon of 22 April 1996. The upgrade was being installed to enhance the communications failure prevention capability performance of the system. The outage was planned for and implemented from 1852 to 2023 hours. However, prior to the planned outage, the PDAR analysts performing the upgrade inadvertently caused the PDAR system to fail while testing the new PDAR control system; this occurred at 1236 hours. The test also caused a failure of the alarm system which alerts the control room of a PDAR outage. Therefore, when the simulant projectile waste was being fed to the DFS from 1532 to 1727 hours and subsequently incinerated, the operator was under the impression that the PDAR system was properly recording the required data. On 23 April 1996, during a review of the previous day's processing data, it was discovered that the PDAR system had not recorded the required data from 1532 to 1727 hours.

2. During the treatment of energetic waste from 155-mm GB projectiles in the DFS and LIC, the Process Data Acquisition and Recording (PDAR) system experienced a hardware failure which resulted in no operating data being recorded from 09:25:10 to 09:26:18 hours (68 seconds) on 28 May 1996. The Automatic Waste Feed Cutoff (AWFCO) system on the DFS and the LIC activated at 09:25:12 hours.

   The loss of data was a result of a hardware failure of the backup VAX computer system at 09:25:10. The corresponding recovery activity on the primary system resulted in an interruption of the PDAR data acquisition. The new fail-over control system functioned flawlessly, and acquisition resumed normally approximately 68 seconds later. Consequently, work was undertaken to reduce the "suspend time" during a VAX failure from 68 seconds to less than the RCRA permitted 60 seconds.

Corrective Action

1. The upgrade of the PDAR and NWM system enhanced the capability of Operations to detect a PDAR loss such as the one experienced on 22 April 1996.

   It was emphasized to the PDAR group that PDAR data collection should be verified following the installation of a software modification or upgrade. It was also recommended to management that whenever future changes to PDAR are scheduled for testing, no treatment operations should be conducted.

2. The VAX tuning parameters that govern how quickly the system recovers from hardware faults have been modified to decrease the recovery time. The Allen Bradley PLC CONR-118 was modified so that it saves data once every 50 seconds if it detects that PDAR has not been reading data from it. This will allow PDAR five minutes to recover from this particular fault.

D. EXCEEDANCE OF PERMITTED FEED RATE TO THE LIC

Requirement

Permit condition V.F.2 specifies a maximum feed rate of spent decontamination solution (SDS) to the Liquid Incinerator (LIC) of 3.81 gallons per minute (gpm) or 2000 lbs/hr, whichever is less. The permitted feed rate is an instantaneous limit that must not be exceeded after the initial feed to the furnace has been established.

Permit condition V.F.2 also allows, a 10 second delay on the activation of the automatic waste feed cutoff system when SDS feed is first initiated.

40 CFR 264.341(b) requires that throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit.

Noncompliance

On 13 February 1996 (at 1607 hours) and on 23 March 1996 (at 1546 hours), after SDS feed had been established, the SDS feed rate exceeded the permitted limit of 3.81 gpm for approximately 6 seconds.

A 10 second delay in the activation of the Automatic Waste Feed Cut Off (AWFCO) system for a High-High SDS feed rate to the LIC was implemented by a Programmable Logic Controller (PLC) program modification on 3 April 1996. The PLC modification added a 10 second delay to the activation of the AWFCO system whenever either of the two SDS pumps were started rather than only when switching from process water to SDS as permitted in V.F.2.

SDS sampling was not conducted to properly characterize the SDS to ensure that the lesser of the 2000 lbs/hr or 3.81 gpm feed rate was not exceeded.

Description

On 16 July 1992, EPA Region IX approved a permit modification allowing JACADS to monitor and feed SDS to the LIC secondary chamber at a feed rate of up to 3.81 gpm in addition to the previous SDS feed rate limit of 2000 lb/hr. The modification was approved with the stipulation that the maximum feed rate allowed will be the lesser of 2000 lbs/hr or 3.81 gpm. The stipulation was made because, although the SDS feed rate is monitored by a volumetric flow meter rather than a mass flow meter, the Agency wanted assurance that SDS feed would be limited to a maximum amount no matter how dense the SDS was.

On 13 November 1992, EPA Region IX approved a permit modification to add a 10 second delay on the activation of the AWFCO system while establishing SDS feed to the LIC. Upon initiating SDS feed to the LIC, activation of the AWFCO system was allowed to be delayed for up to 10 seconds if the maximum feed rate was momentarily exceeded while switching from process water to SDS. Once SDS feed was established, the maximum feed rate became the instantaneous feed rate, with no provisions for a delay in activating the AWFCO system. The permit reference document, which incorporates approved EPA modifications and was maintained by the OMC, did not accurately describe the conditions for the 10 second delay.

For the recorded feed rate exceedances on 13 February 1996 and 23 March 1996, SDS feed to the LIC had already been established. Although the AWFCO system was activated for both of

the instances cited above, the instantaneous maximum permitted feed rate was exceeded for approximately 6 seconds for each event. Prior to these events, the LIC feed program did not include the 10 second delay in the activation of the AWFCO system.

After discovery of the exceedances, the project installed a 10 second delay for activating the AWFCO system. However, in addition to providing for a 10 second delay on initiating SDS feed when activating the SDS/process water valve, the 10 second delay was also installed for starting a second SDS feed pump after SDS feed had been initiated. The 10 second delay was improperly installed on 3 April 1996. The PLC was reprogrammed on 29 April 1996 to remove the 10 second delay when the backup SDS feed pump is brought online. Instantaneous SDS feed rates on the days SDS was processed in the LIC between 3 and 29 April 1996 were reviewed, none exceeded the permitted feed rate. Therefore, the improper process control modification did not result in a waste feed exceedance.

The EPA's maximum feed rate stipulation (i.e., lesser of 2000 lbs/hr or 3.81 gpm) implies that the specific gravity of the SDS must be known in order to comply with the established feed limits. For example, if the specific gravity of the SDS is 1.05, then a feed rate of 2000 lbs/hr corresponds to 3.81 gpm. However, if the specific gravity of the SDS is 1.07, then the maximum permitted feed rate of 2000 lbs/hr corresponds to 3.73 gpm. Until May 1996, the SDS was not adequately characterized to ensure that the lesser of 2000 lbs/hr or 3.81 gpm was not being exceeded.

During investigation of the 6 second exceedances reported above, it became apparent that there were no provisions to prevent exceedance of the 2000 lb/hr limit if a dense SDS was processed at high feed rates. Subsequent testing of the specific gravity of SDS, in May 1996, revealed that the density of the SDS varies substantially.

Corrective Action

The improper program modification for the 10 second delay was corrected on 29 April 1996. The permit reference document, which did not include an accurate description of the 10 second delay, was corrected in a letter submitted to EPA on 7 June 1996.

In the future, SDS specific gravity analyses at the beginning of each campaign will be used to set the maximum volumetric feed rate to ensure compliance with both the mass and volumetric permitted feed rates.

The first 10 ten tanks of SDS generated during the current 155-mm GB projectile campaign were sampled to determine the SDS specific gravity variability. Based on results from the first ten tanks, the specific gravity of the SDS averaged 1.062, with a maximum of 1.085. Therefore, JACADS instituted program changes to decrease the set point of the activation of the automatic waste feed cutoff system from 3.81 to 3.60 gpm (based on a worst case postulated specific gravity of 1.1).

E. MPF PAS BRINE CONTROL SYSTEM LEVEL INSTRUMENTATION IN TANK 106

Requirement

Permit condition V.A requires the incinerators to be constructed and maintained in accordance with the plans and specifications of the permit application. 40 CFR 264.194 (b) (1) and (2) states that "(b) The owner or operator must use appropriate controls and practices to prevent

spills and overflows from tank or containment systems. These include at a minimum: (1) Spill prevention controls (e.g., check valves, dry disconnect couplings); (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank);" Regarding the MPF PAS tanks, RCRA Permit Attachment D.7d states "A level indicating transmitter provides the level control for each tank and opens or closes the make-up water (process water), brine, or liquor valve depending on the level and/or density of the liquid in the tank. This transmitter also alarms at the high level." RCRA Permit Attachment D.7d states "PAS-TANK-106 has a valve tied into the high level control that will open and allow brine to be pumped from the brine loop to PAS-TANK-107, where it will be pumped to the BRA."

Noncompliance

1. From 5 May 1996 to 11 July 1996, the Metal Parts Furnace (MPF) Pollution Abatement System (PAS) was operated with the high level alarm set point higher than the high-high level alarm set point for PAS-TANK-106, Quench Brine Tank. As a result, the maximum permitted capacity of PAS-TANK-106 was routinely exceeded. Additionally, from 5 May 1996 to 15 July 1996, the level control systems for both PAS-TANK-105 and PAS-TANK-106 were not configured as specified in the permit. The brine and clean liquor were not being discharged to PAS-TANK-107 when the high level set points were reached.

2. From 23 September 1996 at 0118 hours to 25 September 1996 at 1511 hours, the high level set point of 62" WC for PAS-TANK-106 was exceeded. The required permitted response to the high level alarm, transfer of brine to PAS-TANK-107, did not occur.

Description

1. The high level set point for PAS-TANK-106 was originally set at 61"WC. The high-high level switch is set at a fixed location of 61.625" from the zero point of the level transmitter. Between 25 March 1996 and 15 April 1996, the high level set point on PAS-TANK-106 was changed from 61"WC to 64"WC. Because the system had a narrow operating band for level, the set point change may have been done to prevent the system from constantly operating in a high level alarm condition. In addition, the level transmitter was determined to be calibrated incorrectly and therefore contributed to the miscalculation of the actual liquid level in the tank.

2. On 23 September 1996, PAS-TANK-106, Quench Brine Tank, was filled in anticipation of starting up the MPF. Maintenance delays prevented the startup of the furnace, and subsequently, the startup of the PAS. Enough water was placed in PAS-TANK-106 to meet the operational demands of the quench brine loop. However, since the PAS was not operating, most of the liquid in the quench brine loop remained in PAS-TANK-106. Between 0118 hours on 23 September 1996 to 1511 hours on 25 September 1996, the high level set point of 62" WC for PAS-TANK-106 was exceeded. The required permitted response to the high level alarm, transfer of brine to PAS-TANK-107, did not occur.

Corrective Action

1. On 24 May 1996, the level transmitter was recalibrated. Based on this new calibration, the high-high level alarm is activated at 64"WC. On 11 July 1996, the high level Alarm set point on PAS-TANK-106 was reset to 62"WC. This set point is lower than the high-high level set point for brine specific gravities of 1.01 or greater. For a nominal specific gravity of 1.08

(used in the calculations to provide the specifications in the permit), the high level alarm set point is 4.5"WC lower than the high-high level alarm set point.

On 15 July 1996, the density control valves for both PAS-TANK-105 and PAS-TANK-106 were reprogrammed to open and transfer brine and clean liquor to PAS-TANK-107 at the high level alarm set point for the tanks in the automatic mode of operation. The density control valves still open upon receiving a signal from the density controllers.

2. Upon notification of the need to take response action on 25 September 1996 at approximately 1500 hours, the control room started PAS-PUMP-103 and approximately 2" of brine was transferred to PAS-TANK-107. This transfer cleared the high level alarm.

   Work orders were completed to on 28 September 1996 to troubleshoot any problems with the Level Indicating Transmitter and the high-high level switch. This resulted in an approximate 5" decrease in the level reading from the transmitter. On 28 September 1996, the high-high switch (LAHH-547) was function tested. The alarm was activated at 60.1". Work Order 97-0177 was written to calibrate the level indicating transmitter (24-LIT-318). This calibration was completed on 28 September 1996.

   The significance of high and high-high level set points and the required responses when these set points are reached was re-emphasized to Operations personnel. A memorandum providing guidance on hazardous waste storage tank levels was issued. The Plant General Manager directed that this information be included in the Operations training courses.

   The Engineering Department investigated the automatic responses (interlocks) to high level alarms for all hazardous waste tanks to determine if they could be inactivated by putting the instrumentation in "manual". The PLCs were reprogrammed so this cannot be done without installing a software jumper, which requires necessary approval prior to implementation.

   The Engineering Department is evaluating the calibration frequency of the level transmitters and the appropriateness of this type of transmitter for the current application.

F. INSUFFICIENT RESIDENCE TIME FOR POLYSTYRENE/POLYETHYLENE WASTE IN THE MPF

Requirement

The 14 November 1995 Class 2 modification and subsequent additional information for Processing Packaging Material (Polystyrene/Polyethylene) in the Metal Parts Furnace (MPF), which was approved by the EPA on 12 March 1996, stated that the packaging material would be fed at the same frequency as ton containers. This will allow a tray containing the packaging waste for 38 minutes in each of the first two zones of the MPF (a total of 76 minutes) and a minimum of 22 minutes in the third zone which will ensure that the 5X criteria is satisfied.

Noncompliance

Between 2122 hours on 15 July 1996 and 1347 hours on 16 July 1996, ten trays containing a total of 238 lbs of agent contaminated (GB) 1X polystyrene/polyethylene waste from GB 500-lb and 750-lb bomb overpacks were processed in the MPF without sufficient furnace residence time. The waste was processed in MPF zones 1,2, and 3 for 20 minutes each. The waste should have been processed for 38 minutes each in zone 1 and zone 2 and minimum of 22 minutes in zone 3. The maximum waste feed rate of 60 lbs/hr (no greater than 30 lbs/load) was not exceeded.

Description

On 15 July 1996, agent contaminated (1X) polystyrene/polyethylene waste from the overpacks of leaking or potentially leaking GB 500-lb and 750-lb bombs was transferred from Bunker 759 to the Toxic Maintenance Area (TMA) for processing in the MPF. The waste was removed from the drums in the TMA and placed in waste incineration containers (WICs) with no more than 30 lbs per WIC. The sequencing timer for the 3 zones in the MPF was increased from 17 to 20 minutes. The waste was fed to the MPF in Campaign Select Mode 2 (projectiles) with the WIC remaining in each zone for 20 minutes.

Additional information in the permit modification request letter stated that the waste must stay in zones 1 and 2 for 38 minutes each and zone 3 for a minimum of 22 minutes. This is the same frequency as the frequency for feeding ton containers to the MPF. This frequency is associated with Campaign Select Mode 1 for the MPF. Due to a miscommunication between Environmental Compliance Department and Operations, the Campaign Select Mode was not changed from 2 to 1. As a result, a total of 238 lbs of polystyrene/polyethylene waste in 10 WICs were not treated in the MPF with the required time in each zone.

Corrective Action

On 16 July 1996 at 1355 hours, the Campaign Select Mode was changed from 2 to 1, thereby increasing the residence time in each zone to 38 minutes. Procedural changes were made to specify the required Campaign Select Mode (1) during the incineration of polystyrene/polyethylene waste. The remainder of the polystyrene/polyethylene waste was incinerated in the MPF using Campaign Select Mode 1.

G. LACK OF BRINE FEED RATE DATA IN THE BRINE REDUCTION AREA (BRA)

Requirement

Attachment D-1 of the JACADS RCRA Permit, under the section entitled BRA Design Description, states in part, "Flow rate readings are recorded at a frequency of at least once a minute on the PDAR System whenever hazardous brines are processed through the drum dryers. Additionally, a rolling one-hour average is calculated by the PLC system and recorded on PDAR."

Noncompliance

On 10 August 1996, the brine feed rate (ROHA) was not recorded between the period of approximately 0800-1555 hours.

Description

On 7 August 1996, the BRA Treatment System was shutdown in order to conduct an inspection of the Pollution Abatement System (PAS) ductwork for accumulation of salt. During the shutdown period, preventive maintenance was conducted on the flow indicator (23-FI-103A) which measures the feed from the brine storage tanks to the evaporator. At approximately 0800 hours on 10 August 1996, treatment of brine in the BRA commenced. At approximately, 1555 hours, a BRA operator noticed that the ROHA feed rate local indicator was indicating zero. The Control Room operator was contacted to verify the feed rate reading on the advisor screen. The Control Room operator verified that the feed rate was zero. The feed to evaporator was immediately terminated.

Corrective Action

Upon investigation of the flow indicating transmitter, it was discovered that when the transmitter was reconnected after it had been function tested during the preventive maintenance procedure, the polarity on the wires of the transmitter had been reversed. This resulted in feed rate readings of zero. The polarity of the wires was changed to the proper polarity and the instrument was tested to ensure that it functioned properly.

The BRA operating procedure was revised to include the brine feed rate (ROHA) on the Operator Reading Sheets. These readings are required to be documented periodically, i.e., every four hours.

H. PROCESSING UNDRAINED PROJECTILES WITH BURSTER WELLS INTACT

Requirement

The EPA granted approval on 6 September 1996 to process undrained 155-mm GB projectiles in the MPF. This approval was based on the proposed plan to process projectiles containing crystalline agent submitted on 4 September 1996 which stated "The burster wells from the projectiles will be removed by the MDMs. After the burster wells are removed, two undrained projectiles will be placed on a single tray to be introduced into the MPF". The RCRA Permit, Attachment D-1, Process Descriptions, includes a description for the processing of projectiles. In this description, it is stated that each projectile will be processed through the MDM and either have the burster well removed from the projectile, or have the burster well removed, crimped, and re-inserted into the projectile prior to processing in the MPF.

Noncompliance

On 3 October at 2303 hours and 4 October at 1010 hours, trays with 2 undrained projectiles were introduced to the MPF which included one projectile that had a burster well that was not removed at the MDM.

Description

On 4 October 1996 at 1010 hours, a tray containing two undrained GB projectiles entered the Metal Parts Furnace (MPF). One of these projectiles had a burster well that was not removed at the MDM. At 1016 hours, a High-High-High MPF Furnace alarm (14-PAHHH-11) activated. At 1022 hours, the MPF Furnace Room Automatic Continuous Air Monitoring System (ACAMS) alarmed at 0.00065 mg/m^3 (6.50 TWA). Subsequent ACAMS sampling cycle results were 0.00044 mg/m^3 (4.37 TWA) at 1025 hours, 0.00020 mg/m^3 (1.97 TWA) at 1028 hours, and 0.00009 mg/m^3 (0.89 TWA) at 1031 hours. By 1037 the ACAMS sampling cycle result was less than the Limit of Quantification (LOQ). The burster well was ejected during treatment and the release of pressure as the well ejected caused the pressure spike. The burster well was found on the waste feed tray when the waste feed tray exited the MPF.

A similar event occurred on 3 October 1996, however, no GB Agent was detected above the LOQ level in the MPF Furnace Room. On 3 October 1996 at 2303 hours, a tray containing two undrained GB projectiles entered the Metal Parts Furnace (MPF). One of these projectiles had a burster well that was not removed at the MDM. At 2308 hours, a High-High-High MPF Furnace alarm (14-PAHHH-11) activated. The burster well was found imbedded in the refractory during an inspection of the furnace on 8 October.

Corrective Action

As a remedial action, MDM processing procedures were modified to ensure that only one projectile, at any time, was demilitarized at the MDMs. This procedure required the control room operator to witness the removal of the burster wells from the undrained 155-mm GB projectiles. In addition, EPA approved the testing conducted on 12 October 1996, and operation involving the removal, crimping, and re-insertion of the burster well into each projectile. This process facilitated the verification that each burster well was handled properly.

3. WASTE MANAGEMENT RELATED NONCOMPLIANCES

A. IMPROPER STORAGE OF JACADS HAZARDOUS WASTE

Requirement

40 CFR 264.1 requires that the owner/operator of a facility obtain a permit for storing hazardous waste for more than 90 days.

Noncompliance

Hazardous waste streams, which were not permitted for storage in these specific locations, were being stored in Bunkers 759, 761 and 897.

Description

The JACADS and Red Hat RCRA part B permit lists and describes those waste streams and hazardous waste codes that could be accumulated for more than ninety days in buildings and bunkers located in the Red Hat Area. The list and descriptions of the permitted wastes were found in Attachment C, Attachment D, Module III, and Module VII of the RCRA permits.

During a review of permitted waste storage requirements and the actual waste streams in permitted storage, it was determined that the following wastes were not being stored in accordance with the permit requirements.

a. Bunker 759 contained GB-contaminated maintenance and nonprocess wastes consisting of Demilitarization Protective Ensemble (DPE) suits, bomb packing material, and metal items. These waste streams carried the EPA hazardous waste code of D003, reactivity. These waste streams were not permitted in either the JACADS RCRA permit Module III or the Red Hat RCRA permit Module VII for storage in this bunker.

b. Bunker 761 contained two drums of silver fluoride pads. The silver fluoride pads carried the hazardous waste code of D011, silver toxicity characteristic. This waste stream was not permitted in either the JACADS RCRA permit Module III or the Red Hat Area RCRA permit Module VII for storage in this bunker.

c. Bunker 897 contained VX contaminated lab wastes, maintenance wastes consisting of hydraulic fluid, DPE suits, metal items, and nonprocess wastes such as DPE suits and hoses. These waste streams carried the EPA hazardous waste code of D003. These waste streams were not permitted in either the JACADS RCRA permit Module III or the Red Hat Area RCRA permit Module VII for storage in this bunker.

Bunkers 759, 761, and 897 were only permitted for the storage of the following waste streams:

- obsolete or overpacked munitions (EPA waste code D003),
- incinerator ash (EPA waste codes D002, D006, D007, D008, F003, and F005),
- BRA salts (EPA waste codes D002, D006, D007, D008, F003, and F005),
- miscellaneous spill clean-up wastes (EPA waste codes D002 and D003), and
- miscellaneous wastes which include spent carbon filters (EPA waste codes D003 and D007), agent wastes encased in concrete or sand (EPA waste codes D003 and P095), discarded agent detector kits materials (EPA waste codes D003 and D009) and spent decontamination solution (EPA waste code D002).

Corrective Action

The two drums of silver fluoride pads were transferred from Bunker 761 to Building 852 on 8 April 1996. Building 852 was permitted for storage of this waste stream.

On 8 August 1996, the maximum storage capacity in Building 850 was reached when 140 noncompliant drums were transferred from Bunker 897.

On 9-10 August 1996, the ACAMS Monitoring Building 850 were removed and placed in Building 851 along with the necessary power. On 10 August 1996, the remaining noncompliant waste (14 drums) was transferred from Bunker 897 to Building 851.

On 11 August 1996, 122 drums from Building 759 were relocated to Building 851. Thus, resulting in closure of this noncompliance.

B. INCOMPATIBLE WASTE ACCUMULATION IN BATTERY SATELLITE ACCUMULATION AREA

Requirement

Generators of hazardous waste are required to comply with 40 CFR 265 Subpart I, Use and Management of Containers, specifically 40 CFR 265.177, Special Requirements for Incompatible Wastes. Incompatible wastes must not be placed in the same container.

Noncompliance

Lead acid batteries and alkaline batteries were placed in the same Satellite Accumulation drum in Shed 105. Acid waste and basic waste are incompatible.

Description

During an external Army environmental audit performed by USACHPPM on 8 August 1996, one of the auditors noted that the 55 gallon Satellite Accumulation drum used for the accumulation of waste batteries contained both wet and gel cell lead acid batteries and sealed nickel cadmium (NiCd), and nonhazardous alkaline based batteries. There was no damage to the drum from the placement of the incompatible wastes nor were any fluids leaking from any of the batteries. No apparent reaction had occurred between the incompatible wastes.

Corrective Action

On 9 August 1996, the lead acid batteries were removed form the Satellite Accumulation drum and placed into a 15 gallon polyethylene drum labeled "LEAD ACID BATTERIES FOR RECYCLE". The lead acid battery container was placed in the same Satellite Accumulation area (Shed 105) as the other drum of batteries, but placed over a separate secondary containment unit (Shed 105 has two separate secondary containment units). In the event of a release, liquids or wastes from either or both or the drums would not mix in the separate secondary containment units.

The lead acid batteries are being managed as a recyclable material and are exempt from most hazardous waste requirements as stated in 40 CFR 261.6. Therefore, the additional drum of batteries in Shed 105 does not result in an exceedance of 55 gallons of hazardous waste in a Satellite Accumulation area.

The Environmental Compliance Department (ECD) issued a memo on 20 August 1996 providing instructions on the proper handling of incompatible wastes. On-the-job training was also provided to personnel managing waste batteries.

4. LATE REPORTS TO THE EPA

A. LATE CLASS 1 PERMIT MODIFICATION NOTICES

Requirement

RCRA Regulation 40 CFR 270.42 requires the Permittee to formally notify the EPA Regional Administrator of certain facility changes. For minor changes, Class 1 modifications, notification is required within seven calendar days after the changes have been put into effect with the exception of those types of changes which require prior EPA approval. The EPA has also instructed the facility to submit updated changes to the RCRA Contingency Plan on a quarterly basis.

Noncompliance

The four Class 1 modifications listed below were implemented at the JACADS facility without proper notification to EPA within the required seven-day time period.

Description

The four modifications listed below, which qualify as a Class 1 notices, were implemented at the JACADS facility without proper notification within the seven days required by 40 CFR 270.42. The date of implementation along with the date the Army submitted the written notice to EPA (if submitted) is also provided.

No.	MODIFICATION	DATE IMPLEMENTED	DATE SUBMITTED TO EPA
1	4th Quarter 1995 Update to RCRA Contingency Plan	October-December 1995	18 January 1996
2	First Quarter 1996 Update to the RCRA Contingency Plan	31 March 1996	10 June 1996
3	Second Quarter 1996 Update to the RCRA Contingency Plan	30 June 1996	11 July 1996
4	Third Quarter 1996 Update to the RCRA Contingency Plan	30 September 1996	17 October 1996

An update to the RCRA Contingency Plan is a routine permit modification accepted by the EPA as a Class 1 modification notice. Updates are prepared on a quarterly basis and submitted directly to the EPA Regional Office in order to meet the seven-day notice deadline.

Corrective Action

The issue of timely submittals of periodic/routine Class 1 permit modification notices was discussed with the PMCD Field Office during the latter part of May 1996. The Field Office agreed to pursue direct submittal and/or concurrent review of these notices with PMCD Headquarters. ECD will work with PMCD to find ways to ensure a timely review is conducted for permit modifications that need to be notified to the EPA within seven days of implementation. PMCD-JI has also requested that draft permit modification notices be provided for review two weeks prior to the end of the quarterly period in order to facilitate the transmittal of the notice within 7 days of the end of the quarter.

B. FAILURE TO NOTIFY EPA OF 27 JUNE 1996 BRINE RELEASE WITHIN 24 HOURS

Requirement

40 CFR 264.196(d)(1) requires that a hazardous waste release to the environment from a hazardous waste tank system be reported to the EPA Regional Administrator within 24 hours of detection if the release is greater than one pound.

Noncompliance

Approximately two gallons, estimated weight of 18-20 pounds, of brine was released from the Liquid Incinerator (LIC) Pollution Abatement System (PAS) on 27 June 1996. This release was not reported to the EPA Region IX Office until the next day, approximately 28 hours after the release was observed.

Description

At approximately 0400 hours on 27 June 1996, a leak was observed at the LIC PAS brine density analyzer element. On-site Operations personnel responded, isolated the leak, and

immediately cleaned it up. PAS-V-598 and PAS-V-599 were locked out/tagged out to prevent additional brine from leaking and a work order was written to repair the inlet to the density element. The amount of brine released to the ground outside of the secondary containment was originally estimated to be five gallons; however, a follow-up investigation decreased the estimated amount of brine released to two gallons. All visible contaminated soil/coral was removed from the ground (approximately 35 pounds) and placed in a drum for subsequent disposal. LIC PAS brine is typically characteristically hazardous for chromium.

PMCD notified the EPA of the release at approximately 0745 hours on 28 June 1996, approximately 4 hours late.

Corrective Action

At approximately 0745 hours on 28 June 1996, the EPA Region IX Office was contacted by PMCD and a message was left on the answering machine providing details of the brine release. PMCD and RE&C will strive to properly coordinate the notification of any future releases within the required 24 hour time frame.

C. FAILURE TO SUBMIT NOTICE OF IMPLEMENTATION OF CONTINGENCY PLAN WITHIN 15 DAYS

Requirement

RCRA Regulations 40 CFR 264.56(j) and Attachment K , Section 1.F of the JACADS RCRA Permit require written notification to EPA within 15 days of events causing implementation of the Contingency Plan.

Noncompliance

The 15 Day report to the EPA on the implementation of the RCRA Contingency Plan for two Automatic Continuous Air Monitoring System (ACAMS) alarms upstream of the LIC ID FAN on 5 September 1996 was submitted to the EPA on 28 September 1996, 8 days past the due date.

Description

On 5 September 1996 at 0840 hours, the ACAMS upstream of the LIC ID fan exhaust duct, used to monitor GB agent, alarmed at 0.0004 mg/m^3 (1.33 ASC) which resulted in the implementation of the RCRA Contingency Plan. A written report of the incident, to meet the requirements of 40 CFR 264.56(j), was submitted to the EPA on 28 September 1996, 8 days after the deadline.

Corrective Action

A written report for the incident was prepared and submitted to PMCD by Raytheon on 14 September 1996. Comments were received from PMCD on 27 September 1996 and immediately resolved and incorporated in the report. Raytheon revised and submitted the report to PMCD-JI on 28 September 1996, which in turn was submitted to the EPA on 28 September 1996.

The importance of submitting the reports within the required 15-day period has been emphasized to project management.

MISCELLANEOUS NONCOMPLIANCES

A. MAIN PAS pH CONTROL

Requirement

Permit Condition V.F.5.a. requires that the pH of the wet scrubbers to the Deactivation Furnace System (DFS), the Liquid Incinerator (LIC) and the Metal Parts Furnace (MPF) be monitored at a minimum once per 30 minutes.

Noncompliance

pH controls/instrumentation on the DFS, LIC, and MPF Pollution Abatement Systems (PASs) were not maintained and operated in accordance with their original design. Rather than being operated under automatic control, the pH system was manual with laboratory samples being taken twice a day to verify pH of the scrubber effluents since the pH monitoring equipment was unreliable.

Description

In 1993, the DFS, LIC, and MPF PASs had two pH meters for monitoring the pH of the scrubber sump effluent and two pH meters for monitoring the scrubber clean liquor effluent. The meters and their associated transmitters are connected to the facility Programmable Logic Controller (PLC) to automatically add caustic to the scrubber brine and clean liquor to control pH.

Three separate studies (reports published in May, June and July 1993) concluded that the pH control system was not optimized and could not be operated in its current configuration to automatically control the pH of the PAS brines due to deficiencies in the control system and improper design of the equipment.

Corrective Action

Raytheon performed two of the above mentioned studies and submitted written reports to PMCD on 29 June 1993 and 3 July 1993. The third study was performed by SAIC, an independent contractor, with the report being submitted to PMCD on 13 May 1993. Based on these reports, a contractor was brought on island in April 1994 to conduct testing on the MPF PAS system. This resulted in recommended system modifications which included control and piping arrangement changes and the installation of three tanks. A Class 2 modification was submitted to the EPA on 14 November 1994 requesting the recommended changes be approved. EPA approved the Class 2 modification on 10 February 1995. The system was installed and successfully tested in April 1996.

Improvements were made to the LIC and DFS PAS pH control system to ensure that the monitoring requirement of once per 30 minutes was satisfied.

B. TRANSFER OF LAB WASTE TANK CONTENTS TO BRA-TANK-101

Requirement

Attachments D-1 (Process Descriptions) and D-7 (Tanks) of the JACADS RCRA Permit specify that laboratory waste will be transferred to the Spent Decontamination Solution (SDS) storage tanks for eventual feed into the Liquid Incinerator (LIC). Only Pollution Abatement System (PAS)

brines, various PAS and Brine Reduction Area (BRA) system acid cleaning solutions, and other precipitation collected from outdoor secondary containment areas may be stored in the brine storage tanks and processed in the BRA.

Noncompliance

On 15 March 1996, an isotainer containing approximately 1000 gallons of laboratory waste water from LAB-TANK-701 was transferred to the BRA storage tanks and subsequently processed in the BRA.

Description

On 26 February 1996, at 2100 hours, waste water from the Lab waste tank was transferred to isotainer #197211-9. The isotainer was transferred to Area 973. SDS-TANK-101 was 72% full and SDS-TANK-102 was 23% full and the Liquid Incineration (LIC) was shut down at this time. On 15 March 1996 at 1700 hours, the contents of isotainer #197211-9 were transferred to BRA-TANK-101. The contents of BRA-TANK-101 were processed on 20 March 1996. Prior to processing, the contents of BRA-TANK-101 were sampled and found to have a pH of 8.48, a specific gravity of 1.04 g/cc and not to contain agent in excess of Drinking Water Levels (DWL).

Corrective Action

Operations personnel were provided additional training on what types of waste are permitted to be processed in the BRA. The BRA operating procedure was revised to address the proper handling of isotainers containing solution from the Lab Waste Tank. This includes a Lockout/Tagout of isotainers containing Lab waste. The operating procedure was also revised to specify which waste streams can be transferred into the brine storage tanks and to require Environmental Compliance Department (ECD) approval prior to transferring any waste not specified in the procedure into the brine storage tanks.

C. MISMANAGEMENT OF SECONDARY CONTAINMENT

Requirement

RCRA 40 CFR Subpart J regulations require the installation of secondary containment for hazardous waste treatment and storage tanks for the purpose of containing unplanned spill/releases from the tanks to the environment. The regulations pertaining to secondary containment (40 CFR 264.193) prohibit the use of secondary containment for the routine transfer of hazardous waste.

Noncompliance

1. On 26 April 1996, a portion of the contents of the Liquid Incinerator (LIC) Pollution Abatement System (PAS) demister vessel bottom sump (PAS-DMIS-101) was transferred into the Main PAS secondary containment area (SCA) sump for transfer to the brine storage tanks.

2. On 20 July 1996, the Brine Reduction Area (BRA) Secondary Containment Area (SCA) was used as primary containment for hazardous waste when cleaning and pressure washing the Liquid Incinerator (LIC) Induced Draft (ID) Fan impeller.

Description

1. On 26 April 1996, approximately 100 gallons of brine from the LIC demister vessel bottom sump (PAS-DMIS-101) were transferred, by means of a temporary hose, to the Main PAS SCA sump for subsequent transfer to the brine storage tanks. This transfer of brine to the Main PAS SCA sump occurred for only a few minutes before it was discovered and stopped. The remaining brine in the demister vessel bottom sump was transferred directly to the Acid Wash Storage Tank (PAS-TANK-101) which is permitted for use as a brine storage tank.

2. On 20 July 1996, Maintenance personnel cleaned the LIC I.D. fan impeller by scrubbing it in the BRA secondary containment area with a brush and caustic followed by pressure washing with water. No primary containment was used. The mixture of residue from the impeller and the caustic used to remove the residue is conservatively managed as a hazardous waste. The wash water was collected in the BRA SCA sump and transferred to BRA-TANK-102/102.

Corrective Action

1. The proper use of secondary containment was re-emphasized to Operations personnel in a monthly environmental seminar on 4 May 1996. ECD provided Operations personnel with additional background information on the use of secondary containment on 22 May 1996. ECD also worked with the Training Department in order to address the proper use of secondary containment in the basic JACADS and annual refresher training courses.

2. Maintenance personnel were instructed to use some type of primary containment for parts/equipment washing activities. The vat used for cleaning the BRA heat exchanger plates will be used for future maintenance parts/equipment washing activities.

D. INTERRUPTION OF AGENT MONITORING IN INTERIOR OF WASTE STORAGE CONEXES IN BUILDING 852

Requirement

Table F2-1 of Attachment F of the JACADS RCRA Permit requires a weekly inspection on each container stored in Building 852. The inspection specifies that each container shall be checked for integrity, markings for accuracy and legibility, and leaks or spills.

On 25 January 1993, a Class 1 modification to the JACADS RCRA permit was approved to allow for the storage of drums of dry 1X HD contaminated wastes, without aisle space, in conexes in the east end of Building 852. Section D-2d, Drum Management Practices, states: "Air monitoring for an agent release within the conexes will be provided in lieu of the visual inspections for the individual drums, since there is no potential for a spill or deterioration of the drums." The modification stated: "In lieu of visual inspections of each drum, the interior of the conexes will be monitored by depot area air monitoring systems (DAAMS), which will provide monitoring for agent vapor in the same way that the storage bunkers containing chemical munitions are stored."

Section F-2b (Red Hat Area Inspection Schedule) of Attachment N in the JACADS RCRA Permit states in part, "Weekly air samples are collected from each igloo. These samples are analyzed for the appropriate agent."

Noncompliance

Between the period of 14 - 29 November 1996, there was no DAAMS sampling or analysis for the interior of the three conexes containing agent HD contaminated waste located in Building 852.

Description

Prior to 14 November 1996, an HD TWA configured ACAMS (near real time monitoring) and a confirmational DAAMS tube were installed to monitor simultaneously the interior of the conexes that store HD waste. Since installation, the ACAMS generated several false positive alarms as a result of an interferant inside the conexes. Air monitoring personnel have been able to prevent many false positive ACAMS alarms by tightly controlling the size of the agent window to exclude the interferant peak, but still allow effective monitoring for HD.

On 12 Nov 96, the ACAMS monitoring the three conexes in Building 852 generated a false positive agent alarm even with the tightly controlled agent window. The ACAMS alarm was not confirmed when confirmational DAAMS analysis was performed. Laboratory personnel then reconfigured the monitoring at Building 852 to prevent future alarms. On 14 Nov 96, an additional sample line was installed; the ACAMS monitor, with associated DAAMS, was changed to monitor the ambient air in Building 852. The sample lines remained within the three conexes to allow monitoring to be performed of the interiors prior to any necessary personnel entry but were no longer tied into the ACAMS/DAAMS monitor. A sign was attached to each conex and the exterior building access door to the conex storage area, stating "NOTICE - Contact Air Monitoring at 441-3027 before entering."

The Operations Environmental Compliance Department (OECD) Supervisor was contacted by the Laboratory on 15 Nov 96, informing him of the monitoring change. The OECD supervisor did not believe there was anything wrong with monitoring the ambient air, but that his replacement should be contacted to see if there were any RCRA permit restrictions. On 29 Nov 96, the new OECD supervisor informed ECD Waste Management of the change in the air monitoring configuration in Building 852. After reviewing the RCRA permit and associated EPA correspondence, it was determined that the interiors of the conexes were required to be monitored. The justification for the permit modification allowing for the storage of dry 1X HD wastes in the conexes without aisle space and visual inspections specifically states that the interiors of the conexes would be monitored by DAAMS, with ACAMS used for personnel entry into the interiors.

Corrective Action

Upon identification of the deficiency, the Laboratory was notified by ECD on 29 Nov 96 of this monitoring error. ACAMS and DAAMS monitoring of the three conex interiors was restored to its original configuration on the same day. A request to change the air monitoring, with DAAMS only for the interior of the conexes and ACAMS/DAAMS for Building 852 ambient air, has been submitted to the government for approval. The procedure for changing ACAMS and DAAMS monitoring was modified to include concurrence from ECD for changes in air monitoring configuration within JACADS and the Red Hat Storage Area prior to implementation.

ATTACHMENT D

Department Notice of Deficiency

18

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

EASTERN REGION
Bend Office

May 12, 1997

Sent by Certified Mail [#Z436702781]

Lieutenant Colonel Marie L. Baldo
Commander
US Army Umatilla Chemical Depot
Hermiston, OR 97838-9544

Sent by Telefax and Certified Mail [#Z436782780]

Mr. Raj Malhotra
Project Manager for UMCDF
Building 18
Umatilla Chemical Depot
Hermiston, OR 97838-9544

Re: Notice of Deficiency
Class 3 Permit Modification Request No. UMCD-97-001-E(1), to Incorporate Raytheon as Co-Permittee
Umatilla Chemical Disposal Facility
OR6 213 820 917

Dear Lieutenant Colonel Baldo and Mr. Malhotra:

The Oregon Department of Environmental Quality (Department) has reviewed the March 28, 1997, Umatilla Chemical Agent Disposal Facility (UMCDF) Class 3 permit modification request to incorporate Raytheon Demilitarization Corporation (RDC) as Co-Permittee to the hazardous waste permit. The Department has determined the modification request is incomplete to process based on the information submitted.

Departmental review concludes that the permit modification request submittal is in general agreement with the Department's guidance letter dated February 14, 1997. However, the Department's review has determined that there are specific informational requirements needed before the Class 3 modification request can be fully evaluated. These specific informational requests are listed in the enclosure to this cover letter.

In accordance with 40 CFR §124.3(c), as adopted by OAR 340-100-002, the Department directs the US Army Umatilla Chemical Depot to submit the necessary information to address the deficiencies identified in the modification request application, no later than 60 days after receipt of this notice.

If you have any questions, please call Fredrick Moore of my staff at (541) 388-6146 ext. 242.

Sincerely,

Brett McKnight
Acting Regional Administrator

2146 NE 4th Street
Suite 104
Bend, OR 97701
(541) 388-6146

DEQ/CR-101 1-91

Enclosure

cc: Samuel J. Kasley, RDC Project Manager
Sue Oliver, DEQ (Hermiston)
William J.B. Pringle, PMCD (Aberdeen Proving Ground)
Catherine Massimino, EPA Region 10 (Seattle)

State of Oregon
Department of Environmental Quality

NOTICE OF DEFICIENCY

Class 3 Permit Modification Request No. UMCDF-001-E(1)

Umatilla Chemical Disposal Facility
OR6 213 820 917

May 12, 1997

Re: Incorporation of Raytheon as Hazardous Waste Co-Permittee

Section I

On February 7, 1997, the Environmental Quality Commission voted to issue a hazardous waste treatment permit to the US Army Chemical Depot to thermally treat and demilitarize the on-site stockpile of chemical agent munitions. The hazardous waste permit was issued on February 12. On March 28, 1997 the Permittee and Applicant submitted a class 3 permit modification request to incorporate the Applicant as Co-Permittee.

In respect to this permit modification request, the duty to submit the required information rests with the US Army Umatilla Chemical Depot, the Permittee. RDC is requesting through this modification request to be named as Co-Permittee, and therefore is considered for this request the Applicant and also subject to the duty to provide information.

The Oregon Department of Environmental Quality (Department) have reviewed the US Army Chemical Depot's (UCD) March 28 permit modification request to incorporate Raytheon Demilitarization Corporation (RDC) as Co-Permittee to the hazardous waste permit. From this review, the following items in Section II have been identified as needing further information.

Department review of the JACADS reports, as stated frequently below, indicate some incidents could pose a *potential* noncompliance with a UMCDF permit condition or regulation if the same or similar incident occurred at the UMCDF. OAR 340-120-010(2)(h)(a) states, in brief, that in operating other facilities (i.e., JACADS), an operator must have a ability and willingness to operate the facility (UMCDF) with the provisions of any permit condition. The Department's review includes requests for additional documentation to support that RDC not only has the ability to operate the UMCDF in compliance, but also demonstrates the willingness to operate the facility in compliance.

From the Department review of the Part A application (Part A) that was submitted, it is apparent that the Part A was fashioned only to primarily apply to the Umatilla Chemical Disposal Facility (UMCDF) and not to the other hazardous waste storage activities at the Depot. The Part A submitted for the UMCDF is accepted; however, the Department has identified Part A deficiencies that apply to the other hazardous waste units at the Depot, and, the Department is reserving its authority to require additional Part A information in a future request.

All Title 40 Code of Federal Regulations (40 CFR) are Oregon Rule as adopted by OAR 340-100-002.

Section II

Compliance Issues – Significant			
Item No.	1	Regulatory Citation:	ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	From review of the annual noncompliance reports (Attachment I from the 3/28 modification request), continuation of processing while the facility was in upset condition is also another issue noted. In March 1995, the LIC brine piping system began leaking into the secondary containment structure. The leak progressive got worse over the next ten days. Processing continued during this period. In April 1995, while processing rockets, the DFS cyclone settling chamber discharge plugged with particulate. Processing continued for an additional 14 hours, over the next two days while the high level alarm indicated the discharge mechanism was plugged with particulate. In October 1995, Brine processing continued after stack LOQ ACAMS alarms sounded. In 1994 through 1995, the brine storage tank agitator seal leaked when the agitator was in operation. In June 1993, the differential pressure across the DFS scrubber dropped below 1.0 inches of water column 42 times while processing hazardous waste. In March 1993, the differential pressure across the DUN baghouse dropped below 1.0 inches wc 50 times while processing. In March 1993, the DUN processed hazardous waste when the furnace was not operating under negative pressure:		

	Delays in the automatic waste feed cutoffs were put into place to delay feed stop. Also there were occurrences when the AWFCO was "jumped" to prevent feed stoppage. These incidents show potential noncompliance with 40 CFR 264.345(f) and related UMCDF permit conditions.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes are still successful, and if such changes will be used at the UMCDF.

Item No. 2	Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	Noncompliance relating to the contingency plan are considered serious. Noncompliance documented in the annual noncompliance reports include; failure to implement the contingency plan, failure to submit notice of implementation, and failure to update the plan. These show potential noncompliance with 40 CFR 264.51(b), 264.56(a)(2), 264.54, and related UMCDF permit conditions.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes are still successful, and if such changes will be used at the UMCDF.

Compliance Issues – Chronic

Item No. 3	Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	Feed rate exceedances have been documented at JACADS in the annual noncompliance reports (Attachment I from the 3/28 modification request) from 1991 through 1996. Exceedances have been documented in the LIC, MPF, BRA and DUN systems, and could be an indication of potential noncompliance with 40 CFR 264.345(b)(2)and related UMCDF permit conditions. Steps were noted to have been taken by Applicant to remedy the problem, however, the most recent compliance history indicates that instances of exceeding feed rates are still occurring.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes were successful, and if such changes will be used at the UMCDF.

Item No. 4	Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	The annual noncompliance reports note the failure to perform prescribed inspections of equipment and systems as specified in the JACADSs permit, and potentially with 40 CFR 264.347, 264.73, and related UMCDF permit conditions. This noncompliance has been documented from 1991 through 1996. The report notes, too, that the Applicant has conducted audits and was developing a work plan to assure compliance with calibration and inspection schedules are completed per permit requirements.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes were successful, and if such changes will be used at the UMCDF. Applicant shall also provide to the Department position descriptions (PDs) that include inspection requirements required by the UMCDF permit.

Item No. 5	Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	From the review of the annual noncompliance reports, past occurrences of not timely calibrating equipment were noted, but it is recognized that the trend was improving. These past instances were potentially in noncompliance with 40 CFR 270.30(e) and related UMCDF permit conditions.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes are still successful, and if such changes will be used at the UMCDF.

Item No. 6	Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	From review of the annual noncompliance reports, untimely submittals of class 1 permit modifications were noted, but an improving trend was also noted. Untimely submittals of class 1 modifications may indicate potential noncompliance with 40 CFR 270.42(a)(1)(i) and (ii), and related UMCDF permit conditions.
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes are still successful, and if such changes will be used at the UMCDF.

Item No. 7		Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	Improper use of secondary containment has been an area of noncompliance that has been a periodic problem. The corrective action section of the noncompliance report indicates that management promptly corrects the problem when it is discovered. Past periodic history shows potential noncompliance with 40 CFR 264.193(b) through (f), and related UMCDF permit conditions.	
Required Submittal:	Applicant shall submit a description on the type and frequency of periodic training being planned to assure this does not become a compliance issue at UMCDF.	
Item No. 8		Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	From review of the annual noncompliance reports, inadequate record keeping is another issue which includes incomplete, missing or lost records. Incomplete or missing records have been documented in 1993 through 1996. This may show potential noncompliance with 40 CFR 270.30(j)(2), 264.73(b)(1) through (5), (b)(9), (b)(12), and (b)(16), 264.77, OAR 340-104-075, and related UMCDF permit conditions.	
Required Submittal:	Applicant shall submit a summarization of what managerial, operational, training, and/or administrative changes were made to correct these incidents. Applicant shall also submit an evaluation of whether the changes are still successful, and if such changes will be used at the UMCDF.	
Monitoring Violations		
Item No. 9		Regulatory Citation: ORS 466.060(1)(b) OAR 340-120-10(2)(g)
Discussion:	System monitoring is an integral part of assuring the facility is operating in compliance with all permit conditions. The following is a list of issues reported in the noncompliance report associated with system monitoring: In March and April 1995, while processing rockets in the DFS, two instances occurred where afterburners were not continuously monitored of oxygen or carbon monoxide. Five instances also occurred in 1994. The LIC afterburner exhaust was not continuously monitored on three occasions, and two instances the DFS afterburner was monitored continuously. In 1992, the ACAMS monitoring the ID discharge fans were not interlocked with the AWFCO for the incinerator units. In August 1992, brines were processed for eight hours when	

	the ACAMS was not operational. These incidents indicate potential noncompliance with 40 CFR 264.347(a)(1), (a)(2), and (a)(3), and, UMCDF related permit conditions.
Required Submittal:	From the noncompliance reports, it appears that programming changes have corrected this problem. Applicant shall provide a brief evaluation of the current effectiveness of the changes made and whether these incidents have recently been repeated.

Financial Capability

Item No.	10	Regulatory Citation:	ORS 466.060(1)(a) OAR 340-120-10(2)(g)(b)
Discussion:	An estimated cost of construction ($262,000,000) is provided on Page 3 of the permit modification request. A statement is provided on Page 3 referencing defense authorization and appropriations acts for federal fiscal year (FY) 97. This requirement has <u>not</u> been explicitly met. The Department's expectation is that funding description from Congress should be matched with projections of construction and operation for the next three years at the UMCDF. Even though not directly related to incorporation of RDC as a co-permittee, it should be described how much funding is needed and the mechanisms and assurance that the funding will be provided to RDC to insure completion of the destruction of the stockpile.		
Required Submittal:	Permittee shall submit additional documents that shall detail, in money amounts, the amounts authorized, and subsequently appropriated, for FFY97. (The Feb. 97 GAO report indicates that $534.7 million was appropriated for the CSDP in FFY97, but does provide breakdown by site.) The documents shall also detail the amounts expected to be expended annually for FFYs 97, 98, and 99, and how congressional funding requests will be handled for federal years FY98 and FY99.		

Technical Capability

Item No.	11	Regulatory Citation:	ORS f 466.060 OAR 340-120-010(g)
Discussion:	Page 4 of the permit modification request describes Raytheon's general experience as a construction contractor, the consolidation of organizational elements in the Raytheon Demilitarization Company subsidiary, and Raytheon's experience with operating JACADS.		

	Attachment D provides a table listing 25 selected projects. About half of the projects listed in the table were detailed in narrative form. Only one of the projects was a hazardous waste incineration facility ("USPCII," location unknown), but no narrative was included for this project. This facility does not appear to be listed in Appendix J (compliance histories at similar facilities).
Required Submittal:	Applicant shall submit a more detailed description of Raytheon's participation in the construction and operation of the Utah USPCII incineration facility. Applicant shall describe any inspection and enforcement activities, conducted by either Utah DEQ or EPA Region VIII RCRA personnel, at the USPCII facility the directly involved Raytheon participation or involvement.

Written Agreement Missing

Item No. 12	Regulatory Citation: 40 CFR 270.40(b)
Discussion:	During the transfer of permit responsibilities, a written agreement containing specific information describing current and future operational responsibilities of the new Permittee should be submitted.
Required Submittal:	Permittee and Applicant shall submit a written agreement of current and future operational and compliance responsibilities and relationships of Raytheon to the UCD and PMCD.

Liability Requirements

Item No. 13	Regulatory Citation: ORS 466.105(5) 40 CFR 270.40(b)
Discussion:	Although liability financial assurance does not directly apply to the US Army at UMCDF, a description of when Raytheon (a private entity) will be considered liable under RCRA is warranted. A specific discussion of RDC liability per the permit, and per the contract between Raytheon and the US Army, were not included. RDC's liability that addresses, but not limited to, construction, operation, and storage activities were not discussed. A description of third-party cost recovery per the liability assurance were not provided. Also pursuant to the statute, the Department requests Raytheon to provide additional documentation that supports their liability coverage in excess of the regulation.
Required Submittal:	Permittee and Applicant shall provide a written description discussing operational and compliance with the permit duties, and when such duties will be enacted. The Permittee and Applicant shall also provide a more detailed description of the

	liability to be provided in accordance with ORS 466.105(5), 40 CFR 264.147, UMCDF permit condition II.M, and Public Law 85-804.
Exact Changes to the Permit	
Item No. 14	Regulatory Citation: 40 CFR 270.42(c)(1)(i)
Discussion:	In accordance with the regulation, Permittee and Applicant should provide, if any, descriptions of proposed changes to be made to the permit and permit application.
Required Submittal:	Permittee and Applicant shall submit a description of the proposed changes to be made to the permit and permit application.
Explanation of Why Modification is Needed	
Item No. 15	Regulatory Citation: 40 CFR 270.42(c)(1)(i)
Discussion:	In accordance with the regulation, the modification request contained an explanation of why the modification is needed. During the permit application review it was decided that naming the operator would occur after the contract was awarded. The submittal did not include the complete historical account of this in the modification request. A description of the permitting process under ORS 466.060 and by the Environmental Quality Commission should also be contained.
Required Submittal:	Applicant shall provide a summarization that describes the need, per the permit application review process and regulatory requirements, of incorporating the Applicant as a co-permittee.
Notice of the Modification Not Provided	
Item No. 16	Regulatory Citation: 40 CFR 270.42(c)(2)
Discussion:	It is noted that on March 28, 1997, the Department received the formal submittal of the Umatilla Chemical Depot class 3 permit modification request. The request did not include evidence of the mailing and publication.
Required Submittal:	Raytheon shall provide evidence of the mailing and publication and include copies of the affidavit from the newspapers in which the notices were published.
Contingency Plan Personnel Update	
Item No. 17	Regulatory Citation: 40 CFR 270.14(b)(7) 40 CFR 264.52(d)
Discussion:	The Applicant is proposed to become an operator at the UMCDF and will be responsible, along with the Army, of implementing the contingency plan. The positions responsible for implementing the contingency plan are listed in the permit application, but it is unclear which are Army personnel and

	which are RDC personnel
Required Submittal:	Applicant shall provide a list of those personnel shown in Figure G-2-1, Volume X of the permit application, and specify which are Army personnel and which are RDC personnel.

Additional Information

Item No. 18	Regulatory Citation: ORS 466.120(5) 40 CFR 124.3(c)
Discussion:	The staffing at the UMCDF will be large and complex. A visual organizational chart showing the upper management of the project would be useful to illustrate who provides decisions, direction, and oversight to whom. ORS 466.120(5) requires that the permit modification request include, "The name of any person who will be responsible for managing the operation of the site and a statement of the qualifications of such persons." *Note: The Department does note that its February 14, 1997 letter did not refer to ORS 466.120.*
Required Submittal:	In accordance with ORS 466.120(5) and 40 CFR 124.3(c), the Permittee shall submit the following clarifying information: Please provide an organizational chart with an accompanying brief narrative that shows the relationship at the Depot between the Umatilla Chemical Depot command, Program Manager for Chemical Demilitarization, Science Applications International Corporation, and Raytheon Demilitarization Corporation.
Item No. 19	Regulatory Citation: 40 CFR 124.3(c)
Discussion:	Recent Army investigations at the Tooele Chemical Disposal Facility has found instances of managerial issues. One issue of concern is that bonuses paid by the Army to the contractor can be based on production (i.e., the number of munitions treated and destroyed within a time frame) and not necessarily on compliance and safety. It is not hard to imagine that accelerated destruction of munitions could cause potential safety and compliance problems.
Required Submittal:	In accordance with 124.3(c), the Department is requesting the following clarifying information: Please provide a narrative describing what bonuses, or penalties, are provided for in the contract between the US Army and RDC regarding production, safety, and compliance.

Item No. 20	Regulatory Citation: 40 CFR 124.3(c)
Discussion:	The US Army investigations at the TOCDF resulted in findings and recommendations primarily directed towards the management of the facility. The Department has reviewed the Safety Evaluation of the Tooele Chemical Agent Disposal Facility report headed by General Thomas J. Konitzer, and though RDC is a different company than EG&G, some management issues at TOCDF have the potential to be repeated at the UMCDF.
Required Submittal:	In accordance with 124.3(c), the Department is requesting the following clarifying information: The Permittee shall provide a narrative of what "lesson learned" from the TOCDF investigation, if any, will apply at UMCDF.
Item No. 21	Regulatory Citation: UMCDF Permit Condition I.V. 40 CFR 270.30(l)(10)
Discussion:	Raytheon routinely performed compliance self-audits at JACADS and has reported the results to EPA Region 9 pursuant to JACADS permit condition I.16. JACADS permit condition I.16 is similar to UMCDF permit condition I.V., and therefore the Department is expecting the same aggressive self-audit reports.
Required Submittal:	Applicant shall state what annual noncompliance reports will be submitted to the Department in accordance with UMCDF permit condition I.V.

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Section III

The Department is issuing this notice of deficiency in accordance with ORS 466.045(2), ORS 466.120, ORS 466.145, OAR 340-105-14, OAR 340-106-004, and 40 CFR 270.42(c)(6), and 40 CFR 124.3 as adopted as Oregon Rule by OAR 340-100-002.

In accordance with 40 CFR 124.3(c), the Permittee and Applicant shall submit the required information sixty days (60) from receipt of this notice.

In accordance with 40 CFR 124.3(d), if the Permittee or Applicant fails or refuses to correct deficiencies in the application, the permit modification request may be denied and appropriate enforcement actions may be taken.

Brett McKnight
Acting Regional Administrator
Department of Environmental Quality
Eastern Region

ATTACHMENT E

Pertinent Sections from the Response to Notice of Deficiency

Response to the State of Oregon

Department of Environmental Quality

May 12, 1997, Notice of Deficiency

For

Class 3 Permit Modification Request

For

Incorporation of

Raytheon Demilitarization Company

As

Hazardous Waste Co-Permittee

Umatilla Chemical Agent Disposal Facility

(OR6 213 820 917)

July, 1997

Response to 12 May 1997 DEQ Notice of Deficiency (NOD)

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Response to the State of Oregon Department of Environmental Quality (DEQ) 12 May 1997 Notice of Deficiency (NOD)

On 7 February 1997, the State of Oregon Environmental Quality Commission voted to issue a hazardous waste treatment permit to the U.S. Army Umatilla Chemical Depot to thermally treat and demilitarize the on-site stockpile of chemical agent munitions. On 10 February 1997, the U.S. Army selected the Raytheon Demilitarization Company (RDC) as the contractor for construction and operation of the Umatilla Chemical Agent Disposal Facility (UMCDF). On 12 February 1997 the hazardous waste permit for treatment of the chemical stockpile at UMCDF (OR6 213 820 917) was issued by the DEQ. On 28 March 1997, the Permittee and the Applicant (RDC) submitted a Class 3 Permit Modification Request to incorporate RDC as Co-permittee. On 12 May 1997, the DEQ issued a NOD for the Class 3 Permit Modification Request based on determination that the request was incomplete. The NOD directed that additional information to address deficiencies identified by DEQ in the request be submitted within 60 days.

The DEQ determined that the additional information requested by the 12 May 1997 NOD is needed to demonstrate RDC's ability and willingness to operate the UMCDF within the provisions of the facility's hazardous waste permit. The Department emphasized in the NOD that RDC must not only have the ability to operate the UMCDF in compliance, but also demonstrate the willingness to operate the facility in compliance. The following responses are intended to demonstrate RDC's willingness to operate UMCDF in compliance.

The NOD contains 21 items grouped into 12 categories. The first nine items are grouped into three categories and pertain to compliance issues related to operation of the Johnston Atoll Chemical Agent Disposal Facility (JACADS), a facility operated by Raytheon and similar to UMCDF. The three compliance categories are titled Compliance Issues – Significant, Compliance Issues – Chronic, and Monitoring Violations. For each of the nine compliance-related items, a summary and evaluation of the corrective measures implemented at JACADS is provided in this response. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of each item summary/evaluation.

Of the remaining eleven NOD items, Items 10 through 17 are specific issues with their own category title. Responses to these items are addressed according to their NOD titles and in the same order. Items 18 through 21 are grouped under one category titled Additional Information in the NOD. These items are likewise grouped under the same title in this submittal.

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Compliance Issues – Significant

Contents

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Item 1: **Continuation of Processing with Facility in an Upset Condition**

A summary and evaluation of the corrective measures implemented at JACADS to prevent continuation of processing with the facility in an upset condition is provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum A of this submittal. Addendum A lists each incident in the noncompliance reports pertaining to NOD Item 1, in the order in which it appears in the NOD, with specific reference to the annual report, incident number in the report and the page where it is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The types of incidents covered in Item 1 of this NOD address a broad range of events related to continuation of processing of the facility in an upset condition. Each event was investigated on an "after-the-fact" basis to address the reason for its occurrence and to develop corrective actions to eliminate and/or minimize the probability of such an event reoccurring.

The corrective measures taken primarily fall into four general categories. These categories are: (1) training, (2) managerial, (3) engineering/permit changes, and (4) oversight/control procedures. The cumulative effect of these corrective measures are considered as being successful to solving the problem of operations at JACADS either in an unpermitted or upset condition.

The Army and RDC management recognizes that operating a facility in an upset condition and outside the allowed permit conditions is unacceptable. Also, it should be recognized that since JACADS is a full-scale, prototype operational facility for the destruction of chemical weapons, specific "out-of-plan" events may occur. The corrective actions taken at JACADS have demonstrated a positive commitment by the Army and RDC to resolve all such technical and administrative procedures and to take the necessary steps to assure such problems are fully resolved. This commitment includes incorporation of the problem solution to all other similar facilities to be built and operated under this program. Incorporation of the results of the actions taken at JACADS will be accomplished at the other facilities through the lessons learned program.

Training

The JACADS Annual Refresher Training course was updated in 1996 to cover general responses to alarms, automatic waste feed cutoffs (AWFCOs), and shutdown procedures. This course revision was a direct result of Item 1 - Incidents (b), (e), (g), and (h) of Addendum A. The furnace and pollution abatement system (PAS) courses require students to read the interlock matrices and to discuss expected furnace operator response. The interlock matrices are revised periodically with subsequent update of the appropriate courses. Additionally, the furnace and PAS courses were updated to incorporate lessons learned from specific incidents in the appropriate courses. For instance, the Dunnage Furnace and PAS course was revised in 1994 as a corrective measure for Item 1– Incidents (f) and (g) of Addendum A.

On a monthly basis, the Raytheon Environmental Compliance Department (ECD) commenced providing a 10- to 30-minute presentation on pertinent environmental issues to Operations and Maintenance personnel. The presentation is given to both day and night work-shifts. Presentations on the following topics pertaining to this NOD item were periodically given: (1) hazardous waste tank and secondary containment management – this presentation was

directed to Item 1 - Incidents (a) and (d) in Addendum A and (2) Implementation of the Contingency Plan in Response to ACAMS alarms – this presentation was directed to Item 1 - Incident (c) in Addendum A.

Managerial

During the latter portion of 1995, the Raytheon Program Director initiated a requirement for all environmental noncompliances to be briefed in the weekly staff meeting. The responsible manager for the noncompliance was required to describe the cause of the incident and the corrective action implemented to prevent reoccurrence.

In early 1997 an inter-departmental Environmental Process Improvement Team was formed with a goal of eliminating environmental noncompliances at JACADS. This Team is patterned after the Safety Process Improvement Team which resulted in a dramatically improved safety performance at JACADS.

Engineering/Permit Changes

Engineering and facility changes accompanied with permit modifications, when applicable, were primary corrective measures for resolving Item 1 - Incidents (b), (d), (f), (g) and (h) in Addendum A.

The corrective measure for resolving the continuation of processing rockets in the DFS with the cyclone plugged, Item 1 - Incident (b), was to program the JACADS programmable logic controller (PLC) to alert the operator when 500 rockets had been processed without the particulate waste drum being changed out. Additionally, if the drum was not full, the alarm provided an indication that the cyclone may be plugged.

The brine tank agitator leakage described in Item 1 - Incident (d) was corrected by designing and installing a leak collection system, after approval of a permit modification for this change was obtained from EPA.

In response to Item 1 - Incidents (f) and (g), the DUN trial burn test was terminated and the system was reconfigured to the permitted condition. The low DUN baghouse differential pressure problem, Item 1 - Incident (f), was corrected by obtaining approval from the EPA, by a permit modification, to decrease the lower operating limit to 0.5 inches of water column.

The SDS noncompliances described in Item 1 - Incidents (h) (3) and (h)(8) were resolved by modifying the JACADS permit to allow volumetric measurement/monitoring of the SDS feed and by re-programming the PLC to allow for a 10-second delay only on the initiation of SDS feed to the LIC. AWFCOs due to malfunction or maintenance outages of the incinerator ID fan ACAMSs, Item 1 - Incident (h)(5), were resolved with a permit modification to allow use of the Common Stack ACAMS for the continuation of processing until the ID fan ACAMS were operational. The noncompliance involving the HDC upper discharge gate, Item 1 - Incident (h)(7), was resolved with EPA approval of a permit modification to require only one of the discharge gates to be interlocked when opening the door to the explosion-proof vault.

Oversight/control procedures

A major corrective measure to prevent delays being installed or AWFCOs being jumpered was the implementation of periodic audits of the incinerator interlock matrices and jumper log by ECD. This oversight function was implemented in the latter portion of 1992 due to Item 1 - Incidents (h)(1), (h)(2), (h)(3) (h)(4), and (h)(5) reported in Addendum A. This oversight corrective measure also led to the discovery and subsequent resolution of Item 1 - Incident (h)(6). An effective supplemental corrective measure, implemented later in the project, was

making the incinerator interlock matrices controlled documents; in addition to engineering approval, any changes made to the matrices require ECD approval.

In response to frequent stop feed occurrences, reference Item 1 - Incidents (e) and (f) in Addendum A, Raytheon established a committee to investigate stop feed events on a periodic basis for the purpose of minimizing the number of events that occurred. This corrective measure resulted in a marked decrease in the number of stop feeds at JACADS.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be implemented at UMCDF:

- The Environmental Department will give periodic presentations to Operations and Maintenance personnel concerning pertinent issues
- Lessons learned from JACADS incidents will be incorporated in lesson plans on the various system courses conducted by the Training Department
- The Annual Refresher Training course will cover general responses to alarms, AWFCOs, and shutdown procedures
- The furnace and PAS courses will require students to read the interlock matrices and to discuss expected furnace operator response
- Appropriate JACADS engineering changes will be incorporated into the UMCDF facility (such as programming the DFS system to alert Operations of the need to change the cyclone waste container after a predetermined number of munitions have been processed).
- Operational limits will be reviewed prior to the initial treatment of hazardous waste in a hazardous waste management unit to resolve apparent permit limitation problems (such as volumetric versus mass SDS feed limits)
- ACAMS monitoring of incinerator exhaust in the pollution abatement systems will be interlocked to stop feed
- Review of the configuration of the HDC discharge gates and how they cycle will be performed prior to the treatment of hazardous waste in the DFS
- The Environmental Department will conduct periodic audits of the incinerator interlock matrices and the Jumper Log as part of their prescribed duties
- Periodic review of AWFCOs will be conducted by system engineers

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Item 2: **Contingency Plan Related Noncompliances**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to the contingency plan are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum A of this submittal. Addendum A lists each incident in the noncompliance reports pertaining to NOD Item 2, in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where it is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The corrective measures implemented to resolve this NOD item primarily pertain to procedural changes and training. The major procedural change involved the Army revising its review and submittal procedure for transmitting contingency plan event reports and permit modification notices to the EPA. Raytheon implemented several informational/training type corrective measures to increase the awareness of proper response to and the reporting of contingency plan events. Review of the recent noncompliance reports in Attachment I indicates that these corrective measures have not been entirely effective in preventing the reoccurrence of similar types of noncompliances. However, since an additional corrective measure, described below, was implemented in 1997 there have been no reoccurrences.

Procedures

To resolve the problem of the late submittal of contingency plan permit modification notices and 15-day event reports, the Army changed its procedure for review and transmittal of the notices/reports several times, reference Item 2 Incidents (e), (f), (g), (m) and (n) in Addendum A. Due to the sensitive nature of demilitarization operations, the Army required extensive review of the notices/reports prior to submittal to the EPA. This review process was a major obstacle to the timely submittal of the notices/reports to the Agency since usually the submittals required routing through the PMCD-Edgewood Office for final approval. Even though the Army transferred the primary responsibility for submitting the notices and reports to the PMCD JACADS field staff several times, timely submittal still was a problem into 1996. To help correct the late submittal of permit modification notices pertaining to the contingency plan, which are prepared and submitted on a quarterly basis, Raytheon agreed to submit the modification notices to the Army two weeks prior to the end of each quarter. This corrective measure was implemented during the latter portion of 1996. Then, in early 1997, the Army directed RDC to implement changes in the schedule for submitting drafts of the 15-day incident reports for review in order to ensure timely submittal to the EPA. PMCD required a draft of the report within 7 days of the incident. PMCD comments (if any) would be provided by the 10th day, and the final submittal of the report would be provided to PMCD by the 13th day with a final submittal on or before the 15th day. Since implementation of this administrative procedure, there have been no late submittals.

The maintenance of the JACADS Contingency Plan for consistency with the JACADS Emergency Response Plan, which contains a control copy of the contingency plan (controlled by Raytheon Configuration Management) proved to be difficult at times, reference Item 2 Incidents (b) and (h) in Addendum A. In the early stages of operation of JACADS, the facility followed a contingency plan that was substantially different than the plan in the JACADS RCRA permit. This issue was resolved by substantially modifying both plans and obtaining a Class 2 Permit Modification approval from EPA for the revised RCRA permit plan. To maintain the control copy of the contingency plan consistent with the RCRA permit plan, procedures were

implemented by Raytheon in 1995 to require all changes to the control copy to be reviewed and approved by the Raytheon Environmental Compliance Department (ECD) prior to implementation.

Training

On a monthly basis, the ECD commenced providing a 10- to 30-minute presentation on pertinent environmental issues to Operations and Maintenance personnel. Presentations are given to both day and night work-shifts. Various presentations addressed the requirements for implementation of the contingency plan in response to various types of releases and to ACAMS alarms. These presentations were held to address Item 2 Incidents (a), (d), (i), (j), (k) and (l) in Addendum A. ECD also prepared written guidance on contingency plan response requirements and distributed this guidance to Management.

JACADS system courses include coverage of specific contingencies related to the systems. The Training Manager mandated this inclusion in 1992 as a result of Item 2 – Incidents (a) and (b) of Addendum A. The JACADS Initial Training and Annual Refresher Training courses cover sufficient awareness training for first response to emergencies. The examples used in these two courses are updated at least annually to reflect incidents such as those detailed in Addendum A. An ACAMS course was developed and implemented in 1996 to assist operators in preventing the types of responses that occurred in Item 2 – Incidents (d), (i), (j), and (k) of Addendum A.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be implemented at UMCDF:

- The Environmental Department will give periodic presentations to Operations and Maintenance personnel concerning contingency plan response issues
- The Initial Training and Annual Refresher Training courses will include sufficient awareness training for first response to emergencies
- An ACAMS course will be given by the Training Department to assist operators in responses related to various agent alarms and readings that may occur
- Lessons learned from JACADS incidents will be incorporated in lesson plans on the various system courses conducted by the Training Department
- Submittal of contingency plan permit modification notices and event reports will be made directly from the UMCDF PMCD field office

Addendum A

This addendum provides a listing of the noncompliance incidents reported in Attachment I of the Class 3 Permit Modification Request submitted to DEQ on 28 March 1997 pertaining to Items 1 and 2 of the NOD.

Item 1: **Continuation of Processing with Facility in an Upset Condition**

(a) LIC PAS Brine Piping Leakage (1995 Annual Report, No. 2.C., page 5):

The leak occurred over a duration of approximately ten days while rocket processing operations continued.

Corrective Measures:

- The area of leakage was cordoned off for safety purposes when discovered on 8 March 1995.
- The processing of rockets was halted on 18 March 1995 to repair the leaks.
- Management was informed of the need to halt processing to repair the leaks

(b) DFS Cyclone Pluggage (1995 Annual Report, No. 2.F., page 8):

The processing of rockets continued while the DFS cyclone discharge mechanism was plugged with particulate.

Corrective Measures:

- Processing was halted on 27 April to remove the particulate, although on 28 April processing recommenced with the cyclone in a high alarm condition.
- Adjustment of the tipping valve mechanism on 28 April corrected the problem
- A programming change was made to the Programmable Logic Controller (PLC) to alert the operator if 500 rockets have been processed without the particulate waste drum being changed
- Management was informed of the need to halt operations to correct malfunctioning equipment

(c) BRA Stack ACAMS LOQ Alarms (Addendum to 1995 Annual Report, No. 1., page 1):

The processing of brines continued although the BRA Stack ACAMS alarmed at the LOQ level for six cycles over a duration of approximately two and one-half hours.

Corrective Measures:

- The Laboratory responded to the first ACAMS alarm and could not confirm the alarm, clear messages were received within about 15 seconds of the alarm.
- The brines were sampled after the fourth alarm, the results were negative for agent.
- Subsequent analysis and evaluation of additional DAAMs samples indicated the alarms were due to an interferant.
- The need to halt processing whenever an ACAMS alarm at 0.2 ASC or above was emphasized to Operations.
- Written guidance on when implementation of the RCRA Contingency Plan is required was prepared by ECD and distributed to appropriate OMC Departments.

- A monthly seminar presentation was given to Operations by ECD.

(d) Brine Storage Tank Agitator Leakage (1995 Annual Report, No. 3.B., page 10):

The agitators to the two main brine storage tanks periodically leaked due to design deficiencies.

Corrective Measures:

- An Engineering Change Proposal (ECP) was prepared by Raytheon to replace the side-mounted agitators with top-mounted agitators. This ECP was submitted to the Army for approval prior to 1994; however, the ECP was rejected by the Army as being too expensive to implement.
- A permit modification was submitted to EPA in April 1994 requesting use of the agitators be allowed to be discontinued, this modification was denied in July 1994.
- Another ECP was prepared by Raytheon in February 1995 for the design and installation of a system for collecting the leakage prior to it falling into the tank secondary containment area and recycling the brine back into the storage tanks. The ECP was approved by the Army in April 1995.
- A permit modification request was submitted to the EPA requesting approval for installation and use of the leakage collection/recycling system in July 1995; the request was approved by EPA in July.
- Procurement and installation of the leakage collection/recycling system was completed in December 1995.

(e) Low DFS Scrubber Differential Pressure (1993 Annual Report, No. D.3., page 20):

The differential pressure across the DFS Scrubber dropped below 1.0 inches of water column, the permitted lower operational limit for the system, 42 times while the processing of hazardous waste continued on 23 June 1993. Each exceedance activated the automatic waste feed cutoff (AWFCO) system.

Corrective Measures:

- The scrubber sensor lines were purged with high pressure air to clear pluggage of the lines on 25 June 1993.
- Management was informed of the need to halt operations if permitted operational limits are excessively exceeded.
- Written guidance on EPA's policy regarding the importance of reducing AWFCOs was distributed to Management.
- Raytheon investigated how to reduce the number of exceedances of operational limits and AWFCOs while processing the hazardous waste.

(f) Low DUN Baghouse Differential Pressure (1993 Annual Report, No. D.5., page 21):

The differential pressure across the DUN baghouse dropped below 1.0 inches of water column, the permitted lower operational limit for the system, 44 times while HD contaminated dunnage was being processed, at the onset of trial burn testing.

Corrective Measures:

- The trial burn test was terminated
- An interlock to bypass the baghouse at low exhaust temperature at the inlet to the baghouse, which was a contributing factor to the low differential pressure, was removed.

(g) DUN Primary Chamber High Pressure (1993 Annual Report, No. D.7., page 23):

High pressure in the primary chamber of the DUN occurred on two occasions, at the onset of an attempt to conduct a trial burn test on HD contaminated dunnage on 26-27 March 1993.

Corrective Measures:
- The trial burn test was terminated.
- A 50-second time delay prior to the engaging of the AWFCO system was discovered and removed after the aborted trial burn attempt.

(h) Automatic Waste Feed Cutoff (AWFCO) system delays/jumpers installed to prevent feed stoppage. Reported incidents of this type of noncompliance occurred on:

(1) August - September 1992, a 3-second delay was installed on the LIC Afterburner O_2 analyzer to prevent AWFCOs due to electronic noise causing low and high O_2 values (1992 Annual Report, No. D.3., page 16).

Corrective Measures:
- The delay was removed.
- The Raytheon Environmental Compliance Department (ECD) commenced periodic review of the Jumper Log.

(2) June - August 1992, the AWFCO system was jumpered to prevent engagement of the system in the event of low LIC Primary Chamber temperature. Although properly logged, the jumper was overlooked prior to startup of the system in June 1992 (1992 Annual Report, No. D.5., page 18).

Corrective Measures:
- The jumper was immediately removed on discovery.

(3) Startup - September 1992, no AWFCO was installed on the spent decontamination solution (SDS) feed system to the LIC until August/September 1992 because the SDS feed was measured volumetrically (in gallons per minute) versus in the permitted units of pounds per hour (1992 Annual Report, No. D.6., page18).

Corrective Measures:
- A permit modification was submitted to the EPA, and subsequently approved by the Agency, to allow SDS to be measured volumetrically.
- An AWFCO was installed on the SDS feed system in September 1992.

(4) Startup - February 1992, the LIC and DFS ACAMS at the ID fan outlets were not set up to engage the AWFCO system in the event of high agent readings. (1992 Annual Report, No. F.1., page 21)

- The ACAMS were interlocked to engage the AWFCO systems in February 1992.

(5) Startup - November 1992, the LIC, MPF and DFS ACAMS at the ID fan outlets were not set up to engage the AWFCO system in the event of a monitor malfunction or maintenance outage (1992 Annual Report, No. F.1., page 21).

- The ACAMS were interlocked to engage the AWFCO systems in the event of a "malfunction indication' in November 1992.
- A permit modification was submitted to EPA, and subsequently approved by the Agency in January 1993, which allowed the Common Stack ACAMS to be used in the event of a maintenance or malfunction outage of the ID fan ACAMS.

(6) Startup - June 1993, a 20-second time delay was installed on the DFS to prevent an AWFCO in the event of high primary chamber pressure (greater than –0.1 inches water column) (1993 Annual Report, No. D.2., page 20).

- The time delay was removed.
- A Class 2 Permit Modification was submitted to the EPA requesting approval of the delay; the modification was withdrawn by the Army upon further investigation.

(7) February 1995, the DFS Heated Discharge Conveyor (HDC) upper discharge gate AWFCO was jumpered to allow waste bin changeouts with only the lower HDC gate closed during rocket processing operations (1995 Annual Report, No. 4.E., page 16).

- The jumper was removed.
- A Permit Modification was submitted to the EPA requesting only one discharge gate be required to be closed during processing operations, based on safety analysis; this request was approved by the agency.

(8) April 1996, a 10-second time delay was installed on the LIC to prevent engagement of the AWFCO system if the maximum permitted Spent Decontamination Solution (SDS) feed rate to the LIC was exceeded after initiation of SDS feed had commenced. The 10-second delay was allowed by the JACADS RCRA Permit only on initiation of SDS feed (1996 Annual Report, No. 2.D., page 10).

Corrective Measures:

- The PLC was re-programmed to allow the 10-second delay only when SDS feed is initiated to the LIC.
- A letter was submitted to the EPA to clarify the JACADS Permit Reference Document by stating the delay is only allowed on the initiation of SDS feed to the LIC.

Item 2: **Contingency Plan Noncompliances**

(a) Response to Brine Releases from the BRA System (1992 Annual Report, No. H.1., page 26):

Two brine releases occurred in March which were not responded to in a timely manner and in accordance with the JACADS Contingency Plan.

Corrective Measures:

- For the first release (25 gallons), processing operations were halted approximately 75 minutes after initial discovery of the leak and contaminated dirt was removed.
- For the second release (1 gallon), processing operations were halted approximately 190 minutes after initial discovery of the leak and contaminated dirt was removed.
- A guidance document was prepared and distributed to project management summarizing permit requirements for implementing the Contingency Plan.
- The need for more training on Contingency Responses was emphasized to Management.

(b) Contingency Plan Response Procedures (1992 Annual Report, No. H.2., page 27):

Different contingency responses were developed and followed at JACADS than what were specified in the JACADS RCRA Permit Application.

Corrective Measures:

- A Class 2 Permit Modification Request was submitted to EPA in June 1992 requesting revision of the permitted contingency plan procedures to reflect what was currently being used at JACADS; the Agency approved the modification request in October 1992.

(c) Late Contingency Plan Permit Modification Notices (1993 Annual Report, No. I.1., page 32):

Two updates to the JACADS Contingency Plan, Class 1 Permit Modification Notices, were submitted late to EPA. The notices were submitted well after the 7-day period allowed by 40 CFR 270.42 regulations.

Corrective Measures:

- Both permit modification notices were submitted to EPA by the Army approximately six months after they were implemented.
- A completely updated permit and permit application (commonly called the Permit Reference Document) was submitted to the EPA on 30 April 1993.
- Regulatory requirements for notifying EPA of Contingency Plan changes were emphasized to project management.

(d) Implementation of Contingency Plan in Response to an ACAMS Reading at the MPF Discharge Airlock (1993 Annual Report, No. K.4., page 39):

JACADS failed to implement the Contingency Plan after an ACAMS alarm at the Metal Parts Furnace (MPF) discharge airlock while discharging a tray of treated HD-contaminated bulk waste to the cooling conveyor.

Corrective Measures:

- The waste was re-treated in the MPF.
- Cause of the ACAMS alarm was thoroughly investigated.
- The WICs were modified to enhance combustion.
- The operating procedure was revised to require agent monitoring for two complete ACAMS cycles in the discharge airlock prior to discharging to the cooling pad.
- The importance of following contingency procedures was emphasized to project management.

(e) Late Contingency Plan Permit Modification Notices (1994 Annual Report, No. F.1., page 25):

Two updates to the JACADS Contingency Plan, Class 1 Permit Modification Notices, were submitted late to EPA. The notices were submitted well after the 7-day period allowed by 40 CFR 270.42 regulations.

Corrective Measures:

- The two Permit Modification Notices were submitted to EPA by the Army several months (2-4 months) after they were implemented.
- The Army modified its procedure for submitting Class 1 Permit Modification Notices to the EPA by allowing certain types of notices to be submitted directly to EPA from the island versus requiring all notices to be sent through the PMCD Edgewood Office prior to submittal to the Agency.
- Regulatory requirements for notifying EPA of Contingency Plan changes were emphasized to project management.

(f) Late Contingency Plan Permit Modification Notices (1995 Annual Report, No. 6.B., page 20):

Four updates to the JACADS Contingency Plan, Class 1 Permit Modification Notices, were submitted late to EPA. The notices were submitted well after the 7-day period allowed by 40 CFR 270.42 regulations.

Corrective Measures:

- The Permit Modification Notices were submitted to EPA by the Army after being implemented; the notices were submitted an average of about six months late.
- At the beginning of 1995, the Army modified its procedure for submitting Class 1 Permit Modification Notices to the EPA by requiring all notices to be submitted by the PMCD Edgewood Office; this procedure was revised at the end of the year to again allow direct submittal of certain types of Class 1 notices directly to EPA from Johnston Island.
- Regulatory requirements for notifying EPA of Contingency Plan changes were emphasized to project management.

(g) Submittal of Reports to EPA of Implementation of Contingency Plan within 15 Days (1995 Annual Report, No. 7.A., page 21):

Nine incidents of implementation of the Contingency Plan at JACADS in 1995 were not submitted to EPA until after the 15-day reporting deadline.

Corrective Measures:

- All of the reports were submitted to EPA in 1995.
- The Army modified its procedure for submitting the reports to the EPA in November 1995 by allowing submittal directly from the island versus requiring all notices to be sent through the PMCD Edgewood Office.

(h) On-site Control Copies of the JACADS Contingency Plan (1995 Annual Report, No. 7.B., page 22):

On-site control copies of the JACADS Contingency Plan were not updated to reflect changes to the permitted Contingency Plan.

Corrective Measures:

- The controlled copies of the Contingency Plan and permitted Plan were revised to agree with each other in 1995.
- Procedures were implemented to ensure changes to the control copy of the Contingency Plan received prior review and approval by the Raytheon Environmental staff before making the changes.

(i) Implementation of Contingency Plan in Response to ACAMS Alarms at the LIC ID Fan (1995 Annual Report, No. 7.C., page 23):

JACADS failed to implement the Contingency Plan after two ACAMS alarms above the allowable stack concentration (ASC) at the Liquid Incinerator (LIC) ID fan on 13 November 1995.

Corrective Measures:

- The ACAMS alarms were confirmed by the Laboratory to be negative, due to interferant.
- A summary of facility required responses to ACAMS readings outside of engineering controls was prepared and provided to Management.
- A seminar was provided to Operations personnel reviewing response actions to various agent alarms.

(j) Implementation of Contingency Plan in Response to ACAMS Alarms at the BRA Stack (Addendum to 1995 Annual Report, No. 1., page 1):

JACADS failed to implement the Contingency Plan after ACAMS alarms at the Brine Reduction Area (BRA) on 1 October 1995.

Corrective Measures:

- The ACAMS alarms were verified by the Laboratory to be negative, due to interferant.
- The need to halt processing operations whenever an ACAMS at the stack alarmed was emphasized to Operations.
- A summary of facility required responses to ACAMS readings outside of engineering controls was prepared and provided to Management.

- A seminar was provided to Operations personnel reviewing response actions to various agent alarms.

(k) Implementation of Contingency Plan in Response to a Confirmed Agent Reading at a Perimeter Monitoring Station (Addendum to 1995 Annual Report, No. 2., page 2):

JACADS failed to implement the Contingency Plan after a confirmed agent reading at a perimeter monitoring station on 2 March 1995.

Corrective Measures:
- Investigation of the agent reading was conducted by the facility.
- The EPA was notified of this incident.
- A summary of the actions to be taken in the event agent is detected at various levels/locations at the facility was prepared and provided to Management.
- The permit Contingency Plan was modified to clarify response actions to be taken in the event of a confirmed agent reading at a perimeter station.

(l) Notification of Agent Readings detected during Implementation of Contingency Plan in Response to GB Emissions at the Charcoal Filter Banks (Addendum to 1995 Annual Report, No. 3., page 3):

JACADS failed to properly notify the EPA of agent readings detected due to GB emissions at the charcoal filter banks on 16-17 March 1995.

Corrective Measures:
- Notification of the agent readings measured outside of engineering controls on 16-17 March was made to the EPA on 31 May 1995.

(m) Late Contingency Plan Permit Modification Notices (1996 Annual Report, No. 4.A., page 18):

Four updates to the JACADS Contingency Plan, Class 1 Permit Modification Notices, were submitted late to EPA. The notices were submitted after the 7-day period allowed by 40 CFR 270.42 regulations.

Corrective Measures:
- The four permit modification notices were submitted to EPA by the Army approximately one month (average duration) after they were implemented.
- Raytheon and Army staffs reviewed the late submittal of Contingency Plan modification update notices; it was agreed that Raytheon would prepare the notices two weeks prior to end of each calendar quarter to facilitate timely submittal to EPA.

(n) Submittal of Report to EPA of Implementation of Contingency Plan within 15 Days (1996 Annual Report, No. 4.C., page 20):

A report on an incident involving implementation of the Contingency Plan at JACADS in September 1996 was not submitted to EPA until after the 15-day reporting deadline.

Corrective Measures:
- The report was submitted eight days after the 15-day deadline.
- The importance of submitting timely reports involving implementation of the Contingency Plan was emphasized to project management.

Compliance Issues – Chronic

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Item 3: **Waste Feed Exceedances**

A summary and evaluation of the corrective measures implemented at JACADS to prevent waste feed exceedances are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all incidents pertaining to this NOD item in the Attachment I annual noncompliance reports is provided in Addendum B of this submittal. Addendum B lists each incident in the reports pertaining to Item 3, in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and page where it is described in the attachment.

Summary and Evaluation of Corrective Measures

The corrective measures implemented have proven to be effective in preventing waste feed exceedances for the various JACADS treatment units. The most effective means of preventing waste feed exceedances was programming the JACADS programmable logic controller (PLC) to automatically track and interlock the incinerator waste feed systems. The continuous training of system operators was also a vital corrective measure in preventing exceedances.

A summary of training materials developed for addressing waste feed exceedances is provided in this section followed by a summary of the corrective measures that have proven to be effective at the various treatments units (BRA, MPF, DFS, and LIC). There have been no reported incidents of waste feed exceedance to the JACADS dunnage incinerator (DUN).

Training

JACADS furnace and pollution abatement system courses as well as the BRA course provide operators detailed information on waste feed rates and waste feed cutoffs. These courses are reviewed on at least an annual basis and revised (if necessary) to include changes in equipment and procedures. The system interlock matrices are integral parts of these courses. The JACADS Annual Refresher Course was revised in 1995 to include a section that stresses to employees, supervisors and managers the importance of adhering to alarms, automatic waste feed cutoffs (AWFCOs), and shutdown procedures. This course revision was a result of the waste feed exceedances that occurred in 1992 to 1994. The JACADS RCRA for Managers Course also provides the same emphasis to managers from the viewpoint of the JACADS RCRA permit.

BRA Brine Feed Rate Exceedances

Specific corrective measures pertaining to exceedances of the maximum permitted brine feed rate to the BRA are identified in Item 3 - Incidents (a), (d), (f), and (i) of Addendum B. Review of these incidents shows a marked drop in the duration of exceedances from the 1992 – 1993 period (40 hours) to the 1994 – 1996 period (four minutes). Moreover, there have been no reported incidents of exceedance of the maximum permitted brine feed rate at JACADS since April 1996.

The corrective measures implemented consisted primarily of engineering and procedural changes. The primary means of preventing exceedance of the maximum permitted brine feed rate was connecting the brine feed meter to the PLC to allow automatic tracking of the feed rate and alarming of high feed rates. The installation of local visual displays and alarms at the BRA also helped eliminate feed rate exceedances as well as clarifying procedures for responding to alarms.

MPF Waste Feed Rate Exceedances

Specific corrective measures pertaining to exceedances of the maximum permitted waste feed rates to the MPF are identified in Item 3 - Incidents (b) and (g) of Addendum B. Three

exceedances occurred in 1993 and one exceedance occurred in 1995. There have been no reported incidents of exceedance of maximum permitted MPF waste feed rates at JACADS since August 1995.

The corrective measures implemented consisted primarily of engineering and procedural changes. The most effective means of preventing exceedance of the maximum permitted waste feed rate was implemented in 1995 when the PLC was programmed to allow automatic tracking of the feed rate. This change also included programming the PLC to interlock the feed system to prevent waste feed to the MPF until the average feed rate had dropped to a low enough value to ensure the feed limit was not exceeded. The clarification of operating procedures in 1993 helped reduce the possibility of exceeding the feed limit, although this measure was not entirely effective, due to operational complexity of the system.

DFS Waste Feed Rate Exceedances

Specific corrective measures pertaining to exceedances of the maximum permitted waste feed rates to the DFS are identified in Item 3 - Incidents (c) and (e) of Addendum B. Three exceedances occurred in 1993 and one exceedance occurred in 1994. There have been no reported incidents of exceedance of maximum permitted DFS waste feed rates at JACADS since July 1994. The corrective measures implemented consisted primarily of procedural changes

LIC Waste Feed Rate Exceedances

Specific corrective measures pertaining to exceedances of the maximum permitted SDS waste feed rate to the LIC are identified in Item 3 - Incident (i) of Addendum B. Two exceedances were reported in the first portion of 1996. There have been no reported exceedances of the SDS feed limit since March 1996. The corrective measures implemented consisted of reprogramming the PLC, clarifying the JACADS Permit Reference Document, and lowering the set point for activating the AWFCO system.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be implemented at UMCDF:

- All incinerators will be configured and programmed to activate their AWFCO systems prior to exceedance of maximum permitted waste feed limits
- The BRA will be configured and programmed to activate its AWFCO system prior to exceedance of maximum permitted waste feed limits
- All furnace and pollution abatement system courses as well as the BRA course will provide detailed information on waste feed rates and waste feed cutoffs
- The Annual Refresher Course and the RCRA for Managers Course will include a section that stresses to employees, supervisors and managers the importance of adhering to alarms, AFWCOs, and shutdown procedures

Item 4: **Late/Missed Facility Inspections**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to late and missed facility inspections are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum B of this submittal. Addendum B lists each incident in the noncompliance reports pertaining to NOD Item 4, in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where the incident is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The corrective measures implemented to resolve this NOD item primarily pertain to the prioritizing of permit required inspections, the development and implementation of inspection procedures, increasing oversight of inspections, implementing engineering changes, and the modification of permit inspection requirements. The causes for the vast majority of missed or late facility inspections have been corrected. The number of reported missed or late inspections has markedly decreased from approximately 300 to 400 in 1992 and about 175 in 1993 to only a few per year during the 1994 to 1996 period. Five types of facility inspection violations were reported for 1994, with two types being the result of the evacuation of Johnston Island due to a hurricane. Four types of facility inspection violations were reported in 1995 and two types in 1996.

Modification of Permit Inspection Requirements

A major obstacle to completing permit required inspections, especially during the early phase of JACADS operations, was the existence of infeasible inspection criteria. A thorough review and investigation of appropriate inspection criteria followed by pertinent modifications to the JACADS permit resolved most of the infeasible inspections. The majority of the inspections that fell in this category were resolved in 1992, although a few types of inspections were discovered to be problems later in the project, reference Item 4 - Incidents (a), (c), (d), (f), and (h) of Addendum B.

Prioritizing

Establishing a system for prioritizing permit required inspections over routine maintenance activities was a simple, but essential, corrective measure in ensuring facility inspections were completed in a timely manner. All Maintenance Department inspections were also entered into a computer system to allow computerized tracking and scheduling of the inspections. Permit required inspections were designated as "'RCRA" required requiring completion within a scheduled time period. This corrective measure was important in alleviating Item 4 - Incidents (b), (e), (g), and (h) reported in Addendum B.

Procedural

Procedural development for ensuring inspections were performed properly and in accordance with established criteria was a vital measure for correcting a number of inspection problems. The piping inspection program and tank inspections, reported in Item 4 – Incidents (h) and (i), are prime examples of the need for concise and clear inspection guidance. This corrective measure was also important in correcting Item 4 – Incidents (c), (d), (e), (f) and (j) of Addendum B.

Oversight

Increased oversight of the inspection program by the Raytheon Environmental Compliance Department (ECD) was vital to identifying and correcting inspection problems. The ECD staff was increased in 1991 from three positions to approximately ten positions. With larger staff, ECD established a periodic oversight inspection program of JACADS operations in the latter portion of 1991. Quarterly audits of the facility inspection program were initially performed. This effort was increased to monthly audits in 1992, as reported in Item 4 – Incident (b) of Addendum B.

Engineering Changes

A number of facility inspections required extensive evaluation by the Raytheon Engineering Department. As a result of these evaluations, additional instruments and detectors had to be procured and installed to perform some inspections, reference Item 4 – Incidents (c), (d) and (h).

Training

On a monthly basis, ECD commenced providing a 10- to 30-minute presentation on pertinent environmental issues to Operations and Maintenance personnel. Several presentations were given to both day and night work-shifts on the importance of completing facility inspections.

The JACADS Fundamentals of Corrosion Course and the Furnace Inspection Course address inspection of various piping systems and incinerators. These courses were started in 1992 to inform inspectors of the RCRA permit requirements for conducting the inspections. In March 1997, the JACADS Annual Refresher Training Course was revised to incorporate a section addressing the importance of permit inspection criteria. This section also provides examples of past violations and the corrective measures implemented. Commencing June 1997, a new inspection course is scheduled to be given to inspectors that more comprehensively covers RCRA permit inspection requirements, inspection procedures, and the administration of inspection forms and reports.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be undertaken at UMCDF:

- The Environmental Department will conduct routine oversight of the facility inspection program
- The importance of conducting facility inspections will be emphasized in system courses given by the Training Department
- The Training Department will periodically give an inspection course to specifically address permit inspection requirements, inspection procedures, and the administration of inspection forms and reports
- Computerized aids in scheduling and flagging facility inspections will be used
- All permit-required inspections will be thoroughly reviewed to ensure they can be performed prior to UMCDF commencing hazardous waste treatment operations; problem inspections will be resolved by equipment, procedural and/or permit changes, as appropriate

Item 5: **Late Instrument Calibrations**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to late instrument calibrations are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum B of this submittal. Addendum B lists each incident in the noncompliance reports pertaining to NOD Item 5, in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where the incident is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The corrective measures implemented to resolve this NOD item primarily pertain to the computerized scheduling and prioritizing of permit required calibrations, increasing oversight of calibrations, providing additional training, and coordinating required calibrations with facility operations. Although the record shows a few late calibrations continued to occur into 1996, the corrective measures implemented have been effective and should require only fine tuning to prevent similar occurrences.

Scheduling/Prioritizing

The establishment of a computerized system for scheduling and prioritizing permit-required instrument calibrations has proved to be an essential and effective corrective measure. Since the early stages of JACADS operations, the computerized system has assisted in completing required calibrations in a timely manner, although several problems with the system, reference Item 5 – Incidents (e) and (f), caused late calibrations in 1995 and 1996. This corrective measure was important in reducing the ten late calibrations that occurred for both 1992 and 1993, reference Item 5 - Incidents (a) and (b) of Addendum B, and in preventing additional late calibrations due to Hurricane John in 1994, reference Item 5 – Incidents (c) and (d) reported in Addendum B.

Coordination of Operations and Maintenance Activities

The advanced coordination of Operations and Maintenance was an effective corrective measure implemented in response Item 5 – Incidents (a) and (b) of Addendum B. Close and continuous coordination between these two groups has proved critical in planning and completing required calibrations.

Oversight

Increased oversight of the inspection program by the Raytheon Environmental Compliance Department (ECD) was vital to identifying and correcting early calibration problems. The ECD staff was increased in 1991 from three positions to approximately ten positions. With a larger staff, ECD established a periodic oversight inspection program of JACADS operations in the latter portion of 1991. Quarterly audits of the calibration program were initially performed. This effort was increased to monthly audits in 1992.

Training

On a monthly basis ECD commenced providing a 10- to 30-minute presentation on pertinent environmental issues to Operations and Maintenance personnel. Several presentations were given to both day and night work-shifts on the importance of completing facility inspections and calibrations.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be undertaken at UMCDF:

- The Environmental Department will conduct routine oversight of the facility calibration program
- The importance of conducting permit-required instrument calibrations will be emphasized in system courses given by the Training Department
- Computerized aids in scheduling and flagging facility calibrations will be used
- Periodic meetings between Operations and Maintenance will be held to coordinate, prioritize, and schedule instrument calibrations

Item 6: Noncompliances Related to Untimely Submittals of Permit Modifications

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to untimely submittal of permit modifications are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum B of this submittal. Addendum B lists each incident in the noncompliance reports pertaining to NOD Item 6 in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where the incident is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

A review of the corrective measures for the untimely submittal of permit modifications, listed in Item 6 of Addendum B, indicates three main root causes. These root causes are: (1) late modification notices due to the failure to maintain an updated RCRA permit and permit application, (2) changes being made to the facility without review/awareness of permit requirements, and (3) lengthy Army review and approval procedures. A more detailed analysis of these three root causes is provided below.

The corrective measures implemented to resolve this NOD item primarily pertained to training, staffing, and procedural changes. The detailed analysis, provided below, addresses the corrective measures implemented to resolve each of the three root causes. The main corrective action for correcting the failure to maintain an updated permit and permit application was to increase the environmental staff. The main corrective measure for preventing the implementing of changes without review of the permitted requirements involved procedural changes. The major corrective measure for resolving the lengthy review/approval process involved the Army revising its staff review procedures for submitting permit modification notices to the EPA.

The effectiveness of the corrective measures implemented has resulted in a marked decline in the number of late permit modification submittals to the EPA. Only four late submittals were reported in 1996. Additional procedural changes implemented in the latter portion of 1996 for the review and approval of late submittals has resulted in no late permit modification notices to the EPA as of May 1997.

Failure to Maintain an Updated RCRA Permit and Permit Application

Until 1992, Raytheon was not contracted to maintain the JACADS RCRA permit and permit application. Additionally, the Raytheon Environmental Compliance Department (ECD) staff consisted of only three positions until 1991. Thus, due to contractual problems and insufficient resources, the RCRA permit and permit application were not adequately reviewed to ensure the facility was in compliance with all permitted requirements and specifications prior to startup of the facility in 1990. In 1991, the ECD staff was increased to ten positions, which allowed increase in the oversight of the facility. As a result, numerous discrepancies between the RCRA permit/permit application and the JACADS facility were identified which required late notification to the EPA.

Changes to the Facility Without Review/Awareness of Permitted Requirements

Review of the reported late modification notices indicates that during 1992 to 1994 changes to the facility were being made without adequate knowledge of permitted requirements. To prevent similar types of noncompliances, ECD approval was incorporated in the review cycles

for document change procedures (i.e., Engineering Change Proposals, SOP changes, programming changes, etc).

On a monthly basis, ECD commenced providing 10- to 30-minute presentations on pertinent environmental issues to Operations, Engineering and Maintenance personnel. Presentations were given to both day and night work-shifts. Various presentations addressed the need for determination of whether a permit modification is required prior to making a facility change.

Lengthy Army Review and Approval of Procedures

Due to the sensitive nature of demilitarization operations, the Army required extensive internal review of permit modifications prior to submittal to EPA. The review process was a major obstacle in the timely submittal of the permit modification notices within seven days of implementation. During the latter portion of 1995, the Army transferred the responsibility for submitting the notices to the PMCD JACADS field office, to facilitate the submittal of Class 1 permit modification notices to the EPA. Although the number of late submittals markedly decreased, timely submittals were still a problem in 1996. The four notices that were submitted in 1996 pertained to routine modifications that are required to be submitted within seven days after the end of a calendar quarter. During the latter portion of 1996, the Army directed Raytheon to submit a draft permit modification for review two weeks prior to the end of each quarter to prevent recurrences of this type of late submittal. This allowed sufficient time for staffing through the PMCD JACADS field office and the PMCD-Edgewood office. Since implementation of this procedural change, there have been no late submittals of notices to the EPA in 1997.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar late submittals of Class 1 permit modification notices from occurring, the following measures will be implemented at UMCDF:

- Raytheon has been contracted by the Army to maintain UMCDF hazardous waste and air permits and permit applications from the onset of construction
- The Environmental Department will be staffed with sufficient personnel well before UMCDF begins operations; Raytheon is currently budgeted for 16 positions on its environmental staff
- The Environmental Department will give periodic presentations to Operations, Maintenance and Engineering personnel concerning the implementation of changes to the facility that could impact compliance with the permit
- The Environmental Department will be in the review/approval cycle of facility change procedures (i.e., Engineering Change Proposals, SOP changes, programming changes, etc.)
- Submittal of Class 1 permit modification notices will be made directly to DEQ from the PMCD UMCDF field office
- Appropriate courses given by the Training Department will address the necessity to review permitted requirements prior to making changes to the facility
- Prior to commencing hazardous waste treatment operations at UMCDF, the facility will be thoroughly audited by the Environmental Department to assure compliance with permitted conditions

Item 7: **Improper Use of Secondary Containment**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to the improper use of secondary containment areas (SCAs) are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum B of this submittal. Addendum B lists each incident in the noncompliance reports pertaining to NOD Item 7 in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where it is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The corrective measures implemented to resolve this NOD item at JACADS primarily pertain to training. The training corrective measures included incorporating additional information in course materials, providing periodic presentations to facility personnel, and preparing written guideline documents on proper management of SCAs.

The Raytheon Environmental Compliance Department (ECD) periodically gives 10- to 30-minute presentations on pertinent environmental issues to Operations and Maintenance personnel. Presentations on the proper use and management of SCAs were given to both day and night work-shifts. ECD also prepared written guidance on the proper management of SCAs and distributed this guidance to Management.

In response to noncompliances in 1992 and 1993, the Raytheon Training Department developed a self guided course on the requirements for managing hazardous wastes generated from various JACADS activities, as specified in Program Procedure PP-43. In response to recent noncompliances pertaining to the misuse of SCAs, the Training Department has revised several courses. The JACADS Initial Training course and the Annual Refresher Training course address general requirements that apply at the facility. Sections on the proper use of SCAs were incorporated in these two courses in 1995. In 1996, the Agent Collection System and Spent Decontamination Solution courses were revised to incorporate sections on SCAs management. The Brine Reduction Area (BRA) course and the four incinerator pollution abatement system courses also address the proper use of SCAs.

From review of recent noncompliance reports in Attachment I, it is apparent that the proper management of SCAs is an area that needs to be continuously emphasized to facility personnel. It is anticipated that the revisions to training courses and the written guidance to project management will prevent the reoccurrence of similar types of noncompliances.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be implemented at UMCDF:

- The Environmental Department will prepare written guidance to the project on proper management of SCAs prior to the commencement of hazardous waste treatment activities at UMCDF
- Semi-annual presentations to Operations and Maintenance personnel concerning the proper management of SCAs will be given

- Course materials developed for training facility personnel on the requirements for managing hazardous wastes generated from various facility activities will be reviewed and revised (if necessary) to emphasize that SCAs are not to be used for the transfer or disposal of liquid wastes prior to commencement of hazardous waste treatment operations at UMCDF
- Initial Training, Annual Refresher Training, Agent Collection System, Spent Decontamination Solution, and Brine Reduction Area (BRA) courses as well as courses on the four incinerator pollution abatement systems will be reviewed and revised (if necessary) to address the proper use of SCAs prior to commencement of hazardous waste treatment operations at UMCDF
- Lessons plans for pertinent courses will be periodically reviewed by the Training Department no less frequently than annually, and revised to address any incidents at UMCDF pertaining to the misuse of SCAs (if any)

Item 8: **Inadequate Record Keeping**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to inadequate record keeping are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of all Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum B of this submittal. Addendum B lists each incident in the noncompliance reports pertaining to NOD Item 8, in the order in which it appears in Attachment I, with specific reference to the annual report, the incident number in the report and the page where the incident is described in the Attachment I reports.

Summary and Evaluation of Corrective Measures

The record keeping violations primarily fall into two main categories – deficiencies related to manual inspections and data recording and deficiencies related to data automatically collected on the JACADS Process Data Acquisition and Recording (PDAR) system. The corrective measures implemented that effectively resolved these two main categories of record keeping violations differ substantially and therefore will be addressed separately.

Manual Record Keeping Deficiencies

The corrective measures implemented to resolve this category primarily pertain to increased oversight of the inspection program, revisions on how inspections are documented and corrective actions are tracked, transfer of responsibility for oversight of process inspections, procedural changes, development of improved log sheets for recording RCRA required operating data, upgrading of training course material, and installation of flow meters. These corrective measures pertain to Item 8 – Incidents (a), (b), (c), (d), (e), (f), (j), (k), (o), (p), (q) and (s) reported in Addendum B. Evaluation of the effectiveness of these corrective measures indicate that the major contributing factors for manual record keeping deficiencies have been corrected.

An inadequate system for documenting facility inspections and tracking corrective actions resulting from the inspections was a prime contributor to record keeping deficiencies in the early phase of JACADS operations. An increase in oversight of the inspection program by the Raytheon Environmental Compliance Department (ECD) was one of the initial corrective measures implemented to resolve this problem. In 1992 ECD increased its oversight by conducting monthly inspections with written reports to Management. This resulted in an extensive revision and upgrading of the forms used to document inspections. This also resulted in work order numbers generated from the inspections being entered into the Maintenance Department computer for the printing of periodic corrective action status reports.

In 1993, the responsibility for overseeing process equipment inspections was transferred from the Operations waste management group to the Operation area supervisors. Since the inspectors reported to the area supervisors for their normal tasks, this corrective measure vastly improved the documentation of inspections.

Procedural changes included development of a required records procedure to identify custody responsibilities, the recording of data manually to supplement automatic data recording equipment, and requiring the transfer of brine from the incinerator pollution abatement systems (PASs) to the BRA to be recorded in a log. Flow meters were later installed on the incinerator PASs to document the amount of brines transferred to the BRA.

Improved log sheets were developed, by adding pre-printed information, to facilitate the recording of RCRA required operating data.

Finally, training material for various system courses were updated to stress the importance of documentation. The need to maintain accurate and complete inspection records is emphasized in the updated courses.

Automatic Data Recording Record Keeping Deficiencies

The corrective measures implemented to resolve this category primarily pertain to upgrading the PDAR system, programming the JACADS programmable logic controller (PLC) to alert operators of PDAR loss, and procedural changes. These corrective measures pertained to Item 8 – Incidents (g), (h), (i), (l), (m), (n) and (r) reported in Addendum B. Evaluation of the effectiveness of these indicates that the major contributing factors for automatic record keeping deficiencies have been corrected.

The most effective corrective measure for improving the recording of operating data on PDAR was the complete replacement of the PDAR system with an upgraded system. Prior to replacement of the PDAR system, approximately 19 hours and 15 hours of operating data was missed due to system failures in 1993 and 1994, respectively. After replacement of the system in early 1995, only two minutes of lost operating data occurred during the year. Approximately two hours of operating data was lost in 1996; however, this data lost was due more to an error in the installation of new software than due to failure of the PDAR system.

Another effective measure for eliminating the loss of operating data was the programming of the JACADS PLC to alert operators of data losses. The PLC was programmed to alert operators of communication lost between the network manager and PDAR and of the failure of PDAR to record information on its hard disk system. The PLC was also programmed to record data in the event a data loss to PDAR of greater than 50 seconds is detected.

Procedural changes were implemented to require PDAR to be activated prior to the feeding of miscellaneous wastes to the DFS and to require advisor screen printout of BRA operating data in the event of a PDAR outage.

Course material for the incinerators and the BRA, including material on their associated pollution abatement systems, was revised to address the importance of recording operating data on the PDAR system. How the PDAR system operates and the requirements for maintaining the system online whenever hazardous waste processing operations occur are covered in the revised course material.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar types of incidents from occurring at UMCDF, the following measures will be undertaken at UMCDF:

- The Environmental Department will conduct continuous oversight of the facility inspection program
- The importance of complete and accurate facility inspection and documentation will be emphasized in system courses given by the Training Department
- The importance of collecting operating data on the PDAR system will be emphasized in system courses given by the Training Department

- Procedures for conducting inspections, the recording of inspection and operating data, and for maintaining custody of records will be finalized and approved by project management prior to the commencement of hazardous waste treatment operations
- Procedures for the transfer of brine to the brine storage tanks will be reviewed prior to the commencement of hazardous waste treatment operations to ensure all transfers will either be recorded by means of a flow meter or properly logged
- A PDAR system equivalent or superior to the upgraded system installed at JACADS will be installed and used at UMCDF
- The UMCDF PLC and PDAR systems will be programmed and tested to incorporate the lessons learned at JACADS

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Addendum B

This addendum provides a listing of the noncompliance incidents reported in Attachment I of the Class 3 Permit Modification Request submitted to DEQ on 28 March 1997 pertaining to Items 3-8 of the NOD.

Item 3: **Waste Feed Exceedances**

(a) Exceedance of the Permitted Brine Feed Rate to the Brine Reduction Area (BRA) System (1992 Annual Report, No. E.3., page 20):

During the first four months of 1992, the maximum permitted feed rate of brine (635 gallons per hour) to the BRA was exceeded on twelve occasions for a total duration of approximately 35 hours.

Corrective Measures:

- The manual method tracking/recording brine feed rates to the BRA was replaced with an automated data collection system. This system consisted of connecting the brine feed rate meter to the JACADS Programmable Logic Control (PLC) where a rolling one-hour average was calculated to verify compliance with the permitted feed rate.
- The PLC was programmed to alarm a Control Room advisor screen prior to the rolling one-hour feed rate exceeded the maximum permitted rate.

(b) Exceedance of Permitted Waste Feed Rates to the Metal Parts Furnace (MPF) System (1993 Annual Report, No. D.1., page 18):

During August 1993, the maximum permitted MPF feed rate for agent-contaminated absorbent (100 lbs. per hour) was exceeded on three occasions. Also in August, the maximum permitted MPF feed rate for agent-contaminated metal (500 lbs. per hour) was exceeded on three occasions.

Corrective Measures:

- The importance of adhering to the MPF Standard Operating Procedure (SOP), which limited the feed rate to the maximum permitted rates, was emphasized to Operations.
- The MPF SOP was modified to clarify waste feed limitations.

(c) Exceedance of Permitted Waste Feed Rate to the Deactivation Furnace System (DFS) (1993 Annual Report, No. D.4., page 21):

During January and February 1993, the maximum permitted DFS feed rate for agent-contaminated bulk solid waste (30 lbs. per hour) was exceeded on three occasions.

Corrective Measures:

- The importance of adhering to the maximum permitted feed rate was emphasized to Operations.

- The DFS waste feed limitations detailed in an approved operations procedure (OP-03) were incorporated into the DFS Standard Operating Procedure (SOP).

(d) Exceedance of the Permitted Brine Feed Rate to the BRA System (1993 Annual Report, No. E.1, page 24):

During the last three months of 1993, the maximum permitted feed rate of brine (635 gallons per hour) to the BRA was exceeded on eleven occasions for a cumulative duration of approximately 5 hours.

Corrective Measures:
- The importance of adhering to the maximum permitted feed rate was emphasized to Operations.
- High and high high level alarms were programmed to alarm a Control Room advisor screen prior to the rolling one-hour feed rate exceeded the maximum permitted rate.

(e) Exceedance of Permitted Waste Feed Rate to the Deactivation Furnace System (DFS)

(1994 Annual Report, D.1., page 16):

During July 1994, the maximum permitted DFS feed rate for agent-contaminated bulk solid waste (30 lbs. per hour) was exceeded on one occasion.

Corrective Measures:
- The importance of adhering to the maximum permitted feed rate was emphasized to Operations.
- A permit modification was prepared requesting the maximum permitted feed rate for agent-contaminated bulk solid waste to the DFS be increased; this modification was denied by EPA.

(f) Exceedance of Permitted Brine Feed Rates to the BRA System (1994 Annual Report, D.2., page 17):

During January 1994, the maximum permitted feed rate of brine (635 gallons per hour) to the BRA was exceeded on one occasion for a total duration of approximately eight minutes. During March 1994, the new (and higher) maximum permitted feed rate of brine (1078 gallons per hour) to the BRA was exceeded on one occasion for a total duration of approximately one minute.

Corrective Measures:
- The importance of adhering to the maximum permitted feed rate was emphasized to Operations.
- A local readout and alarm device was installed at the BRA to allow operators to track the rolling one-hour brine feed rate.

(g) Exceedance of Permitted Waste Feed Rate to the MPF System (1995 Annual Report, No. 2.A., page 3):

During August 1995, the maximum permitted MPF feed rate for agent-contaminated metal (500 lbs. per hour, calculated as a rolling one-hour average) was exceeded on one occasion.

Corrective Measures:

- The importance of adhering to the MPF Standard Operating Procedure (SOP), which limited the feed rate to the maximum permitted rates, was emphasized to Operations.
- The JACADS PLC was programmed to track and prevent the feeding of the next load of waste into the MPF until the waste feed rolling one-hour average rate drops to a value low enough to prevent exceedance of the maximum permitted rate.

(h) Exceedance of the Permitted Brine Feed Rate to the BRA System (1996 Annual Report, No. 2.B., page 7):

During April 1996, the maximum permitted feed rate of brine (1078 gallons per hour) to the BRA was exceeded on one occasion for a cumulative duration of approximately three minutes.

Corrective Measures:

- A level control valve was repaired to correct a slow response problem.
- Procedural changes were made in response to system alarms.
- A sign detailing proper alarm acknowledgements was posted at the alarm panel.
- An additional local brine feed rate display was installed on the BRA, closer to the brine flow controls.

(i) Exceedance of Permitted Spent Decontamination Solution (SDS) Feed Rate to the Liquid Incinerator (1996 Annual Report, No. 2.D., page 10):

During the first portion of 1996, the maximum permitted feed rate of SDS (3.81 gallons per minute) to the Liquid Incinerator (LIC) was exceeded on two occasions for a cumulative duration of approximately twelve seconds.

Corrective Measures:

- The 10-second delay allowed by the JACADS RCRA Permit prior to activation of the automatic waste feed cutoff (AWFCO) system on initiation of SDS feed, was re-programmed to allow the delay to occur only when SDS feed is initiated to the LIC.
- A letter was submitted to the EPA to correct the JACADS Permit Reference Document.
- The set point for activation of the AWFCO system was reduced to prevent exceedance of the permitted maximum rate because of dense SDS.

Item 4: **Late/Missed Facility Inspections**

(a) Inspections Resolved by Permit Modification (1992 Annual Report, No. A.1., page 2):

Various facility inspections specified in the permit were not conducted due to the equipment not being present, the inspection was unsafe to perform, or because there was not a viable method available to conduct a meaningful inspection.

Corrective Measures:

- A Class 2 permit modification request was prepared and submitted to EPA revising the facility inspection schedule to replace these inspection with more viable inspections; the modification was approved in its entirety by the Agency.
- The revised facility inspection schedule was implemented on 1 November 1992.

(b) Missed Inspections Under the Revision 7 Facility Inspection Schedule (1992 Annual Report, No. A.2., page 4):

During the first ten months of 1992, approximately 300 to 400 facility inspections, that were viable to perform, were missed.

Corrective Measures:

- The Raytheon Environmental Compliance Department (ECD) increased oversight of the facility inspection program by performing monthly audits of the program.
- The Raytheon Maintenance Department, in coordination with ECD, implemented a new reporting system for documenting facility inspections.

(c) Missed Inspections Under the Revised Facility Inspection Schedule (1992 Annual Report, No. A.3., page 6):

During the last two months of 1992, several types of facility inspections were not performed either due to difficulties in performing the inspections or to redundant inspections.

Corrective Measures:

- The responsibility for performing weekly voltage readings on the BRA boiler flame safeguard sensors was transferred from Operations personnel to Maintenance personnel since there were no permanent meters to perform this inspection.
- Engineering developed an Engineering Change Proposal (ECP) to enlarge the manway to the Acid Storage Tank because the original tank manway was too small to conduct the required inspection.
- A Class 2 modification was prepared for submittal to the EPA to delete the requirement for local inspection of the HVAC zone pressure gauges since the pressures are continuously monitored by the JACADS programmable logic controller (PLC).
- Test equipment was procured and a test procedure was prepared to inspect various tank level switches while the tanks are full.

(d) Facility Inspections Not Performed (1993 Annual Report, No. A.1., page 2):

During 1993, four types of facility inspections, involving approximately 115 system and equipment checks, were not performed either due to difficulties in performing the inspections or to redundant inspections.

Corrective Measures:

- The Acid Storage Tank inspection could not be performed due to the original tank manway being too small to conduct the inspection; the tank system was deactivated.
- The BRA Standard Operating Procedure (SOP) was revised to prevent weekly checks of the Triboflow meter from being missed.
- Physical inspections of the furnace rooms were implemented to conduct thorough daily inspections of the rooms until additional cameras could be procured and installed for adequate remote inspection.

- A Class 2 modification was submitted to the EPA to delete the requirement for local inspection of the HVAC zone pressure gauges since the pressures are continuously monitored by PLC; this modification was subsequently approved by the Agency.

(e) Facility Inspections Performed Late (1993 Annual Report, No. A.2., page 4):

During 1993, seven types of facility inspections, consisting of 58 equipment checks, were performed late.

Corrective Measures:

- Twenty three of the equipment checks were performed late due to the inspection requirement not being clear; clarification was obtained from EPA and procedures for conducting the inspection checks were developed and implemented.
- Approximately another 40% of the inspections were late due to procedures for conducting the inspections not being developed; procedures for these inspections were finalized and implemented.
- The importance of completing the inspections was stressed to project management and required inspections performed by Maintenance were designated as priority for completion on the maintenance schedule.

(f) Facility Inspections Not Performed (1994 Annual Report, No. A.1., page 3):

During 1994, three types of facility were not performed due to difficulties in performing the inspections and to a hurricane that caused evacuation of Johnston Island.

Corrective Measures:

- Although the Acid Storage Tank inspection was deactivated in 1993, rinsate in the tank was still hazardous; the rinsate was removed in January 1994 and a Class 2 modification to remove the tank from the inspection schedule was approved by EPA in July 1994.
- Daily inspection of first aid equipment was remedied by storing the equipment in a sealed cabinet and inspecting the seal.
- Notices were filed in the inspection records for the missed daily inspection records due to evacuation of Johnston Island.

(g) Facility Inspections Performed Late (1994 Annual Report, No. A.2., page 4):

During 1994, ten facility inspections were performed late either due to the possibility of high agent contamination or to a hurricane that caused evacuation of Johnston Island.

Corrective Measures:

- The importance of completing the inspections was stressed to project management.
- Two of the inspections were late due to the possibility of high agent contamination; subsequent investigation revealed this was not the case and the inspections were performed.
- Eight of the inspections were late due to evacuation of Johnston Island and the subsequent reoccupation of the island.

(h) Facility Inspections Not Performed Properly (1995 Annual Report, No. 1.B., page 1):

During 1995, four types of facility inspections were performed improperly due to late inspection or to inadequate procedures.

Corrective Measures:

- The importance of advanced planning to complete the inspections was stressed to project management.
- The Plant Director revised and issued a memorandum clarifying responsibilities for completing facility inspections.
- Procedures were revised to ensure two types of the facility inspections were performed properly.
- One type of inspection was corrected by procuring and installing different level indicators, with concurrent permit modification approval by EPA.

(i) Internal Inspection of Fiberglass Tanks (1996 Annual Report, No. 1.C., page 2):

Seven fiberglass tank internal inspections were not being performed in accordance with the permitted inspection criteria.

Corrective Measures:

- An investigation of appropriate and safe methods for inspecting the interior of the tanks was conducted.
- Inspection of the tanks was completed in accordance with the permitted inspection criteria.

(j) External Inspection of MPF PAS Tanks (1996 Annual Report, No. 1.D., page 3):

For approximately four months after placing new MPF PAS tanks into service, the exterior of the tanks were inspected on only a monthly frequency rather than in accordance with the permitted requirement for daily exterior inspection.

Corrective Measures:

- This noncompliance occurred because the inspection personnel (Operations) were not informed of a new requirement for daily versus monthly inspections by ECD; on discovery of this oversight, Operations modified the inspection forms and commenced daily inspection.
- The protocol to incorporate permit modifications into the JACADS permit was evaluated and is being revised.

Item 5: **Late Instrument Calibrations**

(a) Late Calibration of System Instrumentation during 1992 (1992 Annual Report, No. B.1., page 9):

During 1992, ten calibrations of instruments required by the JACADS permit were not completed in a timely manner.

Corrective Measures:

- The Raytheon Environmental Compliance Department (ECD) increased oversight of the facility calibration program by performing monthly audits of the program.
- The Raytheon Maintenance Department, in coordination with ECD, implemented a new scheduling and reporting system for documenting facility inspections.
- The coordination of Operation and Maintenance activities was emphasized to project management.
- Instruments not on the Preventive Maintenance Instrument (PMI) system were added to the system.

(b) Late Calibration of System Instrumentation during 1993 (1993 Annual Report, No. B.1., page 10):

During 1993, ten calibrations of instruments required by the JACADS permit were not completed in a timely manner.

Corrective Measures:

- ECD conducted a thorough review and updated the list of instruments requiring calibration.
- Maintenance, in coordination with ECD, implemented a system for prioritizing and tracking required calibrations.
- Operations developed a system for 3-month advance notification of scheduled preventive maintenance items and calibrations in order to have equipment available.

(c) Late Calibration of LIC Instrumentation during 1994 (1994 Annual Report, No. B.1., page 6):

During 1994, five calibrations of instruments required by the JACADS permit were not completed in a timely manner; a major contributing cause for three of these late calibrations was the evacuation of Johnston Island in August 1994 due to Hurricane John.

Corrective Measures:

- The importance of completing the calibrations in a timely manner was emphasized to project management.

(d) Late Calibration of BRA Instrumentation during 1994 (1994 Annual Report, No. B.2., page 7):

During 1994, the third quarter calibration of a brine flow meter, required by the JACADS permit, was not completed in a timely manner; a major contributing cause for the late calibration was the evacuation of Johnston Island in August 1994 due to Hurricane John.

Corrective Measures:

- The importance of completing the calibrations in a timely manner was emphasized to project management.

(e) Late Calibration of DFS Instrumentation during 1995 (1995 Annual Report, No. 1.A., page 1):

During 1995, five calibrations of DFS instrumentation, required by the JACADS permit, were not completed in a timely manner due to a computer program problem.

Corrective Measures:

- A computer "field" program error was corrected
- Maintenance conducted a thorough review of the permit-required calibrations programmed in the computer system to ensure no other problems existed.

(f) Late Calibration of LIC Instrumentation during 1996 (1996 Annual Report, No. 1.B., page 1):

During 1996, five calibrations of instruments required by the JACADS permit were not completed in a timely manner due to a scheduling error.

Corrective Measures:

- The method for calculating the next scheduled due date for calibration was revised to account for when the previous calibration was actually performed versus when the work order was signed off as complete by the Maintenance Supervisor.
- Maintenance conducted an audit of all work orders for calibrations to ensure compliance with permit specified calibration frequencies.

Item 6: **Noncompliance Related to Untimely Submittals of Permit Modifications**

(a) In 1992, twenty permit modification notices were not submitted within seven calendar days after the changes were put into effect.

Corrective Measures:

- The Raytheon Environmental Compliance Department (ECD) commenced to incorporate all approved facility changes into an updated version of the RCRA permit and permit application. This document was called the JACADS RCRA Permit Reference Document.
- ECD continued to review and update the RCRA permit and permit application.
- Permit modification procedures and approval requirements were evaluated in order to remedy the late modifications.
- RCRA requirements for documenting/notifying EPA of facility changes were emphasized to project management.

(b) In 1993, sixteen permit modification notices were not submitted within seven calendar days after the changes were put into effect.

Corrective Measures:

- An updated version of the permit and permit application was prepared and submitted to the EPA on 30 April 1993. This document was called the JACADS RCRA Permit Reference Document and included all permit modifications since Revision 7 of the RCRA Permit was prepared.
- The ECD continued to review and update the RCRA permit and permit application to ensure that actual facility configuration and operation were accurately reflected in the permit.
- RCRA requirements for documenting and notifying the EPA of facility changes were emphasized to project management.

(c) In 1994, thirteen permit modification notices were not submitted within seven calendar days after the changes were put into effect.

Corrective Measures:

- In January 1994, the Army commenced submitting a number of Class 1 permit modification notices directly to the EPA from its field office, although this practice was later reversed.
- ECD continued to review permit requirements.

(d) In 1995, ten permit modification notices were not submitted within seven calendar days after the changes were put into effect.

Corrective Measures:

- ECD continued to review permit requirements.
- The Army implemented procedures shifting responsibility to the PMCD Field Office on Johnston Island for submittal of Class 1 permit modification notices to the EPA.

(e) In 1996, four permit modification notices were not submitted within seven calendar days after the changes were put into effect.

Corrective Measures:

- The Army directed that draft quarterly permit modification notices be provided for review two weeks prior to the end of the quarterly period in order to facilitate the transmittal of the notice within seven days of the end of the quarter.

Item 7: **Improper Use of Secondary Containment**

(a) Management of Precipitation in BRA PAS (1992 Annual Report, No. g.1., page 23):

Precipitation in the BRA pollution abatement system (PAS) secondary containment area was pumped to the ground.

Corrective Measures:

- Operation personnel were instructed on the proper disposition of accumulated rainwater in secondary containment structures.

(b) Use of the Main PAS Secondary Containment Area for Transfer of Brine (1992 Annual Report, No. G.2., page 24):

The Main PAS secondary containment area was used for the routine transfer of brines between equipment and to the BRA.

Corrective Measures:

- Operation personnel were advised of the RCRA requirements for the management of hazardous waste secondary containment structures.
- Comprehensive guidelines on the proper management of secondary containment areas was prepared and distributed to Operation management.

(c) Disposal of Liquid Refractory Waste in the Main PAS Containment Area (1992 Annual Report, No. G.3., page 25):

Liquid wastes from refractory repair being performed on the LIC were disposed of by transferring the wastes into the Main PAS secondary containment area.

Corrective Measures:

- Maintenance, Engineering and Operation personnel associated with this project were instructed on the proper management of the refractory wastes.
- The Engineer responsible for the project was instructed to set up a satellite waste accumulation area as outlined in Program Procedure PP-43.
- The Training Department was advised of the need to provide training on PP-43.
- A guidance paper on the proper management of secondary containment areas was prepared and distributed.

(d) Use of Toxic Cubicle Sump for Storage of SDS (1992 Annual Report, No. G.4., page 25):

The Toxic Cubicle sump was used to store spent decontamination solution (SDS) when the SDS storage tanks were full.

Corrective Measures:

- The need to promptly transfer SDS to the storage tanks was emphasized to Management.
- Information on this incident was provided to the Training Department for incorporation in the course pertaining to SDS management.

(e) Use of Secondary Containment Areas during the Cleaning of PAS Vessels (1993 Annual Report, No. B.3., page 12):

The Main PAS and DUN PAS secondary containment areas were used to collect liquid wastes from the cleaning of PAS vessels.

Corrective Measures:

- Management was advised of the RCRA requirements pertaining to the use and management of hazardous waste secondary containment structures.
- Maintenance procedures were reviewed and revised to prevent releases to secondary containment areas during the cleaning and repair of PAS equipment.

(f) Transfer of Brine to the Main PAS Secondary Containment Area Sump (1993 Annual Report, No. G.3., page 30):

In May 1993, the Main PAS secondary containment area sump was used for the transfer of brine.

Corrective Measures:

- Management was advised of the RCRA requirements pertaining to the use and management of hazardous waste secondary containment structures.

(g) Failure to Use Wash Basin for Cleaning of Salt Waste Drums in BRA (1995 Annual Report, No. 3.C., page 11):

The floor of the BRA secondary containment area was being used to collect rinse water from the cleaning of the outside surface of drums containing salt waste rather than a wash basin, as required per the JACADS permit.

Corrective Measures:

- Operations was advised of the RCRA requirement for use of the wash basin to collect rinse waste from cleaning of the salt waste drums.
- Environmental gave a presentation to facility personnel on the importance of preventing liquid releases to secondary containment areas.

(h) Mismanagement of Secondary Containment Areas (1996 Annual Report, No. 5.C., page 22):

Several times during 1996, secondary containment areas were used for either the transfer of brine or the collection of cleaning liquid waste from cleaning activities.

Corrective Measures:

- The Training Department incorporated additional information on the proper management of secondary containment areas in pertinent system courses.
- Environmental gave a presentation to facility personnel on the proper use of secondary containment areas.
- Maintenance personnel were instructed on the proper method for collection of liquid cleaning waste.

Item 8: **Inadequate Record Keeping**

(a) Missed Inspections Under the Revision 7 Facility Inspection Schedule (1992 Annual Report, No. A.2., page 4):

During the first ten months of 1992, a number of facility inspections were reported as either not being performed or as not being documented when performed.

Corrective Measures:

- The Raytheon Environmental Compliance Department (ECD) increased oversight of the facility inspection program by performing monthly audits of the program.
- The Raytheon Maintenance Department, in coordination with ECD, implemented a new reporting system for documenting facility inspections.

(b) Missed Inspections Under the Revised Facility Inspection Schedule (1992 Annual Report, No. A.3., page 6):

During the last two months of 1992, several types of facility inspections were reported as either not being performed or as not being documented when performed.

Corrective Measures:

- A thorough review of how facility inspections are conducted and documented was conducted by ECD.
- Management emphasized the importance of completing and documenting inspections.

(c) Documentation of Attachment F Corrective Actions (1992 Annual Report, No. A.4., page 8):

Corrective actions implemented in response to facility inspections conducted by Operations were not being adequately documented.

Corrective Measures:

- A log book method was implemented during the latter portion of 1992 to track and document corrective actions observed by Operation personnel performing waste management type inspections.
- A work order tracking method was implemented during the latter portion of 1992 to track and document corrective actions observed by Operation personnel performing system/equipment type inspections.
- Management emphasized the importance of completing and documenting inspections.

(d) Documentation of Brine Transfers (1992 Annual Report, No. E.1., page 19):

The types and quantities of brine being transferred to the brine storage tanks prior to treatment in the BRA were not being adequately documented.

Corrective Measures:

- A log book method was implemented during the latter portion of 1992 to track and document brine transfers from the incinerator pollution abatement systems (PASs).
- A Raytheon Task Force evaluated this issue and recommended the installation and use of a flow meter for each incinerator PAS.
- The procedure for documenting isotainer brine transfers was revised.
- Management emphasized the importance of completing and documenting inspections.

(e) Inadequate Documentation of Attachment F Inspections (1993 Annual Report, No. A.3., page 6):

Various types of inspections were either missed or not documented as being completed. Additionally, several types of inspections were not completely documented in accordance with permitted requirements although they were performed.

Corrective Measures:
- A thorough review of how facility inspections are conducted and documented was conducted by ECD resulting in extensive revisions to the inspection sheets.
- The responsibility for overseeing process equipment inspections was transferred from the Operations waste management group to the Operation area supervisors.
- The importance of completing and documenting inspections was emphasized to project management.

(f) Documentation of Attachment F Corrective Actions (1993 Annual Report, No. A.4., page 8):

Corrective actions implemented in response to facility inspections conducted by Operations were not being adequately documented.

Corrective Measures:
- The work order tracking method, implemented during the latter portion of 1992, to track and document corrective actions observed by Operation personnel performing system/equipment type inspections was replaced with a computerized method. The new method involved use of the Maintenance OPMIST Program to generate a list of outstanding corrective action work orders on a weekly basis.
- Management emphasized the importance of completing and documenting inspections.

(g) Documentation of DFS Miscellaneous Waste Feed (1993 Annual Report, No. C.1., page 14):

During the first portion of 1993, operating parameters related to the feeding and treatment of cleanup waste in the DFS were not being recorded on the JACADS Process Data Acquisition and Recording (PDAR) system.

Corrective Measures:
- A procedure change was made to require the PDAR system to be placed online prior to the feeding of the cleanup waste to the DFS.
- The importance of recording waste feed and operating parameters required by the permit was emphasized to operating personnel.

(h) Loss of Incinerator PDAR Operating Data (1993 Annual Report, No. C.2., page 15):

Incinerator operating data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) system, was lost for a total of approximately 3.3 hours while hazardous waste was being treated in the DFS, LIC and MPF.

Corrective Measures:

- The importance of recording waste feed and operating parameters at least once every 60 seconds, as required by the permit, was emphasized to operating personnel.
- The JACADS programmable logic controller (PLC) was programmed to alarm at the incinerator consoles to alert operators to stop feed in the event communication between the Network Manager and PDAR was lost.
- The incinerator operating procedures were modified to require hazardous waste treatment operations to halt in the event PDAR is lost for greater than 60 seconds.
- Raytheon commenced evaluating options for upgrading the PDAR system.

(i) Loss of BRA PDAR Operating Data (1993 Annual Report, No. C.3., page 17):

Brine feed rate data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) System, was lost for approximately 15.7 hours while brine was being fed to the BRA for treatment.

Corrective Measures:

- The importance of recording brine feed rates on PDAR at least once every 60 seconds, as required by the permit, was emphasized to operating personnel.
- Raytheon commenced evaluating options for upgrading the PDAR system.

(j) Recording of brine feed rates to BRA (1993 Annual Report, No. C.4., page 17):

For 18 days during the first portion of 1993, brine flow rates to the BRA were recorded manually from a totalizer due to failure of a transmission card for sending the data to the PLC for recording on the JACADS Process Data Acquisition and Recording (PDAR) system.

Corrective Measures:

- Hourly brine flow rate readings were manually taken during this time.

(k) Loss of BRA Triboflow Charts (1993 Annual Report, No. C.5., page 18):

Triboflow charts, for recording particulate break through across the BRA baghouse filters, were lost for the first ten weeks of 1993.

Corrective Measures:

- The loss of the triboflow charts was recorded in the JACADS Operating Record.
- JACADS Program Procedure (PP-19) was developed to specify record custody responsibilities.

(l) Loss of Incinerator PDAR Operating Data (1994 Annual Report, No. C.1., page 9):

Incinerator operating data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) system, was lost for a total of approximately 8.5 hours while hazardous waste was being treated in the DFS and LIC.

Corrective Measures:

- The importance of recording waste feed and operating parameters at least once every 60 seconds, as required by the permit, was emphasized to operating personnel.
- The JACADS Programmable Logic Controller (PLC) was programmed to alarm the incinerator consoles to alert operators to stop feed in the event data is not being recorded on the PDAR hard disk system.
- The PLC was programmed to automatically stop feed to the incinerators if communication between the Network Manager and PDAR is lost for greater than 60 seconds.
- Raytheon procured and commenced installing/testing an upgraded PDAR system.

(m) Loss of BRA PDAR Operating Data (1994 Annual Report, No. C.2., page 12):

Brine feed rate data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) System, was lost for approximately 16 hours while brine was being fed to BRA for treatment.

Corrective Measures:

- The importance of recording brine feed rates on PDAR at least once every 60 seconds, as required by the permit, was emphasized to operating personnel.
- Raytheon automation engineers were notified not to download programs onto the Network Manager unless the shift superintendent was informed to ensure no processing operations were occurring.
- Raytheon procured and commenced installing/testing an upgraded PDAR system.
- The procedure for obtaining trend reports was revised.
- The PLC was programmed to have PDAR collect data for 15 minutes after brine feed rates to the BRA dropped below 15 gallons per hour.

(n) Loss of BRA PDAR Operating Data (1995 Annual Report, No. 3.D., page 11):

Brine feed rate data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) system, was lost for approximately 2 minutes while brine was being fed to BRA for treatment.

Corrective Measures:

- Management issued a memorandum to the control room operators instructing them to document any loss of PDAR and to print trend reports whenever a loss occurs, regardless of the duration of the PDAR outage.

(o) Incomplete RCRA Operating Records (1995 Annual Report, No. 9.D., page 29):

Information required by 40 CFR 264.73 for waste management units was either not recorded or was not being recorded consistently.

Corrective Measures:

- Revised waste feed logs for the MPF and LIC systems were developed and incorporated into their operating procedures.
- A revised Daily Munitions Accountability Worksheet was developed and implemented for the Unpack Area (UPA).
- Guidance was developed and provided to Operations on preparation of daily tank level reports for the various hazardous waste tank systems.
- Pre-printed information and data entry fields were added to the incinerator waste feed logs and the Daily Munitions Accountability Worksheet to facilitate compliance with the recording requirements of 40 CFR 264.73.
- Daily tank level reports were modified to include required operating data and the BRA operating procedure was revised to require the recording of wastes manually added to the BRA transfer tank.

(p) Missing Facility Inspection Records (1996 Annual Report, No. 1.A., page 1):

Three daily inspection records for recording the MDB zone pressure gauges in May 1996 were lost.

Corrective Measures:
- The missing records were supplemented with zone pressure data recorded on PDAR and placed in the JACADS Operating Record.

(q) Incomplete Facility Inspection Records (1996 Annual Report, No. 1.E., page 4):

Several facility inspection records, performed by Operations, were deficient due to either incomplete inspections, improperly recorded work orders, work orders not being prioritized for completion, or inconsistent inspections.

Corrective Measures:
- Operations self-audited its inspection program on a weekly basis to ensure the records were being completed and documented properly.
- The inspection program was revised to ensure the proper tracking of corrective action work orders.
- The Raytheon Training revised/developed inspection material for incorporation in the various system courses.

(r) Loss of Incinerator PDAR Operating Data (1996 Annual Report, No. 2.C., page 8):

Incinerator operating data, recorded on the JACADS Process Data Acquisition and Recording (PDAR) system, was lost for a total of approximately two hours while hazardous waste was being treated in the DFS and LIC.

Corrective Measures:
- The JACADS Programmable Logic Controller (PLC) was programmed to automatically save data once every 50 seconds if a PDAR failure is detected.
- Raytheon automation engineers were notified that the PDAR system must be checked after installation or upgrading of system software occurs and prior to the treatment of hazardous waste.

(s) Loss of Brine Feed Rate Data to the BRA (1996 Annual Report, No. 2.G., page 14):

Brine feed rate data to the BRA was lost for approximately eight hours in August 1996 due to a flow meter not being reconnected properly after maintenance.

Corrective Measures:

- The flow meter was reconnected properly.
- The BRA operating procedure was revised to require manual recording of the brine feed rate totalizer every four hours.

Monitoring Violations

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Item 9: **Monitoring Noncompliances**

A summary and evaluation of the corrective measures implemented at JACADS to prevent noncompliances related to monitoring violation incidents are provided in this section. Proposed corrective measures to prevent similar occurrences at UMCDF are addressed at the end of this section. In support of the summary and evaluation, a listing of Attachment I annual noncompliance report incidents pertaining to this NOD item is provided in Addendum C of this submittal. Addendum C lists each incident in the noncompliance reports pertaining to NOD Item 9, in the order it is listed in the NOD, with specific reference to the annual report, incident number in the report and the page where the incident is described in the Attachment I reports. Please note that corrective measures regarding 1992 incidents when the DFS, MPF and LIC I.D. fan ACAMS were not interlocked to the automatic waste feed cut off (AWFCO) system are summarized in the response to NOD Item 1, Continuation of Processing with Facility in an Upset Condition of this submittal. The response to NOD Item 1 also addresses incidents when the AWFCO system was "jumped".

Summary and Evaluation of Corrective Measures

The corrective measures implemented to resolve this NOD item primarily pertain to physical facility changes, programming changes and procedural changes. The major corrective measure involved the installation of backup monitors as an integral part of the O_2 and CO continuous emission monitor systems on the furnace systems and backup ACAMS for monitoring agent at the BRA stack.

To properly evaluate the corrective measures that were implemented, the events have been divided into two categories; (1) Continuous Emission Monitor System (CEMS) violations and (2) ACAMS violations.

CEMS Violations

The types of violations documented are assessed for two periods: violations prior to and after the installation of backup monitors. Prior to the summer of 1994, each furnace system was equipped with a single set of oxygen and carbon monoxide emission monitors in the afterburner exhaust. During the summer of 1994, backup CEMS monitors were installed to allow continuous treatment of hazardous waste in the incinerators. With a single set of monitors on each furnace system, hazardous waste feed had to be halted to conduct daily calibrations and to perform maintenance on the units. The installation of the CEMS backup units increased furnace system availability to treat hazardous waste.

In the first half of 1994, there were two CEMS monitoring violations pertaining to the blowback purge cycle on the units. The violations were attributed to inadvertent adjustment of the blowback purge frequency knob. Corrective measures included the taping of the knob adjuster to a fixed frequency. This corrective measure has been effective since there have been no similar types of violations since 1994.

The third CEMS monitoring violation that occurred during the first portion of 1994 pertained to the online monitors being out of service for an extended period of time while processing hazardous waste in the DFS. This error was attributed to the technician inadvertently switching the unit toggle switch from the calibration mode to the operate mode. Additionally, the control room operator did not notice that the CEMS unit was out of service for the extended period of time. The main corrective measure implemented was a procedural change to require the laboratory technician to wait approximately five minutes after the CEMS is placed online to get confirmation from the control room. This corrective measure was effective since there were no similar violations prior to the installation of the backup monitoring units.

After the installation of the backup monitors in the summer of 1994, a myriad of unexpected monitoring violations occurred. These violations were attributed to a lack of adequate systemization and "shakedown" of the modified systems. The violations mainly pertained to the treatment of hazardous waste in the furnace system while the CEMS were being calibrated or otherwise repaired. In January 1996, furnace-programming changes were implemented to allow the CEMS unit to signal the Programmable Logic Controller when they were in the "blowback" purge mode and in the "calibrate" mode. The control room advisor screens were modified to indicate the "on-line" CEMS with a green border and the "backup" monitor with a magenta border. The monitors flash "green" readings on their advisor screens when they are in the "blowback" mode and "red" readings on their advisor screens when they are in the "calibrate" mode. The PLC was also programmed to prevent the control room operator from selecting a CEMS unit as the monitor of record if it is in the "calibrate" mode. If the monitor of record is locally placed in the "calibrate" mode, an automatic waste feed cutoff will occur. These corrective measures have proved to be effective and there have been no similar violations since the implementation of the programming changes.

The Training Department also revised system training courses to address the CEMS monitoring violations that occurred in 1994. As a result of Item 9 – Incidents (a), (b), (c), (d), and (e) of Addendum C, the CEMS material in the incinerators and their associated PAS courses were expanded. The revised material provided more detailed explanation and included graphic O_2 and CO analyses for each incinerator system. Beginning in 1995, as part of the new Self-Paced Operators Training Course, all operators received training in combustion fundamentals and basic furnace operations.

ACAMS Violations

The 1992 ACAMS monitoring violation that occurred in the BRA was attributed to a lack of adequate procedures to ensure that brine treatment did not occur prior to verifying that there was no detectable agent in the brine. The RCRA permit prohibited brine treatment in the BRA unless the ACAMS on the stack was operational or a chemical analysis of the brine batch being treated verified that the agent concentration was less than Army drinking water levels (DWLs). The BRA operating procedure was revised to require an analysis for agent be completed for each batch of brines scheduled for processing prior to treatment in the BRA. Also, the BRA training course was revised to more fully address the need for agent monitoring and familiarize operators with instrument readings. These corrective measures were effective until early in 1997.

In early 1997, there were two incidents that resulted in ACAMS monitoring violations. These incidents were not reported in the Attachment I of the Class 3 permit modification request, since they only recently occurred. Both incidents pertained to occasions when the batch of brine to be treated was sampled and analyzed to demonstrate that the agent concentrations were less than Army DWLs. Prior to treatment of the brine in the BRA, the stack ACAMS was operational. However, during the evaporation and/or drying of brine from the tank that was sampled, additional liquid was added to the tank which nullified the sample that had been previously analyzed. Subsequently, the ACAMS was taken out of service to conduct the daily calibration. During the period that the ACAMS was off line, there was no representative sample and analysis of the brine being treated to verify the absence of agent. To prevent recurrence of these violations, JACADS installed a backup ACAMS monitor to assure that the stack is continuously monitored during the treatment of brine. The backup monitor is placed on-line when calibration or maintenance activities occur on the primary monitor. The BRA operating procedure was also revised to clarify the necessity for maintaining an ACAMS on-line continuously and also for collecting and analyzing a sample of each batch of brine prior to treatment of the brine. To date this corrective measure has been effective.

Proposed Corrective Measures to be Implemented at UMCDF

To prevent similar monitoring violations from occurring at UMCDF, the following measures will be implemented at UMCDF:

- System courses given by the Training Department will address both the CEMS and ACAMS monitoring requirements specified in the UMCDF Hazardous Waste Permit
- Monitoring requirements specified in the UMCDF Hazardous Waste Permit will be reviewed and program changes to the furnace systems, as well as the Brine Reduction Area, will be made as necessary to preclude similar types of events
- Procedures for monitoring and maintaining the continuous emission monitors (both ACAMS and CEMS) will be reviewed to ensure that corrective measures presented above are implemented, if applicable
- The Environmental Department will give periodic presentations to Operations and the Laboratory personnel concerning permit requirements for monitoring and maintaining the continuous emission monitors (both ACAMS and CEMS)
- The use of a back-up ACAMS at the BRA stack will be evaluated as a method for assuring continuous agent monitoring of the BRA exhaust gas during brine treatment

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Addendum C

This addendum provides a listing of the noncompliance incidents reported in Attachment I of the Class 3 Permit Modification Request submitted to DEQ on 28 March 1997 pertaining to Item 9.

Item 9: Monitoring Noncompliances

(a) Afterburner Exhaust O_2 and CO Monitoring Incident on 5 January 1994 (1994 Annual Report, No. D.2., page 18):

During nine hours and six minutes of GB treatment, the LIC afterburner exhaust carbon monoxide (CO) and oxygen (O_2) continuous emission monitors (CEMS) operated while in an air purge mode for a duration of approximately 5 minutes every 9 to10 minutes. During this period, the CEMS did not monitor the afterburner exhaust for approximately 50% of the time. This event was attributed to the CEMS operator inadvertently hitting the air purge frequency adjustment control on the monitoring system.

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel that the furnace exhaust must be monitored continuously for O_2 and CO during processing operations.
- The knob, which adjusts the air purge frequency for the CEMS, was taped over to prevent the control from being inadvertently adjusted.

(b) Afterburner Exhaust O_2 and CO Monitoring Incident on 3 February 1994 (1994 Annual Report, No. D.2., page 18):

During the processing of M55 GB rockets, the DFS afterburner exhaust was not monitored for O_2 and CO from 0337 hours to 1346 hours (10 hours and 9 minutes).

Corrective Measures:

- Operations and the Laboratory were advised that the afterburner exhaust must be monitored continuously for O_2 and CO during processing operations; also, it was advised that closer observation of RCRA operating parameters be maintained while processing.
- A request for Engineering assistance was initiated to have a different colored icon on the control room advisor screen when the unit is in the automatic "blowback" air purge cycle or when it is off-line for preventive maintenance.
- The procedures for placing the CEMS on-line were modified to require the CEMS operator to wait five minutes after placing the CEMS on-line before calling the Control Room.

(c) Afterburner Exhaust O_2 and CO Monitoring Incident on 21 July 1994 (1994 Annual Report, No. D.2., page 18):

During the processing of M55 GB rockets, the DFS afterburner exhaust was not monitored for O_2 and CO from 1052 hours to 1923 hours (8 hours and 31 minutes).

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel that the furnace exhaust must be monitored continuously for O_2 and CO during processing operations.

- The knob which adjusts the air purge frequency for the CEMS was taped over to prevent the control from being inadvertently adjusted.

(d) Afterburner Exhaust O_2 and CO Monitoring Incident on 9 August 1994 (1994 Annual Report, No. D.2., page 18):

During SDS processing, the LIC afterburner exhaust was not monitored for O_2 and CO from 1106 hours to 1457 hours (3 hours and 51 minutes). The backup CEMS units were inadvertently placed on-line while the monitors were being repaired.

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel the need to accurately document which set of monitors are on-line.

(e) Afterburner Exhaust O_2 and CO Monitoring Incident on 23 August 1994 (1994 Annual Report, No. D.2., page 18):

During SDS/Agent processing, the LIC afterburner exhaust was not monitored for O_2 and CO from 0349 hours to 0406 hours (17 minutes).

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel the need to accurately document which set of monitors are on-line.

(f) Online Calibration of DFS Afterburner Exhaust O_2 Monitor on 15 March 1995 (1995 Annual Report, No. 2.B., page 4):

During the processing of M55 GB rockets, the DFS afterburner exhaust was not monitored for O_2 and CO from 1353 hours to 1419 hours (26 minutes).

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel that the furnace exhaust must be monitored continuously for O_2 and CO during processing operations.
- Programming changes were made to enable the CEMS to signal the PLC when the units are in a "blowback" purge mode or when they are in a "calibrate" mode.
- The control room advisor screens were programmed to indicate the CEMS in a different color depending on whether the unit is on-line, backup, in a "blowback" mode or in a "calibrate" mode.
- Programming changes were implemented to prevent the control room operator from selecting a CEMS unit which is in the "calibrate" mode and if the on-line monitor is locally placed in the "calibrate" mode an automatic waste feed cutoff and alarm will occur. In addition, two outputs were installed to indicate locally which CEMS has been selected by the control room as the "on-line" monitor.

(g) Online Calibration of DFS Afterburner Exhaust O_2 Monitor on 29 April 1995 (1995 Annual Report, No. 2.B., page 4):

During the processing of M55 GB rockets, the DFS afterburner exhaust was not monitored for O_2 and CO from 0323 hours to 0347 hours (24 minutes).

Corrective Measures:

- It was emphasized to Operations and Laboratory personnel that the furnace exhaust must be monitored continuously for O_2 and CO during processing operations.
- Programming changes were made to enable the CEMS to signal the PLC when the units are in a "blowback" purge mode or when they are in a "calibrate" mode.
- The control room advisor screens were modified to indicate the CEMS in a different color depending on whether the unit is on-line, backup, in a "blowback" mode or in a "calibrate" mode.
- Programming changes were implemented to prevent the control room operator from selecting a CEMS unit which is in the "calibrate" mode, and if the on-line monitor is locally placed in the "calibrate" mode an automatic waste feed cutoff and alarm will occur. In addition, two outputs were installed to indicate locally which CEMS has been selected by the control room as the "on-line" monitor.

(h) ACAMS Monitoring Immediately Downstream of the DFS, MPF and LIC ID Fans (1992 Annual Report, No. F.1., page 21):

During a portion of 1992, the ACAMS monitoring immediately downstream of the DFS, MPF and LIC ID fans were not interlocked to their automatic waste feed cutoff (AWFCO) systems.

The corrective measures for this event are documented under the response to NOD Item 1, Continuation of Processing with Facility in an Upset Condition of this submittal. The response to NOD Item 1 also addresses incidents when the AWFCO system was "jumped" to prevent feed stoppage.

(i) ACAMS Monitoring at the BRA Stack (1992 Annual Report, No. F.2., page 22):

On 27 August 1992 the ACAMS monitoring the BRA stack was not operational for eight (8) hours during the brine processing and an analysis of the batch of brine was not conducted to verify that the brine was agent free.

Corrective Measures:

- Samples were analyzed for the brine salts generated to verify that no agent was detected.
- The BRA SOP was revised to require terminating processing whenever the ACAMs is not monitoring PAS exhaust gas unless a previous chemical analysis of the feed brine was conducted and the brine was verified to be agent free.

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Item 10: **Financial Capability**

This response provides a description of how the project is funded by Congress. The description addresses funding for UMCDF as well as for the entire Chemical Stockpile Disposal Project.

The United States Army and the Raytheon Demilitarization Company (RDC) signed a legally binding contract for construction, systemization, operations, and closure of the Umatilla Chemical Agent Disposal Facility on February 10, 1997. The negotiated cost is $567M. The Umatilla project is expected to last approximately eight years. An Earned Value System is used to monitor schedule/cost performance on the work completed each month. The Earned Value System allows for early detection of deviations from the baseline schedule and/or budget. The purpose of an Earned Value System is to provide information that enables management to determine areas requiring corrective action as well as identify areas of efficiency.

The Chemical Stockpile Disposal Project is a $12.4 billion effort with a performance period extending to the year 2004. Funding and management strategies were established by Congress. Public Law 99-145 directs that funds to destroy the chemical agents and munitions be set forth in the budget of the Department of Defense for any fiscal year as a separate account and not be included in the budget accounts for any military department. However, an exception was granted for the related military construction funds which were budgeted in the Military Construction, Army account until Fiscal Year (FY) 1995. Section 142 of Public Law 103-337 amended Public Law 99-145 which directs that the military construction funds for the chemical disposal facilities be budgeted in the Military Construction Defense-wide account. Funds for each project are identified in the President's Budget and are authorized by Congress each year.

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Item 11: **Technical Capability**

A more detailed description of Raytheon's participation in the Utah USPCI incineration facility, known as the Clive Incineration Facility, is provided in this section. A compliance history summary obtained from the State of Utah Department Of Environmental Quality is also provided in this section. Additionally, a revised Attachment J table, summarizing the compliance history of RDC's supporting companies within Raytheon over the last five years, is provided at the end of this section. The Attachment J table was revised to more fully describe the type of hazardous waste activities at each listed facility, in response to concerns expressed by DEQ at a 10 April 1997 meeting in Hermiston, Oregon.

The Clive Incineration Facility was a commercial hazardous waste incineration facility consisting of a unique combination of two rotary kiln incinerators sharing a common secondary combustion unit and air pollution control train. The air pollution control system incorporated a waste heat recovery boiler consisting of a radiative quench and convective sections, and was followed by a dry scrubber employing lime injection for acid gas removal and metals control, a multi-compartment baghouse, twin wet scrubbing towers, and a 200 foot tall guyed stack. The system was designed to accept and treat a wide variety of solid and liquid wastes and sludges, both of high Btu (energetic) and low Btu value (non-energetic). Thermally, the system was rated at 200,000,000 Btu/hr. and was capable of processing up to 120,000 tons per year of hazardous wastes. In support of the incineration system were a tank farm for storage and blending of waste fuels, sludges and aqueous liquids, bulk solids storage tanks for both energetic and non-energetic wastes, and a container storage and processing facility.

The Raytheon project scope consisted of performing the detailed engineering design, procuring capital equipment, preparation of subcontract packages, and providing consulting engineering support during construction and commissioning of a commercial hazardous waste incineration facility. The support included preparing operating manuals for various systems in the plant and assistance in troubleshooting of the equipment during commissioning and before the introduction of hazardous wastes. Raytheon was not responsible for either construction or operations.

The detailed design was developed from a preliminary design package and equipment specifications which were incorporated into the RCRA Part B permit issued by the Utah Department of Environmental Quality, Division of solid and Hazardous Waste (UDEQ-DSHW) on November 1,1991. The facility was subject to regulation under the Toxic Substances Control Act by the Air, Radiation and Toxics Division of EPA Region III, Denver; the Hazardous and Solid Waste Amendments Act by the Hazardous Waste Management Division of EPA Region VIII, Denver; the Resource Conservation and Recovery Act by the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste, Salt Lake City, Utah; the Clean Air Act by the Utah Department of Environmental Quality, Division of Air Quality, Salt Lake City, Utah; and various local permitting authorities.

Raytheon monitored compliance throughout the entire design phase. Design compliance with EPA and Utah State regulations was essential. The facility was subjected to a rigorous pre-operational evaluation by personnel from the UDEQ-DSHW to assure that the facility design and construction were in conformance with permit requirements before permission was granted to commence operations. The attached compliance history summary for the Clive facility was obtained, on 21 May 1997, from the State of Utah Department of Environmental Quality. This history has been reviewed, and it is evidence that there have been no citations due to or related to Raytheon activities. During the construction and pre-operational phase of the project, USPCI was issued a NOV by the UDEQ-DSHW for the improper management of waste generated

during construction. Raytheon was not responsible for waste management at Clive during that or any other time. Raytheon was not involved in the Clive Project after 1993.

The facility was owned and operated by USPCI, Inc., a wholly owned subsidiary of Union Pacific Corporation.

Item 13: **Liability Requirements**

This section responds to the liability concerns identified by the DEQ in Item 13 of the Notice of Deficiency. The concerns are addressed in this section by repeating each DEQ concern followed by a response.

- Concern: Although liability financial assurance does not directly apply to the U.S. Army at UMCDF, a description of when Raytheon (a private entity) will be considered liable under RCRA is warranted.

  Response: Liability under RCRA - 42 USC §6901 et. seq. RCRA allows the Federal Government to issue an order to institute an action to impose criminal penalties under 42 USC §6928 for any violation of the RCRA statute. In addition, the Government may commence a civil action in the U.S. District Court in the district where a violation occurs and seek appropriate relief, including a temporary restraining order under §6972.

  Therefore, Raytheon would have RCRA liability when it is determined by a tribunal of competent jurisdiction that Raytheon had violated the provisions of 42 USC §6902 et. seq.

- Concern: A specific discussion of RDC liability per the permit, and per the contract between Raytheon and the U.S. Army were not included (sic).

  Response: RCRA imposes criminal liability on a permit-holder who commits a knowing violation of any material condition or requirement of such permit and imposes civil liability for other than "knowing" violations. Also see response number 3.

- Concern: RDC's liability that addresses, but not limited to (sic), construction, operation, and storage activities were not discussed (sic).

  Response: RDC's contract with the Army contains the following relevant provisions:

  (1) FAR Clause 52.250-1 Indemnity under Public Law 85-804.
  When the indemnity is issued under Public Law 85-804 (see response no. 5, below) the contract will be amended. Thus, the Government indemnifies Contractor against claims by third persons, damage to Contractor property, and damage to Government property for unusually hazardous risks not compensated by insurance but not for Contractor property and Government property caused by willful misconduct or lack of good faith by the principal manager of Contractor.

  (2) FAR Clause 52.228-7 Insurance - Liability to Third Persons
  Contractor must maintain specified insurance and will be reimbursed for liabilities to third persons not compensated by insurance, except for willful misconduct or lack of good faith by the principal manager.

  (3) FAR Clause 52.246-25 Limits of Liability - Services
  Contractor is not liable for damage to Government property after acceptance which results from defects or deficiencies in services, except for willful misconduct or lack of good faith by principal manager.

  (4) FAR Clause 52.246-24 Limits of Liability - High Value Items
  Contractor not liable for damage to property of the Government after acceptance, which results from defects or deficiencies in the supplies, except:

a) if it results from willful misconduct or lack of good faith by primary manager of Contractor; or

b) the liability is insured by Contractor.

(5) FAR Clause 52.245-2 Government Property - Firm Fixed Price
Contractor is responsible for Government Furnished Property until acceptance by Government.

(6) FAR Clause 52.245-5 Government Property - Cost-reimbursable
Contractor is not responsible for damage except to the extent of insurance coverage or if damage results from misconduct or lack of good faith by principal manager.

RDC's liability for construction, storage and operation is set forth in the contract and established by the applicable laws, rules and regulations applicable to its conduct.

- Concern: A description of third-party cost recovery per the liability assurance were not provided (sic).

  Response: For those instances involving bodily injury or property damage of third parties which are caused by the negligence or other legal fault of Raytheon, Raytheon has put in place the following procedure:

  (1) All incidents due to Raytheon negligence or other legal fault should be immediately reported to Raytheon's designated point of contact, Manager of Contracts, who is located at Raytheon Demilitarization Company, 78068 Ordnance Road, Hermiston, Oregon 97838, and whose phone number is (541) 564-8550.

  (2) The Manager of Contracts will notify Raytheon's insurance department, legal department and insurance broker of the incident.

  (3) A formal claim form will be submitted to the broker for transmittal to the insurance carrier.

  (4) The incident will be investigated by Raytheon and its insurance carrier and, if valid, will be paid in accordance with the procedures promulgated by the carrier and the terms of the policy which apply.

- Concern: Also pursuant to the statute, the Department requests Raytheon to provide additional documentation that supports their liability coverage in excess of the regulation.

  Response: RDC has requested indemnification from the U.S. Government for liability for claims for personal injury, death and property damage resulting from the unusually hazardous risk of operations of the Umatilla Chemical Agent Disposal Facility. The indemnification, which is authorized under Public Law 85-804, is expected presently by RDC from the Secretary of the Army and will be incorporated into Contract DAAA 09-97-C-0025. The indemnification applies in the absence of and after exhaustion of RDC's insurance coverages.

  Raytheon Demilitarization Company is insured under the following insurance policies that are applicable to the operation of the Umatilla Chemical Agent Disposal Facility.

(1) Comprehensive General Liability (CGL) Insurance

a) Policy Specifics:

Insurer:	National Union Fire Insurance Company of Pittsburgh, PA
Policy No.:	03197097
Expiration:	June 1, 1998
Form:	Occurrence

b) This is a CGL insurance policy which will pay all sums that the insured becomes legally obligated to pay as damages because of personal injury or property damage, to which this insurance applies, caused by an occurrence. Coverage includes the following hazards: Premises and Operations Liability; Contractual Liability; Products and Completed Operations Liability.

c) The policy has a $5,000,000 per occurrence limit. The policy has an aggregate claim limit of $15,000,000 for claims resulting from products or completed operations and a $5,000,000 aggregate for Advertising Liability and a $5,000,000 aggregate for Publisher's Liability.

d) There is one pertinent exclusion in the CGL policy for unusually hazardous risks:

The policy covers damage from pollution where the pollution is caused by hostile fire. Otherwise, the policy excludes bodily injury or property damage arising out of the actual, alleged or threatened discharge, dispersal, release or escape of pollutants at or from any site or location used by or for the named insured or others for the handling, storage, disposal, processing or treatment of waste.

(2) Umbrella Liability Insurance

a) Policy Specifics:

Insurer:	National Union Fire Insurance Company of Pittsburgh, PA
Policy No.:	BE 9325655
Expiration:	June 1, 1998
Form:	Occurrence

b) This is an Umbrella insurance policy which will pay all sums that the insured becomes legally obligated to pay as damages because of personal injury or property damage to which this insurance applies caused by an occurrence.

c) The policy has a $25,000,000 per occurrence limit. The policy has an aggregate claim limit of $50,000,000 for product liability/completed operations claims during the policy period.

d) There is no deductible applicable to claims covered by scheduled underlying insurance. For claims not covered by scheduled underlying insurance the policy provides for a $5,000,000 self-insured retention.

e) There is one pertinent exclusion in the Umbrella policy for unusually hazardous risks.

Any personal injury or property damage arising out of the actual, alleged or threatened discharge, dispersal, or escape of pollutants and any loss, cost or expense arising out of any governmental directive, order or request that you test for, monitor, clean up, remove, contain, treat, detoxify or neutralize pollutants.

- One exception to this exclusion is if the release was caused by the following specified causes: fire, explosion, lightning, windstorm, vandalism or malicious mischief, collapse, riot, civil commotion, flood, earthquake, collision or upset of a vehicle, mobile equipment or aircraft, watercraft, rail car or railroad equipment sprinkler leakage or mechanical breakdown or personal injury or property damage which is within the Product Hazard or the Completed Operations Hazard.

- A second exception is if the release was sudden and accidental and if the insured becomes aware of the release within seven days of the commencement thereof and notifies the insurance company in writing within 90 days of becoming aware.

3) Umbrella Liability Insurance

a) Policy Specifics:

Insurer:	Gerling Kongern General Insurance Company, U.K. Branch
Policy No.:	XT9700118
Expiration:	June 1, 1998
Form:	Occurrence

b) This is a following-form Excess Liability insurance policy.

c) The policy provides $45,000,000 of liability insurance coverage, in excess of the insurance coverage detailed under (2) above.

d) The policy provides that since it is an excess policy, no deductible is applicable. Losses not insured by underlying insurance are subject to a self-insured retention equal to the insurance limits provided by underlying insurance and any deductibles.

4) Architects and Engineers Professional Liability and Contractors Pollution Policy

a) Policy Specifics:

Insurer:	Lexington Insurance Company
Policy No.:	5635161
Expiration:	June 1, 1998
Form:	Claims Made

b) This policy has two insuring agreements:

The first agreement covers primary errors and omissions insurance for liability arising out of the professional services of the insured. This coverage for negligent professional services has pollution coverage for the design of projects and systems if the negligent act, error or omission was committed.

The second agreement covers the pollution risks associated with construction operations performed by the insured. The insurance company agrees to pay on behalf of the insured all sums that the insured becomes legally obligated to pay as damages because of bodily injury or property damage, including clean up costs, as a result of pollution conditions resulting from the insured's construction operations.

c) The policy which includes both insuring agreements has a $20,000,000 per claim limit and an annual aggregate limit of $20,000,000. Each claim is subject to a $5,000,000 self-insured retention. The policy has an aggregate deductible of $10,000,000; subsequent claims are subject to a $1,000,000 maintenance deductible per claim.

d) The coverage for Contractors Pollution Liability contains two pertinent exclusions:

Pollution conditions claims based upon or arising out of pollution at, onto or from property or facilities which are or were at any time owned, rented, occupied or operated by the insured.

Claims arising from any waste or any other products or materials transported, consigned, shipped, or delivered via motor vehicle, aircraft, watercraft, rolling stock, or mobile equipment to a location beyond the boundaries of the site at which the insured is performing covered operations.

(5) Architects and Engineers Professional Liability and Contractors Pollution Policy

a) Policy Specifics:

Insurer:	Reliance Insurance Company of Illinois
Policy No.:	NTE172146601
Expiration:	June 1, 1998
Form:	Claims Made

b) This is a following-form Excess Liability Insurance policy.

c) The policy provides a $40,000,000 per claim and $40,000,000 aggregate limit in excess of the insurance coverage detailed under "d" above.

(6) Architects and Engineers Professional Liability and Contractors Pollution Policy

a) Policy Specifics:

Insurer:	Zurich Re UK Ltd.
Policy No.:	QA9700048
Expiration:	June 1, 1998
Form:	Claims Made

b) This is a following-form policy.

c) This policy provides a $10,000,000 per claim and $10,000,000 aggregate limit.

(7) First Catastrophic Excess Liability Insurance

a) Policy Specifics:
Insurer: X.L. Insurance Co., Ltd.
Policy No.: XLUMB 00374
Expiration: June 1, 1998
Form: Claims Made

b) The policy has a $75,000,000 per occurrence limit. The policy has an annual aggregate limit of $75,000,000.

c) The policy has a minimum per-occurrence retention amount of $25,000,000. It provides coverage only after any insurance coverage limits provided under policies described in (1) through (6) are exhausted.

d) The policy excludes coverage for pollution claims unless caused by an occurrence constituting an unexpected and unintended discharge, dispersal, release or escape of pollutants, and only if the insured becomes aware of the discharge within seven (7) days of the commencement thereof and notifies the insurance company in writing within forty (40) days of the commencement of the discharge.

(8) Second Catastrophic Excess Liability Insurance

a) Policy Specifics:
Insurer: ACE Insurance Company (Bermuda) Ltd.
Policy No.: RTN5025/4
Expiration: June 1, 1998
Form: Claims Made

b) The policy has a $200,000,000 per occurrence limit. The policy has an annual aggregate limit of $200,000,000.

c) The policy has a minimum per-occurrence retention amount of $100,000,000. It provides coverage only after any insurance coverage limits provided under policies described in (1) through (7) are exhausted.

d) The policy excludes coverage for pollution claims unless caused by an occurrence constituting an unexpected and unintended discharge, dispersal, release or escape of pollutants, and only if the insured becomes aware of the discharge within seven (7) days of the commencement thereof and notifies the insurance company in writing within forty (40) days of the commencement of the discharge.

e) The policy excludes coverage for pollution claims on the same terms as described for the First Catastrophic Excess Liability Insurance above.

f) The policy also excludes claims arising out of the manufacture, distribution, installation, utilization or exposure to asbestos fibers, 2, 4, 5

trichlorophenoxyacetic acid (2,4,5-T), asbestiform talc or diethylstabesterol (DES).

- Concern: Permittee and Applicant shall provide a written description discussing operational and compliance with the permit duties, and when such duties will be enacted. The Permittee and Applicant shall also provide a more detailed description of the liability to be provided in accordance with the ORS 466.105(5), 40 CFR 264.147, UMCDF permit condition II.M and Public Law 85-804.

  Response: A. For a description of operations and compliance with the permit duties, refer to the response to Notice of Deficiency Item 12, above. B. For a description of liability under Oregon statutes, federal law, and permit condition II.M, see the foregoing responses to this item.

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ORS 466.055 and ORS 466.060

newing the permit for a treatment, storage or disposal facility. [1985 c.670 §11; 1987 c.540 §17]

466.050 Citizen advisory committees. (1) To aid and advise the director and the commission in the selection of a hazardous waste or PCB treatment or disposal facility or the site of such facility, the director shall establish citizen advisory committees as the director considers necessary. The director shall determine the representation, membership, terms and organization of the committees and shall appoint their members. The director or a designee shall be a nonvoting member of each committee.

(2) The advisory committees appointed under subsection (1) of this section shall review applications during an application period established under ORS 466.040 and make recommendations on the applications to the commission. [1985 c.670 §12]

466.055 Criteria for new facility. Before issuing a permit for a new facility designed to dispose of or treat hazardous waste or PCB, the commission must find, on the basis of information submitted by the applicant, the department or any other interested party, that the proposed facility meets the following criteria:

(1) The proposed facility location:

(a) Is suitable for the type and amount of hazardous waste or PCB intended for treatment or disposal at the facility;

(b) Provides the maximum protection possible to the public health and safety and environment of Oregon from release of the hazardous waste or PCB stored, treated or disposed of at the facility; and

(c) Is situated sufficient distance from urban growth boundaries, as defined in ORS 197.295, to protect the public health and safety, accessible by transportation routes that minimize the threat to the public health and safety and to the environment and sufficient distance from parks, wilderness and recreation areas to prevent adverse impacts on the public use and enjoyment of those areas.

(2) Subject to any applicable standards adopted under ORS 466.035, the design of the proposed facility:

(a) Allows for treatment or disposal of the range of hazardous waste or PCB as required by the commission; and

(b) Significantly adds to:

(A) The range of hazardous waste or PCB handled at a treatment or disposal facility currently permitted under ORS 466.005 to 466.385; or

(B) The type of technology employed at a treatment or disposal facility currently permitted under ORS 466.005 to 466.385.

(3) The proposed facility uses the best available technology for treating or disposing of hazardous waste or PCB as determined by the department or the United States Environmental Protection Agency.

(4) The need for the facility is demonstrated by:

(a) Lack of adequate current treatment or disposal capacity in Oregon, Washington, Idaho and Alaska to handle hazardous waste or PCB generated by Oregon companies;

(b) A finding that operation of the proposed facility would result in a higher level of protection of the public health and safety or environment; or

(c) Significantly lower treatment or disposal costs to Oregon companies.

(5) The proposed hazardous waste or PCB treatment or disposal facility has no major adverse effect on either:

(a) Public health and safety; or

(b) Environment of adjacent lands. [1985 c.670 §5; 1987 c.540 §18; 1989 c.833 §96]

466.060 Criteria to be met by owner and operator before issuance of permit. (1) Before issuing a permit for a facility designed to treat or dispose of hazardous waste or PCB, the permit applicant must demonstrate, and the commission must find, that the owner and operator meet the following criteria:

(a) The owner, any parent company of the owner and the operator have adequate financial and technical capability to properly construct and operate the facility; and

(b) The compliance history of the owner including any parent company of the owner and the operator in owning and operating other similar facilities, if any, indicates an ability and willingness to operate the proposed facility in compliance with the provisions of ORS 466.005 to 466.385 and 466.890 or any condition imposed on the permittee by the commission.

(2) If requested by the permit applicant, information submitted as confidential under subsection (1)(a) of this section shall be maintained confidential and exempt from public disclosure to the extent provided by Oregon law. [1985 c.670 §7; 1987 c.540 §19; 1989 c.833 §97]

466.065 Applicant for renewal to comply with ORS 466.055. As a condition to the issuance of a renewal permit under ORS 466.005 to 466.385 and 466.890, the commission may require the applicant to comply with all or some of the criteria set forth in ORS 466.055. [1985 c.670 §6; 1987 c.540 §20]