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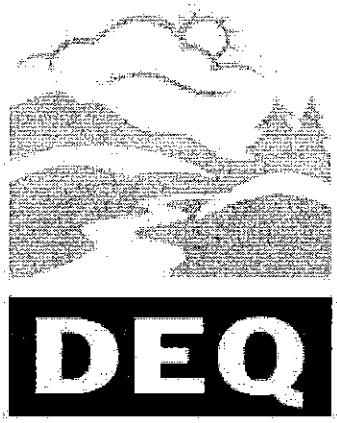
6/29/1973

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS



State of Oregon
Department of
Environmental
Quality

BAM.P

AGENDA

Environmental Quality Commission Meeting
June 29, 1973
Public Service Bldg., Second Floor Auditorium
920 S.W. 6th Avenue, Portland

8:30 a.m.

A. Minutes of May 29, 1973 EQC Meeting (Chairman)

B. Project Plans for May 1973 (Weathersbee)

C. Election of Vice Chairman (Chairman)

D. Oregon CUP Award Screening Committee (Seymour)

E. Parking Facilities (Downs)

a) Washington Square Shopping Center, Progress
b) ~~Valley River Center, Eugene~~

F. Tax Credits (Skirvin)

9:00 a.m.

G. Columbia Willamette Air Pollution Authority (Director)

10:00 a.m.

H. PUBLIC HEARING to consider adoption of amendments to Oregon Administrative Rules, Chapter 340, Sections 25-255 through 25-290, PRIMARY ALUMINUM PLANTS (Skirvin)

I. Amendments to OAR 340, Division 4, Subdivision 1 (Sawyer)

ATTENDANCE LIST

Date: June 29, 1973

Environmental Quality Commission Meeting

Location: Public Service Building, Portland, Oregon

NAME	REPRESENTING
[illegible]	EPA/Oregon
[illegible] Rowles	Mogul Corp. Portland
Bill Hall	Weyerhaeuser Co.
[illegible]	Coalition [illegible]
[illegible]	Martin Marietta [illegible]
[illegible]	[illegible]
[illegible]	Tri County [illegible]
JOHN T SULLIVAN	CLATSOP ENVIRONMENTAL COUNCIL
Warren S Peterson	Martin Marietta Aluminum Inc
Joseph L. Byrne	Martin Marietta Aluminum
RAYMOND KOOTH	"
Allan Hart	Counsel, Reynolds Metals Co
Mar Seton	Waldemar Seton Co
George Lockhart	
[illegible]	Clatsop [illegible] Council
[illegible]	AMAX
Jerry L. Harper	Weyerhaeuser Co., Tacoma
Chas [illegible]	
Harry Scott [illegible] Archts	Nelson/Walla & Dolle
Robert T. Bryant	GRESHAM AREA C of C

ATTENDANCE LIST

Date: June 29, 1973

Environmental Quality Commission Meeting

Location: Public Service Building, Portland, Oregon

NAME	REPRESENTING
Anne W. Nash	League of Women Voters Astoria-Clatsop

ATTENDANCE LIST

Date: June 29, 1973

Public Hearing for: Primary Aluminum Plant Regulations

Location: Public Services Building, Portland, Oregon

NAME	REPRESENTING
Nancy Stevens	Ch, Coalition For Clean Air
Mal Seton	Waldeman Seton Co
James C. Gilliland	AMAX
[illegible]	Amax
Louis Verdon	AMAX
[illegible]	[illegible]
[illegible] Company	AMAX
W. H. Gregory	W H. Gregory Company
[illegible]	Reynolds Metals
Bill Bradley	Reynolds Metals Co.
Jim Carter	Gresham Chamber of Commerce
[illegible]	Reynolds metals
[illegible]	Gresham Transfer Inc.
Jim Jones	Fish Commission
Walter E. Lewis	U.S. Bureau of Mines
[illegible]	Reynolds Metals - Troutdale
Tom Bowers	Reynolds Metals
[illegible]	Reynolds Metals Co.
[illegible]	Press Historian
John T Sullivan	Clatsop Environmental Council

ATTENDANCE LIST

Date: June 29, 1973

Public Hearing for: Primary Aluminum Plant Regulations

Location: Public Services Building, Portland, Oregon

NAME	REPRESENTING
[illegible]	Clatsop Environmental Council
[illegible]	Mont State Dept Health
John C [illegible]	Martin Mari. Alum
Robert [illegible] Woodward, Sr.	Wood Village - Councilman
Dan Ten Eyck	Reynolds Metals Co.
C. A. [illegible]	Reynolds Metals Co.
[illegible] Kuchinsum	DEQ
LARS RYSSDAL	MARTIN MARIETTA AL.
[illegible]	PUBLISHERS PAPER CO
[illegible]	Reynolds Metals
D. C. McCune	Reynolds Metals
John L. Doyle	Reynolds Metals Company
[illegible]	citizen
C. D. Alexander	Reynolds Metals Co
W. K. Myers	Wasco Co. Fruit & Produce League
Joseph Schulein	S.H.
[illegible]	Wasco County Fruit & Prod. League
[illegible] Shenkel	" " " "
[illegible] Gordon	EDF & Clatsop Envion. Com
T. J. Facteau	Oregon State Univ.

ATTENDANCE LIST

Date: June 29, 1973

Public Hearing for: Primary Aluminum Plant Regulations

Location: Public Services Building, Portland, Oregon

NAME	REPRESENTING
Edward Weiss	Citizen

MINUTES OF THE FORTY-SIXTH MEETING
of the
Oregon Environmental Quality Commission
May 29, 1973

The forty-sixth meeting of the Oregon Environmental Quality Commission was called to order by the Chairman at 9:00 a.m. on Tuesday, May 29, 1973 in the Second Floor Auditorium, Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. Commission members present included B.A. McPhillips, Chairman, Paul E. Bragdon, Dr. Morris K. Crothers and Dr. Grace S. Phinney. Arnold M. Cogan was unable to attend because of other commitments.

Participating staff members were Diarmuid F. O'Scannlain, Director; E.J. Weathersbee and K.H. Spies, Deputy Directors; Harold M. Patterson, Harold L. Sawyer and E.A. Schmidt, Division Administrators; Harold H. Burkitt and M.J. Downs, Air Quality Control Engineers; C. Kent Ashbaker, Water Quality Control Engineer; P.H. Wicks, Environmentally Hazardous Wastes Engineer; L.D. Brannock, Meteorologist; and Ray P. Underwood and Rob Haskins, Legal Counsel.

MINUTES OF APRIL 30, 1973 COMMISSION MEETING

It was MOVED by Dr. Crothers, seconded by Mr. Bragdon and carried that the minutes of the forty-fifth meeting of the Commission held in Salem on Monday April 30, 1973 be approved as prepared and distributed.

PROJECT PLANS FOR APRIL 1973

It was MOVED by Dr. Phinney, seconded by Dr. Crothers and carried that the actions taken by the Department during the month of April 1973 as reported by Mr. Weathersbee regarding the following 61 domestic sewerage, 15 industrial waste, 15 air quality control, and 5 solid waste management projects be approved:

Water Quality Control

Date	Location	Project	Action
Municipal Projects (61)			
4-3-73	Eastside	E. Jane Kegel sewer ext.	Prov. app.
4-3-73	USA (Fanno)	Weitzel Court Subd. sewer	Prov. app.
4-3-73	Baker	N.E. sanitary sewer	Prov. app.
4-3-73	Hillsboro (Rock Cr.)	Sequoia Park Subd. sewers	Prov. app.
4-3-73	Salem (Willow Lake)	Kashmir Subd. sewers	Prov. app.
4-3-73	Sandy	Marcy Acres Subd. sewers	Prov. app.
4-3-73	Salem (Willow Lake)	JoAnne Estates Subd. sewers	Prov. app.
4-3-73	Gresham	June Heights Subd. sewers	Prov. app.

Municipal Projects (61) continued

Date	Location	Project	Action
4-3-73	Yamhill	Hauswirths Second Addn. sewers	Prov. app.
4-3-73	Gresham	Linneman Hills Subd. sewers	Prov. app.
4-3-73	Pendleton	Grecian Heights, Phase 3 sewers	Prov. app.
4-5-73	Salem (Willow Lake)	Santana #4 Subd. sewers	Prov. app.
4-5-73	Springfield	Stalick's International project sewers	Prov. app.
4-5-73	John Day	Charolais Heights Subd. sewer	Prov. app.
4-6-73	Gresham	Lookingglass Subd. sewers	Prov. app.
4-6-73	Keizer Sewer Dist.	Lawndale Subd., Phase 2, sewers	Prov. app.
4-6-73	Coos Bay	Coos Bay No. 1 sewage treatment plant and No. 2 pump sta. Expand and upgrade of 2.66 MGD activated sludge	Prov. app.
4-9-73	Multnomah County	Inverness sewer project 5C-2	Prov. app.
4-9-73	Lake Oswego	Maple St. sewer, LID 149	Prov. app.
4-13-73	Winchester Bay SD	Sewage collection, pumping and 0.160 MGD activated sludge sewage treatment plant	Prov. app.
4-16-73	Waldport	Change Order #3 to sewage treatment plant contract	Approved
4-17-73	Echo	Sewage collection system & 6.9 acre sewage lagoon with disinfection & summer storage	Prov. app.
4-17-73	USA (King City)	Summerfield Subd. sewers, Phase 1	Prov. app.
4-17-73	USA (King City)	Los Paseos Mobile Homes sewers	Prov. app.
4-18-73	USA (Forest Grove)	19th Pl. & University Pk. san. sewers	Prov. app.
4-19-73	Pendleton	Bonbright interchange sewer	Prov. app.
4-23-73	Clackamas County Service Dist. I	Change Order No. 1 to sewage treatment plant contract	Approved
4-25-73	Deschutes County	Black Butte sewers: Rock Ridge Cabin sites; South Meadow Addn.; Rock Ridge Addn. & Rock Ridge 1st Addn. Phase 2 revised plans	Prov. app.
4-25-73	Tillamook County	North Tillamook County San. Auth. sewage collection & treatment--27-acre sewage lagoon designed for 0.703 MGD	Prov. app.
4-25-73	Salem (Willow Lake)	Vick Ave., Doakes Ferry Rd. sewer	Prov. app.
4-27-73	USA (Metzger)	S.W. 79th sewer extension	Prov. app.
4-27-73	Albany	6 Change Orders--S.E. interceptor	Approved
4-27-73	Talent	Gagnes Subd. sewers	Prov. app.

Municipal Projects (61) continued

Date	Location	Project	Action
4-27-73	Salem (Willow Lake)	April Addn. Subd. sewers	Prov. app.
4-27-73	Tualatin	Change Order #1, sewage treatment plant expansion	Approved
4-27-73	Clackamas County Service Dist. I	Change Orders #3, Phase 1 and 1, Phase 3 to interceptor project	Approved
4-27-73	West Linn (Bolton)	River Park Subd. sewers	Prov. app.
4-27-73	Portland	S.W. Oak St. relieving sewer	Prov. app.
4-27-73	Umatilla	Change Order #2, sewage treatment plant contract	Approved
4-27-73	Sunriver	Forest Park III and Mt. Village East II sewers	Prov. app.
4-30-73	Central Point	Sierra Vista Subd. #2 sewers	Prov. app.
4-30-73	Salem (Willow Lake)	Laurel Springs Subd., Parkdale #9 Subd. sewers	Prov. app.
4-30-73	Wilsonville	Charbonneau, Units I through IV sewers	Prov. app.
4-30-73	Oak Lodge San. Dist.	Echo Forest Subd. sewers	Prov. app.
4-30-73	Springfield	Rawson Park, Naylor 3rd Addn. & Beverly Park Subd. sewers	Prov. app.
4-30-73	Gresham	Quemado Hills Subd. sewers	Prov. app.

Industrial Projects (15)

Date	Location	Project	Action
4-2-73	Lincoln	Berend Faber Farm, animal waste facilities	Prov. app.
4-3-73	Portland	Union Oil Company of California, oily water treatment facilities	Prov. app.
4-3-73	Silverton	Snyder Pork Farm, animal waste facilities	Prov. app.
4-4-73	Tillamook	Tillamook County Creamery Association, waste water treatment facilities	Prov. app.
4-5-73	Scappoose	Glacier Sand & Gravel, gravel wash water recirculation system	Prov. app.
4-9-73	Dayton	Gray and Company, cherry brining and processing plant	Prov. app.
4-11-73	The Dalles	Marvin Markman Farm, animal waste facilities	Prov. app.
4-11-73	Corvallis	OSU, Agricultural Experiment Station, animal disease research isolation facility	Prov. app.
4-11-73	The Dalles	Allen Tom Farm, animal waste facilities	Prov. app.

Industrial Projects (15) continued

Date	Location	Project	Action
4-12-73	Vaughn	International Paper Co., waste water control facilities	Prov. app.
4-13-73	McMinnville	O.C. French Dairy, animal waste facilities	Prov. app.
4-16-73	Powell Butte	Bernard Johnson Farm, animal waste facilities	Prov. app.
4-16-73	Powell Butte	Noral Simmons Farm, animal waste facilities	Prov. app.
4-18-73	Malheur County	Standard Oil Co. of California, drilling mud disposal facilities	Prov. app.
4-25-73	North Portland	Burlington Northern, modification of gravity oil/water separator	Prov. app.

Air Quality Control

Date	Location	Project	Action
4-3-73	Coos	Georgia-Pacific Corporation Coos Bay plant. Revised plans and specifications for emission control system.	Approved
4-4-73	Josephine	Fourply, Inc., Grants Pass, Ore. Installation of wood fired furnace and veneer drier heating and fume incineration system.	Approved
4-6-73		Federal Highway Administration EIS on noise standards and procedures.	Not required
4-5-73	Coos	Alder Manufacturing, Inc., Myrtle Point. Installation of sawmill and planing mill.	Approved
4-9-73	Marion	Boise Cascade, Salem, Oregon Seventh digester.	Approved
4-13-73	Douglas	Roseburg Lumber Co. Green plant. Modification of two (2) veneer driers.	Approved
4-13-73	Coos	Roseburg Lumber Co. Coquille plant. Installation of one (1) new veneer drier and modification of five (5) existing veneer driers.	Approved
4-13-73	Douglas	Roseburg Lumber Co. Riddle plant Installation of one (1) new veneer drier and modification of one (1) existing veneer drier.	Approved
4-13-73	Douglas	Roseburg Lumber Co., Dillard plant. Installation of one (1) new veneer drier and modification of five (5) existing veneer driers.	Approved

Air Quality Control - continued

Date	Location	Project	Action
4-17-73	Douglas	Bohemia, Inc., Bolon Island plant Reedsport. Installation of new planing mill.	Approved
4-18-73		Draft EIS Use of Off-road vehicles	Approved
4-20-73	Jackson	Carolina Pacific Plywood Co., Inc. White City plant. Installation of a new Moore Oregon veneer drier.	Approved
4-23-73	Douglas	Draft EIS Garden Valley Road at I-5, Roseburg	Req. add. noise info.
4-24-73	Jackson	Carolina Pacific Plywood Co., Inc. White City plant. Installation of wood fired veneer drier heating and exhaust gas incineration system.	Approved
4-27-73	Clatsop	Crown Zellerbach - Wauna Secondary strong black liquor oxidation system.	Approved
4-30-73	Multnomah	Lloyd Corporation Parking structure for 428 vehicles	App. upon conditions

Solid Waste Management

Date	Location	Project	Action
4-11-73		EPA Proposed Sanitary Landfill Guidelines	Reviewed
4-12-73	Grant County	Prairie City Sanitary Landfill (New garbage sanitary landfill)	Prov. app.
4-17-73	Clackamas Co.	Hoodview Transfer Station (New garbage transfer station)	Approved
4-18-73	Coos Co.	Elkside Landfill, Bohemia Inc. (Operational Plan for existing wood waste landfill)	Prov. app.
4-25-73	Marion Co.	Brown Island Sanitary Landfill (Revised operational plan for existing landfill)	Not app.
4-26-73	Clackamas Co.	LaVelle Construction Co. Sanitary Landfill. (New sanitary landfill for demolition wastes only)	Prov. app.
4-26-73	Chemeketa Region	Chemeketa Solid Waste Management Plan. (Phase I report)	Reviewed
4-26-73	Wasco Co.	Northern Wasco County Landfill (Proposed operational plan for conversion to sanitary landfill)	Review & comment

BOISE CASCADE CORP., SALEM

The hearing regarding the issuance of a proposed Air Contaminant Discharge Permit for the Boise Cascade Corp. pulp mill at Salem was continued from the April 30, 1973 Commission meeting.

Mr. Burkitt presented the staff report which evaluated the testimony received at the April 30 hearing and, based on that evaluation, contained the Director's recommendation that the Air Contaminant Discharge Permit as proposed and revised at the April 30, 1973 meeting be granted for the Boise Cascade Corporation's pulp and paper mill at Salem with the following additonal changes:

1. Condition 1. b. (Sulfite pulp mill SO_2 emissions after July 1, 1974): Change "5,000 pounds per day as a monthly average" to "5,500 pounds per day as a monthly average."
2. Section C, Condition 6: After the words "pulp and paper production facilities" insert the words "which may affect atmospheric conditions."

Mr. C.J. Fahlstrom, Resident Mill Manager, was present and stated that the company is not objecting at this time to the proposed permit conditions but wants the Department and Commission to be aware of the fact that in connection with meeting the 20% opacity standard in Condition 4b of Section A for particulate emissions from the recovery system a problem remains to be resolved as operating experience occurs and technology is developed. He said that it may later be necessary for the company to contest this requirement if the problem cannot be resolved.

In response to a question from the Commission, Mr. Fahlstrom stated that he cannot at this time visualize any possibility of increase in pulp production that would increase atmospheric emissions.

Mr. Burkitt mentioned the requirements for controlling ammonia emissions which had been added to the proposed permit conditions at the April 30, 1973 hearing.

It was MOVED by Dr. Crothers, seconded by Mr. Bragdon and carried that as recommended by the Director the proposed Air Contaminant Discharge Permit with the aforementioned changes be approved for the Boise Cascade Corporation's Salem pulp and paper mill.

PETITION REQUESTING LEAD STANDARDS FOR URBAN FREEWAYS

Mr. Downs presented the staff report which had been prepared in connection with the petition received on May 2, 1973 from the Committee to End Urban Freeways (ENUF), four environmental groups, and ten citizens requesting that EQC promulgate certain rules and regulations regarding atmospheric lead and urban freeways. The staff report contained background information, a general discussion of the subject and the Director's recommendation in the matter. Attached to the report was information extracted from EPA's Position on Health Effects of Airborne Lead, November 29, 1972.

Mr. Downs also mentioned letters which had been received from State Senator Betty Roberts, Model Cities Agency Acting Director Andrew Raubeson, and Attorney Charles J. Merten. In addition he said a petition signed by some 100 persons had been received asking that a particular proposed service station not be allowed to be built because of the alleged possibility of its contributing to the lead problem.

Dr. Crothers commented that there is no question that lead along freeways can be a hazard. He asked if new cars will be required to use low lead gas. (Note: EPA has not yet reached a final decision on the use of lead in gasoline.) He also asked if DEQ would have enough personnel to make the necessary investigations. Mr. O'Scannlain said that DEQ does not have enough staff to do many of the tasks required of it but seems to get them done anyway. He also pointed out that special studies of the lead problem are currently being made by the Oregon Graduate Center and others. He said that if a public hearing in this matter were authorized it could probably be held in about 3 or 4 months.

It was MOVED by Dr. Crothers, seconded by Mr. Bragdon and carried that as recommended by the Director the Commission authorize a public hearing on the petition submitted by the Committee to End Needless Urban Freeways, et al, at a time and place to be determined by the Director.

PROPOSED AMENDMENTS TO WATER QUALITY STANDARDS

Mr. Sawyer reported that the staff had reviewed and evaluated the testimony received at and subsequent to the April 30, 1973 public hearing held by the Commission regarding Proposed Amendments to Oregon Administrative Rules, Chapter 340, Division 4, Subdivision 1, Water Quality Standards. He said that written communications regarding the proposed amendments had been received from the Department's legal counsel and the Bureau of Sports Fisheries and Wildlife, and

that based on an evaluation of all the testimony the Department does not consider it desirable to make any changes in upper temperature limits at this time or to increase from 105% to 110% the saturation limit for total dissolved gases. (Note: The states of Idaho and Washington have both indicated that they will adopt a total dissolved gases saturation limit of 110% as recommended by EPA.)

Mr. Sawyer suggested that the proposed amendments as considered at the April 30, 1973 meeting be further amended such that subsection 3(a) of rule 41-023 will read as follows: "May define the limits of the mixing zone in terms of distance from the point of the wastewater discharge or the area or volume of the receiving water, or any combination thereof."

It was MOVED by Dr. Phinney, seconded by Dr. Crothers and carried that as recommended by the Director and including the further change suggested by Mr. Sawyer the proposed amendments to Oregon's Water Quality Standards be adopted.

A copy of the revisions as adopted is attached to and made a part of these minutes.

TAX CREDIT APPLICATIONS

Mr. Sawyer presented the Department's evaluations and recommendations regarding the 12 tax credit applications covered by the following motion:

It was MOVED by Mr. Bragdon, seconded by Dr. Phinney and carried that as recommended by the Director Pollution Control Facility Tax Credit Certificates be issued to the following applicants for facilities claimed in the respective applications and with 80% or more of the listed costs being allocable to pollution control:

Appl. No.	Applicant	Cost
T-410	Weyerhaeuser Co., Springfield	$ 1,858.00
T-422	Boise Cascade Corp., Elgin	64,075.15
T-427	Oregon Portland Cement, Lake Oswego	9,152.09
T-428	Oregon Fir Supply Co., Idanha	250,459.51
T-437	Western Kraft Corp., Albany	54,651.40
T-438	Western Kraft Corp., Albany	25,411.39
T-439	Western Kraft Corp., Albany	67,158.32
T-440	Menasha Corp., North Bend	3,569.22
T-447	Menasha Corp., North Bend	6,822.75
T-455	Consolidated Pine, Inc., Prineville	65,607.59
T-464	Boise Cascade Corp., St. Helens	492,648.00
T-465	Lakeview Lumber Products Co., Lakeview	36,565.60

PUBLIC HEARING RE PORTLAND TRANSPORTATION CONTROL STRATEGY

Proper notice having been given as required by statute and administrative rules the public hearing for adoption of the Portland Transportation Control Strategy, an amendment to the Oregon Clean Air Act Implementation Plan, was called to order by the Chairman at 10:00 a.m. Tuesday, May 29, 1973, in the Second Floor Auditorium, Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. All Commission members except Arnold M. Cogan were in attendance.

Mr. Downs reviewed the 18-page May 16, 1973 report prepared by the Department staff in this matter. He presented background information, discussed the proposed strategy section by section, and submitted the recommendation of the Director. He said the Citizens Advisory Committee has given its support to the program.

There was no further testimony presented at the hearing; therefore, it was MOVED by Dr. Crothers, seconded by Mr. Bragdon and carried that as recommended by the Director an order be adopted making the Portland Transportation Control Strategy an amendment to the Oregon Clean Air Act Implementation Plan but with item 1, line 2, on page 11 of the staff report being amended by deleting after the word "replace" the comma and the words, "on a one-for-one basis, curb".

A copy of the May 16, 1973 staff report has been made a part of the Department's permanent files in this matter.

The hearing was adjourned by the Chairman at 10:40 a.m.

SIMPSON TIMBER COMPANY VARIANCE GRANTED BY CWAPA

Mr. Brannock presented the Department's evaluation of the variance granted on April 27, 1973 by CWAPA to the Simpson Timber Company for the period May 1, 1973 to January 31, 1974 to allow the company time to install a proposed scrubber for reduction of certain atmospheric emission from its exterior plywood products plant located in north Portland.

Mr. Everett Reichman was present to represent the company.

It was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that as recommended by the Director the CWAPA variance No. 73-3 granted to Simpson Timber Company be approved.

CWAPA VARIANCE NO. 73-2 TO BPA

Mr. Brannock reviewed the staff's analysis and evaluation of Variance No. 73-2 granted on April 27, 1973 by CWAPA to the Bonneville Power Administration for disposal of certain land clearing debris by burning in a portable air curtain combustor under specified conditions.

It was MOVED by Dr. Phinney, seconded by Dr. Crothers and carried that as recommended by the Director the CWAPA variance No. 73-2 granted to BPA be approved.

CHEM-NUCLEAR SYSTEMS (Status Report)

Mr. Wicks presented a 6-page staff report dated May 22, 1973 on the status of Chem-Nuclear Systems' application and plans for operation of an environmentally hazardous wastes disposal site at Arlington, Oregon. This matter had been the subject of a public hearing before the EQC at Arlington on September 5, 1972 and preliminary action had been taken by the Commission on November 30, 1972, to consider the site for disposal of such wastes exclusive of radioactive wastes. In a letter dated May 21, 1973 the company President Bruce W. Johnson had notified DEQ that its analysis of the economic feasibility of such an operation excluding rad wastes had been delayed due to the illness of Dr. Henry C. Schultze of their staff but that they now hoped it could be completed in the very near future.

Mr. John Mosser, Attorney, was present to represent the company. He reported that the pesticide wastes from Rhodia Corporation (Chipman Chemical) are now being disposed of in the state of Washington so the economic feasibility of the Arlington site is not as clear cut as previously thought. He confirmed that Dr. Schultze is expected to be in Oregon the first part of June to make the study. He requested that the Director's recommendation No. 1 contained in the report presented by Mr. Wicks be changed to allow the company to receive one more shipment of rad waste from the U.S. Navy which had been contracted for by the company some time ago but which will very likely not be received before the June 30, 1973 deadline. He assured the Commission that the company will remove all the rad wastes stored at the Arlington site if it later develops that the site cannot be approved for disposal of such wastes.

After further discussion with Mr. Mosser regarding the financial stability of the company, the size of the shipment of rad wastes expected from the U.S. Navy, and the type and sources of other rad wastes received by the company it

was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that (1) the State Health Division be requested to modify Chem-Nuclear's existing license for storage of radioactive wastes at Arlington to preclude shipment of additional wastes into the site after June 30, 1973 except for the one shipment from the U.S. Navy for which the company has already contracted and (2) the matter of Chem-Nuclear's application be brought before the Commission for consideration of denial if the company does not actively pursue its application and does not provide the Department by August 15, 1973 with the results of its economic evaluation of chemical waste disposal only.

The one shipment of rad wastes from the Navy can therefore be received after the June 30, 1973 deadline.

Mr. Bragdon abstained from voting on this matter because Reed College has a contract with Chem-Nuclear for disposal of some of its rad wastes.

WASHINGTON SQUARE SHOPPING CENTER PARKING FACILITIES

Mr. Downs reviewed the 12-page staff report dated May 24, 1973 covering the proposed Washington Square Shopping Center's 5,219-space parking facility at Progress, Oregon. This matter had been referred to the Department by CWAPA in a letter received by DEQ on April 25, 1973. He said that based on an evaluation of the proposal it was concluded by the Department that the project would have a substantial and undesirable effect on air quality, water quality and noise levels, and therefore the recommendations of the Director are as follows:

I. That the Commission issue an order prohibiting construction of the 5,219-space parking facility proposed by Washington Square, Inc. in its application of November 17, 1972.

II. Notwithstanding issuance of such order, that the Commission authorize Washington Square, Inc. to file a revised application, subject to Department review and approval, which provides the following:

1. A detailed mass transit plan and implementation schedule for maximizing mass transit use at Washington Square Shopping Center. The goal of the transit plan would be to minimize degradation of air quality caused by Washington Square to the maximum extent possible and in the shortest time possible. Such a plan should include the following features as a minimum:

a. Transit patronage goals to be achieved by specific dates through 1990 and levels of service related to increasing population density.
b. Neighborhood feeder bus service to and from Washington Square for the surrounding residential areas and specifically Beaverton and Tigard residential areas.
c. A high-speed transit facility linking Washington Square to downtown Portland.
d. Institution of parking fees at Washington Square and reductions in availability of parking as transit patronage improves.

2. Projected ambient noise levels on residential property as described by the L_{10} and L_{50}, with and without the Washington Square Shopping Center.
3. Noise level specifications for proposed mechanical equipment to be used at Washington Square.
4. Measures taken to control noise from the mechanical equipment described in 3.
5. Provisions for preventing trash sediments and oily wastes from being washed into area drainage ways.
6. Provisions to ensure the nondegradation of Fanno Creek water quality by this facility.

Mr. Frank Orrico, President, was present to represent the developer of the project. When asked why they were so late in getting their proposal to DEQ he replied that initially they thought their project had been started before EQC had adopted the regulations pertaining to parking structures and therefore would not be subject to such rules. Later they submitted the proposal to CWAPA and expected that approval by that agency would be sufficient. He said they had the same desire as the Commission to protect the quality of the environment and would do everything possible to comply with the state's requirements. He pointed out that two major department stores are scheduled to open in August, some others in November and the entire center is to be in full operation by 1974 and that any delay in constructing the parking facilities would seriously affect the project.

After further discussion it was MOVED by Dr. Phinney, seconded by Dr. Crothers and carried that the Director's recommendations in this matter be approved and an order issued prohibiting construction of the parking facility until a revised application has been submitted and approved.

(Note: Action in this matter had been deferred until after the noon recess because Mr. Orrico was not present in the forenoon. Mr. Bragdon was not present in the afternoon.)

PACIFIC NORTHWEST BELL OFFICE BUILDING PARKING FACILITIES

The staff report pertaining to the proposed Pacific Northwest Bell office building and 302-space two-level underground parking facility to be constructed in the South Auditorium Urban Renewal Area in Portland was presented by Mr. Downs.

It was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that as recommended by the Director the Pacific Northwest Bell 302-space parking facility be approved for construction according to the plans and specifications submitted by the applicant subject to the following conditions: (1) At least 20 parking spaces be allocated for noncommuter type motor pool vehicles. (2) Plans for the parking garage exhaust be submitted to and approved by CWAPA as required by Title 21 of the Authority's rules.

The meeting was recessed at 11:50 a.m. and reconvened at 1:30 p.m. Mr. Bragdon was unable to be present for the afternoon session.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Mr. Ashbaker presented the staff report dated May 22, 1973 containing the Director's recommendation that certain emergency regulations be adopted by the EQC so that the Department's submittal to EPA for authorization to process NPDES permits can be completed without further delay. The proposed emergency regulations would add a new Section 14-007 to OAR Chapter 340, Division 1, Subdivision 4 and would completely revise or replace Sections 45-005 through 45-030 of OAR Chapter 340, Division 4, Subdivision 5.

The proposed emergency regulations attached to the staff report were reviewed briefly by Mr. Ashbaker. He submitted the following additional changes:

(1) Revise Subsection (5)(c) of Section 45-015 to read as follows:

> "Comply with applicable federal and state requirements, effluent standards and limitations including but not limited to those contained in or promulgated pursuant to Sections 204, 301, 302, 304,

306, 307, 402 and 403 of the Federal Act, and applicable federal and state water quality standards;"

(2) In the last sentence of Subsection (6) of Section 45-035 after the word "inspection" insert the words "and copying".

It was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that the Commission adopt the proposed emergency regulations with the changes submitted by Mr. Ashbaker, such emergency regulations to become effective upon the signing by the Governor of HB2436.

A copy of the emergency regulations as adopted is attached to and made a part of these minutes.

PUBLIC HEARING RE: CWAPA

Proper notice having been given as required by statute and administrative rules the public hearing in the matter of the proposed assumption by the EQC of the administration and enforcement of the air quality control program in the territory of the Columbia-Willamette Regional Air Pollution Authority was called to order by the Chairman at 2:20 p.m. on Tuesday, May 29, 1973, in the Second Floor Auditorium of the Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. The Commission members present included B.A. McPhillips, Chairman; Dr. Morris K. Crothers, and Dr. Grace S. Phinney.

Mr. O'Scannlain explained the problem caused by the refusal of Washington County to pay its share of the region's administration costs, discussed possible alternative solutions, reviewed the actions taken to date, and made specific recommendations. The Director recommended that:

1. The Environmental Quality Commission find in accordance with ORS 449.905 that the air quality control program of CWAPA is inadequate in that it fails to make provision for continued air pollution control services to all areas served by it, and that CWAPA is unable to take the necessary corrective measures, and therefore that EQC shall take over administration and enforcement of the air quality control program in CWAPA's territory effective July 1, 1973.
2. The Commission further find that air pollution control services in CWAPA's territory will be best served by:
   a. a transfer of all CWAPA staff positions, consistent with applicable state civil service and personnel regulations to the Department of Environmental Quality.

b. the transfer of all CWAPA assets to the Department.

c. ratification and affirmance of all existing CWAPA rules, permits, compliance schedules and contracts.

d. prior to such transfer, an audit of CWAPA's accounts, the results of which audit shall be communicated to the Commission at its next meeting.

e. the Director taking all actions necessary to effect an orderly transfer to the Department of Environmental Quality of all CWAPA plans and programs as fully as possible without any break in continuity, effective July 1, 1973.

Portland City Commissioner Mildred Schwab and Multnomah County Commissioner Ben Padrow, both CWAPA members, appeared and requested that they be given additional time to determine whether or not their two agencies would be willing to finance the full cost of CWAPA's activities so that the regional authority could continue to operate on a four-county basis and under local control. They admitted that they had not discussed their proposal with the other members of their respective commissions and therefore asked for the opportunity to do so.

Mr. Maurice B. Sussman, Attorney, was present and said he represented the Multnomah County employees who are members of Labor Union Local No. 88. He wanted to be assured that the rights of the union members who are employed by CWAPA would be fully protected if the administration of the regional program were taken over by the State.

Mr. Fay Richmond, an employee of CWAPA, and a Union member, was present and said that there are at least 6 other CWAPA employees who are also members of the Labor Union.

Mrs. Nancy Stevens, representative of the Coalition for Clean Air, expressed concern as to what arrangements would be made for local control and to whom appeals could be made.

There being no other witnesses who asked to be heard it was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that the Director's recommendations in this matter be approved unless in fact a commitment is received by June 10, 1973 from Multnomah County and the city of Portland that they will pay the assessments previously levied against the other counties.

The hearing in this matter was adjourned by the Chairman at 3:10 p.m.

WHITESON SANITARY LANDFILL, YAMHILL COUNTY

At 3:30 p.m. an informal hearing regarding the proposed operation of the Whiteson Sanitary Landfill on a site located adjacent to the South Yamhill River, 2-1/2 miles west of Whiteson and 6 miles south of McMinnville, was opened by the Chairman.

Mr. Schmidt presented the staff report dated May 21, 1973 which reviewed the background of this matter and discussed the several factors involved. He said that the Whiteson site is the most acceptable location for a regional sanitary landfill that has been found in Yamhill County since a search began in 1969. He pointed out, however, that one private residence, owned by Mrs. Mary Butler, would be significantly affected by the increased traffic to and from the disposal site.

Mr. Schmidt stated that it is the recommendation of the Director that Yamhill County's application to establish and operate a sanitary landfill at the Whiteson location be approved subject to all standard sanitary landfill operational conditions and the following additional special conditions:

1. Initial operation shall be in the upper terrace trench area with commencement of filling in the floodplain not to take place in less than one year from issuance of the permit, and after written notice from the Department has been given, contingent upon demonstrated ability to operate in accordance with the permit and with the approved plans and without adverse environmental effects.
2. The floodplain fill dike shall be constructed in strict conformance with the recommendations of the Corps of Engineers and its configuration shall be smoothly rounded to minimize any erosive effects of floodwaters.
3. Landfilling in the floodplain below 135' elevation shall be limited to the period of May 1 to October 15 of each year and shall be effectively covered and closed prior to the October 15 date.
4. Surface drainage waters and the upper perched groundwater table upgradient of the disposal site shall be effectively intercepted and diverted around the site via a combination of open ditching and french drain.

5. Surface leachate and all surface waters containing significant quantities of leachate shall be intercepted, prevented from entering public waters and irrigated on high ground areas.
6. Groundwater monitoring wells shall be provided in accordance with recommendations of the State Engineer's office. Site screening shall be provided and maintained and these and all other proposed facilities and appurtenances shall be provided and operative prior to use of the site, except that landfilling in the upper trench area may commence prior to completion of facilities proposed for the floodplain area.
7. Prior to use of the site, Yamhill County shall investigate the potential nuisances of traffic by the Butler residence and submit a proposed plan for minimizing such nuisances at that location. Alternatives to investigate may include acquisition of the property and/or alteration or rerouting of the access road.

A draft of the proposed permit was attached to the staff report.

Mr. Ezra Koch, City Sanitary Service, McMinnville, was present and said he has been in the solid waste disposal business for 35 years and that he had helped the county in the search for a solid waste disposal site. He requested that the conditions in the proposed permit, pertaining particularly to the dike and access road construction, be only recommendations rather than absolute requirements. He was advised that this could not be done.

Mrs. Mary Butler whose residence is the closest one to the disposal site was the next person to make a statement. She objected strongly to the proposed operation. She said she had lived there for 17 years and would soon have her home paid for. She expressed concern that the noise created by the truck and other traffic past her home would make it impossible for her to continue to live there and she did not know of any other place where she might relocate her home.

Miss Elouise Butler, daughter of Mary Butler, also testified strongly in opposition to the proposed disposal site. She claimed there is no complete assurance that there will be no leachate or seepage problem. She also expressed concern about possible soil erosion.

Mr. John Platt, representative of the Oregon Environmental Council, commented that he had not had sufficient time to review thoroughly the proposed permit and the local conditions involved.

Mr. James M. Boese, Jr., resident of the area, appeared and spoke against the project. He read into the record a letter dated March 19, 1973 from George E. Otte, Soil Scientist, addressed to Richard Lucht, Yamhill County Public Works Director. A copy of this letter was also attached to the staff report read by Mr. Schmidt.

Mrs. Pauline Forrest, another resident of the area in the vicinity of the South Yamhill River, also spoke in opposition to the proposed site. She expressed concern about possible soil erosion and water pollution.

Mr. Roger Emmons, Executive Director of the Oregon Sanitary Service Institute, supported the proposed site. He discussed the requirement for proper engineering, construction, operation and maintenance. He said that this proposal is not just a recent thought or just a convenient site but that it is the result of a thorough search which started in 1969.

Mrs. Katherine French who lives 4 miles east of the proposed site on property which has 40 acres out of the flood plain and 60 acres in the flood plain said she is worried about health hazards caused by high flood waters from the South Yamhill River.

Mr. Jack Armstrong, Director of the Chemeketa Solid Waste Management Region spoke in favor of the Whiteson site. He stated that their regional plan calls for 4 sites, that this is one of them and that it will replace two existing sites which are scheduled to be closed in August or September of this year.

Mr. John Crawford, land owner adjacent to the site, claimed that the elevations used in designing the proposed development are in error. He also expressed concern about possible contamination of his domestic water supply which is from a well 90' deep and which extends 40 feet below the level of the river.

Mr. James Boese, Sr., said they have a petition signed by 600 persons opposing the site. He claimed that leachate from a sanitary land fill can cause disease, that leachate would drain into the South Yamhill River from

the proposed site and that as a consequence the river would be polluted and unfit for swimming. He claimed further that other more suitable sites could be found in the county away from any river. He and other residents of the area who had testified claimed that they had not received sufficient notice of this meeting to permit them to prepare adequately for it.

Mr. Richard Lucht, Public Works Administrator for Yamhill County, was present to represent the applicant and supported the proposed project.

Mr. Orville Bernards, Yamhill County Commissioner, also spoke in favor of the Whiteson site.

No other persons asked to be heard in this matter.

Dr. Crothers complimented all of the witnesses for the manner in which they presented their statements.

It was pointed out that the county would need the Whiteson site as soon as it could be developed and that it would probably take about 60 days after approval of a permit to make it usable.

After evaluating the facts contained in the staff report and the testimony submitted at this meeting and after concluding that sufficient notice had been given, it was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that the Director's recommendation in this matter be approved unless within 10 days the director receives written information which casts significant doubt on the validity of his recommendation.

There being no further business the meeting of the Commission was adjourned by the Chairman at 5:05 p.m.

ADOPTED MAY 29, 1973

AMENDMENTS TO OREGON ADMINISTRATIVE RULES

CHAPTER 340, DIVISION 4, SUBDIVISION 1

Section I. Items 41-023 and 41-024 shall be added to OAR 340, Division 4, Subdivision 1

41-023 MIXING ZONES

(1) The Department may suspend the applicability of all or part of the water quality standards set forth in this subdivision, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of very limited size adjacent to or surrounding the point of wastewater discharge.

(2) The sole method of establishing such a mixing zone shall be by the Department defining same in a waste discharge permit.

(3) In establishing a mixing zone in a waste discharge permit the Department:

(a) May define the limits of the mixing zone in terms of distance from the point of the wastewater discharge or the area or volume of the receiving water or any combination thereof,

(b) May set other less restrictive water quality standards to be applicable in the mixing zone in lieu of the suspended standards; and

(c) Shall limit the mixing zone to that which in all probability, will

(i) not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and

(ii) not adversely affect any other beneficial use disproportionately.

41-024 TESTING METHODS

The analytical testing methods for determining compliance with the water quality standards contained in this subdivision shall be in accordance with the most recent edition of Standard Methods for the Examination of Water and Waste Water published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, unless the Department has published an applicable superseding method, in which case testing shall be in accordance with the superseding method; provided however that testing in accordance with an alternative method shall comply with this section if the Department has published the method or has approved the method in writing.

Section II. OAR 340-41-025 (9) and (12) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(9) Any measurable increase in temperature when the receiving water temperatures are 64° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 63.5° F. or less; or more than 2° F. increase due to all sources combined when receiving water temperatures are 62° F. or less.

(12) The concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection to exceed one hundred and five percent (105%) of saturation, except when stream flow exceeds the 10-year, 7-day average.

Section III OAR 340-41-040 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 72° F. or [above] greater, or more than 0.5° F. increase due to single-source discharge when receiving

water temperatures are 71.5° F. or less, or more than 2° F. [cumulative] increase due to all sources combined when river temperatures are 70° F. or less.

Section IV. OAR 340-41-045 (4)(a) and (b) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature

(a) (Multnomah channel and main stem Willamette River from mouth to Newberg, river mile 50). Any measurable increase when river temperatures are 70° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 69.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 68° F. or less.

(b) (Main stem Willamette River from Newberg to confluence of Coast and Middle Forks, river mile 187). Any measurable increase when river temperatures are 64° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 63.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 62° F. or less.

Section V. OAR 340-41-050 (5) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(5) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VI. OAR 340-41-055 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F.

increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VII. OAR 340-41-060 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F. due to a single-source discharge when receiving waters are 67.5° F. or less or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VIII. OAR 340-41-065 is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are [70°] 68° F. or [above] greater; or more than 0.5° F. increase due to a single-source discharge when receiving waters are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are [68°] 66° F. or less.

Section IX. OAR 340-41-080 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less or or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section X. OAR 340-41-085 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XI. OAR 340-41-090 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XII. OAR 340-41-095 (d)(A) and (B) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(d) Temperature.

(A) In Salmonid fish spawning areas, any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F.

increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate essential uses or activities where temperatures in excess of this standard are unavoidable.

(B) In all other basin areas, any measurable increases when stream temperatures are 68° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 4° F. increase due to all sources combined when river temperatures are 64° F. or less.

Section XIII. OAR 340-41-100 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XIV. OAR 340-41-105 (c) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(c) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when

stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Proposed Amendments to

OAR Chapter 340, Division 1,

Subdivision 4

A new paragraph, which reads as follows, shall be added to OAR Chapter 340, Division 1, Subdivision 4, between Sections 14-005 and 14-010.

14-007 EXCEPTION

The procedures prescribed in this Subdivision do not apply to the issuance, denial, modification and revocation of National Pollutant Discharge Elimination System (NPDES) permits issued pursuant to the Federal Water Pollution Control Act Amendments of 1972 and acts amendatory thereof or supplemental thereto. The procedures for processing and issuance of NPDES permits are prescribed in OAR Chapter 340, Sections 45-005 through 45-065.

Proposed Amendments to

OAR Chapter 340, Division 4, Subdivision 5

Sections 45-005 through 45-030 of OAR 340 Division 4, Subdivision 5 are hereby repealed and the following are enacted in lieu thereof:

45-005 PURPOSE

The purpose of these regulations is to prescribe limitations on discharge of wastes and the requirements and procedures for obtaining waste discharge permits from the Department.

45-010 DEFINITIONS, AS USED IN THESE REGULATIONS UNLESS OTHERWISE REQUIRED BY CONTEXT:

(1) "Commission" means the Environmental Quality Commission.

(2) "Department" means Department of Environmental Quality.

(3) "Director" means the Director of the Department of Environmental Quality.

(4) "Discharge or disposal" means the placement of wastes into public waters, on land or otherwise into the environment in a manner that does or may tend to affect the quality of public waters.

(5) "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells and other systems.

(6) "Federal Act" means Public Law 92-500, known as the Federal Water Pollution Control Act Amendments of 1972 and acts amendatory thereof or supplemental thereto.

(7) "Industrial waste" means any liquid, gaseous, radioactive or solid waste substance or a combination thereof resulting from any process of industry, manufacturing, trade or business, or from the development or recovery of any natural resources.

(8) "NPDES permit" means a waste discharge permit issued in accordance with requirements and procedures of the National Pollutant Discharge Elimination System authorized by the Federal Act and of OAR Chapter 340, Sections 45-005 through 45-065.

(9) "Navigable waters" means waters of the United States, including territorial seas.

(10) "Person" means the United States and agencies thereof, any state, any individual, public or private corporation, political subdivision, governmental agency, municipality, copartnership, association, firm, trust, estate or any other legal entity whatever.

(11) "Point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

(12) "Pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

(13) "Pre-treatment" means the waste treatment which might take place prior to discharging to a sewerage system including but not limited to pH adjustment, oil and grease removal, screening and detoxification.

(14) "Public waters" or "waters of the state" include lakes, bays, ponds, impounding reservoirs, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland, or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters) which are wholly or partially within or bordering the state or within its jurisdiction.

(15) "Regional Administrator" means the regional administrator of Region X of the U. S. Environmental Protection Agency.

(16) "Sewage" means the water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present. The mixture of sewage as above defined with wastes or industrial wastes, as defined in subsections (7) and (23) of this section, shall also be considered "sewage" within the meaning of these regulations.

(17) "Sewerage system" means pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.

(18) "State" means the State of Oregon.

(19) "State permit" means a waste discharge permit issued by the Department in accordance with the procedures of OAR Chapter 340, Sections 14-005 14-050 and which is not an NPDES permit.

(20) "Toxic waste" means any waste which will cause or can reasonably be expected to cause a hazard to fish or other aquatic life or to human or animal life in the environment.

(21) "Treatment" or "waste treatment" means the alteration of the quality of waste waters by physical, chemical or biological means or a combination thereof such that the tendency of said wastes to cause any degradation in water quality or other environmental conditions is reduced.

(22) "Waste discharge permit" means a written permit issued by the Department in accordance with the procedures of OAR Chapter 340, Sections 14-005 through 14-050 or 45-005 through 45-065.

(23) "Wastes" means sewage, industrial wastes and all other liquid, gaseous, solid, radioactive or other substances which will or may cause pollution or tend to cause pollution of any waters of the state.

45-015 PERMIT REQUIRED.

(1) Without first obtaining a state permit from the Director, no person shall:

(a) Discharge any wastes into the waters of the state from any industrial or commercial establishment or activity or any disposal system.

(b) Construct, install, modify, or operate any disposal system or part thereof or any extension or addition thereto.

(c) Increase in volume or strength any wastes in excess of the permissive discharges specified under an existing state permit.

(d) Construct, install, operate or conduct any industrial, commerical or other establishment or activity or any extension or modification thereof or addition thereto, the operation or conduct of which would cause an increase in the discharge of wastes into the waters of the state or which would otherwise alter the physical, chemical or biological properties of any waters of the state in any manner not already lawfully authorized.

(e) Construct or use any new outlet for the discharge of any wastes into the waters of the state.

(2) Without first obtaining an NPDES permit, no person shall discharge pollutants from a point source into navigable waters.

(3) Any person who has a valid NPDES permit shall be considered to be in compliance with the requirements of Subsection (1) of this section. No state permit for the discharge is required.

(4) Although not exempted from complying with all applicable laws, rules and regulations regarding water pollution, persons discharging wastes into a sewerage system are specifically exempted from requirements to obtain a state or NPDES permit, provided the owner of such sewerage system has a valid state or NPDES permit. In such cases, the owner of such sewerage system assumes ultimate responsibility for controlling and treating the wastes which he allows to be discharged into said system. Notwithstanding the responsibility of the owner of such sewerage systems, each user of the sewerage system shall comply with applicable toxic and pretreatment standards and the recording, reporting, monitoring, entry, inspection and sampling requirements of the commission and the Federal Act and federal regulations and guidelines issued pursuant thereto.

(5) Each person who is required by Subsection (1) or (2) of this section to obtain a state or NPDES permit shall:

(a) Make prompt application to the Department therefor;

(b) Fulfill each and every term and condition of any state or NPDES permit issued to such person;

(c) Comply with applicable federal and state requirements, effluent standards and limitations including but not limited to those contained in or promulgated pursuant to Sections 204, 301, 302, 304, 306, 307, 402 and 403 of the Federal Act, and applicable federal and state water quality standards;

(d) Comply with the Department's requirements for recording, reporting, monitoring, entry, inspection and sampling, and make no false statements, representations or certifications in any form, notice, report or document required thereby.

45-020 NON-PERMITTED DISCHARGES

Discharge of the following wastes into any navigable or public waters shall not be permitted:

(1) Radioactive, chemical, or biological warfare agent or highlevel radioactive waste.

(2) Any point source discharge which the Secretary of the Army acting through the Chief of Engineers finds would substantially impair anchorage and navigation.

(3) Any point source discharge to navigable waters which the Regional Administrator has objected to in writing.

(4) Any point source discharge which is in conflict with an areawide waste treatment and management plan or amendment thereto which has been adopted in accordance with Section 208 of the Federal Act.

45-025 PROCEDURES FOR OBTAINING STATE PERMITS

Except for the procedures for application for and issuance of NPDES permits on point sources to navigable waters of the United States, submission and processing of applications for state permits and issuance, renewal, denial, transfer, modification and suspension or revocation of state permits shall be in accordance with the procedures set forth in OAR Chapter 340, sections 14-005 through 14-050.

45-030 APPLICATION FOR NPDES PERMIT

(1) Any person wishing to obtain a new, modified or renewal NPDES permit from the Department shall submit a written application on a form provided by the Department. Applications must be submitted at least 180 days before an NPDES permit is needed. All application forms must be completed in full and signed by the applicant or his legally authorized representative. The name of the applicant must be the legal name of the owner of the facilities or his agent or the lessee responsible for the operation and maintenance.

(2) Applications which are obviously incomplete or unsigned will not be accepted by the Department for filing and will be returned to the applicant for completion.

(3) Applications which appear complete will be accepted by the Department for filing.

(4) If the Department later determines that additional information is needed, it will promptly request the needed information from the applicant. The application will not be considered complete for processing until the requested information is received. The application will be considered to be withdrawn if the applicant fails to submit the requested information within 90 days of the request.

(5) An application which has been filed with the U. S. Army Corps of Engineers in accordance with section 13 of the Federal Refuse Act or an NPDES application which has been filed with the U. S. Environmental Protection Agency will be accepted as an application filed under this section provided the application is complete and the information on the application is still current.

45-035 ISSUANCE OF NPDES PERMITS

(1) Following determination that it is complete for processing, each application will be reviewed on its own merits. Recommendations will be developed in accordance with provisions of all applicable statutes, rules, regulations and effluent guidelines of the State of Oregon and the U. S. Environmental Protection Agency.

(2) The Department shall formulate and prepare a tentative determination to issue or deny an NPDES permit for the discharge described in the application. If the tentative determination is to issue an NPDES permit, then a proposed NPDES permit shall be drafted which includes at least the following:
   (a) Proposed effluent limitations,
   (b) Proposed schedule of compliance, if necessary,
   (c) And other special conditions.

(3) In order to inform potentially interested persons of the proposed discharge and of the tentative determination to issue an NPDES permit, a public notice announcement shall be prepared and circulated in a manner approved by the Director. The notice shall encourage comments by interested individuals or agencies and shall tell of the availability of fact sheets, proposed NPDES permits, applications and other related documents available for public

inspection. The Director shall provide a period of not less than 30 days following the date of the public notice during which time interested persons may submit written views and comments. All comments submitted during the 30-day comment period shall be considered in the formulation of a final determination.

(4) For every discharge which has a total volume of more than 500,000 gallons on any day of the year, the Department shall prepare a fact sheet which contains the following:
   (a) A sketch or detailed description of the location of the discharge;
   (b) A quantitative description of the discharge;
   (c) The tentative determination required under section 45-035 (2);
   (d) An identification of the receiving stream with respect to beneficial uses, water quality standards, and effluent standards;
   (e) A description of the procedures to be followed for finalizing the permit; and,
   (f) Procedures for requesting a public hearing and other procedures by which the public may participate.

(5) After the public notice has been drafted and the fact sheet and proposed NPDES permit provisions have been prepared by the Department, they will be forwarded to the applicant for review and comment. All comments must be submitted in writing within 14 days after mailing of the proposed materials if such comments are to receive consideration prior to final action on the application.

(6) After the 14-day applicant review period has elapsed, the public notice and fact sheet shall be circulated in a manner prescribed by the Director. The fact sheet, proposed NPDES permit provisions, application and other supporting documents will be available for public inspection and copying.

(7) In the interest of further public participation the Director may, at his discretion, require a public hearing before the Commission or authorized representative before a final determination on the NPDES permit is made.

(8) At the conclusion of the public involvement period, the Director shall make a final determination as soon as practicable and promptly notify the applicant thereof in writing. If the Director determines that the NPDES permit should be denied, notification shall be in accordance with section 45-050. If conditions of the NPDES permit issued are different from the proposed provisions forwarded to the applicant for review, the notification shall include the reasons for the changes made. A copy of the NPDES permit issued shall be attached to the notification.

(9) If the applicant is dissatisfied with the conditions or limitations of any NPDES permit issued by the Director, he may request a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director within 20 days of the date of mailing of the notification of issuance of the NPDES permit. Any hearing held shall be conducted pursuant to the regulations of the Department.

45-040 RENEWAL OR REISSUANCE OF NPDES PERMITS

The procedures for issuance of an NPDES permit shall apply to renewal of an NPDES Permit.

45-045 TRANSFER OF AN NPDES PERMIT

No NPDES permit shall be transferred to a third party without prior written approval from the Director. Such approval may be granted by the Director where the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the NPDES permit and the rules of the Commission.

45-050 DENIAL OF AN NPDES PERMIT

If the Director proposes to deny issuance of an NPDES permit, he shall notify the applicant by registered or certified mail of the intent to deny and the reasons for denial. The denial shall become effective 20 days

from the date of mailing of such notice unless within that time the applicant requests a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department.

45-055 MODIFICATION OF AN NPDES PERMIT

In the event that it becomes necessary for the Department to institute modification of an NPDES permit due to changing conditions or standards, receipt of additional information or any other reason pursuant to applicable statutes, the Department shall notify the permittee by registered or certified mail of its intent to modify the NPDES permit. Such notification shall include the proposed modification and the reasons for modification. The modification shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department. A copy of the modified NPDES permit shall be forwarded to the permittee as soon as the modification becomes effective. The existing NPDES permit shall remain in effect until the modified NPDES permit is issued.

45-060 SUSPENSION OR REVOCATION OF AN NPDES PERMIT

(1) In the event that it becomes necessary for the Director to suspend or revoke an NPDES permit due to non-compliance with the terms of the NPDES permit, unapproved changes in operation, false information submitted in the application or any other cause, the Director shall notify the permittee by registered or certified mail of his intent to suspend or revoke the NPDES permit. Such notification shall include the reasons for the suspension or revocation. The suspension or revocation shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing before the Commission or its authorized representative.

Such a request for hearing shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department.

(2) If the Department finds that there is a serious danger to the public health or safety or that irreparable damage to a resource will occur, it may, pursuant to applicable statutes, suspend or revoke an NPDES permit effective immediately. Notice of such suspension or revocation must state the reasons for such action and advise the permittee that he may request a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director within 90 days of the date of suspension and shall state the grounds for the request. Any hearing shall be conducted pursuant to the regulations of the Department.

45-065 OTHER REQUIREMENTS

Prior to commencing construction on any waste collection, treatment, disposal or discharge facilities for which a permit is required by section 45-015, detailed plans and specifications must be submitted to and approved in writing by the Department as required by ORS 449.395; and for privately owned sewerage systems, a performance bond must be filed with the Department as required by ORS 449.400.

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AQC

MINUTES OF THE FORTY-SEVENTH MEETING
of the
Oregon Environmental Quality Commission

The forty-seventh meeting of the Oregon Environmental Quality Commission was called to order by the Chairman at 8:30 a.m. on Friday, June 29, 1973, in the Second Floor Auditorium, Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. All Commission members including B. A. McPhillips, Chairman, Arnold M. Cogan, Dr. Morris K. Crothers, Dr. Grace S. Phinney and Paul E. Bragdon were present.

Participating staff members were Diarmuid F. O'Scannlain, Director; E. J. Weathersbee and K. H. Spies, Deputy Directors; Harold L. Sawyer and Harold M. Patterson, Division Administrators; Barbara J. Seymour, Information Director; F. A. Skirvin and M. J. Downs, Air Quality Control Engineers; and R. P. Underwood and Rob Haskins, Legal Counsel.

The Chairman announced to all persons present at the meeting that pursuant to the requirements of a new state law which had been signed recently by the Governor no smoking would be allowed during the meeting.

MINUTES OF THE MAY 29, 1973 COMMISSION MEETING

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that the minutes of the forty-sixth meeting of the Commission held in Portland on May 29, 1973, be approved as prepared.

PROJECT PLANS FOR MAY 1973

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that the actions taken by the Department during the month of May 1973 as reported by Mr. Weathersbee regarding the following 39 domestic sewerage, 10 industrial waste, 18 air quality control and 4 solid waste management projects be approved:

Water Quality Control

Date	Location	Project	Action
5-1-73	N. Umpqua S.D.	Oak Knolls Estates, 1st Addn. sewers	Prov. app.
5-1-73	Hillsboro (Rock Creek)	Airport extension, Ide. Park No. 3 Subd., 39th Ave., Harmony Vale Subd., sewers	Prov. app.
5-1-73	Sutherlin	Cascade Estates Subd. sewers	Prov. app.
5-1-73	Toledo	Cascadia Lumber Co. pump sta.	Prov. app.

Municipal Projects - continued

Date	Location	Project	Action
5-11-73	USA (Tigard)	Grant St. sewer ext.	Prov. app.
5-11-73	Multnomah County	Space Industrial Park sewer	Prov. app.
5-11-73	The Dalles	C.O. #7 & 8 - STP Contract	Approved
5-11-73	Tri City S.D.	C.O. #1 - STP Contract	Approved
5-11-73	Inverness	C.O. #1 - Interceptor Proj. 5-C	Approved
5-11-73	Clackamas County S.D. #1	Phase I-Clack. County sewage Collection System	Prov. app.
5-11-73	Eugene	First Avenue sewer	Prov. app.
5-16-73	Clackamas County S.D. #1	Echo Hollow Rd. sewer, Adden.No.1 Phase I- Collection system	Approved
5-16-73	Baker	Alpine KOA Campground sewer	Prov. app.
5-16-73	USA	Sherwood Trunk and effluent Irrigation System	Prov. app.
5-17-73	Portland	STP Laboratory	Prov. app.
5-17-73	Springfield	Robbin Park Subd.	Prov. app.
5-21-73	Canby	O-Me-Co., Inc. Subd. sewer	Prov. app.
5-21-73	USA (Aloha)	Hillsboro Jr. Hi sewer	Prov. app.
5-21-73	Prineville	Sewage Pump Sta. & river crossing	Prov. app.
5-25-73	Clackamas County S.D. #1	Addenda #1 & 2, Phase 2 - Collection System	Prov. app.
5-25-73	Portland	S.W. 45th, S.W. 24th, S.E. Rex St. sewers	Prov. app.
5-25-73	USA (Durham)	Durham STP - 20.0 MGD activated sludge secondary treatment plus nutrient removal	Prov. app.
5-25-73	Yachats	Yachats STP - 0.150 MGD activated sludge, secondary treatment with disinfection and an ocean outfall	Prov. app.
5-25-73	Springfield	Daisy Street and Corriea Subd. sewers	Prov. app.
5-25-73	Salem (Willow Lake)	Industrial Way, N.E. sewer	Prov. app.
5-25-73	Bay City	C.O. & B-3 - STP Contract	Approved
5-30-73	White City S.D.	Tropic Isles Subd. sewers	Prov. app.
5-30-73	Sutherlin	Orchard Lane Subd. sewer	Prov. app.
5-30-73	Clackamas County	Phase III - Collection system	Prov. app.
5-30-73	BCVSA (White City)	Cascade Village No. 5 sewers	Prov. app.
5-30-73	Oregon City	Shenandoah Subd. sewers	Prov. app.
5-31-73	Lafayette	Lone Oak Addn. sewers	Prov. app.
5-31-73	Gresham	C.O. #10, Contr. 1 & C.O. #3 Contr. 2 - STP Project	Approved

Industrial Projects (10)

Date	Location	Project	Action
4-30-73	Jacksonville	Teunis Roeloffs Farm, animal waste facilities	Prov. app.
5-1-73	South Poe Valley	Al Grant Farm, animal waste facilities	Prov. app.
5-2-73	Portland	Pacific Power & Light Co., Lincoln Plant, filter backwash water clarification facilities	Prov. app.

Industrial Projects - continued

Date	Location	Project	Action
5-3-73	Klamath Falls	Stan Masten & Son Farm, animal waste facilities	Prov. app.
5-9-73	Portland	Kaiser Cement & Gypsum Corp. Pacific Building Materials Currey Street plant, waste water treatment & recirculation system preliminary concept	Prov. app.
5-10-73	Yoncalla	Darrell Payne Farm, animal waste facilities	Prov. app.
5-14-73	Eugene	Shell Chemical Company, truck wash waste water disposal system	Prov. app.
5-17-73	Portland	Ross Island Sand & Gravel Co., Albina plant, water clarification facility	Prov. app.
5-22-73	Portland	Union Carbide Corp., Ferro-alloys Div., recycling system for treated scrubber waters	Prov. app.
5-31-73	Salem	Portland General Electric Co., oil control program for gas turbine power plant	Prov. app.

Air Quality Control

Date	Location	Project	Action
5-1-73	Hood River	U. S. Plywood, Dee plant Installation of blower system and cyclone for handling sawdust and shaving materials	Approved
5-1-73	Multnomah	Pacific Supply Cooperative 75-space parking facility	Approved
5-2-73	Jackson	Medford Veneer and Plywood Corp. White City - modification of wood-dust handling system & installation of Carter-Day baghouse	Approved
5-2-73	Coos	Georgia Pacific Corp., Coquille New small log chipping stud mill to replace existing stud mill	Approved
5-7-73	Douglas	U. S. Plywood, Rifle Range Road plant, Roseburg - Installation of two (2) Carter-Day baghouses to control sanderdust emissions from the Kimwood and the Yates-American sander systems.	Approved
5-7-73	Malheur	J. A. Albertson, Nyssa Installation of 300 hp diesel fired boiler and a grain air lift.	Approved

Air Quality Control - continued

Date	Location	Project	Action
5-8-73	Lane	Foo's Restaurant 80-space parking facility	Approved
5-8-73	Lane	The Stables Night Club 348-space parking facility	Approved
5-8-73	Lane	Tomhnson Apartments 106-space parking facility	Approved
5-8-73	Lane	State of Oregon Eugene Motor Pool - Relocation of 100 space parking facility	Approved
5-8-73	Lane	National Guard Armory Addition of 56-spaces to parking facility	Approved
5-10-73	Josephine	Rough & Ready Lumber Co. Cave Junction - Installation of small log sawmill	Approved
5-10-73	Curry	Tamco, Inc., Gold Beach Installation of veneer drier	Denied pending submission of further information on control of drier emissions
5-16-73	Umatilla	Eastern Oregon Farming Alfalfa dehydration, NC 149	Conditional Approval
5-16-73	Umatilla	Pendleton Grain Growers Seed and vegetable cleaning and storage	Approved
5-21-73	Klamath	Gilchrist Timber Co., Gilchrist Installation of fly ash collector system on two (2) hog fuel boilers, replacement of steam turbine I.D. drives with electric motors, installation of new dampers, etc.	Approved
5-29-73	Multnomah	Pacific Northwest Bell 302-space parking structure	EQC approved with conditions
5-29-73	Washington	Washington Square, Inc. 5219-space parking facility	EQC prohibited

Solid Waste Management

Date	Location	Project	Action
5-2-73	Lane County	Sharps Creek Transfer Facility (New transfer station)	Prov. app.
5-7-73	Lane County	Day Island Sanitary Landfill (Existing Sanitary Landfill)	Approved
5-11-73	Lane County	Action Plan Interim Progress Rpt.	Review & comment
5-31-73	Wheeler County	Action Plan Interim Progress Rpt.	Review & comment

ELECTION OF VICE CHAIRMAN

It was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that Mr. Cogan be elected to serve as Vice Chairman of the Commission.

OREGON CUP AWARD SCREENING COMMITTEE

Barbara Seymour presented information regarding the formation and purpose of the Oregon CUP Award program and submitted the names of the following persons as nominees for membership on the Oregon CUP Award Screening Committee: Ms. Judy Irons of the Oregon Environmental Council representing ENVIRONMENT: Mr. Herbert Lundy, Editorial Page Editor, The Oregonian, representing the PUBLIC: Mr. Clinton Boehringer, AFL-CIO, and Mr. Dean Killion, President, AFL-CIO, representing LABOR: and Mr. Storrs Waterman of Pennwalt Corporation, representing INDUSTRY.

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that Ms. Judy Irons, Mr. Herbert Lundy, Mr. Clinton Boehringer, Mr. Dean Killion and Mr. Storrs Waterman be appointed members of the Oregon CUP Award Screening Committee.

They replace Mrs. Vera Springer, Mrs. Alice Northway, Mr. Ed Whelan, Mr. Joe Edgar and Mr. Don Frisbee as members of the Committee.

PARKING FACILITIES

At the May 29, 1973 Commission meeting an application from Washington Square, Inc., to construct a 5,219 space parking facility at Progress was denied. The Corporation was advised, however, that the Commission at its June meeting would be willing to consider a new properly conditioned application for construction of a minimum number of parking spaces needed to allow the two department stores (Sears and Meier & Frank) to open as planned in August, 1973.

In the meantime a revised application had been filed by Washington Square, Inc. for a 1,997-space parking facility to serve the Sears and Meier & Frank stores which will have a combined flow area of 363,612 square feet or about one-third of the center's total ultimate store flow area.

Mr. Downs presented the Department's evaluation of the new application.

Mr. Frank Orrico, President, was present to represent the corporation.

After a discussion of the developer's plans for public transit, for control of surface drainage from the parking area, and for inclusion of other commercial buildings in the shopping center, it was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that as recommended by the Director the June 15, 1973 application of Washington Square, Inc., for the 1,997-space parking facility be approved for construction according to the plans and specifications submitted with the application, with the following conditions:

(1) Those portions of the paved area identified in the plans and specifications not specifically identified for parking be prohibited from use by any vehicle other than construction vehicles.

(2) The number of spaces available for parking be reduced in direct proportion to increasing transit patronage to the Washington Square Shopping Center.

Mr. McPhillips commended Mr. Orrico for the cooperation given by the Washington Square, Inc., in working out solutions to its environmental problems.

Note: The agenda item pertaining to the proposed parking facilities for the Valley River Center, Eugene, was deferred until the next Commission meeting in order to allow more time for evaluation of the application.

WATER QUALITY STANDARDS AMENDMENTS

At the May 29, 1973 Commission meeting certain amendments, after public hearing, were approved to the water quality standards contained in OAR Chapter 340, Division 4, Subdivision 1.

Mr. Sawyer explained that when the approved amendments were being processed for filing with the Secretary of State it was noted that in subsection (12) of OAR 340-41-025 the word "flood" had inadvertently been omitted as the last word of that sentence and that consequently the amendments were being resubmitted with this correction for final approval and adoption at this meeting.

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that with the addition of the word "flood" as the last word in the sentence contained in subsection (12) of OAR 340-41-025 the amendments approved at the May 29, 1973 Commission meeting be reapproved with said correction.

TAX CREDITS

Mr. Skirvin presented the Department's evaluations and recommendations regarding the 5 tax credit applications covered by the following motions:

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that as recommended by the Director Pollution Control Facility Tax Credit Certificates be issued to the following applicant for facilities claimed in the respective applications and with 80% or more of the claimed costs being allocable to pollution control:

Appl. No.	Applicant	Cost
T-368	Midland-Ross Corp., Portland	$ 17,720
T-369	Midland-Ross Corp., Portland	162,093
T-371	Midland-Ross Corp., Portland	60,740
T-372	Midland-Ross Corp., Portland	77,800

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that tax credit application T-370 submitted by the Midland-Ross Corp. be denied.

COLUMBIA WILLAMETTE AIR POLLUTION AUTHORITY

Mr. O'Scannlain reviewed the action taken by the Commission at its May 29, 1973 meeting regarding the status of the Columbia Willamette Air Pollution Authority. He reported that no commitments were received from the City of Portland and Multnomah County by the June 10, 1973 deadline but a resolution was received from the City by letter dated June 14 and from the County by letter dated June 18, 1973. Both entities resolved to negotiate for (1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) a permanent solution to the continuation of the air pollution control program in the Portland metropolitan area with significant participation of the respective jurisdictions.

Mr. O'Scannlain said that two important questions remain unanswered, namely, what specifically is to happen to CWAPA at the end of the temporary period for which funds have been pledged and will all of the member counties agree to function within CWAPA under the proposed conditions?

Mr. Ben Padrow, Multnomah County Commissioner and Acting Chairman of CWAPA, reviewed the recent history of CWAPA's problems including the PGE Harborton turbine power plant hearings. He said that reluctantly he had come to the

conclusion that in view of the conditions which now exist DEQ should take over CWAPA and further that PGE should submit an application to DEQ for a permit to construct and operate the proposed Harborton turbine power plant.

In response to a question from Mr. McPhillips, Mr. Padrow said the County of Multnomah would be willing to sign over to DEQ any share the county might have in the assets of CWAPA.

Miss Mildred Schwab, Portland City Commissioner and member of CWAPA Board of Directors, admitted that CWAPA would be unable to finish the PGE hearing and therefore suggested that DEQ proceed immediately to handle this matter. She pointed out that CWAPA has not yet been officially dissolved and asked that EQC outline how local participation would be effected under DEQ administration of the program. She suggested that DEQ require the approval of the local city and county planning commissions before taking specific action. She indicated the city would want to be assured of local participation before signing over to DEQ its interest in the assets of CWAPA.

Mr. Fred Stefani, Clackamas County Commissioner and recent Chairman of CWAPA, read a letter dated June 28, 1973, and signed by all three Clackamas County Commissioners giving their full support to transfer of CWAPA authority to DEQ. He offered the cooperation of Clackamas County in this matter.

Mr. Fred Foshaub, Chairman of the Columbia County Board of Commissioners, stated that Columbia County supports the transfer of CWAPA authority to DEQ but desires to be represented in the transfer and to participate in an advisory capacity in the future program. He said the County would be willing to sign an agreement to dissolve CWAPA and to transfer its assets to DEQ.

Mr. Eldon Hout, Chairman of the Washington County Board of Commissioners, also supported the termination of CWAPA and the transfer of authority to DEQ. He gave several reasons for the county's taking this position, one of which was that a single-purpose agency can no longer function adequately and give proper protection to the environment. He recited the county's past efforts for air quality control. He indicated that Washington County would be willing to sign over to DEQ all CWAPA assets.

Dr. Crothers said it should definitely be understood that DEQ is not anxious to take over the responsibility of administering the CWAPA program and that it is sincerely hoped that some arrangement can be worked out so that local involvement can be continued in a form that is more than just an advisory committee.

Several persons indicated that the local involvement should definitely include elected local governmental officials.

After considerable discussion it was MOVED by Mr. Cogan, seconded by Dr. Crothers and carried that the Commission reaffirm its action taken at the May 29, 1973 meeting regarding CWAPA and that active steps be taken with the elected officials of the four counties and the city of Portland to provide for a continuation of effective local participation.

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that all presently effective CWAPA rules be adopted as temporary rules of the EQC and that all presently effective permits and compliance schedules issued or promulgated by CWAPA be ratified and confirmed by the EQC.

The following order was then signed by the Director:

ORDER

The Environmental Quality Commission (EQC) confirms its May 29, 1973, Order that it undertake a program of administration and enforcement of the air quality control program in the territory of the Columbia-Willamette Air Pollution Authority (CWAPA), effective July 1, 1973; and

EQC finds that it is necessary for the public interest and the interest of the parties concerned that all presently effective CWAPA rules be adopted as temporary rules of the EQC for the purposes of administering and enforcing the air quality control program in CWAPA's territory, effective July 1, 1973, and that if such rules were not adopted immediately EQC's administration and enforcement of the air quality control program in CWAPA's territory could not be commenced on July 1, 1973.

THEREFORE, EQC HEREBY ORDERS that all presently effective CWAPA rules be and they hereby are adopted as temporary rules of the EQC for the purposes of administering and enforcing the air quality control program in CWAPA's territory; and

EQC HEREBY FURTHER ORDERS that all presently effective permits and compliance schedules issued or promulgated by CWAPA be and they hereby are ratified and affirmed by EQC for the purposes of administering and enforcing the air quality control program in CWAPA's territory.

Dated this 29th day of June, 1973.

OREGON ENVIRONMENTAL QUALITY COMMISSION

By_____
Director, Oregon Dept. of Environmental Quality

It was MOVED by Dr. Phinney, seconded by Dr. Crothers and carried that in the matter of the proposed Harborton turbine power plant PGE be instructed to submit a new application to DEQ for review and approval.

PUBLIC HEARING RE: PROPOSED ALUMINUM PLANT RULES

Proper notice having been given as required by state law and administrative rules the public hearing in the matter of adoption of proposed amendments to Oregon Administrative Rules (OAR) Chapter 340, Division 2, Subdivision 5, Sections 25-255 to 25-290, PRIMARY ALUMINUM PLANTS was called to order by Chairman McPhillips at 10:15 a.m. on Friday, June 29, 1973, in the Second Floor Auditorium of the Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. All Commission members were in attendance.

Mr. Skirvin presented a brief description of the aluminum reduction process as practiced in the two existing aluminum reduction plants in Oregon. He then reviewed the staff report dated June 21, 1973 pertaining to the proposed revisions to the Primary Aluminum Plant Regulations. The report together with 11 attachments and a copy of the proposed amendments have been made a part of the Department's permanent files in this matter.

Among other things the proposed amended regulations would require that:

(1) Total gaseous fluoride emissions from all sources not exceed a monthly average of 0.3 pound of fluoride ion per ton of aluminum produced.

(2) Total of all fluoride material emissions from all sources not exceed a monthly average of 1.0 pound of fluoride ion per ton of aluminum produced.

(3) Total particulate matter emissions from all sources not exceed a monthly average of 8.0 pounds per ton of aluminum produced.

(4) Visible emissions from any source not exceed 10 percent opacity (Ringlemann 0.5) at any time.

(5) All new plants comply with above requirements within 60 days after start of operation.

(6) All existing plants comply as soon as practicable and in accordance with a program and implementation plan submitted within 180 days of effective date of the amended rules and pursuant to a time schedule to be established by the DEQ but in no case later than January 1, 1976.

Mr. Skirvin read into the record the following three letters:

(1) From Al Myers, Mayor of Gresham, dated June 26, 1973, urging that only reasonable standards be adopted which will permit continued operation of Reynolds Metals Co. plant at Troutdale.

(2) From Robert Rispler, Chairman of Reynolds School District No. 7, dated June 27, 1973, urging adoption of standards which will protect health of citizens, which will be within capability of today's technology, and which may reasonably be expected to permit present plants to continue operation.

(3) From Allen Townsend, farmer, dated June 27, 1973, claiming that emissions from Reynolds Metals Co. plant at Troutdale do not harm his berry crops and urging that standards be adopted which can be met by said plant.

During the hearing a letter dated June 27, 1973, was received from State Senator Vern Cook expressing the hope that separate standards for older existing aluminum plants will be adopted. He expressed concern that the proposed standards might not be attainable. He said that "unreachable standards are in many ways worse than no standards at all as the delicate balance between economics and environment is breached."

Mr. Jack Doan, Vice President of Martin-Marietta Aluminum, was introduced by Fredric A. Yerke, Attorney, and made a brief opening statement for that company in connection with the operation of the aluminum plant at The Dalles. He said his experience is in operation management and that other company representatives including Lars Rysdal, Joseph L. Byrne and Warren S. Peterson were present to help answer questions.

He said that the plant at The Dalles has an outstanding record of achievement, that some $10,000,000 have been spent to-date in reducing atmospheric emissions, that eminently successful controls and techniques have been developed, and that the current emission controls are among the best in the world. He said further that he did not want to take a stand against environmental regulation but that he must oppose the amendments proposed by DEQ because they do not show the need for such strict limitations or the practicality of their being attained. He claimed that adoption of these standards would have extremely serious effects on their company.

Mr. George M. Walters, Executive Vice President of Reynolds Metals Company, read a brief opening statement for that company. He stated that adoption of the proposed standards would pose grave, if not fatal, problems for their operations in Oregon. He said they could not meet the standards and do not know of any plant with practical technology now available that could meet them. He reported that the company is prepared to spend some $15 million for a new emissions control system at the Troutdale plant but it will not be good enough to meet the proposed standards so they are reluctant to spend such a large sum of money when it will not comply with all requirements. He expressed the opinion that more reasonable standards could be agreed upon which would provide the protection needed for the environment and which would still be attainable by the aluminum industry. He said they do not want to have to shut the Troutdale plant down and he did not think the people of Oregon want them to shut it down.

Mr. Peter Keppler, Attorney, appeared and made a brief opening statement for AMAX Aluminum Company, Inc. He said AMAX is planning to build an aluminum reduction plant at Warrenton and hopes to make application to DEQ for a permit this fall or about September 1, 1973. He claimed that if the proposed standards are adopted AMAX could not meet them but that they could meet a standard of 1.42 pounds of total fluoride per ton of aluminum produced. He said in their later testimony they would argue for (1) an increase in the total fluoride emission limitation from 1.0 to at least 1.42#/ton of aluminum produced, (2) elimination of distinction between gaseous and total fluorides, that is, elimination of the 0.3# gaseous fluoride limitation, (3) clarification of the testing procedures and (4) increase from 60 days to 120 days after start-up of new plant for compliance with emission standards.

In response to an inquiry by Mr. Cogan, he said they intend to start construction of the Warrenton plant next year and to have it in operation by early 1976.

The next person to make a statement was Mr. Arden E. Shenker, Attorney, representing the Wasco County Fruit and Produce League of The Dalles, Oregon.

He read a 21-page statement. He supported the 0.3# gaseous fluoride limitation, the 1.0# total fluoride limitation and the 10% opacity limitation. He objected to the 8.0# particulate limitation and to the use of monthly averages of test results, claiming that in both instances they are not strict enough. He also opposed the January 1, 1976 deadline for compliance by existing plants. He asked that it be changed to January 1, 1975.

After he had completed the reading of his written statement Mr. Shenker said he did not intend to make any further statement at this hearing. In response to a question by Dr. Crothers he expressed the opinion that the aluminum plant at The Dalles would be compatible with the agricultural interests there if it were made to comply with the standards proposed by DEQ and the amendments thereto which he had suggested. He also expressed the opinion that such standards would be enforceable.

Mr. Ray Ralonde, Staff Assistant for the Oregon Environmental Council, read a prepared statement for that organization. Having worked in both aluminum plants in Oregon, he commented on the working conditions in the pot rooms. He also commented about effects of fluorides on humans, plants and animals as reported in the literature. He concluded his 4-page statement by indicating that OEC enthusiastically supports the proposed standards as presented by the DEQ and encourages their adoption by the EQC.

The hearing was recessed for lunch at 12:05 p.m. and reconvened at 1:30 p.m.

Dr. T. T. Facteau of Oregon State University then made a brief oral statement regarding the research studies which have been conducted by OSU of effects of fluorides on sweet cherries, peaches and apricots. He stated that cherry sets are affected by hydrogen fluoride (HF) and fluoride sprays. He indicated the most critical time is during the bloom. When asked by Mr. Cogan if he had any correlation between emissions from the aluminum plant at The Dalles and the damage to fruit production he replied that unfortunately he did not have such data. He said that based on studies conducted by the University it appeared that a concentration of 1.0 microgram of fluoride per cubic meter of air during the bloom season may be the limit. He expressed the opinion that the plant could be compatible with the fruit producing interests at The Dalles.

Chairman McPhillips expressed great disappointment that after all of this time and research work that has been done there is still no accurate or definite correlation between aluminum plant emissions and fruit damage.

Nancy Stevens read a 1-page statement for the Coalition for Clean Air endorsing the proposed standards. She questioned the January 1, 1976 deadline for compliance by existing plants, indicating that it should be earlier.

Mr. Glenn Otto, State Representative from District 23 of East Multnomah County, read a 2-page statement commenting on the value of Reynolds Metals Co. plant at Troutdale to the surrounding area and urging that the proposed standards be relaxed sufficiently to permit the Reynolds plant to continue in operation.

Mr. Joseph Schulein, consulting professional chemical engineer and formerly faculty member at OSU, presented a 3-page statement. He said he is convinced that the proposed standards are technologically attainable but at least in certain cases may not be economically attainable. He indicated that an old plant built in the 1940's with no consideration for atmospheric emissions controls might have to be completely rebuilt in order to comply but he thought that in such a case if it is causing no damage to the environment it should not be required to comply with such strict standards. On the other hand if more restrictive standards are needed in a particular area to solve a special problem he thought such standards should be established. He therefore suggested that the Commission consider adopting quite liberal levels or standards, to be tempered in each case by more stringent requirements as found necessary for environmental protection.

Mr. Raymond Rooth, Consulting Engineer from Oslo, Norway, and Vice President of Engineering, Industrial Gas Cleaning and Ventilation, Marct & Company, presented a statement for the Martin Marietta Company. He said that based on his many years of experience the proposed emission standards for gaseous F and total F cannot be achieved by an existing vertical stud soderberg plant such as the Martin Marietta plant at The Dalles and that today's state of technology will not allow meeting the proposed standards in the immediate future. He submitted copies of his analysis which supported his statement. He reported that the strictest requirements for any European aluminum plant is 2.0# total fluoride per ton of aluminum produced and that is for a new plant that is not yet in operation.

Mr. Cogan asked what would be required to meet the standards proposed by DEQ and he replied there is no practical way to meet them.

Mr. Harry Helton, Manager of the Troutdale Aluminum Reduction Plant of Reynolds Metals Company, read a 21-page statement for that company. He explained the four basic steps in making aluminum products, namely, (1) the mining of aluminum ore (Bauxite)(most of the supply of this raw material for the Troutdale plant comes from Jamaica), (2) extraction of aluminum oxide (alumina) from the Bauxite (for the Troutdale plant this is accomplished in either Texas or Jamaica), (3) reduction of alumina to aluminum by electrolytic process (performed at Troutdale), and (4) casting and fabrication of aluminum into useable forms.

He showed models of aluminum reduction pots similar to those used at Troutdale. He used the models to help explain the operation and maintenance of the reduction process and the sources of fluoride emissions.

He described the changes and controls undertaken over the years at the Troutdale plant which had been built in 1942 and enlarged in 1970. He stated that with the present controls the fluoride emissions have been reduced to about 10# per ton of aluminum produced which is considerably more than the proposed standard of only 1.0 pound per ton. He claimed, however, that even with the present level of emissions no environmental damage is being caused in the area surrounding the Troutdale plant.

Mr. Helton then explained why it would be impossible for their plant to meet the proposed standards.

Next he reported that the company is prepared to spend an additional $15,000,000 to effect approximately a 50% reduction in total fluoride emissions from the Troutdale plant if the Commission adopts standards which will permit the Company to continue to operate the plant after such improvements have been made. He claimed that it is economically feasible to reduce the fluoride emissions from the present level of 10#/ton down to about 5.4#/ton of aluminum produced. He asked that since the plant emissions do not currently cause any damage the Commission adopt standards which will allow the Company to make the proposed improvements and continue to operate the plant. He said it is unthinkable for the Commission to adopt emission standards calculated to terminate the plant's operation.

Dr. Delbert C. McCune, Plant Physiologist at the Boyce Thompson Institute for Plant Research, presented a short 2-page statement in support of the claim made by Reynolds Metals Company that its fluoride emissions at the Troutdale plant are not damaging vegetation. He said during his investigation made 2 days ago he did not observe any injury that could be attributed to fluoride on any of the species of plants prevalent in the area. He said even the several species of highly susceptible conifers in the area showed no injury.

He stated that based on his field investigation and his review of the company's air monitoring data he believes that the approximate 50% reduction in fluoride emissions proposed by the company "would result in: first, a reduction in the probability that concentrations of hydrogen fluoride that are injurious to vegetation could occur; and second, a reduction in accumulation of fluoride by forage and its potential hazard to cattle."

Dr. John W. Suttie, Professor of Biochemistry at the University of Wisconsin, read a 2-page statement in behalf of the Reynolds Metals Co. plant relative to effects on animal life in the vicinity of Troutdale. He said in his opinion grazing animals are adequately protected from adverse effects of fluoride ingestion if the yearly average forage fluoride concentrations do not exceed 40 ppm and if excessively high short-term exposures do not occur during the year. He reported that during 1970 and 1972 all 20 areas sampled in the vicinity of the Troutdale plant were within this guideline, in 1971 one area exceeded it and so far in 1973 2 areas exceed it. He expressed the opinion that the reduction in fluoride emissions proposed by the company would result in forage fluoride concentrations which would pose no hazard to livestock production or animal health.

In response to a question he stated that the present levels, most of which are in the range of 25 to 35 ppm with only 4 exceeding 50 ppm, should not cause any economic effect, only some teeth markings. He said fluoride in milk is not a problem.

Letters or short statements in support of the continued operation of the Reynolds Metals Co. aluminum plant at Troutdale and urging the adoption by the Commission of reasonable and attainable emission standards were read into the record by the following four persons:

(1) Mr. Lee Irvin, Publisher of the Gresham Outlook and Sandy Post newspapers.

(2) Mr. Robert Bryant, Executive Vice President of the Greater Gresham Area Chamber of Commerce.

(3) Mr. Lee E. Caldwell, Sub-district Director of the United Steelworkers of America representing 550 employees at the Reynolds Metals Co. Troutdale plant and 400 employees at the Martin Marietta The Dalles plant. (He said that separate standards for new and existing plants might be advisable.)

(4) Mr. James Patrick, President Sandy Area Chamber of Commerce.

In addition to the above, Dr. Hauton B. Lee, Superintendent of the Reynolds School District presented a brief oral statement also in full support of the continued operation of the Troutdale Aluminum Plant.

The next person to make a statement was Mr. C. C. Gordan, Professor of Botany, University of Montana. He had been invited to make a statement by the Clatsop County Environmental Council with expenses paid for by the Environmental Defense Fund. He said that in general he supports the proposed standards but thinks that they should be stricter for new plants. He claimed that 12 ppm of fluoride in forage will accumulate high fluoride levels in wild animals because they do not urinate as much as domestic animals, that at the Intalco aluminum plant in the state of Washington fluoride levels in forage of 23 ppm average and 50 ppm maximum caused animal damage and the company paid damages, and that there is an aluminum plant in Sweden which does meet the 1.0 pound total fluoride/ton of aluminum produced standard.

Mr. Robert Sturges, Mayor of Troutdale; Mr. Oren W. Olin, Mayor of Fairview; and Mr. Chester R. Morrow, Troutdale Service Station Operator, each appeared and presented statements in support of the continued operation of the Troutdale aluminum plant.

Anne Naab, President of the Astoria-Clatsop Chapter of the League of Women Voters, read a short statement supporting the standards proposed by DEQ and urging their adoption by the EQC.

Mr. Peter Keppler, Attorney, then read a 17-page statement for the AMAX Aluminum Company. He concluded his statement with the following summary:

1. AMAX will engage in open planning and solicit public review and comment with respect to our plans for the proposed Warrenton aluminum reduction plant.

2. Proven and demonstrated technology does not exist for collecting and treating exhaust gases from primary aluminum reduction plants so that total fluoride emissions not exceed a monthly average of 1.0 pounds of fluoride ion per ton of aluminum produced. Using what we believe to be the best available technology, we have determined that we will be able to operate the proposed Warrenton plant at an emission level which will not exceed 1.5 pounds of total fluoride per ton of aluminum produced on a monthly average.

3. No basis exists for separately controlling and measuring particulate and gaseous fluoride. The separate limitation for gaseous fluoride emissions contained in the proposed regulations should be deleted.

4. The definition of monthly average in Section 25-260 of the proposed regulations must be amended to take into account the statistical variability inherent in any test procedure.

5. New primary aluminum reduction plants constructed and operated after January 1, 1973 should be given 120 days to come into full compliance with the regulations.

Mr. Stanley Dempsey of AMAX said that although their present plans do not include it they will, if necessary, install a secondary emission control system.

The hearing was then adjourned by the Chairman at 5:30 pm. Because there were others who wished to make statements the Chairman announced that the hearing would be continued at the next meeting of the Commission which is scheduled to be held in Medford at the City Hall on Thursday, July 26, 1973.

Copies of the written statements or letters submitted by the above witnesses have been made a part of the Department's permanent files in this matter as have copies of the following additional correspondence which was not read into the record:

Letter dated June 27, 1973 from State Senator Vern Cook.

Letter dated June 27, 1973 from Allan Hart, Attorney, Reynolds Metals.

Letter dated June 29, 1973 from Elmer Sturm, Berry Grower

Statement dated June 29, 1973 from Joan Norris, Field Director for Tri-County New Politics

Letter and petition dated June 27, 1973 from Douglas M. Rogers, Attorney for Martin Marietta

Letter dated June 22, 1973 from Douglas M. Ragen, Attorney

Letter from L. R. Matton to Oregon Environmental Council

Statement from Jack Buckner, President Local Union 330, United Steelworkers of America.

DEPARTMENT OF ENVIRONMENTAL QUALITY

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TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

Memorandum

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. B, June 29, 1973, EQC Meeting

Project Plans for May, 1973.

During the month of May, 1973, staff action was taken relative to plans, specifications and reports as follows:

Water Quality Control

1. Thirty-nine (39) domestic sewage projects were reviewed:
   a) Provisional approval was given to:
      26 plans for sewer extensions.
      3 plans for sewage treatment works improvements.
      2 plans for sewage lift stations.
   b) Approval without conditions given to:
      6 Change orders for sewage treatment plant projects.
      2 Change orders for sewer systems.
2. Ten (10) Industrial waste treatment plans were reviewed:
   a) Provisional approval given to:
      4 Animal Waste Facilities.
      6 Miscellaneous projects.
         1) PP&L, Lincoln Plant, filter backwash water clarification facilities, Portland.
         2) Kaiser Cement & Gypsum Corp., Pacific Bldg. Materials Currey Street plant, waste water treatment and recirculation system, prelim. concept, Portland.
         3) Shell Chemical Co., truck wash waste water disposal system, Eugene.
         4) Ross Island Sand & Gravel, Albina plant, water clarification facility, Portland.
         5) Union Carbide Corp., Ferro-alloys Div., recycling system for treated scrubber waters, Portland.

6) Portland General Electric Co., oil control program for gas turbine power plant, Salem.

Air Quality Control

1. Eighteen (18) project plans, reports or proposals were reviewed:
   a) Approval given to:

      6 parking facilities located outside critical areas.

      8 miscellaneous projects:

         1) U. S. Plywood, Dee plant, Hood River County
            Installation of blower system and cyclone.

         2) Medford Veneer and Plywood Corp., White City, Jackson Co.
            Modification of wood dust handling system and installation of Carter-Day Baghouse.

         3) Georgia Pacific Corp., Coquille, Coos County
            New small log chipping stud mill.

         4) U. S. Plywood, Rifle Range Road Plant, Roseburg
            Installation of 2 Carter-Day baghouses.

         5) J. A. Albertson, Nyssa, Malheur County
            Installation of 300 hp diesel fired boiler and a grain air lift.

         6) Rough & Ready Lumber Co., Cave Junction, Josephine County
            Installation of small log sawmill.

         7) Pendleton Grain Growers, Umatilla County
            Seed and vegetable cleaning and storage.

         8) Gilchrist Timber Co., Gilchrist, Klamath County
            Installation of fly ash collector on 2 hog fuel boilers, replacement of steam turbines with electric motors, installation of new dampers, etc.

   b) Conditional approval given 2 projects:

         1) Eastern Oregon Farming, Umatilla
            Alfalfa dehydration, NC 149.

         2) Pacific Northwest Bell, Multnomah County
            302-space parking structure.

   c) Approval denied 2 projects:

         1) Tamco, Inc., Gold Beach, Curry County
            Installation of veneer drier.

         2) Washington Square, Inc., Washington County
            5219-space parking facility.

Solid Waste Disposal

1. Four (4) Project plans were reviewed.
   a) Approval given:
      1 Sanitary Landfill (Day Island, Lane County).
   b) Provisional approval given to:
      1 Transfer facility (Sharps Creek, Lane County - new).
   c) Review and comment given :
      2 Action Plan Interim Progress Reports (Lane and Wheeler Counties).

Director's Recommendation

It is recommended that the Commission give its confirming approval to staff action on project plans and reports for the month of May, 1973.

for D. F. O'SCANNLAIN

EJW 6/8/73

PROJECT PLANS

Water Quality Division

During the Month of May 1973, the following project plans and specifications and/or reports were reviewed by the staff. The disposition of each project is shown, pending ratification by the Environmental Quality Commission.

Date	Location	Project	Action
5-1-73	N. Umpqua S.D.	Oak Knolls Estates, 1st Addn. sewers	Prov.approval
5-1-73	Hillsboro (Rock Cr.)	Airport extension) Ide. Park No. 3 Subd.) 39th Ave.) Harmony Vale Subd.) sewers	Prov.approval
5-1-73	Sutherlin	Cascade Estates Subd. sewers	Prov.approval
5-1-73	Toledo	Cascadia Lumber Co. pump station	Prov.approval
5-11-73	USA (Tigard)	Grant St. sewer Ext.	Prov.approval
5-11-73	Multnomah County	Space Industrial Park sewer	Prov.approval
5-11-73	The Dalles	C.O. #7 & 8 - STP Contract	Approved
5-11-73	Tri City S.D.	C.O. #1 - STP Contract	Approved
5-11-73	Inverness	C.O. #1 - Interceptor Proj. 5-C	Approved
5-11-73	Clackamas Co. SD #1	Phase I - Clack. Co. sewage Collection System	Prov.approval
5-11-73	Eugene	First Avenue sewer	Prov.approval
5-16-73	Clack. Co. S.D. #1	Echo Hollow Rd. sewer Addendum No. 1 - Phase I - Collection System	Approved
5-16-73	Baker	Alpine KOA Campground sewer	Prov.approval
5-16-73	USA	Sherwood Trunk & effluent Irrigation System	Prov.approval
5-17-73	Portland	STP Laboratory	Prov.approval
5-17-73	Springfield	Robbin Park Subd.	Prov.approval
5-21-73	Canby	O-Me-Co.,Inc. Subd. sewer	Prov.approval
5-21-73	USA (Aloha)	Hillsboro Jr. Hi Sewer	Prov.approval
5-21-73	Prineville	Sewage Pump Sta. & river crossing	Prov.approval
5-25-73	Clack. Co. S.D. #1	Addenda #1 & 2, Phase 2 - Collection System	Prov.approval
5-25-73	Portland	S.W. 45th, S.W. 24th, S.E. Rex St. Sewers	Prov.approval

PROJECT PLANS

Date	Location	Project	Action
5-25-73	USA (Durham)	Durham STP - 20.0 MGD activated sludge secondary treatment plus nutrient removal	Prov.approval
5-25-73	Yachats	Yachats STP - 0.150 MGD activated sludge, secondary treatment with disinfection & an ocean outfall	
5-25-73	Springfield	Daisy Street & Corriea Subd. sewers	Prov.approval
5-25-73	Salem (Willow Lake)	Industrial Way, N.E. sewer	Prov.approval
5-25-73	Bay City	C.O. & B-3 - STP Contract	Approved
5-30-73	White City S.D.	Tropic Isles Subd. sewers	Prov.approval
5-30-73	Sutherlin	Orchard Lane Subd. sewer	Prov.approval
5-30-73	Clack.Co.S.D. #1	Phase III-collection system	Prov.approval
5-30-73	BCVSA (White City)	Cascade Village No. 5 sewers	Prov.approval
5-30-73	Oregon City	Shenandoah Subd. sewers	Prov.approval
5-31-73	Lafayette	Lone Oak Addn. sewers	Prov.approval
5-31-73	Gresham	C.O. #10, Contr.1 & C.O. #3, Contr. 2 - STP Project	Approved

PDC:ak
June 5, 1973

Water Quality Division

Industrial Projects (9)

Date	Location	Project	Action
4/30/73	Jacksonville	Teunis Roeloffs Farm, animal waste facilities	Prov. Approval
5/1/73	South Poe Valley	Al Grant Farm, animal waste facilities	Prov. Approval
5/2/73	Portland	Pacific Power & Light Co., Lincoln plant, filter back-wash water clarification facilities	Prov. Approval
5/3/73	Klamath Falls	Stan Masten & Son Farm, animal waste facilities	Prov. Approval
5/9/73	Portland	Kaiser Cement & Gypsum Corp., Pacific Building Materials Currey Street plant, waste water treat-ment & recirculation system preliminary concept	Prov. Approval
5/10/73	Yoncalla	Darrell Payne Farm, animal waste facilities	Prov. Approval
5/14/73	Eugene	Shell Chemical Company, truck wash waste water disposal system	Prov. Approval
5/17/73	Portland	Ross Island Sand & Gravel Company, Albina plant, water clarification facility	Prov. Approval
5/22/73	Portland	Union Carbide Corp., Ferro-alloys Div., recycling system for treated scrubber waters	Prov. Approval
5/31/73	Salem	Portland General Electric Co., oil control program for gas turbine power plant	Prov. Approval

AP - 9 PROJECT PLANS, REPORTS, PROPOSALS FOR AIR QUALITY CONTROL DIVISION FOR MAY, 1973

DATE	COUNTY	PROJECT	ACTION
1	Hood River	U. S. Plywood, Dee plant Installation of blower system and cyclone for handling sawdust and shaving materials.	Approved
1	Multnomah	Pacific Supply Cooperative 75 - space parking facility	Approved
2	Jackson	Medford Veneer and Plywood Corp. White City, - modification of wood-dust handling system and installation of Carter-Day baghouse.	Approved
2	Coos	Georgia Pacific Corp., Coquille New small log chipping stud mill to replace existing stud mill.	Approved
7	Douglas	U. S. Plywood, Rifle Range Road plant, Roseburg - Installation of two (2) Carter-Day baghouses to control sanderdust emissions from the Kimwood and the Yates-American sander systems.	Approved
7	Malheur	J. A. Albertson, Nyssa Installation of 300 hp diesel fired boiler and a grain air lift.	Approved
8	Lane	Foo's Restaurant 80-space parking facility	Approved
8	Lane	The Stables Night Club 348-space parking facility.	Approved
8	Lane	Tomhnson Apartments 106-space parking facility.	Approved
8	Lane	State of Oregon Eugene Motor Pool Relocation of 100 space parking facility	Approved
8	Lane	National Guard Armory Addition of 56-spaces to parking facility.	Approved

AP - 9 PROJECT PLANS, REPORTS, PROPOSALS FOR AIR QUALITY CONTROL DIVISION FOR MAY, 1973 (Continued)

DATE	COUNTY	PROJECT	ACTION
10	Josephine	Rough & Ready Lumber Co. Cave Junction - Installation of small log sawmill.	Approved
10	Curry	Tamco, Inc., Gold Beach Installation of veneer drier.	Denied pending submission of further information on control of drier emissions.
16	Umatilla	Eastern Oregon Farming Alfalfa dehydration, NC 149.	Conditional Approval
16	Umatilla	Pendleton Grain Growers Seed and vegetable cleaning and storage.	Approved
21	Klamath	Gilchrist Timber Co., Gilchrist Installation of fly ash collector system on two (2) hog fuel boilers, replacement of steam turbine I.D. drives with electric motors, installation of new dampers, etc.	Approved
29	Multnomah	Pacific Northwest Bell 302-space parking structure.	EQC approved with conditions
29	Washington	Washington Square, Inc. 5219-space parking facility.	EQC prohibited

PROJECT PLANS

SOLID WASTE MANAGEMENT DIVISION

During the month of May 1973, the following project plans and specifications and/or reports were reviewed by the staff. The disposition of each project is shown, pending confirmation by the Environmental Quality Commission.

DATE	LOCATION	PROJECT	ACTION
2	Lane County	Sharps Creek Transfer Facility (New Transfer Station)	Prov. Approval
7	Lane County	Day Island Sanitary Landfill (Existing Sanitary Landfill)	Approved
11	Lane County	Action Plan Interim Progress Report	Review & Comment
31	Wheeler County	Action Plan Interim Progress Report	Review & Comment

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TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item No. C, June 29, 1973, EQC Meeting
Election of Vice Chairman

This agenda item is included at the request of Chairman McPhillips.

for DIARMUID F. O'SCANNLAIN

EJW:vt
6/21/73

DEPARTMENT OF ENVIRONMENTAL QUALITY

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TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. D, for EQC Meeting on June 29, 1973

Oregon CUP Award Screening Committee Members

Background

On February 25, 1972 the Environmental Quality Commission adopted the "Oregon CUP (Cleaning Up Pollution) Award" program to assist consumers in patronizing Oregon companies that comply with and exceed the state's environmental requirements. Under this program, these companies are awarded an identifying seal for use on their product labels, letterhead and advertising -- along with an actual pottery cup so environment-conscious consumers can patronize the "good guys."

The purpose of the program is to give companies that have earned the Oregon CUP Award a real competitive advantage and provide further incentive for compliance with anti-pollution regulations...it could even translate a company's clean-up efforts into higher profits and more jobs.

Any industry, organization, institution, corporation, governmental unit, or individual may be awarded the CUP for outstanding efforts in preventing or cleaning up pollution in Oregon.

The Award includes separate categories for types of industry -- such as production or manufacturing, service (including retailing), and land use; between categories requirements differ according to the potential for pollution or environmental enhancement and the difficulty of control or prevention. In the production industry category, awards may be given for products which themselves contribute significantly to controlling or preventing pollution as well as for production methods which exceed Oregon environmental requirements.

Awards to individuals and nonprofit organizations may be made only once but are without limitation as to duration. Companies that quality will receive the right to use the seal on their products for one year and there is no limit on the number of companies which may receive the award. The industry recipient's status will be reviewed annually for renewal of the CUP Award, and there is no limit on the number of awards a company can receive although the requirements will remain strict. Awards to individuals have been made to Governor McCall and L. B. Day. Industries in receipt of the CUP Award are American Can Company in Halsey and Publishers Paper Company in Oregon City and Newberg.

A nine-member screening committee has been selected with representatives from industry, organized labor, environmental and consumer groups. This committee considers each award nominee and makes recommendations to the Environmental Quality Commission for final action.

When appointed, each screening committee member is required to submit a complete financial statement, and members are not allowed to vote on any nomination involving a company in which they have personal financial interest.

Screening Committee Members are as follows:

ENVIRONMENT

Mrs. Vera Springer
Mrs. Mary Ann Donnell

PUBLIC

Mrs. Alice Northway
Mrs. Wanda Merrill
Mr. J. Wesley Sullivan

INDUSTRY

Mr. Don Frisbee
Dr. David B. Charlton

LABOR

Mr. Ed Whelan
Mr. Joe Edgar

On June 5, the terms of four committee members will expire. These members are:

Mr. Joe Edgar (Labor)
Mr. Don Frisbee (Industry)
Mrs. Alice Northway (Public)
Mrs. Vera Springer (Environment)

According to CUP rules, committee members may not serve consecutive terms and we are therefore submitting for your approval four new nominees for committee membership. These people were chosen from among suggestions received at the outset of the Award program from Associated Oregon Industries, Western Environmental Trade Association, Oregon Consumer League, League of Women Voters, Oregon Environmental Council, Economic Development Division, AFL-CIO, Teamsters, and various Chambers of Commerce.

In addition to the four members whose terms have expired, Mr. Whelan has resigned due to a change of positions such that he no longer represents labor.

Director's recommendations:

The following proposed members have been contacted and are willing to serve if appointed:

ENVIRONMENT

Ms. Judy Irons, Oregon Environmental Council

PUBLIC

Mr. Herbert Lundy, Editorial Page Editor, The Oregonian

LABOR

Mr. Clinton Boehringer, AFL-CIO
Mr. Dean Killion, President, AFL-CIO

INDUSTRY

Mr. Storrs Waterman, Pennwalt Corporation

for DIARMUID F. O'SCANNLAIN

BJS:mf
6/22/73

DEPARTMENT OF ENVIRONMENTAL QUALITY

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TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. Ea, June 29, 1973, EQC Meeting

Proposed Washington Square Shopping Center 1,997-space Parking Facility, Progress

Background

At the May 29, 1973, EQC meeting, the Commission denied the application of Washington Square, Inc. to construct a 5,219 space parking facility, but indicated it would consider a new application at the June meeting to construct the minimum number of parking spaces necessary to allow two department stores to open as planned in August, 1973.

On June 21, 1973, the Department received a letter from the Columbia Willamette Air Pollution Authority delineating their analysis of and recommendation for the proposed 1,997-space parking facility requested in the June 15, 1973, application of Washington Square, Inc.

Discussion

The 1,997-space parking facility is planned to support operation of the Sears and Meier & Frank stores scheduled to open in

August, 1973. These stores have a combined floor area of 363,612 square feet.

The Urban Land Institute considers 5.5 parking spaces per 1,000 square feet of gross leasable area to be adequate and necessary for shopping centers, assuming no mass transit service is available.

CWAPA recommends that the Commission approve construction of the proposed parking facility. The Department agrees with the CWAPA recommendation because there has been significant progress made, as detailed in the attachments to this report, by Washington Square, Inc. in fulfilling the requirements, relative to transit, noise and water quality, established by the Commission at the May 29, 1973, meeting.

Director's Recommendation

The Director recommends that the June 15, 1973, application of Washington Square, Inc. be approved for construction according to the plans and specifications submitted with the application, with the following conditions:

1. Those portions of the paved area identified in the plans and specifications not specifically identified for parking be prohibited from use by any vehicle other than construction vehicles.

2. The number of spaces available for parking be reduced in direct proportion to increasing transit patronage to Washington Square Shopping Center.

for DIARMUID F. O'SCANNLAIN

MJD:c

6/22/73

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY
1010 N.E. COUCH STREET PORTLAND, OREGON 97232 PHONE (503) 233-7176

19 June 1973

Department of Environmental Quality
1234 S.W. Morrison Avenue
Portland, Oregon 97205

Attention: H. M. Patterson, Administrator
Air Quality Control Division

Reference: Washington Square Parking Facility

Gentlemen:

On 15 June 1973 Washington Square Inc. filed a notice to construct surface parking facilities for 1997 motor vehicles to support operation of two department stores planned to open in August 1973. The two stores have a floor area of 363,612 square feet (Sears - 212,466 ft^2 and Meier & Frank 151,146 ft^2).

At their May 29, 1973 meeting, the Environmental Quality Commission denied construction of a 5,219 space parking facility but indicated they would consider an application from Washington Square Inc. to construct the minimum number of parking spaces necessary to allow the two department stores to open as planned in August, 1973. The proposed parking facility at Washington Square would provide a parking ratio of 5.5 spaces per 1000 ft^2 of floor area for the two department stores. This parking ratio is equal to the Urban Land Institute guidelines which is considered adequate and necessary by major department stores.

It is therefore recommended that Washington Square Inc. be allowed to construct the proposed parking facility since the proposed size would appear to be a minimum necessary to allow operation of the two department stores in August 1973 providing no mass transit service is available to the shopping center in August 1973.

Very truly yours,

R. E. Hatchard
Program Director

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
AIR QUALITY CONTROL

REH:jks
Enclosure

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUN 21 1973
AIR QUALITY CONTROL

Attention: Columbia-Willamette Air Pollution Authority
1010 N.E. Couch Street
Portland, Oregon 97232

PARKING FACILITY
NOTICE OF CONSTRUCTION AND APPLICATION

To Construct or Modify an Air Contaminant Source

NOTE: Approval to Construct must be obtained prior to construction. The Columbia-Willamette Air Pollution Authority will review the application and will send its recommendations to the D.E.Q. for their final action to approve or deny the project. An environmental impact statement or other information may be requested within 30 days of receipt of this N-C.

Business Name: WASHINGTON SQUARE SHOPPING CENTER Phone: _____

Address of Premises: Greenburg Rd at State Highwey 217 (Oregon) City: Washington County Zip: _____

Nature of Business: Shopping Center

Responsible Person to Contact: Theodore P. Becker Title: Project Manager

Other Person Who May Be Contacted: E. A. Harrington Title: Asst. Project Manager

Corporation [XXX] Partnership [ ] Individual [ ] Government Agency [ ]

Legal Owner's Address: 505 Madison Street City: Seattle Zip: 98104

Description of Parking Facility and its Intended Use. (Please include 2 copies of Plot Plan showing parking space location and access to streets or roadways): _____

Surface parking for employees and customers 1997

Estimated Cost: Parking Facility Only: $ 590,000

Estimated Construction Date: Present Estimated Operation Date August 1, 1973

Name of Applicant or Owner of Business: Washington Square, Inc.

Title: President Phone: 206/682-6720

Signature: Frank Urrico Date: _____

Applicability: This Notice of Construction Requirement Pertains

1. To areas within five miles of the municiple boundary of any city having a population of 50,000 or greater.
2. Any parking facility used for temporary storage of 50 or more motor vehicles or having two or more levels of parking for motor vehicles.

Date Received _____ Grid _____ N/C _____

WINMAR PACIFIC, INC.
A SAFECO COMPANY
505 MADISON STREET SEATTLE, WASHINGTON 98104 TELEPHONE (206) 682-6720

June 18, 1973

Mr. Diarmuid F. O'Scannlain, Director
Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205

Re: Washington Square Shopping Center

Dear Mr. O'Scannlain:

Since the Environmental Quality Commissioners' meeting of May 29, the professional authors of Washington Square's Environmental Impact Statement, in cooperation with members of your staff, have been endeavoring to deal with the conditions set out in the staff report to the Commissioners dated May 24, 1973. It is my office's understanding that, as a result of several meetings, there remains three points which have to be dealt with in order for your staff to issue a positive recommendation to the Commissioners regarding the parking lot application for Washington Square.

The points are:

I. The water quality control relative to storm water run-off ultimately into Fanno Creek.

II. Future noise levels with and without Washington Square in existence.

III. A transit program for Washington Square and Washington County.

I. Water Quality

As to the run off water quality, Washington Square's engineers have submitted a program wherein screening devices and weirs will be installed on Washington Square property and State Department of Highways right-of-way. These weirs, coupled with a comprehensive cleaning program for the Shopping Center, will insure accomplishing the goal of keeping run-off water to Fanno Creek to acceptable standards. (See attachment.)

II. Noise Level

Our professional representatives have submitted data which indicates that the difference in increased noise levels with Washington Square in existence and without Washington Square, from the time of center opening in the 1973-75 period to 1990, are relatively minor, and that Washington Square, in and of itself, is not a major contributor to expected increases in noise level. (See attachment.)

III. Transit System

The following steps have been taken by Washington Square in an attempt to deal with providing for a transit system whose ultimate goal will be to maximize the use of public transportation by Washington Square customers:

A. By agreement with Tri-Met two existing bus routes, numbers 45 and 56, now operating in the vicinity of Washington Square, will be modified so as to enter and serve the center. To accommodate the buses, changes have been made in access road and parking lot construction specifications in appropriate areas, as designated by Tri-Met officials.

B. Since the Commissioners' meeting of May 29, Washington Square representatives have met with Mr. Edward Wagner, Tri-Met Director of Planning and Research, and Mr. Martin R. Cramton, Jr., Director of Planning, Washington County Planning Department to the end that Washington County Planning Department, with counseling assistance from Tri-Met, through Mr. Wagner's office, has appointed County Planning Commission staff to prepare a master transportation plan for Washington County, with emphasis on maximizing the number of transit passengers from all points in the county to Washington Square. You already have received copies of the outline against which planning studies have been undertaken. Reports on progress of this study activity will be submitted to your office periodically.

C. Since it is felt the master plan for Washington County will be some time in planning and implementation, Washington Square has located through the London Transport Company in London, England, at least four double-decked English buses and will commit to make them available for at least a period of one year to operate as a feeder bus line system from points and on routes designated by the Washington County Planning Commission and the Tri-Met counselors.

D. As the master planned transportation system evolves, Washington Square pledges that it will cooperate in every respect possible to implement the transit program, and states here that should the plan require the establishment of a park and ride program involving portions of the Washington Square parking lot, Washington Square will cooperate to make said lots available to the extent economically possible.

We continue to stand available, both in person and with our professional representatives, to meet with you or representatives of your office, to continue pursuing a program which will allow for the acceptance of Washington Square into the community of Washington County on a basis that will make it an asset contributing to a better quality of life for all its citizens.

Very truly yours,

WINMAR PACIFIC, INC.

Frank A. Orrico
President

FAO/db
Attachment
cc: Columbia-Willamette Air Pollution Authority

TRI COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET

4314 SE 17TH AVENUE
PORTLAND, OREGON 97202
(503) 233-8XXX 233-8373

June 7, 1973

Mr. Diarmuid F. O'Scannlain
Department of Environmental Quality
1234 S.W. Morrison Street
Portland, Oregon 97205

Dear Mr. O'Scannlain:

Mr. Ed Wagner, Director of Planning & Research of our staff, met with Martin Crampton and Dave Fredrikson of the Washington County Planning Commission, in conjunction with Mervin L. Blum, Manager of Washington Square, Inc. and Carl Holm, Vice President of Winmar Company, Inc., on June 6, 1973. At that time, it was agreed that the Washington County Planning Commission staff would coordinate the study for public transportation to Washington Square. Dave Fredrikson of their staff will be the Project Director for the planning effort, working in conjunction with Michael Downs of your staff and Bob Blensly of CRAG. Hopefully, the basic work program will be outlined within two or three weeks.

Tri-Met looks forward to a continuing communication with your office in regard to the development of public transportation planning for the Greater Portland Metropolitan Area.

Sincerely,

Tom King

T. S. King
General Manager

TSK/cim

WASHINGTON COUNTY

27280 S.W. TUALATIN VALLEY HWY.
HILLSBORO, OREGON 97123

PLANNING DEPARTMENT
MARTIN R. CRAMTON JR., Director
(503) 648-8740

June 18, 1973

Frank Orrico, President
Winmar Company, Inc.
505 Madison Street
Seattle, Washington 98104

Dear Mr. Orrico:

I am sending you a copy of a draft outline for a Washington County public transit system study. Our approach is to develop the transit plan as a part of the total transportation system for the county. Much of the data, methodology and expertise will be drawn from existing regional transportation studies. This study will be coordinated with the development and the implementation of the land use plan.

In recognizing the size and impact of Washington Square as a land use element, the internal system will likely use Washington Square as a terminal point. We will count on your ccoperation in developing this portion of the system.

A portion of this study will also include the implementation and operation of the system. There are at present a number of agencies and jurisdictions involved in the transportation problems within Washington County.

It is uncertain at this time, who will engineer implement and operate the initial system. Neither Tri Met nor the County have the staff and resources necessary to accomplish these tasks.

We appreciate your expressed willingness to cooperate and will keep you informed on the status of the attached study. We will contact you for input and assistance on those portions which affect Washington Square.

Sincerely,

Martin R. Cramton, Jr. AIP
Director of Planning
Washington County Planning Department

MRC: jw

WASHINGTON COUNTY TRANSIT SYSTEM

Study Outline

I. Define Goals

- A. Support the land use plan
- B. Improve service to Portland Central Business District
- C. Develop an internal transit system.
- D. Decrease the useage of automobile.

II. Define Citizen Imput

- A. Purpose
- B. Format
- C. Contacts
- D. Imput and Extent

III. Develop Work Program

A. System Design

1. Data Collection

   a. existing and proposed land use
   b. population centers
   c. Washington Square market area
   d. other activity centers
   e. existing routes

2. Levels of Service

   a. park and ride
   b. kiss and ride
   c. local service to Portland
   d. internal system

B. Components of System

1. Routes
2. Equipment
3. Stations, terminals, parking facilities, etc.
4. Service

C. Impacts of System

1. Social
2. Environmental
3. Economic

D. Feasability

E. Implementation

1. Time schedule
2. Financing
3. Government Coordination
4. Promotion

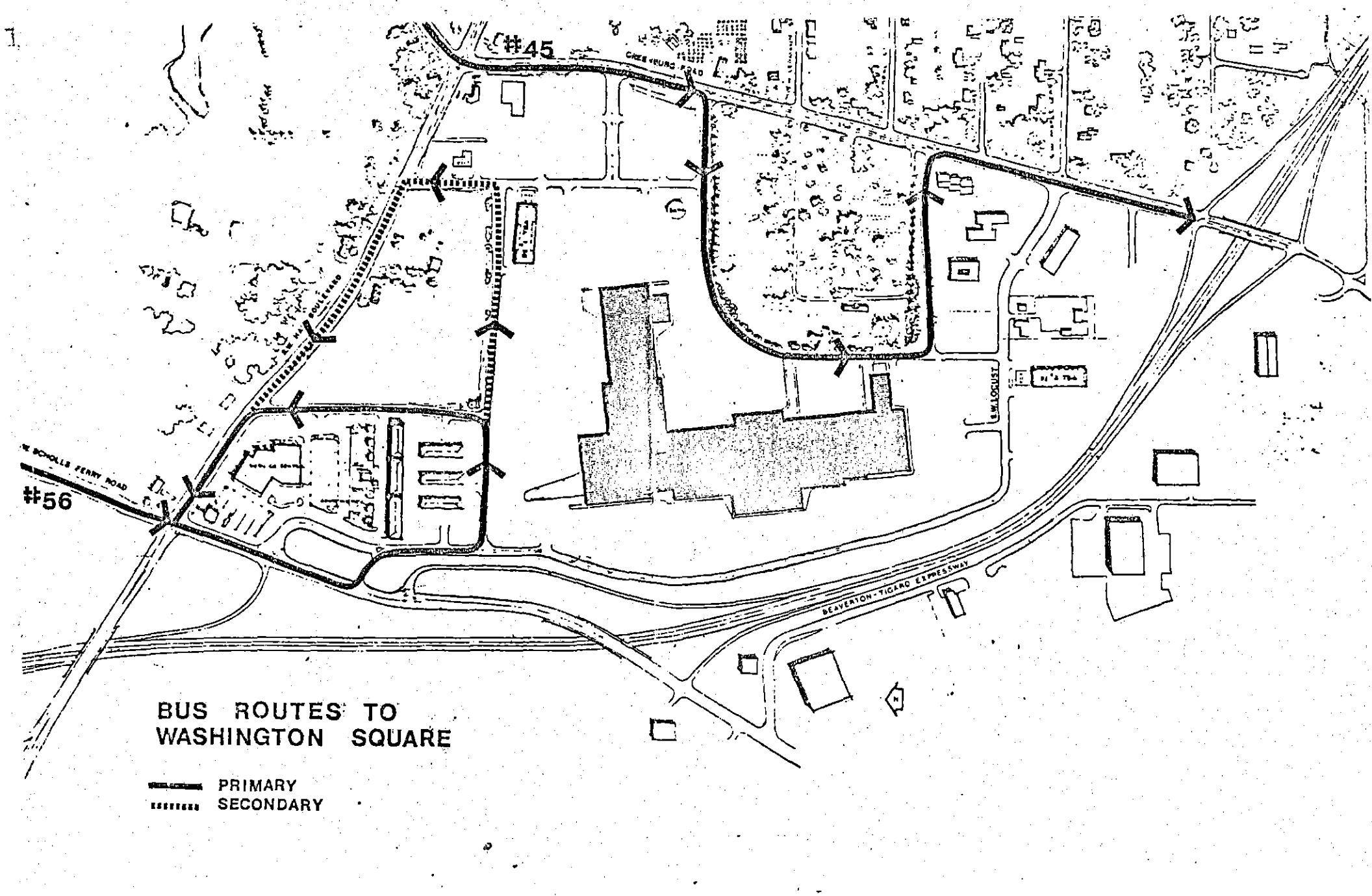
F. Operation

1. Administration
2. Maintenance
3. Personel

IV. Negotiate Commitments as Required

A. Washington Square
B. Washington County
C. Clackamas County
D. Cities of Tigard and Beaverton
E. Other agencies
F. Other businesses

V. Implement of Program


#45
#56
BUS ROUTES TO
WASHINGTON SQUARE
PRIMARY
SECONDARY

State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY INTEROFFICE MEMO

To: H. M. Patterson Date: June 21, 1973

From: Michael J. Downs

Subject: Transit Information Required for Washington Square

Information to be submitted prior to consideration of approval of entire parking facility:

I. Transit system to be implemented when Washington Square opens (based upon existing land use patterns and population density).

A. Who will operate system and what is Washington Square's share of operating cost.

B. Transit patronage goal for first year of operation.

C. Levels of service related to population density.

1. Bus equipment

a. Bus type, capacity and number
b. Coachwork design
c. Propulsion system

2. Bus routes and stops.

a. Location and coverage
b. Signs and markings

3. Passenger amenities.

a. Shelters
b. Loading/unloading at shopping center

4. Frequency of service

5. Fares

D. Marketing and public relations program

E. Patronage

1. Procedures for determining patronage and reporting to DEQ.

2. Determination of a factor relating transit patronage to reductions in parking supply at Washington Square.

3. Procedures for monitoring parking lot occupancy and reporting to DEQ quarterly.

F. Criteria for cutting back transit system.

G. Implementation timetables.

II. Date long-term transit plan to be submitted to DEQ.

Information to be submitted to DEQ by date identified in II. above:

I. Transit system to be implemented based upon revised Washington County land use and transportation plans.

A. Who will operate system and what will be Washington Square's share of operating cost.

B. Transit patronage goals for 5 year periods over 15-20 years.

C. Levels of service related to population density for each 5 year interval. Same information required for each 5 year interval as delineated in I.C. above.

D. Marketing and public relations program.

E. Patronage

F. Reductions in parking supply at Washington Square related to increasing transit patronage. Timetables for implementation.

G. Implementation timetables.

A progress report should be submitted annually for Department review.

DESCRIPTION OF PROCEDURES TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS ASSOCIATED WITH WASHINGTON SQUARE SHOPPING CENTER

WATER QUALITY

The primary concern is the prevention of gross contaminants from the parking lot entering Fanno Creek. Two approaches to the problem will be implemented. The first is an effective schedule of parking lot cleaning by a vacuum sweeper. It will be designed to compliment seasonal frequencies of rainfall to insure the greatest percentage of sweeping is done when the potential for precipitation is highest. Such a technique is recommended in "Water Pollution Aspects of Urban Runoff" (Federal Water Pollution Control Administration 1969). It is aimed at providing a clean collection surface for higher quality runoff.

In support of effective sweeping, methods to prevent contaminants from reaching the lot surface will be implemented, which include:

1. Control of solid waste removal techniques.
2. Separation of waste storage sites from normal lot drainage paths.
3. Careful attention to slope stability and existing or potential areas of erosion irregardless of size.

4. Installation of litter receptacles outside of the building with emphasis on convenience of use for maximum effectiveness.
5. Supervision of landscaping maintenance practices to control such potential sources as:
    a. Chemical sprays
    b. Fertilizers
    c. Leaves and grass clippings
    d. Mulching materials
6. Supervision of garden supply marketing practices.
7. Supplementary cleaning of areas not reachable by sweeping vehicles.

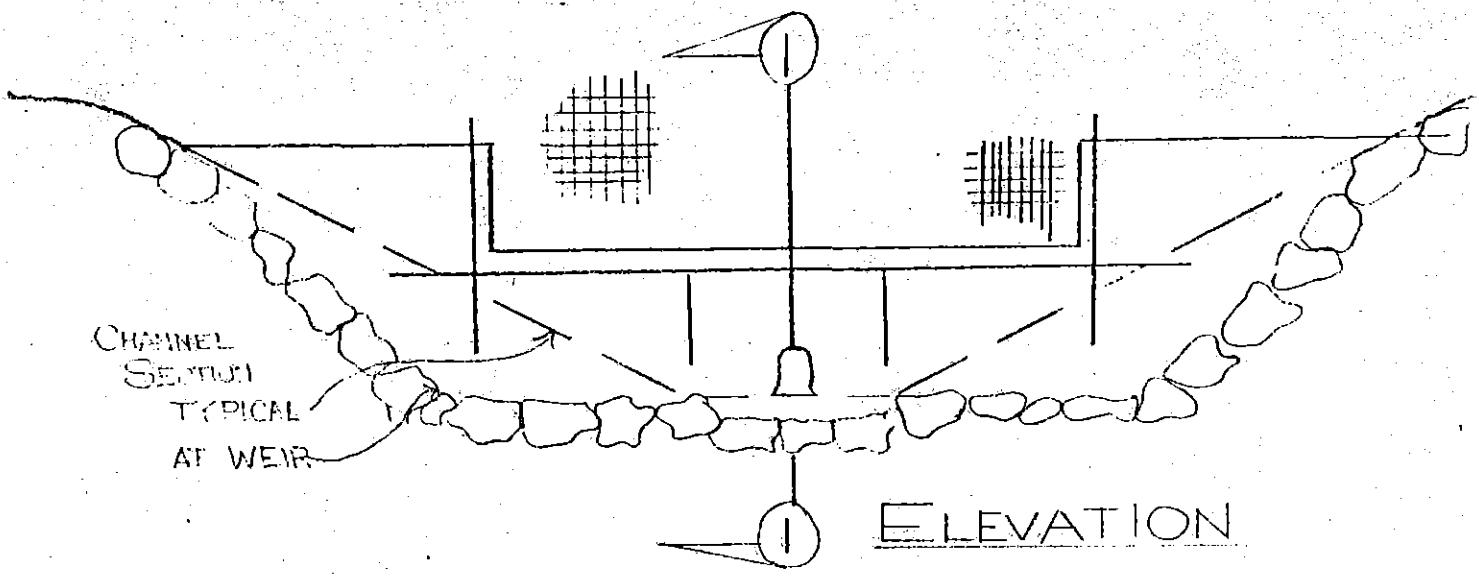
The second phase will be to subject runoff to a treatment process. Both drainage paths off the site will include a wier and screening device. It will be a permanent concrete structure with limited paving around it for erosion control. Two such structures would be constructed and would be designed approximately as shown in Figure 1.

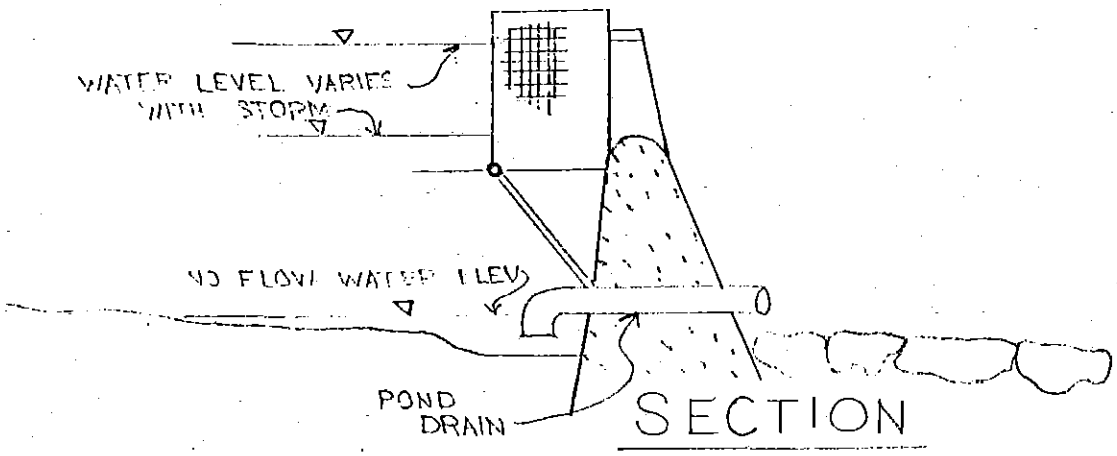
It is presently believed that the most effective location of Site 1 would be on the low side of the right-of-way of the Beaverton-Tigard Expressway. This location would also allow treatment of the runoff

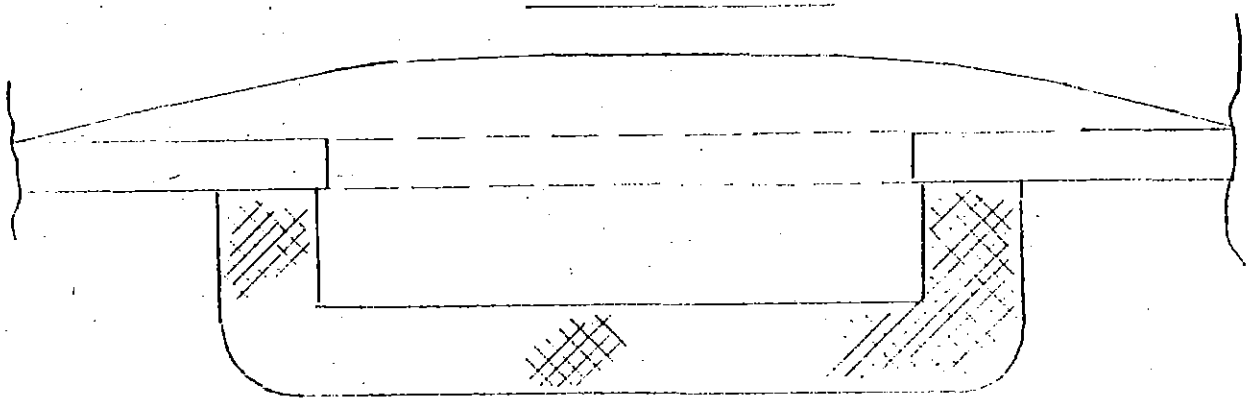
from sections of highway currently adding to runoff volumes to that drainage path. The location of the second would be the southern portion of the Winmar Property (Site 2).

Each device would remove any gross contaminants escaping cleaning procedures on the parking lot, including the larger suspended solids. Removal efficiencies would depend upon flow velocity (directly proportional to the intensity of precipitation) and the selection of screen opening sizes.

A regular maintenance schedule will be implemented to maintain efficient operation of these devices. To eliminate the erosion potential of water flowing through unlined ditches, it is recommended a drainage district be formed. Washington Square, Inc. will cooperate in such a district.

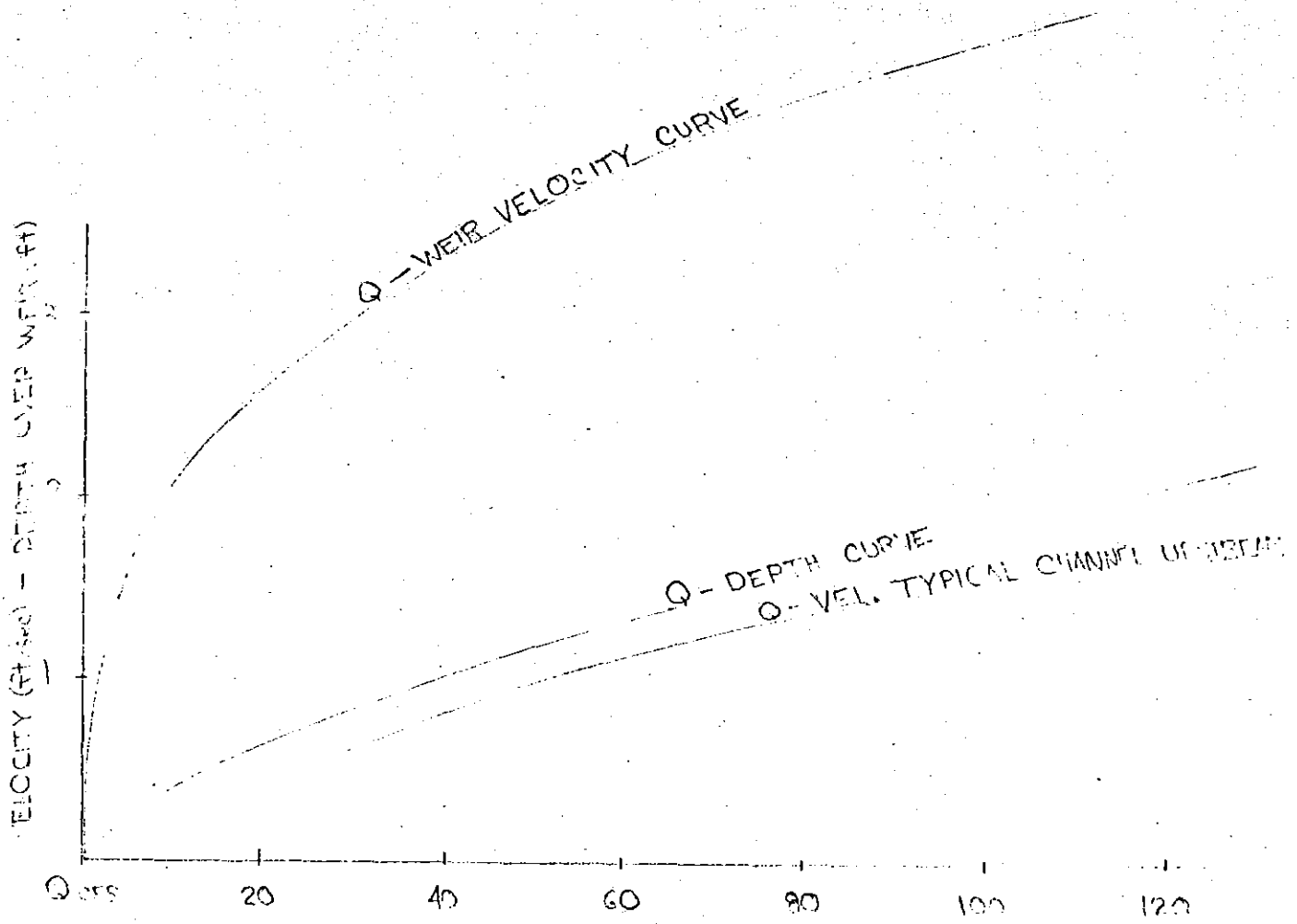






PLAN

FIGURE 1



DEPTH AT WEIR	EST. Q. OVER WEIR	EST VEL. OVER WEIR	EST. VEL. IN TYPICAL CHANNEL
2.2'	130.0 cfs	4.9 ft/sec	1.7 ft/sec
2.0	113.0	4.7	1.6
1.5	73.6	4.1	1.3
1.0	40.0	3.3	0.8
0.5	14.0	2.2	0.3
0	0	0	0

125 CFS EST. RATE OF RUNOFF

BASIN AND WEIR AT LOCATION #2 WILL BE SIMILAR AND SIZED TO HANDLE EST. RUNOFF OF 50 C.F.S.

FIGURE II

Water Quality Control Considerations

1. Proposed dry cleaning procedure and schedule appear satisfactory.

2. Flow equalization/debris collection basins should be provided:

   1) To attenuate peak flow runoff.

   2) To collect settleable and skimmable debris and oils.

   3) Size should be based on intensity-duration rainfall expected once in 25 years and change in area runoff coefficient from approximately 0.2 to 0.9.

   4) Inlet and outlets should be baffled to produce effective settling, skimming and retention of "gross" solids and oils. Outlet should be designed to limit discharge to downstream carrying capacity and drainage system.

   5) Basins should be covered yet readily cleanable and have emergency overflow provisions.

3. Cooling waters: Quantities and discharge temperatures?

Noise

This section summarizes the results of a reevaluation study of both the present ambient noise environment and the predicted noise exposure generated by the construction of Washington Square Shopping Center. It also presents an evaluation of the results relative to impact based on the National Cooperative Highway Research Program Report 117, "Highway Noise."

Summary of Results

The present ambient noise levels in the vicinity of Washington Square are primarily due to vehicular traffic on the surrounding arterials of Greenburg Road, Hall Boulevard, S.W. Scholl's Ferry Road and S.R. 217. While the levels of traffic noise vary as a function of the time of day, the highest values occur during rush hours from approximately 7 to 9 a.m. and 5 to 7 p.m. due to commuter traffic and 7 p.m. to 9:30 p.m. resulting from shopping center traffic. In order to evaluate these peak values, 10% of the Average Daily Traffic (ADT) was selected to represent worst hourly vehicle volumes. Five percent of the vehicles were assumed to be trucks (Highway Capacity Manual 1965).

The area's traffic data not including the Washington Square Development

was based on volumes obtained from the Portland-Vancouver Metropolitan Transportation Study for 1971 and 1990. Average Daily Traffic (ADT) volumes for 1975 were interpolated assuming a constant increase for each year between 1971 and 1990. The traffic data, inclusive of the Washington Square Development, was obtained from a study by John Graham and Company (Washington Square Traffic Study, dated 1969). The projected results are based on a computer analysis of available data using a modified NCHRP 117 Noise Simulation Model. The 1971 results are assumed to be equivalent to the ambient levels which presently exist. Four noise sensitive locations are shown in Table 1 with the L_{10} and L_{50} levels with and without the addition of Washington Square traffic volumes.

Interpretation of Results

A. Criteria

NCHRP Report 117 suggests design criteria (Table 6) for traffic noise which have been derived from previous research projects. These criteria specify maximum noise levels that would be considered by the average individual to be acceptable with respect to sleep interference, speech, radio and TV interference, and annoyance. For example, an L_{10} of 56 dBA during a day-time

TABLE I

1971 - 1990 L_{50} AND L_{10} NOISE LEVELS (dBA)
IN VICINITY OF WASHINGTON SQUARE SHOPPING CENTER

Without center: w/o
With center: w

GREENBURG ROAD
At 50 Feet From Roadway

	L_{50}	L_{10}
1971	55	66
1975 - w/o	62	68
1975 - w	64	69
1990 - w/o	70	84
1990 - w	71	85

GOLDEN KEY APARTMENTS
(At 220 Feet From Roadway)

	L_{50}	L_{10}
1971	52	58
1975 - w/o	53	59
1975 - w	57	68
1990 - w/o	56	67
1990 - w	60	70

S. W. SCHOLL'S FERRY ROAD
(McKay School At 100 Feet From Roadway)

	L_{50}	L_{10}
1971	57	62
1975 - w/o	59	62
1975 - w	62	72
1990 - w/o	62	72
1990 - w	64	74

S. W. SCHOLL'S FERRY ROAD
(Whitford Park School At 400 Feet From Roadway)

	L_{50}	L_{10}
1971	48	51
1975 - w/o	51	58
1975 - w	53	59
1990 - w/o	54	60
1990 - w	56	61

Source: Bionomics Studies Group
Computer Analysis - NCHRP117 Noise Prediction Program

TABLE 2

IMPACT EVALUATION WHEN PREDICTED NOISE LEVELS EXCEED CRITERIA

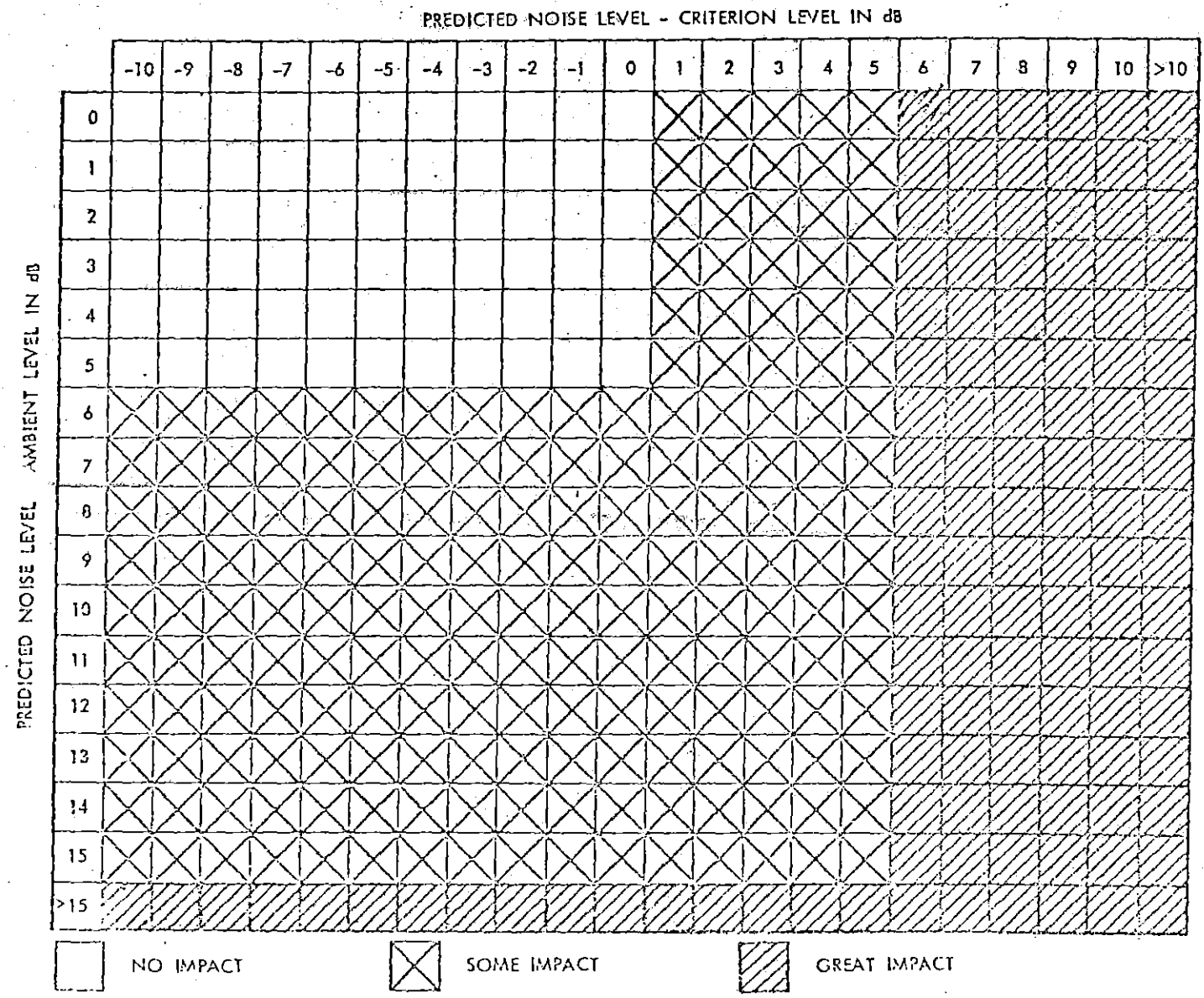


TABLE III

1975 IMPACT ANALYSIS FROM NOISE DUE TO ADDED TRAFFIC

VOLUMES IN VICINITY OF WASHINGTON SQUARE

Location	L_{50} without Wash. Square 1975	Added Noise Source	L_{50} with Wash. Square 1975		Impact
Greenburg Road	62dBA *	Washington Square Traffic (W.S.T)	64dBA	+ 2dBA;	Some impact, unacceptable for residential with or without Washington Square according to NCHRP, 117[1] ; normally acceptable according to HUD guidelines[2] ; less than 5dB increase not considered significant according to EPA.[3]
Golden Key Apartments	53dBA *	W.S.T.	57dBA	+ 4dBA;	Some impact, unacceptable for residential with or without Washington Square according to NCHRP, 117; normally acceptable according to HUD guidelines; less than 5dBA increase not considered significant according to EPA.
McKay School	59dBA *	W.S.T.	62dBA	+ 3dBA;	Some impact, unacceptable for school with or without Washington Square; HUD guidelines do not apply, not considered significant impact according to EPA.
Whitford Park School	51dBA	W.S.T.	53dBA	+ 2dBA;	No impact, acceptable for school with or without Washington Square, HUD guidelines do not apply, no significant impact according to EPA.

TABLE III (Continued)

* Presently exceeds recommended design criteria for building category per NCHRP 117.
L_{50} = 50dBA for residential outside ambient levels.
L_{50} = 55dBA for schools outside ambient levels.

1. NCHRP Report 117 "Highway Noise" (1971)

2. HUD Noise Assessment Guidelines (1971)

3. EPA, NTID 300.3 "Community Noise" (1971)

TABLE IV

1990 IMPACT ANALYSIS FROM NOISE DUE TO ADDED TRAFFIC

VOLUMES IN VICINITY OF WASHINGTON SQUARE

Location	L_{50} Without Wash. Square 1990	Added Noise Source	L_{50} With Wash. Square 1990		Impact
Greenburg Road	70dBA *	Washington Square Traffic (W. S. T.)	71dBA	+ 1dBA:	Some impact, unacceptable for residential with or without Washington Square according to NCHRP, 117[1]; normally acceptable according to HUD guidelines since level occurs less than 8 hours per day every 24.[2] No significant impact according to EPA.[3]
Golden Key Apartments	56dBA *	W. S. T.	60dBA	+ 4dBA:	Some impact, unacceptable for residential with or without Washington Square according to NCHRP, 117; normally acceptable according to HUD criteria; no significant impact according to EPA.
McKay School	62dBA *	W. S. T.	64dBA	+ 2dBA:	Some impact, unacceptable for school with or without Washington Square traffic per NCHRP, 117; HUD guidelines do not apply; no significant impact according to EPA.
Whitford Park School	54dBA	W. S. T.	56dBA **	+ 2dBA:	No impact, though level exceeds design criteria by 1dBA with Washington Square, peak values will occur while school is not expected to be in session; per NCHRP, 117; HUD guidelines do not apply; no significant impact according to EPA.

TABLE IV (Continued)

* Presently exceeds recommended design criteria for building category per NCHRP 117.
L_{50} = 50dBA for residential outside ambient levels.
L_{50} = 55dBA for schools outside ambient levels.

1. NCHRP Report 117 "Highway Noise" (1971)

2. HUD Noise Assessment Guidelines (1971)

3. EPA, NTID 300.3 "Community Noise" (1971)

period is considered acceptable outside a residential dwelling while an L_{10} of 61 is considered acceptable outside a school.

Table 2 shows the characteristics used to evaluate impacts upon sound levels as a result of a new highway source. This table can be read in two ways:

1. On the horizontal scale, if the existing ambient is already above the criteria, an increase of 1 - 5 dBA would result in SOME IMPACT. An increase of 6 dBA or more would result in GREAT IMPACT.
2. On the vertical scale, if the existing ambient is below the criteria, an increase of 0 - 5 dBA would cause NO IMPACT, 6 - 15 dBA SOME IMPACT, and more than 15 dBA would result in GREAT IMPACT.

Table 5 (below) shows the HUD Noise Assessment Guidelines and is the standard by which new construction sites are evaluated. These standards reflect time-weighted permissible exposures, whereas the NCHRP standards use only day or night levels in determining acceptability.

TABLE 5
HUD NOISE ASSESSMENT
GUIDELINES

GENERAL EXTERNAL EXPOSURES (dBA)

Unacceptable

Exceeds 80 dBA 60 minutes per 24 hours
Exceeds 75 dBA 8 hours per 24 hours

Normally Unacceptable

Exceeds 65 dBA 8 hours per 24 hours
Loud repetitive sounds on site

Normally Acceptable

Does not exceed 65 dBA more than 8 hours per 24 hours

Acceptable

Does not exceed 45 dBA more than 30 minutes per 24 hours

The present EPA criteria is more general than either the NCHRP or HUD criteria. According to EPA, the judgment of an impact is based on the amount of change caused by a new noise source. As a general statement, increases can be divided into three ranges, related to expected community response:

1. Up to 5 dBA increase--few complaints if gradual increase.
2. 5 - 10 dBA increase--more complaints especially if conflict with sleeping hours
3. Over 10 dBA increase--substantial number of complaints

Related to these ranges, generally no attention is needed if the increase is under 5 dBA. Some consideration should be given to alternate routing or additional abatement measures if the range increase is 5 - 10 dBA. If the increase is over 10 dBA, the impact is considered serious and warrants close attention.

The impact analysis is discussed in Tables 3 and 4 using the NCHRP 117 criteria, the HUD Noise Assessment Guidelines and the EPA Community Noise criteria. The following assumptions were made in evaluating the projected impacts around Washington Square:

1. The predictions represent the worst case commuter or shopping center traffic levels.

2. The added noise source will be due to Washington Square traffic.

3. The L_{50} levels without Washington Square would represent the existing levels for 1975 and 1990.

4. The impact would be determined by the addition of the L_{50} levels projected for Washington Square traffic to the existing levels for 1975 and 1990 (net increase in L_{50}).

5. The noise projections for the Washington Square vicinity indicate that the NCHRP recommended design criteria will be exceeded, in three of four locations, without the addition of Washington Square traffic (per Table 6).

6. The grade schools are not expected to be in session during peak traffic hours associated with Washington Square (evenings 7:30 - 9:00 p.m.).

7. The L_{10} levels predicted, with Washington Square, will occur for approximately 6 minutes out of the worst 60 minutes each day.

8. The L_{50} levels predicted are statistically more reliable than L_{10} levels and are therefore used in the impact analysis.

III. Conclusion

Based on the results of this study, the areas immediately surrounding Washington Square Shopping Center do not appear to be suited to residential or school developments due to the projected long-term growth of traffic related noise. The absence of Washington Square would not change the long-term impacts or make possible a satisfactory environment.

The impacts predicted in the area present a problem which should be dealt with by a joint effort between county and state agencies.

The following suggestions are made which might result in a more compatible environment in the area of Washington Square. These suggestions will attempt to explore various methods for achievement of a suitable environment. The effectiveness of Washington Square, Inc. as a private enterprise would be limited to:

1. Coordination with Merchant's Association to establish recommended truck routes and delivery schedules to the shopping center.

2. Cooperation with governmental officials when a comprehensive abatement plan is developed.

Other methods to be further evaluated, which might achieve a suitable environment, would be the primary responsibility of the state, county or public agencies.

1. Impose vehicle weight limitations on roads to eliminate truck traffic in sensitive areas.

2. Reduce the speed limit to reduce levels associated with acceleration and deceleration.

3. Change zoning to less sensitive category to achieve compatibility with noise levels and provide building barrier for residences beyond the rezone area.

4. Enact and enforce strict standards for permissible vehicle noise levels.

5. Periodically smooth-coat the road surface (costly).

6. Relocate McKay School to better area.

7. Erect noise barriers along right-of-way.

8. Combinations of several of the above methods.

Building Equipment Noise

It is not expected that the building equipment (i. e., coolers, fans, compressors, etc.) will constitute a problem in noise generation to surrounding sensitive areas. However, to insure that the levels from such equipment are not intrusive, octave-band sound level measurements will be made after installation. If any equipment is found to exceed the recommended levels, appropriate reduction methods will be made by Washington Square, Inc.

Street Sweeper Noise

Sweepers used at Washington Square will be operated at times and locations that will insure that their presence does not cause intrusion at noise sensitive areas surrounding the property. Early morning operations will be limited to areas closest to the department store complex, while the outer areas will be cleaned in the late morning so as not to disturb sleep.

TABLE 6

RECOMMENDED DESIGN CRITERIA

OBSERVER CATEGORY	STRUCTURE		L_{50} (dBA) DAY	L_{50} (dBA) NIGHT	L_{10} (dBA) DAY	L_{10} (dBA) NIGHT
1	Residences	Inside [a]	45	40	51	46
2	Residences	Outside [a]	50	45	56	51
3	Schools	Inside [a]	40	40	46	46
4	Schools	Outside [a]	55	-	61	-
5	Churches	Inside	35	35	41	41
6	Hospitals,	Inside	40	35	46	41
7	convalescent homes	Outside	50	45	56	51
8	Offices:					
	Stenographic	Inside	50	50	56	56
	Private	Inside	40	40	46	46
9	Theaters:					
	Movies	Inside	40	40	46	46
	Legitimate	Inside	30	30	36	36
10	Hotels, motels	Inside	50	45	56	51

[a] Either inside or outside design criteria can be used, depending on the utility being evaluated.

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229- 5357

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

TO: Environmental Quality Commission Members

FROM: Director

SUBJECT: Agenda Item No. E(b), June 29, 1973, EQC Meeting

Valley River Center, Eugene

This item will be forthcoming.

Deleted from agenda.

E J. Weathersbee
for DIARMUID F. O'SCANNLAIN

EJW:vt
6/22/73

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

Memorandum

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. E(b), June 29, 1973, EQC Meeting

Parking Facilities - Valley River Center, Eugene

This item has been removed from the June 29 agenda to allow the staff adequate time to obtain additional information and complete an in-depth review.

The attached letter was received from the applicants, June 26, 1973, granting the Department a 30-day extension.

This project will probably be rescheduled for the July meeting.

for DIARMUID F. O'SCANNLAIN

MJD:vt
6/26/73

Attached

1. Letter from Arland J. Andersen
   H.A. Andersen Co., Inc.
   dated 6/25/73

H. A. ANDERSEN CO.

3427 N. E. HALSEY STREET · PORTLAND, OREGON 97232
MAILING ADDRESS: P. O. BOX 13367 · PORTLAND, OREGON 97213 · AREA CODE 503-235-8661

June 25, 1973

Diamuid O'Scannlain
Director of Department of Environmental Quality
1234 S.W. Morrison
Portland, Oregon 97205

Dear Sir:

On our application for parking at Valley River Center covered by our impact statement of May 15, 1973, we wish to grant you a 30-day extension. Also, please amend the application to read 1,040 parking spaces.

Sincerely yours,

H. A. ANDERSEN CO.

Arland J. Andersen

AJA: lsr

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

To: Environmental Quality Commission

From: Director

Subject: Agenda Item F, June 29, 1973, EQC Meeting

Tax Credit Applications

Attached are review reports on five Tax Credit Applications. These applications and the recommendations of the Director are summarized on the attached table.

for DIARMUID F. o'SCANNLAIN

WEG:ahe
Attachment

June 27, 1973

TAX CREDIT APPLICATIONS

Applicant	Appl. No.	Facility	Claimed Cost	% Allocable to Pollution Control	Director's Recommendation
Midland-Ross Corporation Midrex Division	T-368	Oxide Plant Bentonite Dust Collection Facility	$ 17,720	80% or more	Issue
Midland-Ross Corporation Midrex Division	T-369	Top Gas Dust Collector	162,093	80% or more	Issue
Midland-Ross Corporation Midrex Division	T-370	Oxide Plant Dust Control System	51,837		Denial
Midland-Ross Corporation Midrex Division	T-371	Materials Handling Dust Collectors	60,740	80% or more	Issue
Midland-Ross Corporation Midrex Division	T-372	Materials Handling Briquetting Machine Dust Collection Facility	77,800	80% or more	Issue

WEG:ahe

June 27, 1973

Appl T-368

Date 6/15/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Midland-Ross Corporation
Midrex Division
55 Public Square
Cleveland, Ohio 44113

The applicant produces high purity iron pellets by hydrogen/carbon reduction of iron oxide. The plant is located at 14141 North Rivergate Boulevard, Portland, Oregon 97203.

2. Description of Claimed Facility

The claimed facility is described to be the Oxide Plant Bentonite Dust Collection Facility consisting of a Ducon size 80, type UFV, Model 11 baghouse; a uni-filter No. 3 baghouse; and necessary electrical controls and wiring.

The cliamed facility was completed in July, 1970.

Certification is claimed under the 1969 Act with 100% allocable to pollution control.

Facility cost: $17,720.00 (Accountant's certification provided).

3. Evaluation of Application

The claimed facility was constructed according to plans reviewed and approved by the Columbia-Willamette Air Pollution Authority. The facility was intended to control dust emitted from the bentonite (a clay binder) handling/conveying/storage systems. The Regional Authority has indicated that the facility is achieving its intended purpose.

The collected dust is bentonite and is usable. The annual value of recovered bentonite is estimated to be $2,100. This is offset by an estimated annual operating expense of $1,910 for a net annual in-plant "profit" (before taxes) of $190 (equivalent to a 1.07% return on investment, (before taxes). Assuming a corporate income tax rate of 50%, the return on investment after taxes would be about 0.5%. The company has indicated that the lowest acceptable return after taxes on an investment must be in excess of the U. S. prime interest rate. Thus these figures indicate that while the facility is apparently paying for its installation and operation, the company is not experiencing an attractive economic gain from installing the claimed facility.

It is concluded that the claimed facility was installed and is operated to control air pollution and that 100% of its cost is allocable to pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $17,720.00 with 80% or more allocable to pollution control, be issued for the facility claimed in Tax Application T-368.

FAS:sb
6/15/73

Appl T-369

Date 6/18/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Midland-Ross Corporation
Midrex Division
55 Public Square
Cleveland, OH

The applicant produces high purity iron pellets by hydrogen/carbon reduction of iron oxide. The plant is located at 14141 North Rivergate Blvd., Portland, OR 97203.

2. Description of Claimed Facility

The claimed facility is described to be the Top Gas Dust Collector consisting of a Ducon Twin, Size 2-114, Type UW-4, Model III wet scrubber with two integral 125 hp fans; ductwork and hoods; a 250 hp Westinghouse electric controls; and a portion of a Gould 75 hp water pump and piping (the remaining portion of the water system is considered to be part of a water pollution control facility).

The claimed facility was completed in July, 1970.

Certification is claimed under the 1969 Act with 100% allocable to pollution control.

Facility cost: $162,093.00 (Accountant's certification provided).

3. Evaluation of Application

The claimed facility was constructed according to plans reviewed and approved by the Columbia Willamette Air Pollution Authority. The facility was intended to control dust emitted from the oxide pellet drying and hardening furnace. The Regional Authority has indicated that the facility is achieving its intended purpose.

The oxide dust collected by the facility has an estimated annual value of $51,000. The total estimated annual operating expenses are reported to be $31,500. The net annual in plant "profit" (before taxes) is $19,500 for a return on investment (before taxes) of about 12%. Assuming a corporate income tax rate of 50%, the return on investment after taxes would be about 6%. The company has indicated that the lowest acceptable return after taxes on an investment must be in excess of the U. S. prime interest rate. Thus these figures indicate that while the facility is apparently paying for its installation and operation, the company is not experiencing an attractive economic gain from installing the claimed facility.

It is concluded that the claimed facility was installed and is operated to control air pollution and that 100% of its cost is allocable to pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $162,093.00, with 80% or more allocable to pollution control, be issued for the facility claimed in Tax Application T-369.

FAS:sb
6/18/73

Appl T-370

Date 6/18/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Midland-Ross Corporation
Midrex Division
55 Public Square
Cleveland, OH

The applicant produces high purity iron pellets by hydrogen/carbon reduction of iron oxide. The plant is located at 14141 North Rivergate Blvd., Portland, OR 97203.

2. Description of Claimed Facility

The claimed facility is described to be the Oxide Plant Dust Control System consisting of a Ducon Type 96 UW-4, Model III wet scrubber with a 100 hp fan; ductwork and hoods; a 100 hp Westinghouse motor with controls and wiring; and inlet water and discharge effluent piping.

The claimed facility was completed in July, 1970.

Certification is claimed under the 1969 Act with 100% allocable to pollution control.

Facility cost: $51,837.00 (Accountant's certification provided).

3. Evaluation of Application

The claimed facility was constructed according to plans reviewed and approved by the Columbia Willamette Air Pollution Authority. The facility was intended to control oxide dust generated at transfer points in the materials handling system in the Oxide Pellet Plant. The Regional Authority has indicated that the facility is achieving its intended purpose.

The oxide dust collected by this facility has an estimated annual value of $23,500. The total estimated annual operating expenses are reported to be $11,900. The net annual in plant "profit" (before taxes) is $11,600 for a return on investment (before taxes) of about 22-1/2%. Assuming a corporate income tax rate of 50%, the return on investment after taxes would be about 11%. The company has indicated that the lowest acceptable return after taxes on an investment must be in excess of the U. S. prime interest rate. Thus these figures indicate that the facility is not only paying for its installation and operation but apparently experiencing an attractive economic return.

It is concluded that the claimed facility could have been installed for significant economic reasons in addition to controlling atmospheric emissions. Since the facility appears to be economically attractive, certification as a pollution control facility is considered to be unwarranted.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate not be issued for the facility claimed in Tax Application T-370.

FAS:sb
6/18/73

Appl T-371

Date 6/18/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Midland-Ross Corporation
Midrex Division
55 Public Square
Cleveland, OH

The applicant produces high purity iron pellets by hydrogen/carbon reduction of iron oxide. The plant is located at 14141 North Rivergate Blvd., Portland, OR 97203.

2. Description of Claimed Facility

The claimed facility is described to be the Materials Handling Dust Collectors consisting of a size 2-175 Ducon type VM 810/150 4-cyclone group; a size 72 Ducon type VVO venturi scrubber; ductwork and hoods; a 100 hp fan and motor; and inlet water and discharge effluent piping.

The claimed facility was completed in October, 1971.

Certification is claimed under the 1969 Act with 100% allocable to pollution control.

Facility cost: $60,740.00 (Accountant's certification provided).

3. The claimed facility was constructed according to plans reviewed and approved by the Columbia Willamette Air Pollution Authority. The facility was intended to control metallized dust generated at transfer points of material handling equipment and at the metalizing furnace discharge points in the Pellet Metalizing Plant. The Regional Authority has indicated that the facility is achieving its intended purpose.

The metallized dust collected by the facility has an estimated annual value of $49,000. The total estimated annual operating expenses are reported to be $45,300. The net annual in plant "profit" (before taxes) is $3,700 for a return on investment (before taxes) of about 6.1%. Assuming a corporate income tax rate of 50%, the return on investment after taxes would be about 3%. The company has indicated that the lowest acceptable return after taxes on an investment must be in excess of the U. S. prime interest rate. Thus these figures indicate that while the facility is apparently paying for its installation and operation, the company is not experiencing an attrative economic gain from installing the claimed facility.

It is concluded that the claimed facility was installed and is operated to control air pollution and that 100% of its cost is allocable to pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $60,740.00 with 80% or more allocable to pollution control, be issued for the facility claimed in Tax Application T-371.

FAS:sb
6/18/73

Appl T-372

Date 6/18/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Midland-Ross Corporation
Midrex Division
55 Public Square
Cleveland, OH 44113

The applicant produces high purity iron pellets by hydrogen/carbon reduction of iron oxide. The plant is located at 14141 North Rivergate Blvd., Portland, OR 97203.

2. Description of Claimed Facility

The claimed facility is described to be the Materials Handling Briquetting Machine Dust Collection Facility consisting of a size 4-110 Ducon type VM 810/150 4-cyclone group; a size 78 Ducon type VVO venturi scrubber; ductwork and hoods; a 150 hp fan and motor with controls and wiring; and inlet water and discharge effluent piping.

The claimed facility was completed in September, 1970.

Certification is claimed under the 1969 Act with 100% allocable to pollution control.

Facility cost: $77,800 (Accountant's certification provided).

3. Evaluation of Application

The claimed facility was constructed according to plans reviewed and approved by the Columbia Willamette Air Pollution Authority. The claimed facility was intended to collect airborne metallized dust (metallic iron dust), clean the collecting airstream, and discharge metallized dust to a collection facility. The Regional Authority has indicated that the facility is achieving its intended purpose.

The collected metallized dust is usable. The annual value of collected dust approximates $49,000. This is offset by an estimated annual operating expense of $47,900 for a net annual in-plant "profit" (before taxes) of $1,100 (equivalent to a 1.4% return on investment,(before taxes). Assuming a corporate income tax rate of 50%, the return on investment after taxes would be about 1.2%. The company has indicated that the lowest acceptable return after taxes on an investment must be in excess of the U. S. prime interest rate. Thus these figures indicate that while the facility is apparently paying for its installation and operation, the company is not experiencing an attractive economic gain from installing the claimed facility.

It is concluded that the claimed facility was installed and is operated to control air pollution and that 100% of its cost is allocable to pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $77,800, with 80% or more allocable to pollution control, be issued for the facility claimed in Tax Application T-372.

FAS:sb
6/18/73

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item G, June 29, 1973, EQC Meeting

Columbia Willamette Air Pollution Authority

Background

At the May 29, 1973, meeting of the Environmental Quality Commission a public hearing was held to "determine whether the air quality control program of the Columbia Willamette Air Pollution Authority is inadequate or is being administered in a manner inconsistent with the requirements of ORS 449.702 to 449.717, 449.727 to 449.741, 449.760 to 449.830, 449.850 to 449.920 and 449.949 to 449.965, or is being administered in a manner lacking uniformity throughout the territory of the regional authority".

The Director's recommendation was as follows:

"1. The Environmental Quality Commission find in accordance with ORS 449.905 that the air quality control program of CWAPA is inadequate in that it fails to make provision for continued air pollution control services to all areas served by it, and that CWAPA is unable to take the necessary corrective measures, and therefore, that

EQC shall take over administration and enforcement of the air quality control program in CWAPA's territory effective July 1, 1973.

2. The Commission further find that air pollution control services in CWAPA's territory will be best served by:
   a. A transfer of all CWAPA staff positions, consistent with applicable state civil service and personnel regulations to the Department of Environmental Quality.
   b. The transfer of all CWAPA assets to the Department.
   c. Ratification and affirmance of all existing CWAPA rules, permits, compliance schedules and contracts.
   d. Prior to such transfer, an audit of CWAPA's accounts, the results of which audit shall be communicated to the Commission at its next meeting.
   e. The Director taking all actions necessary to effect an orderly transfer to the Department of Environmental Quality of all CWAPA plans and programs as fully as possible without any break in continuity, effective July 1, 1973."

Public testimony was taken. Portland City Commissioner, Mildred Schwab, and Multnomah County Commissioner, Ben Padrow, appeared and requested that they be given additional time to determine whether or not their respective two agencies would be willing to finance the full cost of CWAPA's activities so that the regional authority could continue to operate on a four-county basis and under local control.

The Commission voted to adopt the Director's recommendation "unless in fact a commitment is received by June 10, 1973, from Multnomah County and the City of Portland that they will pay the assessments previously levied against the other counties."

No commitment was received by June 10, 1973, however, the City of Portland submitted a resolution by letter dated June 14, 1973, and Multnomah County submitted a similar resolution by letter dated June 18, 1973. Copies are attached. Both entities resolved to negotiate on behalf of the City and County and the Environmental Quality Commission for "(1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) for a permanent solution to the continuation of the Air Pollution Control Program in the Portland Metropolitan area with significant participation of the respective jurisdiction."

Following the receipt and the review of the resolutions at least two important questions remain, namely: What specifically is to happen to CWAPA at the end of the temporary period for which funds have been pledged? And, will all the member counties agree to function within CWAPA under the proposed conditions?

These questions are raised because there appears to be broad agreement among its members that CWAPA should be phased out, and there is also indication the proposed solution may not be entirely acceptable to three of the four counties.

Under the circumstances, it appeared that the best thing to do would be to have all four counties and the City of Portland re-

presented in person before the Commission at its June 29th meeting. Members of the Commission can then explore some of the details in arriving at a workable solution. Accordingly, invitations have been sent to the head of each CWAPA member entity to appear and express their views as to the future of CWAPA.

The ideal solution would be to have a viable four-county agency with a strong public and financial backing of each member. If this is not to be, then an orderly transition to DEQ operation - with emphasis on maintaining strong, local public participation - is certainly appropriate. The Department staff remains ready to work with the CWAPA staff to insure that the best possible arrangements can be completed.

In order to insure a retention of the CWAPA program and staff, a program budget was submitted to Ways and Means. The Ways and Means sub-committee considering the DEQ budget has moved to incorporate the CWAPA program in the Department budget.

Director's Recommendation

After hearing the views of CWAPA members, the Commission should decide whether to rescind its order or let it stand.

for DIARMUID F. O'SCANNLAIN
Director

HMP:c
6/22/73

Attachments:
1. Multnomah County Resolutions
2. City of Portland Resolution
3. Letter from Director to CWAPA members, local governments

Multnomah County Oregon

BOARD OF COUNTY COMMISSIONERS
(503) 248-3304 • ROOM 605, COUNTY COURT HOUSE • PORTLAND, OREGON • 97204

June 18, 1973

City of Portland
City Hall
Portland, Oregon 97204
Attention: Mr. George Yerkovich,
City Auditor

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Attention: Mr. Diarmuid F. O'Scannlain,
Director

Columbia-Willamette Air Pollution Authority
1010 N. E. Couch Street
Portland, Oregon 97232
Attention: Mr. R. E. Hatchard,
Program Director

Dear Sirs:

We are transmitting herewith copy of Resolution of the Board of County Commissioners, dated June 14, 1973, in connection with negotiations between Multnomah County, the City of Portland and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland Metropolitan area.

Yours very truly,

BOARD OF COUNTY COMMISSIONERS

By Dorothy McCabe
Clerk of Board

ja
Enc.

BEFORE THE BOARD OF COUNTY COMMISSIONERS FOR

MULTNOMAH COUNTY, OREGON

In the Matter of the Adoption of a Resolution in Connection with Negotiations Between Multnomah County, the City of Portland and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland metropolitan area	RESOLUTION

WHEREAS, the Environmental Quality Commission of the State of Oregon, under authority of ORS 449.905, is authorized to make a determination regarding the adequacy of a program carried out by a Regional Air Quality Control Authority; and

WHEREAS, the Columbia Willamette Air Pollution Authority (CWAPA), formed under authority of ORS 449.850, has been funded by Multnomah, Clackamas, Columbia and Washington Counties on a population basis; and

WHEREAS, Washington County for an extended period of time has failed to make contribution as required; and the Environmental Quality Commission by correspondence to CWAPA has indicated that the failure of a county to financially participate may, under the provisions of ORS 449.905, render CWAPA's program inadequate, and has suggested that a corrective measure which might be taken would be contribution of added financial support by the City of Portland or Multnomah County; and

WHEREAS, continuation of CWAPA's Air Pollution Control Program through CWAPA or the Environmental Quality Commission, and continuation of local participation in limitation and control of air pollution, is of vital interest to the County; and

WHEREAS, the amount of money required to maintain CWAPA's Air Pollution Control Program at an adequate level is estimated to be $22,500, which sum should be shared by the City and the County on an equal basis; now, therefore,

BE IT RESOLVED that the Multnomah County Board of Commissioners, aided by Legislative Counsel, shall negotiate on behalf of the County with the City of Portland and the Environmental Quality Commission for (1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) a permanent solution to the continuation of the Air Pollution Control Program in the Portland metropolitan area with significant participation of the respective jurisdictions.

June 14, 1973

BOARD OF COUNTY COMMISSIONERS
MULTNOMAH COUNTY, OREGON

By M. James Gleason
Chairman

APPROVED AS TO FORM:

Charles S. Evans

Charles S. Evans
County Counsel for
Multnomah County, Oregon

CWAPA

THE CITY OF
PORTLAND
OREGON

OFFICE OF
CITY AUDITOR
GEORGE YERKOVICH
CITY AUDITOR

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUN 15 1973
OFFICE OF THE DIRECTOR

June 14, 1973

Diarmuid F. O'Scannlain, Director
Department of Environmental Quality
1234 S.W. Morrison
Portland, Oregon 97205

Dear Mr. O'Scannlain:

Enclosed is a certified copy of Resolution No. 31253, adopted by the Council June 13, 1973, authorizing negotiations with Multnomah County and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland metropolitan area.

Yours very truly,

George Yerkovich

Auditor of the City of Portland

EC:lg
Encl.

Aud. 99-175-120

OFFICE OF

AUDITOR OF THE CITY OF PORTLAND

PORTLAND, OREGON 97204

ROOM 202
CITY HALL

COPY CERTIFICATE

STATE OF OREGON,
County of Multnomah,
CITY OF PORTLAND, } ss

GEORGE YERKOVICH Auditor of the City of Portland, do hereby certify that I have compared the following copy of RESOLUTION NO. 31253, adopted by the Council June 13, 1973, authorizing negotiations with Multnomah County and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland metropolitan area,

with the original thereof, and that the same is a full, true and correct copy of such original

RESOLUTION NO. 31253,

and of the whole thereof as the same appears on file and of record in my office, and in my care and custody.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the City of Portland affixed this 14th day of June, 1973.

George Yerkovich

Auditor of the City of Portland

By Edna Cervera Deputy

RESOLUTION NO. 31253

WHEREAS the Environmental Quality Commission of the State of Oregon, under authority of ORS 449.905, is authorized to make a determination regarding the adequacy of a program carried out by a Regional Air Quality Control Authority, and

WHEREAS the Columbia Willamette Air Pollution Authority (CWAPA), formed under authority of ORS 449.850 has been funded by Multnomah, Clackamas, Columbia and Washington Counties on a population basis, and

WHEREAS Washington County for an extended period of time has failed to make contribution as required; and the Environmental Quality Commission by correspondence to CWAPA has indicated that the Washington County's failure to financially participate may, under the provisions of ORS 449.905, render CWAPA's program inadequate, and has suggested that a corrective measure which might be taken by CWAPA would be contribution of a portion of CWAPA's budget to CWAPA by the city or Multnomah County, and

WHEREAS continuation of CWAPA's Air Pollution Control Program through CWAPA or the Environmental Quality Commission and continuation of local participation in limitation and control of air pollution is of vital interest to the City, and

WHEREAS the amount of money required to maintain CWAPA's Air Pollution Control Program at an adequate level is estimated to be $22,500 which sum should be shared by the City and County on an equal basis; now, therefore,

BE IT RESOLVED that the Commissioner of Public Affairs, aided by the City Attorney's staff, hereby is authorized to negotiate on behalf of theCity with Multnomah County and the Environmental Quality Commission for (1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) for a permanent solution to the continuation of the Air Pollution Control Program in the Portland metropolitan area with significant participation of the respective jurisdiction.

Adopted by the Council

JUN 13 1973

George Yerkovich

Auditor of the City of Portland

Commissioner Schwab
June 6, 1973
DCJ:at

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

June 20, 1973

Honorable Neil Goldschmidt
Mayor, City of Portland
City Hall
1220 S. W. 5th Avenue
Portland, Oregon 97204

Dear Mayor Goldschmidt:

The Environmental Quality Commission will have before it on its June 29th agenda a report on the status of the Columbia Willamette Air Pollution Authority (CWAPA). I would appreciate it very much if you could arrange to be present at that time to discuss with the Commission what thoughts you have with respect to CWAPA's future.

We have now had a chance to review the actual texts of last week's resolutions of the Portland City Council and the Multnomah County Board of Commissioners. The commitment made by the City of Portland and Multnomah County to pay the dues of Columbia, Clackamas and Washington Counties in order to sustain CWAPA in its present regional form is impressive. I would be delighted to recommend to my Commission that this arrangement be accepted.

But two issues need to be resolved before anyone can consider the issue closed: What specifically is to happen to CWAPA at the end of the temporary period for which funds have been pledged? And, will all the member counties agree to function within CWAPA under the proposed conditions?

I raise these questions now because there remains broad agreement among its members that CWAPA should be phased out, and there is also indication the proposed solution may not be entirely acceptable to three of the four counties.

Under the circumstances, it appears the best thing to do would be to have all four counties and the City of Portland represented in person before the Commission at its June 29th meeting. Members of the Commission can then explore some of the details in arriving at a workable solution.

The ideal solution would be to have a viable four county agency with a strong public and financial backing of each member. If this is not to be, then an orderly transition to DEQ operation -- with emphasis on maintaining strong, local public participation -- is certainly appropriate. My staff and I remain ready to work with the CWAPA staff to insure that the best possible arrangements can be completed.

I would appreciate knowing that you will be able to attend this next Commission meeting.

Sincerely,

Diarmuid F. O'Scannlain
cm

DIARMUID F. O'SCANNLAIN
Director

DFO'S:cm

Identical letter sent to:

Honorable M. James Gleason, Chairman,
Multnomah County Board of Commissioners
Honorable Eldon Hout, Chairman,
Washington County Board of Commissioners
Honorable Fred Foshaug, Chairman,
Columbia County Board of Commissioners
Honorable Thomas Telford, Chairman,
Clackamas County Board of Commissioners

ORDER

Pursuant to ORS 449.905 and following a public hearing before it on this date, after 30 days' notice to Columbia-Willamette Air Pollution Authority (CWAPA), the Environmental Quality Commission (EQC) finds that:

1. The air quality control program of CWAPA is inadequate in that it fails to make provision for continued air pollution control services to all areas served by it;

2. CWAPA is unable to take the necessary corrective measures;

3. It is necessary that EQC take over the administration and enforcement of the air quality control program in CWAPA's territory;

THEREFORE, EQC hereby orders that it shall undertake a program of administration and enforcement of the air quality control program in CWAPA's territory, effective July 1, 1973, and that this undertaking be implemented by the Department of Environmental Quality (Department) taking all actions necessary and proper to effect an orderly transfer to the Department of all CWAPA programs and plans as fully as possible without any break in continuity, including the following:

(a) a transfer of all CWAPA staff positions, consistent with applicable state civil service and personnel regulations, to the Department;

(b) the transfer of all CWAPA assets to the Department;

(c) the ratification and affirmance of all existing CWAPA rules, permits, compliance schedules and contracts;

(d) prior to such transfer, an audit of CWAPA's accounts (meaning and including all minute books, other books, papers, files, cards, letters and records, used in conducting the affairs of CWAPA or in recording the transactions thereof, including financial transactions), the results of which audit shall be communicated to DEQ at its next meeting;

provided, however, that this order shall become ineffective if on or before 8:30 a.m., P.D.T., of June 11, 1973, Multnomah County and the city of Portland deliver to the Director of DEQ written commitments, satisfactory to the Director, to totally finance the non-federal share of the costs of the operation of CWAPA for at least the period of July 1, 1973 to July 1, 1974.

Dated this 29th day of May, 1973.

ENVIRONMENTAL QUALITY COMMISSION

BY: /s/ B. A. McPhillips
Chairman

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

1010 N.E. COUCH STREET PORTLAND, OREGON 97232 PHONE (503) 233-7176

21 June 1973

B. A. McPhillips, Chairman
Environmental Quality Commission
1234 Southwest Morrison Street
Portland, Oregon 97205

Dear Mr. McPhillips:

The Board of Directors of Columbia-Willamette Air Pollution Authority took the following actions during the regular meeting held June 15, 1973:

1. Adopted Resolution #23 which provides for the agency's program during the period 1 July 1973 through June 30, 1974. (copy enclosed)

2. Instructed the Program Director to continue complete air pollution services through the region including Washington County.

3. Accepted Resolution #31253 from the Auditor of the City of Portland and Resolution dated June 14, 1973 from Multnomah County Board of Commissioners providing for a shared City-County contribution to CWAPA in the amount now estimated at $22,500.

These resolutions, along with the $60,566 previously provided by Multnomah County, firm the $83,102 total local contributions required.

Sincerely yours,

Fred Stefani

Fred Stefani, Chairman
Board of Directors

FS:jl
cc: Dairmuid O'Scanlain, Director, DEQ
CWAPA Board of Directors
Environmental Quality Commission Members
Arnold Cogan
Paul Bragdon
Morris Crothers
Grace Phinney

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY
1010 NE Couch Street, Portland, Oregon 97232

RESOLUTION NO. 23

RESOLUTION ADOPTING BUDGET AND MAKING APPROPRIATIONS
FISCAL YEAR 1973-74

WHEREAS the Budget Committee at its advertised public meeting, 16 February 1973 received the proposed 1973-74 budget from the Budget Officer and duly considered the same and further considered the proposed 1973-74 budget at its advertised meeting 16 March 1973 and at said meeting forwarded the said proposed budget to the Board of Directors and

WHEREAS the Board of Directors at its regular meeting 16 March 1973 received and considered the proposed 1973-74 budget and ordered said proposed budget submitted to the Tax Supervising and Conservation Commission for Multnomah County, and

WHEREAS the Tax Supervising and Conservation Commission for Multnomah County ordered a public hearing 11 May 1973 and notice of such hearing was published 30 April 1973, and

WHEREAS on 11 May 1973 the Tax Supervising and Conservation Commission for Multnomah County approved the said proposed 1973-74 budget without objection or recommendation; now therefore be it

RESOLVED that the Board of Directors hereby approve and adopt the 1973-74 budget approved by the Tax Supervising and Conservation Commission for Multnomah County 11 May 1973 now on file in the office of the Budget officer. There is no tax levy for this budget.

BE IT FURTHER RESOLVED that amounts for the fiscal period beginning 1 July 1973 and ending 30 June 1974, and for the purposes shown below, are hereby appropriated as follows:

Personnel Services	$439,156
Material and Services	90,445
Capital Outlay	4,175
Operating Contingencies	41,068
	$574,844

Adopted by the Board of Directors this 15th day of June 1973.

Fred Stefani
Chairman

RESOLUTION NO. 38253

WHEREAS the Environmental Quality Commission of the State of Oregon, under authority of ORS 449.905, is authorized to make a determination regarding the adequacy of a program carried out by a Regional Air Quality Control Authority, and

WHEREAS the Columbia Willamette Air Pollution Authority (CWAPA), formed under authority of ORS 449.850 has been funded by Multnomah, Clackamas, Columbia and Washington Counties on a population basis, and

WHEREAS Washington County for an extended period of time has failed to make contribution as required; and the Environmental Quality Commission by correspondence to CWAPA has indicated that the Washington County's failure to financially participate may, under the provisions of ORS 449.905, render CWAPA's program inadequate, and has suggested that a corrective measure which might be taken by CWAPA would be contribution of a portion of CWAPA's budget to CWAPA by the city or Multnomah County, and

WHEREAS continuation of CWAPA's Air Pollution Control Program through CWAPA or the Environmental Quality Commission and continuation of local participation in limitation and control of air pollution is of vital interest to the City, and

WHEREAS the amount of money required to maintain CWAPA's Air Pollution Control Program at an adequate level is estimated to be $22,500 which sum should be shared by the City and County on an equal basis; now, therefore,

BE IT RESOLVED that the Commissioner of Public Affairs, aided by the City Attorney's staff, hereby is authorized to negotiate on behalf of facility with Multnomah County and the Environmental Quality Commission for (1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) for a permanent solution to the continuation of the Air Pollution Control Program in the Portland metropolitan area with significant participation of the respective jurisdiction.

Adopted by the Council

JUN 13 1973

George Hallmark
Auditor of the City of Portland

Commissioner Schrab
June 6, 1973
BG:at

COUNTY COMMISSIONERS
M. JAMES GLEASON, Chairman
DAN MOSEE
BEN PADROW
DONALD E. CLARK
MEL GORDON

Multnomah County Oregon

BOARD OF COUNTY COMMISSIONERS
(503) 248-3304 • ROOM 605, COUNTY COURT HOUSE • PORTLAND, OREGON • 97204

June 18, 1973

City of Portland
City Hall
Portland, Oregon 97204
Attention: Mr. George Yerkovich,
City Auditor

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Attention: Mr. Diarmuid F. O'Scannlain,
Director

Columbia-Willamette Air Pollution Authority
1010 N. E. Couch Street
Portland, Oregon 97232
Attention: Mr. R. E. Hatchard,
Program Director

Dear Sirs:

We are transmitting herewith copy of Resolution of the Board of County Commissioners, dated June 14, 1973, in connection with negotiations between Multnomah County, the City of Portland and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland Metropolitan area.

Yours very truly,

BOARD OF COUNTY COMMISSIONERS

By
Clerk of Board

jo
Enc.

9

BEFORE THE BOARD OF COUNTY COMMISSIONERS FOR

MULTNOMAH COUNTY, OREGON

In the Matter of the Adoption of a Resolution in Connection with Negotiations Between Multnomah County, the City of Portland and the Department of Environmental Quality for a shared City-County contribution to CWAPA and for continuation of the Air Pollution Control Program in the Portland metropolitan area	RESOLUTION

WHEREAS, the Environmental Quality Commission of the State of Oregon, under authority of ORS 449.905, is authorized to make a determination regarding the adequacy of a program carried out by a Regional Air Quality Control Authority; and

WHEREAS, the Columbia Willamette Air Pollution Authority (CWAPA), formed under authority of ORS 449.850, has been funded by Multnomah, Clackamas, Columbia and Washington Counties on a population basis; and

WHEREAS, Washington County for an extended period of time has failed to make contribution as required; and the Environmental Quality Commission by correspondence to CWAPA has indicated that the failure of a county to financially participate may, under the provisions of ORS 449.905, render CWAPA's program inadequate, and has suggested that a corrective measure which might be taken would be contribution of added financial support by the City of Portland or Multnomah County; and

WHEREAS, continuation of CWAPA's Air Pollution Control Program through CWAPA or the Environmental Quality Commission, and continuation of local participation in limitation and control of air pollution, is of vital interest to the County; and

WHEREAS, the amount of money required to maintain CWAPA's Air Pollution Control Program at an adequate level is estimated to be $22,500, which sum should be shared by the City and the County on an equal basis; now, therefore,

BE IT RESOLVED that the Multnomah County Board of Commissioners, aided by Legislative Counsel, shall negotiate on behalf of the County with the City of Portland and the Environmental Quality Commission for (1) a temporary continuation of CWAPA through an equally shared City-County contribution now estimated to be in the amount of $22,500; and (2) a permanent solution to the continuation of the Air Pollution Control Program in the Portland metropolitan area with significant participation of the respective jurisdictions.

June 14, 1973

BOARD OF COUNTY COMMISSIONERS
MULTNOMAH COUNTY, OREGON

By /s/ James Gleason
Chairman

APPROVED AS TO FORM:

/s/ Charles S. Evans
Charles S. Evans
County Counsel for
Multnomah County, Oregon

ENTERED
JUN 14 1973

ATTACHMENT 10

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

1010 N.E. COUCH STREET PORTLAND, OREGON 97232 PHONE (503) 233-7176

25 May 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
MAY 25 1973
OFFICE OF THE DIRECTOR

Mr. Diarmuid O'Scannlain, Director
Department of Environmental Quality
1234 S.W. Morrison
Portland, Oregon 97205

Dear Mr. O'Scannlain:

During the special meeting held on 24 May 1973, the Board of Directors of CWAPA approved the memorandum, "CWAPA Merger with D.E.Q.", dated 23 May. The Board directed that a copy be transmitted to the Environmental Quality Commission for consideration during the scheduled 29 May public hearing.

Sincerely yours,

R. E. Hatchard
Program Director

REH:sm

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY
1010 N.E. COUCH STREET PORTLAND, OREGON 97232 PHONE (503) 233-7176

23 May 1973

MEMORANDUM

TO: The Board of Directors

FROM: R. E. Hatchard, Program Director

SUBJECT: CWAPA Merger with DEQ

Dear Board Members:

The Environmental Quality Commission has set a public hearing for May 29, 1973 to determine if CWAPA is being administered in a manner inconsistent with the ORS Chapter 449. It appears that due to lack of payment by Washington County that services will not be supplied by CWAPA to Washington County after 1 July 1973. The Department of Environmental Quality has replied that it will provide the required services to Washington County in accordance with provisions of 449.905. The other CWAPA participating jurisdictions have indicated that: 1) Washington County is an integral part of the regional air pollution authority and should not be administered separately; 2) if the State provides acceptable services to Washington County at no local cost to Washington County, it creates an extremely difficult situation with reference to the continuation of the local contributions from the counties of Columbia, Clackamas and Multnomah.

The participating jurisdictions believe instead that a merger of the Columbia-Willamette air pollution program with the Department of Environmental Quality should be arranged with the following conditions:

1. The regional program will continue to function similar to its current coordination with local related programs, but organized as a DEQ region, effective July 1, 1973.

2. In order to assist in accomplishing this objective, the CWAPA Board requests that a similar name of the agency be continued, such as the Columbia-Willamette Pollution Control Region; that its present office location be continued; that the existing rules be continued under the provisions of 449.785 (1) and (2); that the Advisory Committee representing the interest areas of public health, community planning, general public, industry and agriculture be continued.

3. That the CWAPA staff continue employment in their current positions, salaries and fringe benefits for a period of nine months unless the employee waives this condition.

4. That CWAPA's office equipment, sampling and laboratory equipment and data acquisition system owned by the agency be made available to DEQ without additional payment. The approximate inventory is $350,000.

5. CWAPA Program Director be directed to develop the administrative transition with DEQ Director Diarmuid O'Scannlain.

Very truly yours,

R. E. Hatchard

REH:jl

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

In the Matter of the Proposed Assumption by the Environmental Quality Commission of Administration and Enforcement of the Air Quality Control Program in the Territory of the Columbia-Willamette Regional Air Pollution Authority.	)	NOTICE OF HEARING PURSUANT TO ORS 449.905

TO: The Columbia-Willamette Air Pollution Authority

You and each of you will please take notice that on May 29, 1973, at 2 p.m., in the auditorium of the Public Service Building, 920 S. W. 6th Avenue, Portland, Oregon, the Environmental Quality Commission will conduct a hearing pursuant to ORS 449.905 to determine whether the air quality control program of the Columbia-Willamette Air Pollution Authority now in force is being administered inconsistent with the requirements of ORS 449.702 to 449.717, 449.727 to 449.741, 449.760 to 449.830, 449.850 to 449.920 and 449.949 to 449.965, or is being administered in a manner lacking uniformity throughout the territory of the regional authority, so as to necessitate the administration and enforcement by the Commission of the air quality control program in the territory of said regional authority.

The Chairman of the Environmental Quality Commission will preside over and conduct the hearing.

DATED this 30th day of April, 1973.

DIARMUID F. O'SCANNLAIN, Director
Department of Environmental Quality

Copies: Governing Bodies of Multnomah County
Clackamas County
Columbia County
Washington County
City of Portland

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM, JR.
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
STATE OFFICE BUILDING
PORTLAND, OREGON 97201
TELEPHONE: (503) 229-5725

PORTLAND OFFICE

RAYMOND P. UNDERWOOD
CHIEF COUNSEL

LEONARD W. PEARLMAN ARNOLD B. SILVER
THOMAS N. TROTTA
ASSISTANT ATTORNEYS GENERAL AND COUNSEL

BEVERLY B. HALL KENNETH L. KLEINSMITH
ROBERT L. HASKINS VICTOR LEVY
CLAYTON R. HESS ALBERT L. MENASHE
THOMAS E. TWIST
ASSISTANT ATTORNEYS GENERAL

VIRGIL D. MILLS
REGISTRAR OF CHARITABLE TRUSTS

May 16, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
MAY 17 1973
OFFICE OF THE DIRECTOR

Mr. Diarmuid O'Scannlain, Director
Department of Environmental Quality
Terminal Sales Building
1234 S.W. Morrison St.
Portland, Oregon 97205

Re: Possible Agenda Item Regarding CWAPA for May 29, 1973 EQC Meeting

Dear Diarmuid:

Pursuant to your recent telephone request, we have prepared the enclosed proposed form of agenda item relating to the hearing scheduled at the next EQC meeting relating to CWAPA.

Please let me know if you have any questions about this matter.

Sincerely,

LEE JOHNSON
Attorney General

Ray Underwood

Raymond P. Underwood
Chief Counsel
Portland Office

RPU:ej
Enclosure

OFFICE OF DEPUTY DIRECTORS
RECEIVED
MAY 21 1973
DEPT. OF ENVIRONMENTAL QUALITY

To: Environmental Quality Commission

From: Director

Subject: Agenda Item _____
For May 29, 1973 EQC Meeting
Columbia-Willamette Air Pollution Authority - Assumption of Administration and Enforcement of Air Quality Control Program by EQC

PROBLEM

Columbia-Willamette Air Pollution Authority (CWAPA) has notified DEQ that it will discontinue its services to Washington County as of July 1, 1973, due to Washington County's failure to pay its share of air pollution control costs for the past two years. Attempts to resolve the problem through informal negotiations have so far been unsuccessful. The background of this problem is detailed in a staff recommendation presented at the April 2, 1973, EQC meeting, a copy of which is attached.

Pursuant to ORS 449.905, and having given 30 days notice to the Regional Authority, this hearing is being conducted to determine whether the air quality control program of the Columbia-Willamette Pollution Authority is inadequate or is being administered in a manner inconsistent with the requirements of ORS 449.702 to 449.717, 449.727 to 449.741, 449.760 to 449.830, 449.850 to 449.920 and 449.949 to 449.965, or is being administered in a manner lacking uniformity throughout the territory of the regional authority.

ALTERNATIVES FOR SOLUTION

Pursuant to ORS 449.905, if after hearing, the EQC determines that the regional authority has failed to establish an adequate program or that the program in force is being administered improperly, it may require that necessary corrective measures be undertaken within a reasonable period of time.

The obvious corrective measure to be taken in this instance is the payment of the required fees by Washington County. Washington County has been adamant in its refusal to make such payment. DEQ has attempted informally to persuade the remaining members of CWAPA to reform as a regional authority without the participation of Washington County, with DEQ taking over enforcement of the air quality control program in Washington County. However, the other CWAPA members are unwilling to do so.

Pursuant to ORS 449.905(3), if the regional authority fails to take necessary corrective measures, the EQC must take over administration and enforcement of the air quality control program in CWAPA's territory. The statute provides

that in this instance the program instituted by the EQC will supersede all rules, regulations, standards and orders of the regional authority.

ACTIONS TO DATE

At the April 2, 1973, EQC meeting, it was the Director's recommendation that CWAPA take the necessary steps to dissolve and reform without Washington County, leaving DEQ thereafter responsible for air quality control services in Washington County. It was the Director's opinion that such a course of action would be preferable to a formal hearing proceeding under ORS 449.905 and would be the least detrimental to the well being of the Regional Air Pollution Authority.

Pursuant to authorization from the EQC at that meeting, the Director did in fact attempt to assist the members of CWAPA in dissolving and reforming without Washington County. However, Clackamas County indicated that it did not wish to participate in such a proposed new regional authority. The participation of Columbia County was also doubtful. The potential withdrawal of all members of CWAPA, with the exception of Multnomah County, does, in fact, create a threat that air quality control programs are being administered in a manner lacking uniformity throughout the territory of the regional authority and, consequently, the program of the regional authority is inadequate.

RECOMMENDATIONS

Because the various members of CWAPA have already refused to undertake necessary corrective measures, the Director feels that affirmative action on the part of DEQ will now be necessary. The Director recommends that the Commission find, after the forthcoming hearing, that CWAPA's program in force is inadequate, in that it makes no provision for continued air pollution control services to all areas served by it in situations such as the present one, where CWAPA unilaterally decides to discontinue its services to one area within its territory. Such finding should also include the recommendation that the EQC take over the administration and enforcement of the air quality control program in the four-county area now served by CWAPA.

The Director further recommends that EQC's rules and standards supersede the rules, regulations, standards and orders of the regional authority as of July 1, 1973, and that DEQ personnel commence at that time to administer and enforce the air quality control program in Washington, Clackamas, Columbia and Multnomah counties.

WASHINGTON COUNTY

ADMINISTRATION BUILDING — 150 N. FIRST AVENUE
HILLSBORO, OREGON 97123

(503) 648-8681

BOARD OF COMMISSIONERS
ELDON HOUT, Chairman
VIRGINIA DAGG
WILLIAM MASTERS
ROD ROTH
BURTON C. WILSON, JR.

Room 418

April 19, 1973

Diarmuid F. O'Scannlain
Director
Department of Environmental
Quality
1234 S.W. Morrison
Portland, Oregon

Dear Mr. O'Scannlain:

Pursuant to your letter of April 2 and subsequent conversations, let me outline the position of Washington County regarding membership in the Columbia Willamette Air Pollution Authority.

The Board of Commissioners has formally adopted a position favoring the assumption of air quality control authority by the State. This position is based on the following reasons: 1) Under present conditions the Department of Environmental Quality is already responsible for a number of air pollution abatement programs, e.g. automobile pollution, pulp and water industries, aluminum plants, nuclear plants, agricultural burning; 2) DEQ already serves as a conduit for federal funds and a review agency for local and regional programs; 3) The Environmental Protection Agency recognizes only States as enforcement agencies and requires reporting on a state wide basis; 4) DEQ coordinates other pollution abatement programs.

Washington County feels that the avoidance of duplicated services in air pollution and close coordination of the total environmental effort is in the public interest and best accomplished by vesting the air pollution authority in the DEQ.

The complexities of inter-regional and even inter-state coordination seem to far outweigh the value of local control which is minimal at best in a unifunctional regional authority, without day to day supervision, and dealing with costly technical matters.

The cost of an effective program cannot be ignored. Washington County withdrew from CWAPA due in part to the upward spiral of costs and the limited growth of revenues

at the county level given the 6% limitation. Additionally it was felt that this program should not be financed by property tax revenues. Clean air is a general benefit and should be financed on as broad a base as possible, such as the state income tax.

For these reasons the Washington County Board of Commissioners has no interest in rejoining CWAPA and favors H.B. 2329 abolishing regional air pollution control authorities and transferring authority to the DEQ.

Those with short memory seem to forget that Washington County has been a leader in the fight for clean air. In 1968 Washington County, alone in the state, had a county ordinace and county program for clean air. To receive additional federal funing in the area and with the full assurance that Washington County could withdraw at any time and believing that a larger geographic base was needed, the County joined CWAPA. Our continued review and evaluation has led us to the conclusion that the single purpose regional agency for air pollution control is as obsolete as our county ordinance.

State and local governments have always been laboratories of experimentation. Unlike the federal government when an agency becomes obsolete, we in Oregon terminate it and find other solutions. CWAPA can be retained by those jurisdictions desiring it, but Washington County is quite content to have DEQ responsible for air quality control services in the county, the region and the state.

We look forward to a continuation of the amicable working relationships already established with the Department and stand ready to assist you as best we can in this new endeavor, should it come about.

Thank you for your personal courtesy on this issue which seems to have become unduly politicized.

Sincerely,

ELDON HOUT
Chairman, Washington County
Board of Commissioners

COUNTY OF CLACKAMAS
BOARD OF COMMISSIONERS
OREGON CITY, OREGON 97045
655-8581

THOMAS D. TELFORD, Chairman
ROBERT SCHUMACHER, Commissioner
FRED STEFANI, Commissioner

April 23, 1973

Mr. Diarmuid F. O'Scannlain
Director
Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205

Dear Mr. O'Scannlain:

Thank you for your letter of April 20th regarding the dissolution of CWAPA should Washington County no longer participate.

If CWAPA reforms as a "Three-County" agency, the County of Clackamas would refrain from joining and recommends that the duties of CWAPA be taken over by the State Department of Environmental Quality.

Sincerely,

BOARD OF COUNTY COMMISSIONERS

Thomas D. Telford
Chairman

Robert Schumacher
Commissioner

Fred Stefani
Commissioner

TDT/ls

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY
1010 N.E. COUCH STREET PORTLAND, OREGON 97232 PHONE (503) 233-7176

27 April 1973

Diarmuid O'Scannlain, Director
Department of Environmental Quality
1234 S.W. Morrison Street
Portland, Oregon 97205

Dear Mr. O'Scannlain:

In our letter of 23 March 1973, the Board of Directors of Columbia-Willamette Air Pollution Authority indicated it would continue to provide program services in Washington County until 1 May 1973.

During the 27 April 1973 meeting, the Board considered the actions taken by the Environmental Quality Commission following the informal hearing held on 2 April 1973. The Board instructed its Program Director to continue to provide program services until 1 July 1973 to determine the actions taken by the 1973 Legislature and the actions taken by the participating jurisdictions in Columbia-Willamette Air Pollution Authority.

Sincerely,

Fred Stefani

Fred Stefani, Chairman
CWAPA Board of Directors

FS:rhj

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

April 30, 1973

TO: Environmental Quality Commission

FROM: Diarmuid F. O'Scannlain
Director

SUBJECT: Columbia Willamette Air Pollution Authority

Pursuant to your resolution at the meeting of April 2, I communicated with Washington County, a copy of which letter is attached. On April 20 I received a letter from the Chairman of the Board of Commissioners indicating its firm intention it remain out of CWAPA and asking that DEQ assume its functions. A copy of this letter is also attached.

In an effort to obtain indications from the remaining local governments I sent a letter dated April 20 requesting some tentative indication prior to today's meeting of the EQC.

Clackamas County has informed us that it would refrain from joining a "Three-County" CWAPA and recommended the duties of CWAPA be taken over by the DEQ. Commissioner Ahlborn of Columbia County indicated from a telephone conversation that it was his opinion that Columbia County would also refrain from joining a "Three-County" CWAPA.

Under the circumstances I have no alternative but to notify CWAPA that pursuant to ORS 449.905 the Environmental Quality Commission shall conduct a hearing to show cause why CWAPA should not be dissolved and its program assumed by DEQ. Such hearing has been scheduled for the next meeting of the EQC on May 29, 1973 in Portland.

DFO'S:cm
Attachments

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

SIMILAR LETTER SENT TO:

Mayor Neil Goldschmidt, City of Portland
Honorable M. James Gleason, Multnomah County Commissioners
Honorable Thomas D. Telford, Clackamas County Commissioners

April 20, 1973

Honorable Fred Foshaug
Chairman
Board of County Commissioners
Columbia County
Columbia County Courthouse
St. Helens, Oregon 97051

Dear Commissioner Foshaug:

Attached is a copy of final notification which the Department of Environmental Quality received from the Chairman of the Washington County Board of Commissioners, indicating its final decision with respect to membership in the Columbia Willamette Air Pollution Authority.

As you may already be aware, the Environmental Quality Commission has resolved that should Washington County no longer participate, that CWAPA be dissolved and reformed as a three-county agency. Under the circumstances I would appreciate it if you could notify me what the intentions of your County Board of Commissioners would be with respect to such reorganization.

Since I would like to be in a position to provide our Commission with an interim report at the April 30 meeting, I would appreciate it if you could give me some tentative indication prior to that time.

Very truly yours,

DIARMUID F. O'SCANNLAIN
Director

DFO'S:cm
Enclosure

cc: Members, Environmental Quality Commission
Board of Directors, CWAPA

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

April 2, 1973

Honorable Eldon Hout
Chairman
Washington County Board of
Commissioners
Washington County Courthouse
2nd & Main
Hillsboro, Oregon

Dear Commissioner Hout:

The Environmental Quality Commission today adopted a resolution that Columbia Willamette Air Pollution Authority (CWAPA) "take the necessary steps to dissolve and reform without Washington County per ORS 449.900. DEQ, then and thereafter, would be responsible for air quality control services in Washington County." The resolution also provided, however, that the effective date of the reorganization should be deferred 60 days to provide additional opportunity for Washington County to reconsider its position.

I would like to come to Washington County to meet with either you personally or the entire Board of Commissioners to explain the alternatives that may be available. I believe I can fairly summarize the advantages and disadvantages of continued membership in CWAPA as compared to service directly by the DEQ.

Please let me know what time and place would be most convenient to you.

Sincerely,

DIARMUID F. O'SCANNLAIN
Director

DFO'S:cm

cc: Honorable Fred Stefani
Honorable A. J. Ahlborn
Honorable Ben Padrow
Honorable Mildred Schwab
Honorable Burton C. Wilson, Jr.
Mr. R. E. Hatchard

DEQ-1

Oregonian 5/22/73

DEQ likely to assume duties of city-county pollution agency

By PAUL PINTARICH
of The Oregonian staff

Duties of the Columbia Willamette Air Pollution Authority (CWAPA) will be taken over by the State Department of Environmental Quality (DEQ), Diarmuid O'Scannlain, DEQ director, predicted Monday.

Action on the matter will be taken at 10 a.m. Tuesday, May 29, at a meeting of the Oregon Environmental Quality Commission.

The move has been prompted by reluctance among member counties to participate in the program weakened by Washington County's refusal to cooperate.

A 60-day ultimatum that Washington County rejoin and pay delinquent funds or say goodbye to CWAPA has been ignored, O'Scannlain said. The county's parting will be made official next week, he said.

DEQ has received a letter from Clackamas County expressing its desire to leave CWAPA. O'Scannlain said Columbia County was moving the same way.

Remaining members would be Multnomah County and the City of Portland, whose representatives continue to support the air control agency.

"We are confident the transition from local to state control could be done smoothly," O'Scannlain said.

"The present CWAPA staff, some 30 employes, and the program director, Richard Hatchard, would be retained," he said. "There are no money problems. Our $575,000 annual budget is two-thirds federal funding. The rest would continue to come from state and local revenues."

O'Scannlain said a recently formed Advisory Committee on local control would continue to exist. "The transition will be as painless as possible," he added. "However, there are all sorts of little details yet to be worked out."

"Hatchard is a valuable technician," O'Scannlain said, "and the point is that pollution control efforts don't deteriorate while the transition is being made."

O'Scannlain added, "My major concern is for air quality in the four-county area. It's the same game with a few new wrinkles and it doesn't matter who's in charge."

Fred Stefani, CWAPA board chairman and chairman of the Clackamas County Commission, said his county was dropping out "because we don't feel effective in a three-county agency. We wouldn't be willing to reorganize without Washington County."

Stefani praised Hatchard, agreed with O'Scannlain that a smooth transition was necessary and said, "I think we can keep local control through the advisory committee and still do the clean air job that needs to be done."

SUGGESTED ORDER OF RECEIVING TESTIMONY PERTINENT TO
PROPOSED ALUMINUM PLANT REGULATIONS

In addition to the staff report we anticipate testimony from at least three aluminum companies, two cherry growers organizations, two or more organized environmental groups, perhaps some organized labor representatives, local chambers of commerce and interested individuals (employees).

The aluminum companies and perhaps the cherry growers plan to import expert witnesses and the aluminum companies have expressed concern that they will be able to have their expert witnesses testify on Friday.

Since testifiers are apparently going to be numerous, it becomes necessary to establish an order for receiving testimony.

The following format is suggested:

I. DEQ Staff Report (15 - 20 minutes)

II. Preliminary Statements (to be limited to not exceed 10 minutes each)

1) Aluminum companies

2) Grower's organizations

3) Other organized interests

4) Individual citizens

III. Technical Reports and Expert Witnesses

1) Aluminum companies

2) Grower's organizations

3) Other

IV. Other Affected or Interested Groups or Individuals

DEQ 6/27/73

Attachments:

1. Existing Primary Aluminum Plant Regulations (OAR, Ch. 340, Sections 25-225 through 25-290).
2. The authorization for a public hearing: Proposed amendment of Primary Aluminum Plant Regulation, OAR, Chapter 340, Sections 25-225 through 25-290. (Agenda item No. H(1), October 25, 1973, EQC meeting.)
3. Appendix A - Appendage to Director's report to Environmental Quality Commission requesting authorization of public hearing for purposes of revision of OAR, Chapter 340, Sections 25-225 through 25-290.
4. U.S. Environmental Protection Agency comments on October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.
5. DEQ synopsis of Reynolds Metals Company comments relative to October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.
6. Reynolds Metals Company comments relative to October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.
7. DEQ synopsis of Martin Marietta Aluminum comments relative to October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.
8. Martin Marietta Aluminum comments relative to October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.
9. Amax Aluminum Company, Inc. comments relative to October 25, 1972 proposed amendments to the Primary Aluminum Plant Regulations.

10. Letter dated May 10, 1973, from Tooze Kerr & Peterson, Attorneys at Law.

11. Letter dated May 31, 1973, from Teller Environmental Systems, Inc.

Primary
Aluminum Plants

[ED. NOTE: Unless otherwise specified, sections 25-225 through 25-290 of this chapter of the Oregon Administrative Rules Compilation were adopted June 26, 1970 and filed with the Secretary of State July 14, 1970, as Administrative Order DEQ 19. The effective date of this order is August 10, 1970.]

25-255 STATEMENT OF PURPOSE. In furtherance of the public policy of the state as set forth in ORS 449.765, it is hereby declared to be the purpose of the Commission in adopting the following regulations to:

(1) Require, in accordance with a specific program and time table for each operating primary aluminum plant the highest and best practicable collection, treatment and control of atmospheric pollutants emitted from primary aluminum plants through the utilization of technically feasible equipment, devices and procedures necessary to attain and maintain desired air quality.

(2) Require effective monitoring and reporting of emissions, ambient air levels of fluorides, fluoride content of forage and other pertinent data. The Department will use these data, in conjunction with observation of conditions in the surrounding areas, to develop emission and ambient air standards and to determine compliance therewith.

(3) Encourage and assist the aluminum industry to conduct a research and technological development program designed to reduce emissions, in accordance with a definite program, including specified objectives and time schedules.

(4) Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising the standards as needed when new information and better technology are developed.

25-260 DEFINITIONS. (1) All Sources - Means sources including, but not limited to, the reduction process, alumina plant, anode plant, anode baking plant, cast house, and collection, treatment and recovery systems.

(2) Ambient Air - The air that surrounds the earth, excluding the general volume of gases contained within any building or structure.

(3) Anode Baking Plant - Means the heating and sintering of pressed anode blocks in oven-like devices, including the loading and unloading of the oven-like devices.

(4) Anode Plant - Means all operations directly associated with the preparation of anode carbon except the anode baking operation.

(5) Commission - Means Environmental Quality Commission.

(6) Cured Forage - Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.

(7) Department - Means Department of Environmental Quality.

(8) Emission Means a release into the outdoor atmosphere of air contaminants.

(9) Emission Standard - Means the limitation on the release of a contaminant or multiple contaminants to the ambient air.

(10) Fluorides - Means matter containing fluoride ion.

(11) Forage - Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

(12) Particulate Matter - Means a small, discrete mass of solid or liquid matter, but not including uncombined water.

(13) Primary Aluminum Plant - Means those plants which will or do operate for the purpose of or related to producing aluminum metal from aluminum oxide (alumina).

(14) Pot Line Primary Emission Control Systems - Means the system which collects and removes contaminants prior to the emission point. If there is more than one such system, the primary system is that system which is most directly related to the aluminum reduction cell.

(15) Regularly Scheduled Monitoring - Means sampling and analyses in compliance with a program and schedule approved pursuant to Section 25-275.

(16) Standard Dry Cubic Foot of Gas - Means that amount of the gas which would

occupy a cube having dimensions of one foot on each side, if the gas were free of water vapor at a pressure of 14.7 P.S.I.A. and a temperature of 60° F.

25-265 EMISSION STANDARD. (1) Visible emissions from all sources shall not exceed twenty (20) per cent opacity (Ringelmann 1).

(2) Each primary aluminum plant shall proceed promptly with a program to comply with this regulation. A proposed schedule of compliance shall be submitted by each plant to the Commission not later than one hundred and eighty (180) days after the effective date of this regulation. After receipt of the proposed schedule, the State shall establish a schedule of compliance for each plant. Such schedule shall include the date by which full compliance must be achieved but, in no case, shall full compliance be later than January 1, 1975.

25-270 HIGHEST AND BEST PRACTICABLE TREATMENT AND CONTROL REQUIREMENT. Notwithstanding the specific emission limits set forth in Section 25-265 of these regulations, in order to maintain the lowest possible emission of air contaminants, the highest and best practicable treatment and control currently available shall in every case be provided.

25-275 MONITORING. (1) Each primary aluminum plant shall submit, within sixty (60) days after an effective date of this regulation, a detailed monitoring program. The proposed program shall be subject to revision and approval by the Commission. The program shall include regularly scheduled monitoring for emissions of gaseous and particulate fluorides and total particulates. A schedule for measurement of fluoride levels in forage and ambient air shall be submitted.

(2) Necessary sampling and analysis equipment shall be ordered or otherwise provided for within thirty (30) days after the monitoring program has been approved in writing by the Commission. The equipment shall be placed in effective operation in accordance with the approved program within ninety (90) days after delivery.

25-280 REPORTING. (1) Unless otherwise authorized in writing by the Commission, data shall be reported by each primary aluminum plant within thirty (30) days of the end of each calendar month for each source and station included in the approved monitoring program as follows:

(a) Ambient air: Twelve-hour concentrations of gaseous fluoride in ambient air expressed in micrograms per cubic meter of air.

(b) Forage: Concentrations of fluoride in forage expressed in ppm of fluoride on a dried weight basis.

(c) Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

(d) Gaseous emissions: Results of all sampling conducted during the month for gaseous fluorides. All results shall be expressed as hydrogen fluoride in micrograms per cubic meter on a volume basis and pounds per day of hydrogen fluoride.

(e) Other emission and ambient air data as specified in the approved monitoring program.

(f) Changes in collection efficiency of any portion of the collection or control system that resulted from equipment or process changes.

(2) Each primary aluminum plant shall furnish, upon request of the Commission, such other data as the Commission may require to evaluate the plant's emission control program. Each primary aluminum plant shall immediately report abnormal plant operations which result in increased emission of air contaminants.

(3) Prior to construction, installation or establishment of a primary aluminum plant, a notice of construction shall be submitted to the Commission. Addition to, or enlargement or replacement of, a primary aluminum plant or any major alteration therein shall be construed as con-

struction, installation or establishment.

25-285 SPECIAL STUDIES. (1) Special studies, covering the areas in subparagraphs (a), (b)and (c) of this subsection shall be conducted at each primary aluminum plant.

(a) Emissions of particulates from all sources within the plant, including size distribution and physical and chemical characteristics where feasible, and a separation of fluoride and nonfluoride particulate.

(b) Plume opacity from all sources within the plant, including its relationship to grain loading, particulate characteristics, particule emissions in pounds per ton of production and stack characteristics.

(c) Emissions of sulfur dioxide, hydrocarbons, carbon monoxide, chlorine and chlorides, oxides of nitrogen, ozone, water vapor, and fluorides from all sources.

(2) Each primary aluminum plant shall submit a program for conducting the aforesaid special studies to the Commission for approval within sixty (60) days after the effective date of this regulation.

(3) The results of the special studies shall be submitted to the Commission not later than eighteen (18) months after approval of the special studies program.

25-290 REVISION OF EMISSION STANDARDS. (1) A public hearing may be called on or before ninety (90) days after submission of the results of the special studies to evaluate the special studies, current technology and adequacy of these regulations and to make revisions to the regulations as necessary.

(2) The Commission may, after public hearing, establish more restrictive regulations for new primary aluminum plants or for plants that expand existing facilities. Data documenting projected emissions and changes in or effects upon air quality that would result from the construction or expansion, must be submitted to the Commission, together with plans and specifications, in accordance with Section 25-280 (3).

DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No.H(1), October 25, 1972, EQC Meeting

Authorization for a Public Hearing: Proposed Amendment of Primary Aluminum Plant Regulation OAR, Chapter 340, Sections 25-225 through 25-290.

Background:

The regulation pertaining to primary aluminum reduction plants was adopted by the Environmental Quality Commission on June 26, 1970, and became effective on August 10, 1970. At the time of its action the Commission expressed the desire to revise the regulation in the future by expanding the emission standard to limit the quantities of both fluorides and particulates.

Appendix A, initially mailed to the Commission as part of this report, contains a detailed discussion relative to Martin Marietta and Reynolds Metals Company including production and control facilities, results of source emission testing, ambient air

and forage fluoride testing and compliance programs including special studies. Appendix A also contains background information on the EPA New Performance Standards, the State of Washington Program and dry potroom emission control techniques including the Alcoa 398 process.

Discussion:

The Department has attempted to keep abreast of aluminum reduction control technology and of regulatory requirements which might represent control such that there would be no or minimum concern relative to effects from fluorides released to the ambient air. Unfortunately the Department is not aware of any recent information which clearly correlates the emission of gaseous and particulate fluorides from a source or sources that would provide a basis for establishing emission standards. Literature still suggests that so long as gaseous and soluble particulate fluorides are present in the ambient air to any significant degree vegetation under certain conditions likely will accumulate fluorides and may incur some degree of damage.

The Department continues to receive complaints concerning the effects of emissions of fluorides from the Martin Marietta plant at The Dalles.

The Department has developed emission standards for gaseous fluorides, total fluorides and total particulates which in its judgment would minimize the complaints and allegations concerning damage. The proposed particulate emission standard is significantly more restrictive than the 15 pounds per ton adopted by the State of Washington.

To meet the proposed standards new control technology, improved collection techniques and or a change of process may be required by both aluminum plants in Oregon.

Analysis:

1. The present Department of Environmental Quality primary aluminum plant regulation includes:

a. An emission limitation of Ringlemann 1 (20% Opacity) for all sources by January 1, 1975.

b. Requirements for monitoring and reporting fluorides and particulate potroom emissions and ambient air and forage fluoride levels, and special studies which include the potrooms and other sources.

2. The Martin Marietta plant is presently in compliance with the Oregon Primary Aluminum Plant Regulation.

3. The Reynolds Metals plant is essentially in compliance with all requirements of the existing regulation except for the emission standard (Ringlemann 1), and the Reynolds Metals Co. has not yet committed itself to a specific program to comply with Ringlemann 1 by January 1, 1975.

4. Both plants in Oregon are essentially operating in compliance with ambient air fluoride standards in effect in the State of Washington. (Essentially the same standards are in effect in other states.)

5. Martin Marietta, based on a limited number of hay samples, is operating well below fluoride forage standards in effect in the State of Washington (Sample results range from 5 to 9 ppm fluoride ion versus Washington standard of 40 ppm.)

6. Reynolds Metals, based on many forage samples, operates essentially within State of Washington forage levels, except for two stations located 1-1/2 miles from the plant in the direction of prevailing winds. (Reported results range from 10 to 142 ppm fluoride ion.)

7. The Martin Marietta plant contributes to visibility obscuration in The Dalles vicinity especially during certain operations characteristic of the Vertical Stud Soderberg pots and stable air conditions.

8. The Martin Marietta plant also is alleged to continue to cause damage to vegetation in The Dalles area, mainly fruit crops such as sweet cherries and to a lesser extent to peaches and apricots, and pine trees. Damages are alleged at times, when measured fluoride levels in the orchards are on the order of lower detectable limits, i.e. from 0 to 2.0 ppb compared with Washington standard of 4-1/2 ppb for 12-hour periods.

9. The Reynolds Metals plant at Troutdale is a significant contribution to total particulate emissions in the Columbia-Willamette Air Pollution Authority region (estimated to be 15% of total particulates in Multnomah County). However, due to generally favorable meteorological conditions at the site, visible effects are considered minimal.

10. There have been no complaints of damage to animals or vegetation from the Reynolds Metals plant in recent years. (It should be noted that commercial vegetable crops grown in the area are not considered to be sensitive to fluorides).

11. Based on average values gaseous fluoride emissions from the Reynolds Metals plant are approximately seven times as great as gaseous fluoride emissions from the Martin Marietta plant (based on pounds of fluoride ion per ton of aluminum).

12. Based on average values, particulate fluoride emissions from the Reynolds Metals plant are approximately nine times as great as particulate fluoride emissions from the Martin Marietta plant (based on pounds of particulate fluoride per ton of aluminum).

13. Based on average values total particulates from the Reynolds Metals plant are approximately three times as great as those from the Martin Marietta plant (based on pounds of particulates per ton of aluminum).

14. Based on available data, gaseous fluoride, particulate fluoride and total particulate emissions from the Martin Marietta plant are among the lowest in the country.

15. Based on available data, gaseous fluoride, particulate fluoride and total particulate emissions from the Reynolds Metals plant are representative of average emissions from aluminum plants throughout the country.

16. Treatment of collected pot exhaust (primary system) at the Martin Marietta plant is considered to be equivalent to highest and best practicable treatment. Approximately 99% of the total fluorides emitted are from the roof scrubbers (secondary system)

and therefore reductions in total fluorides emitted must come from either improving collection at the pots or improving the efficiency of treatment in the secondary system.

17. Treatment of collected pot exhaust (primary system) at the Reynolds Metals plant is less than highest and best practicable treatment. However, still approximately 55% of total fluorides emitted are from the secondary system, therefore substantial reduction of total fluorides will require improvements to both the primary and secondary systems.

18. Data are not presently available or foreseeable to develop quantitative correlations between damage to sensitive crops, ambient fluoride levels, and emission levels.

Conclusions:

1. The Department concludes, in the absence of correlating data, the approach to reducing fluoride and particulate emissions must be on the basis of the application of highest technology for all sources.

2. The Department concludes that it is technically possible, by improving collection and treatment, to reduce the fluoride emissions from the secondary system at the Martin Marietta plant by as much as 50%.

The Department concludes that it is technically possible to obtain equivalent emission levels at the Reynolds Metals plant by making significant revisions to or replacements of both existing control systems.

Proposed Addition to Regulation:

1. The Department has developed a proposed emission regulation requiring an approximate 50% reduction of present emissions from the secondary system at the Martin Marietta plant, which is equivalent to a 41% overall reduction in total fluorides. This same standard would require 93% reduction of total fluorides at the Reynolds Metals plant.

2. The following proposed language which would be added to section 25-265 as subsection (2). The existing section 25-265 (2) would become 25-265 (3).

25-265 EMISSION STANDARD

(2) (a) The total of gaseous fluoride emissions from all sources shall not exceed 0.3 pound of fluoride ion per ton of aluminum produced as a monthly average.

(b) The total of all fluoride materials from all sources shall not exceed 1.0 pound of fluoride ion per ton of aluminum produced as a monthly average.

(c) The total organic and inorganic particulate emissions from all sources shall not exceed eight pounds of total particulate per ton of aluminum produced.

(d) Representative monitoring on a continuous basis shall be conducted to demonstrate compliance with (2) (a), (b) and (c) above. The monitoring results shall be reported to the Department on a monthly basis.

(e) Compliance programs required to meet the emission standards established by (2) (a), (b) and (c) above shall be established not later than May 1, 1973, with each individual company (to be incorporated in the Air Contaminant Discharge Permit issued for each plant).

Director's Recommendation:

It is the recommendation of the Director that the Environmental Quality Commission authorize the Director to schedule a public hearing at a time and place to be determined for the purpose of receiving testimony relevant to the proposed revisions to the Primary Aluminum Plant Regulation.

L. B. Day

FAS:c:10/18/72

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY CONTROL DIVISION

October 13, 1972

APPENDIX A

(Appendage to Director's report to Environmental Quality Commission requesting authorization of public hearing for purposes of revision of OAR Chapter 340, Sections 25-225 through 25-290.)

Existing Primary Aluminum Plant Regulation

The Department of Environmental Quality regulation specific to air contaminant emissions from primary aluminum plants, OAR Chapter 340, Sections 25-225 through 25-290, was adopted June 26, 1970 and became effective August 10, 1970. A copy of the regulation is attached.

The regulation was developed as a joint effort with the State of Washington through the Oregon-Washington Air Quality Committee. Hearings were held by the respective States on two rule proposals, one specific to a primary aluminum plant and one regarding allowable flouride levels in ambient air and forage for application to any flouride emitting activity. Copies of these proposed rules are attached. The Commission set aside the proposed ambient air and forage fluoride content rules and adopted the primary aluminum plant regulation after

excluding the proposed 15 pounds per ton particulate emission limitation. The State of Washington adopted both proposed rules with generally minor revisions.

Air Pollution from Aluminum Production

Three general classes of air contaminants are usually associated with the production of aluminum. A class breakdown and an abbreviated discussion of potential effects follows:

1. Gaseous fluorides - This class, mostly hydrogen fluoride, is considered to be the most significant in respect to vegetation damage. Gaseous fluorides accumulated in vegetation can contribute to the fluoride ingestion of foraging animals.
2. Particulate fluorides - This class, a complicated mixture of mainly aluminum, sodium, and calcium salts, can accumulate on vegetation surfaces and contribute to the fluoride ingestion of foraging animals (generally cattle). Soluble portions of this class may be absorbed by plants through leaf openings.
3. Total particulates - This class, a mixture of fluoride and non-fluoride materials, contributes to the visual effect or visibility reduction around aluminum plants.

The Environmental Protection Agency has conducted a program of source testing some aluminum plants during 1971 and 1972. In this program EPA selected the following breakdown:

1. Soluble fluorides - This group is considered to include essentially all of the gaseous fluorides and a significant but variable percentage of the particulate fluorides.
2. Insoluble fluorides - This group comprises the balance of the particulate fluorides.

3. Total particulates - This group includes all particulate matter.

The above contaminant classifications, either gaseous/particulate fluorides or soluble/insoluble fluorides, and total particulates, can be applied to emissions from the entire aluminum plant. No correlation between the two classifications is available at this time. Additional discussion of the EPA program will be given later in this report.

The major sources of both fluoride and particulate materials are the potrooms and the associated control systems. The significance of these sources is evident by the concentration of interest and effort in measuring and reducing emissions from these areas. The anode plant in prebake anode operations (such as Reynolds Metals Co. at Troutdale) is known to also be a source of fluoride and particulate materials, but in considerably smaller amounts.

Aluminum Production In Oregon

The primary production of aluminum in Oregon is conducted by two plants, Martin Marietta Aluminum (formerly Harvey Aluminum) at The Dalles and Reynolds Metals Company at Troutdale. The Martin Marietta plant uses vertical stud Soderberg anodes (self baking) and produces approximately 90,000 tons of aluminum per year. Reynolds metals Company uses prebake anodes and can produce about 100,000 tons per year with four existing potlines (lines 1, 2, 3 and 4) and about 30,000 tons per year with a new potline (line 5). After ceasing operation on November 26, 1971, this company reactivated lines 1 and 4 on September 1, 1972, initially started line 5 on October 8, 1972, and plans to reactivate line 2 on November 8, 1972. The reactivation of line 3 is not scheduled at this time.

Both companies submitted compliance schedules which were approved by the Commission on March 5, 1971. Some of the more important components of these programs are emission testing, ambient air and forage fluoride monitoring, special studies, control technology research, installation of improved controls and upset condition reporting. The routine data have been submitted on a monthly basis beginning with the March 1971 reporting period, except for the duration of the Reynolds Metals Company shutdown.

Program Analysis:

Martin Marietta Aluminum

The Martin Marietta Aluminum plant is composed of two potlines of vertical stud Soderberg anode cells in five potrooms. An anode paste plant furnishes carbonaceous material for the self baking anodes. Metal casting, electrical transformers and maintenance facilities complete the production activity.

The most important sources of air pollution are the two potroom emission control systems. The remaining portion of this facility presently is not considered to be sources of significantly important air contaminants.

The primary potroom emission control system, which is directly attached to and treats the exhaust from the pots, includes twelve units each consisting of spray and bubble chambers followed by fans and wet electrostatic precipitators. Installation of this system was completed in February of 1972. The old spray tower system remains functional as a back-up. The new system complies with the 20% opacity limitation of the existing primary aluminum plant regulation, OAR

Chapter 340, Section 25-265.

The secondary potroom emission control system, which treats the room ventilation exhaust, includes forty forced draft spray scrubbers (eight per potroom) in elevated tunnels mounted alongside each potroom. This system which was completed in 1970, complies with the 20% opacity limitation cited above.

The approved compliance schedule requires routine potroom emission testing. The results of some 15 primary system source tests and 43 secondary source tests obtained during the period March 1971 through July 1972, have been submitted to the Department. (Some 26 source tests of the previous primary system which were also submitted, are not considered in this discussion.) A tabular summary of the reported data which is presented below indicates that average total daily potroom emissions equals about 123 pounds gaseous fluoride, 300 pounds particulate fluoride and 2866 pounds total particulates. The range of the daily emissions and the emission rates per ton of metal produced are illustrated in the tabulation.

MARTIN MARIETTA ALUMINUM, THE DALLES - POTROOM EMISSIONS (Reported as required by the approved compliance schedule.)[1/]

	No. of Samples	High	Low	Average	Median
Primary System [2/] (12 wet electrostatic precipitators)	15				
1. Gaseous fluorides, lb F^-/day (lb F^-/ton Al)		3.6 (0.01)	0.38 (0.002)	1.83 (0.007)	1.7 (0.007)
2. Particulate Fluorides, lb F^-/day (lb F^-/ton Al)		8.4 (0.03)	1.11 (0.005)	4.12 (0.017)	4.2 (0.017)
3. Total Particulates lb/day (lb/ton Al)		61.7 (0.25	9.6 (0.04)	39.8 (0.16)	40.5 (0.16)
Secondary System [3/] (40 room scrubbers)	43				
1. Gaseous fluorides, lb F^-/day (lb F^-/ton Al)		411 (1.67)	31 (0.13)	121 (0.49)	95 (0.39)
2. Particulate Fluorides, lb F^-/day (lb F^-/ton Al)		1020 (4.14)	72 (0.29)	296 (1.20)	270 (1.10)
3. Total particulates, lb/day (lb/ton Al)		5370 (21.8)	800 (3.24)	2826 (11.5)	2800 (11.4)

1/ Based on production equal to 90,000 tons aluminum per year.

2/ Based on source tests results reported for March, 1972 through July, 1972 (system completed in February 1972).

3/ Based on source test results reported for March 1971 through July 1972.

The approved compliance schedule includes four ambient air monitoring stations for gaseous fluorides. Data for 12 hour samples obtained during the period 3/8/71 to 11/1/71 and 2/29/72 to 7/5/72 have been reported to the Department. The monitoring is discontinued around the first of the year due to low vegetation growth activity, adverse weather and necessary sampling equipment maintenance. The Department commenced operation of stations 19, 30 and 31 plus six other stations (generally known as the arbitrator stations) on July 10, 1972.

A tabular summary of the data reported through 7/5/72 which is given below indicates that the 12 hour gaseous fluoride levels have ranged from zero to 2.01 parts per billion (by volume) with the average values ranging from 0.10 to 0.18 ppb. The reported levels would comply with the proposed ambient air fluoride regulations previous considered by the EQC.

Martin Marietta Aluminum, The Dalles - Ambient Air Gaseous Fluoride (Reports as Required by the Approved Compliance Schedule)[1/]

Station No.	Distance and direction from plant	No. of Samples	Gaseous F^- (ppb by volume) High	Low	Average
19	4 mi SE	711	1.54	0	0.15
26	1 3/4 mi SSW	722	2.01	0	0.18
30	2 mi S	722	1.18	0	0.10
31	2 3/4 mi SSE	717	0.91	0	0.10

1/ The data presented represents 12 hour samples obtained during the periods 3/8/71 to 11/1/71 and 2/29/72 to 7/5/72.

Hay samples obtained from fields one mile west and two miles east of the plant have analyzed 12.6 ppm F^- and 4.6 ppm F^- respectively. The forage sampling at The Dalles has been minimal and reflects the limited privately owned cattle foraging operations near

the aluminum plant. The reported forage fluoride levels would comply with the proposed forage standards previously considered by the EQC.

The company has submitted the results of its special studies program as required. This information will be reviewed with the company and a report will be made to the Commission as soon as practicable.

Reynolds Metals Company

The Reynolds Metals Company plant is composed of five potlines of prebake anode cells in ten potrooms. An anode bake plant furnishes blocks of anode carbon. Metal casting, electrical transformers, and maintenance facilities complete the production activity.

The Oregon State Sanitary Authority at its June 28, 1969 meeting approved the Reynolds Metals Company proposal for modernizing the existing four potlines and adding a fifth potline at the Troutdale plant subject to some nine limitations, conditions and requirements including allowable ambient air and forage fluoride levels. A copy of the fluoride levels allowed by this approval is attached.

The most important sources of air pollution are the two potroom emission control systems. These areas are the sources of almost all of the fluoride materials and visibility reducing particulates. The anode bake plant is a source of considerably smaller amounts of fluoride and particulate materials. The height of the stack, 175 feet, associated with this area, accentuates the visible impact of the anode bake plant. The remaining portions of this facility presently are not considered to be sources of significantly important air contaminants.

The following discussion of potroom emission control systems will first consider the initial potlines, lines 1, 2, 3 and 4, and secondly the new potline, line 5.

The primary potroom emission control system for lines 1 and 4 which is directly attached to and treats the exhaust from the pots, includes 8 units each consisting of 2 parallel sets of 2 cyclones and 1 fan both leading to a common spray chamber followed by a centrifugal action metal stack. The total equipment involved includes 32 cyclones, 16 fans, 8 spray chambers, and 8 stacks. These control facilities were installed as a portion of the expansion and modernization program approved by the OSSA on June 28, 1969. This system has not reached anticipated performance levels causing planned additional installations on lines 2 and 3 to be set aside until improvements or alternative system(s) can be developed. Some improvement or alternative will be required for this system to meet the 20% opacity limitation by January 1, 1975, as required by OAR Chapter 340, Section 25-365.

The primary potroom emission control system for lines 2 and 3 which is directly attached to and treats the exhaust from the pots, also includes 8 units each consisting of 2 parallel sets of 2 cyclones and 1 fan both leading to a 2 pass spray tower (double-walled wood tower). The total equipment involved includes 32 cyclones, 16 fans and 8 two-pass spray towers. It is quite likely that at least the spray tower sections of this system will require replacement in order to comply with 20% opacity by January 1, 1975.

The secondary potroom emission control system, which treats the room ventilation exhaust, is essentially identical for lines 1, 2, 3 and 4. This system is composed of a total of 200 roof-mounted small fan-spray scrubber-centrifugal stack combinations (25 units per each 8 potrooms). This system presently complies with the 20% opacity requirement.

The potroom emission control system for the line 5 includes only a primary system. (No secondary system was proposed due to improved hooding and collection with the newer more modern pot design.) The primary system for line 5 includes a large single duct leading to a dry plenum which exhausts to 4 parallel fans. Two adjacent fans exhaust in parallel into 1 of 2 orifice plate scrubbers. Each scrubber exhausts into 2 parallel centrifugal mist eliminators. The 4 mist eliminators exhaust into 4 parallel (clustered) stacks about 100 feet tall. The total equipment involved includes a common large duct and plenum, 4 fans, 2 orifice plate scrubbers, 4 mist eliminators and 4 closely arranged stacks. Since this entire system is currently in a start-up situation, an evaluation of compliance with the 20% opacity limitation is yet to be made.

The approved compliance schedule for Reynolds Metals Co. requires routine potroom emission testing. The results of some 24 primary system source tests and 12 secondary system source tests obtained during the period March 1971 through October 1971 have been submitted to the Department. (No data is available for line 5.) A tabular summary of the reported data which is presented on page 12 assumes

operation of lines 1, 2, 3 and 4 at the rated 100,000 tons aluminum per year. The data indicate that at rated production, the average total daily potroom emissions would equal about 996 pounds gaseous fluorides, 2936 pounds particulate fluoride and 9,412 pounds total particulates. The range of the daily emissions and the emission rates per ton of metal produced are illustrated in the tabulation.

The approved compliance schedule includes five ambient air monitoring stations for gaseous fluorides. Data for 12 hour samples obtained during the period 3/22/71 to 10/31/71 have been reported to the Department. The monitoring was discontinued when the plant shut down. This program has been reactivated, but reported results are not expected until November, 1972, at the earliest.

A tabular summary of the data reported, which is given below, indicates that the 12 hour gaseous fluoride levels have ranged from zero to 7.22 parts per billion (by volume) with the average values ranging from 0.17 to 0.70 ppb. Excluding suspected contaminated samples, the gaseous fluoride levels have been in compliance with the conditions of the modernization and expansion approval.

Reynolds Metals Company, Troutdale - Ambient Air Gaseous Fluoride (Reports as Required by the Approved Compliance Schedule) 1/

Station No.	Distance and direction from plant	No. of Samples	Gaseous F^- (ppb by volume) High	Low	Average
1	1.5 mi W	447	7.22 2/	0.04	0.45
2	1.0 mi SW	445	1.41	0	0.15
3	0.6 mi S	443	1.23	0	0.17
4	1.2 mi SE	441	1.67	0	0.25
5	0.7 mi E	439	3.90	0	0.70

1/ The data presented presents 12 hr. samples obtained during the period 3/22/72 to 10/33/71.

2/ Sample contamination suspected.

REYNOLDS METALS COMPANY, TROUTDALE - POTROOM EMISSIONS (Reports as required by the approved compliance schedule.)

	No. of Samples	High	Low	Average	Median
Primary System 1/ (16 courtyard scrubbers)	24				
1. Gaseous fluorides, lb F^-/day (lb F^-/ton Al)		283 (1.03)	65 (0.24)	154 (0.56)	156 (0.57)
2. Particulate fluorides lb F^-/day (lb F^-/ton Al)		2128 (7.77)	1099 (4.01)	1688 (6.16)	1656 (6.04)
3. Total particulates, lb/day (lb /ton Al)		7088 (25.9)	4672 (17.1	5896 (21.5)	5912 (21.6)
Secondary System 1/ (200 roof scrubbers)	12				
1. Gaseous fluorides, lb F^-/day (lb F^-/ton Al)		1300 (4.74)	460 (1.68)	820 (2.99)	840 (3.07)
2. Particulate fluorides, lb F^-/day (lb F^-/ton Al)		2060 (7.52)	380 (1.39)	1240 (4.53)	1280 (4.67)
3. Total particulates, lb/day (lb/ton Al)		4640 (16.9)	2680 (9.78)	3500 (12.8)	3500 (12.8)

1/ Based on production equal to 100,000 tons aluminum per year and source tests results reported for March, 1971 through October, 1971.

Since substantial privately owned cattle foraging operations had occurred near the Reynolds Metals Co. plant, extensive forage fluoride monitoring was part of the approved monitoring program. A tabular summary of the data reported which is presented below, represents samples obtained during the period December, 1969 to October, 1971. This presented data is intended to represent operations of the existing lines 1, 2, 3 and 4, as well as lines 1 and 4 which constituted the production before shutdown. (Additional data for the period February, 1968 to November, 1969, was submitted to the Department, but is not represented here since it does not meet the above intent.) The tabular summary indicates that monthly values ranged from 10 parts per million fluoride (on a dry weight basis) to 143 ppb F^- and the averaged value ranged from 27 to 53 ppb F^-. All stations except numbers 4A and 20B have been in compliance with the conditions of the modernization and expansion approval.

Reynolds Metals Company, Troutdale - Forage Fluoride (Reports as required by the Approved Compliance Schedule and Plant Expansion) 1/

Station No.	Distance and direction from plant	No. of Samples	ppm F^- (dry weight basis) High	Low	Average
20 D	1.0 mi WSW	23	79	13	35
20 E	1.0 mi SW	22	74	12	32
4 A	1.5 mi SE	22	90	16	42
5	0.8 mi SE	23	75	15	33
6	1.0 mi S	23	59	10	27
18	1.3 mi SSW	23	57	15	28
20 B	1.5 mi W	23	143	16	53
4	2.1 mi ESE	22	65	18	37
4 B	2.6 mi ESE	23	73	10	33
4 C	2.3 mi E	22	72	15	34

1/ The data presented presents monthly samples obtained during the period Dec. 1969 to Oct. 1971. Some samples were not obtained during this period due to snow or silver thaw conditions.

The company partially completed its special studies before the shutdown. A report of the completed work has been submitted to the Department. The company has been given a ten month extension for completion of the special studies. This extension equals the duration of the shutdown. Upon completion of the special studies, a report will be made to the Commission.

Prior to the shutdown, Reynolds Metals Co. was conducting considerable research efforts at Troutdale to develop and evaluate methods and equipment for reducing the opacity of potroom and anode plant emissions to achieve compliance with the 20% opacity limitation. Complimentary studies were being conducted at other Reynolds Metals Co. plants in the United States. The company has continuously indicated its intent and confidence to be in compliance by January 1, 1975, but has not been able to commit itself to the necessary specific control programs.

Dry Treatment Primary Systems:

The dry-treatment approach to primary potroom emission control systems has relatively recently attracted considerable interest from the Commission, Department, other governmental air quality control agencies as well as the aluminum industry. The essentials of this technique involves contacting the collected pot exhausts with a variety of grades of aluminum oxide (alumina) for adsorption of gaseous fluorides followed by collection of the alumina and pot generated particles with a fabric filter or a combination cyclone-fabric filter system. The collected alumina and pot exhaust constituents are subsequently added

to the process as a feed material.

Although Alcoa's A-398 process, which is commercially available to other companies for a fee, is best known locally and nationally, other producers are developing or marketing similar or comparable technology. The Alcoa system includes a fluidized bed for contacting the pot gases and alumina followed by a fabric filter (baghouse). The Aluminum Company of Canada (Alcan) has developed and is using a dry system which contacts the pot gases and alumina by injecting the alumina into the gas stream followed by cyclone and baghouse particulate removal. Alcan has provided this technology to Intalco at Ferndale, Washington where the installation is essentially completed on two of three potlines. Kaiser Aluminum and Chemical Company is in the process of developing a dry treatment system. Performance data has only been published for the Alcoa process to date.

The dry treatment processes have been applied full scale to exhausts from prebake anode cells and vertical stud Soderberg cells. Experimental installations are being attempted on horizontal stud Soderberg cells.

A tabular comparison of published dry treatment data and emission data submitted by Martin Marietta and Reynolds Metals is given on page 16.

COMPARISON OF POTROOM EMISSIONS FROM ALUMINUM PLANS IN OREGON TO PUBLISHED DRY-TREATMENT DATA

	Primary Systems				Secondary Systems		Total of Primary and Secondary Systems	
	Gaseous F^- (lb/ton Al)	Particulate F^- (lb/ton Al)	Total F^- (lb/ton Al)	Total Particulate (lb/ton Al)	Total F^- (lb/ton Al)	Total Particulate (lb/ton Al)	Total F^- (lb/ton Al)	Total Particulate (lb/ton Al)
Martin-Marietta Alum.	0.0007	0.017	0.024	0.16	1.69	11.5	1.71	11.7
Reynolds Metals Co.	0.56	6.16	6.72	21.5	7.52	12.8	14.34	34.3
Alcoa 1/ A-398	0.16	0.20	0.36	0.14	1.48	2.95	1.84	3.09
Alcoa 1/ A-398	0.10	0.27	0.37	1.41	1.76	4.10	2.13	5.51
Alcoa 1/ A-398	0.14	0.61	0.75	4.54	0.97	9.64	1.72	14.18

1/ The data represents three different installations as reported by Cook, C. C., et al., "Re: Operating Experience with the Alcoa 398 Process for Fluoride Recovery", presented at the PNWIS-APCA Annual Meeting, November 11, 1970, Spokane, Washington. The data presented was obtained from potroom installations equipped with prebake type anodes.

Environmental Protection Agency Emission Standards

The Environmental Protection Agency has placed emission standards for new primary aluminum plants in Group III of the standards for new stationary sources. Neither the publication dates of proposed standards nor the details of any contemplated standards are known at this time.

The EPA effort to date has included an industrial survey of all aluminum plants in the United States to determine the national performance status. This survey was followed by an EPA source testing program of some of the aluminum plants to quantitatively determine potroom emissions. Both plants in Oregon were sampled.

The data obtained from a single testing program at Reynolds Metals Co. just prior to shutdown has been reported to the Department by EPA. A preliminary review of the data indicates that the results were on the same order of magnitude as those obtained from the Reymonds Metals compliance program.

The Martin Marietta plant has been tested by EPA on three occasions. The results of the first and second test efforts have been furnished to the Department. These data are in general agreement with the data developed by the compliance program. Data from the third test effort which was conducted October 2 - 5, 1972, are not available.

The Department is of the opinion from discussing this matter recently with EPA that the Federal agency is not yet committed to regulations concerned with water soluble fluorides, water insoluble fluorides and total particulates. Whether or not regulations would be

proposed for limiting the emissions of these contaminants from just the potrooms or total plant apparently is not known by EPA. It appears that EPA will be making the required decisions in the very near future.

The Department considers regulations limiting gaseous fluorides, total fluorides and total particulates from the potrooms preferrable because the available data and the fact that the potrooms are the largest source of these materials. If EPA proposes standards in terms of water soluble/insoluble fluorides, a solubility study of the particulate fluorides for both Martin Marietta and Reynolds Metals would be required to develop the necessary correlation. EPA standards would be applicable to new sources.

Washington State Rules and Programs - Status:

The Washington State Primary Aluminum Plant regulation is essentially identical to the adopted Oregon regulation with the additonal requirements that potroom emissions must be limited so that solid particulate emissions cannot exceed 15 pounds per ton of aluminum produced and fluoride emissions cannot result in exceeding the Washington State fluoride standards for ambient air and forage. The Washington State fluoride standards are the same as those proposed in Oregon (attached hereto) with the addition of a seasonal (March 1 through October 31 of any year) limitation for gaseous fluorides in the ambient air of 0.61 ppb HF by volume or 0.5 micrograms per cubic meter.

The seven aluminum plants in Washington are conducting programs according to approved compliance schedules. Although most or all of the seven plants are in compliance with portions of the emission limitations and fluoride standards, none are known to be in total compliance at this time.

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL DIVISION

PROPOSED REGULATION AND STANDARDS

for

PRIMARY ALUMINUM PLANTS

1. Statement of Purpose In furtherance of the public policy of the state as set forth in ORS 449.765, it is hereby declared to be the purpose of the Commission in adopting the following regulations to:

   A. Require, in accordance with a specific program and time table for each operating primary aluminum plant, control, collection and treatment of atmospheric pollutants emitted from primary aluminum plants through the utilization of all equipment, devices and procedures consistent with attaining and maintaining desired air quality.

   B. Require effective monitoring and reporting of emissions, ambient air levels of fluorides, fluoride content of forage and other pertinent data. The Department will use these data, in conjunction with observation of conditions in the surrounding areas, to develop and revise emission and ambient air standards and to determine compliance therewith.

   C. Encourage and assist the aluminum industry to conduct a research and technological development program designed to reduce emissions, in accordance with a definite program, including specified objectives and time schedules.

   D. Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising the standards as needed when new information and better technology are developed.

II. Definitions

   A. All Sources - Means sources including, but not limited to, the reduction process, alumina plant, anode plant, anode baking plant, cast house, and collection, treatment and recovery systems.

B. Ambient Air - The air that surrounds the earth, excluding the general volume of gases contained within any building or structure.

C. Anode Baking Plant - Means the heating and sintering of pressed anode blocks in oven-like devices, including the loading and unloading of the oven-like devices.

D. Anode Plant - Means all operations directly associated with the preparation of anode carbon except the anode baking operation.

E. Commission - Means Environmental Quality Commission.

F. Cured Forage - Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.

G. Department - Means Department of Environmental Quality.

H. Emission - Means a release into the outdoor atmosphere of air contaminants.

I. Emission Standard - Means the limitation on the release of a contaminant or multiple contaminants to the ambient air.

J. Fluorides - Means matter containing fluoride ion.

K. Forage - Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

L. Particulate Matter - Means a small, discrete mass of solid or liquid matter, but not including uncombined water.

M. Primary Aluminum Plant - Means those plants which will or do operate for the purpose of or related to producing aluminum metal from aluminum oxide (alumina).

N. Pot Line Primary Emission Control Systems - Means the system which collects and removes contaminants prior to the emission point. If there is more than one such system, the primary system is that system which is most directly related to the aluminum reduction cell.

O. Regularly Scheduled Monitoring - Means sampling and analyses in compliance with a program and schedule approved pursuant to Section IV.

P. Standard Dry Cubic Foot of Gas - Means that amount of the gas which would occupy a cube having dimensions of one foot on each side, if the gas were free of water vapor at a pressure of 14.7 P.S.I.A. and a temperature of 60°F.

III. Emission Standards

A. The emission of gaseous fluorides and particulate fluorides from all sources within a primary aluminum plant shall be restricted so that the ambient air and forage standards for fluorides are not exceeded outside the property controlled by the aluminum plant.

B. The total emission of solid particulate matter to the atmosphere from the reduction process (pot-lines) shall not exceed fifteen (15) pounds per ton of aluminum produced on a daily basis.

C. Visible emissions from all sources shall not exceed twenty (20) per cent opacity (Ringelmann 1).

IV. Revision of Emission Standards

A. A public hearing may be called within ninety (90) days after submission of the results of the special studies to evaluate the special studies, current technology and adequacy of these regulations and to make revisions to the regulations, as necessary.

B. The Commission may, after public hearing, establish more restrictive emission limits for new primary aluminum plants or for plants that expand existing facilities. Data documenting projected emissions and changes in or effects upon air quality that would result from the construction or expansion, must be submitted to the Commission, together with plans and specifications, in accordance with Section VII (C).

V. Compliance

Each primary aluminum plant shall proceed promptly with a program to comply with this regulation. A proposed schedule of compliance shall be submitted by each plant to the Commission not later than one hundred and eighty (180) days after the effective date of this regulation. After receipt of the proposed schedule, the State shall establish a schedule of compliance for each plant. Such schedule shall include the date by which full compliance must be achieved but, in no case, shall full compliance be later than July 1, 1972, for Section III (A) and January 1, 1975, for Sections III (B) and (C)

VI. Monitoring

A. Each primary aluminum plant shall submit, within sixty (60) days after the effective date of this regulation, a detailed monitoring program. The proposed program shall be subject to revision and approval by the

Commission. The program shall include regularly scheduled monitoring for emissions of gaseous and particulate fluorides and total particulates. A schedule for measurement of fluoride levels in forage and ambient air shall be submitted.

B. Necessary sampling and analysis equipment shall be ordered or otherwise provided for within thirty (30) days after the monitoring program has been approved in writing by the Commission. The equipment shall be placed in effective operation in accordance with the approved program within ninety (90) days after delivery.

VII. Reporting

A. Unless otherwise authorized in writing by the Commission, data shall be reported by each primary aluminum plant within thirty (30) days of the end of each calendar month for each source and station included in the approved monitoring program as follows:

1. Ambient air: Twelve-hour concentrations of gaseous fluoride in ambient air expressed in ppb of hydrogen fluoride on a volume basis.
2. Forage: Concentrations of fluoride in forage expressed in ppm of fluoride on a dried weight basis.
3. Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

Compliance with sub-section III (B) shall be determined by measurements of emissions from the pot line primary control system plus measurements of emissions from the roof monitor and other points of emission to the atmosphere. Calculated emissions to the pot rooms from the reduction cells based on hooding efficiency determined for gaseous fluoride may be substituted for roof monitor emission measurements in determining compliance with the regulation.

4. Gaseous Emissions: Results of all sampling conducted during the month for gaseous fluorides. All results shall be expressed as hydrogen fluoride in ppm on a volume basis and pounds per day of hydrogen fluoride.
5. Other emission and ambient air data as specified in the approved monitoring program.
6. Changes in collection efficiency of any portion of the collection or control system that resulted from equipment or process changes.

B. Each primary aluminum plant shall furnish, upon request of the Commission, such other data as the Commission may require to evaluate the plant's emission control program. Each primary aluminum plant shall immediately report abnormal plant operations which result in increased emission of air contaminants.

C. Prior to construction, installation or establishmnnt of a primary aluminum plant, a notice of construction shall be submitted to the Commission. Addition to, or enlargement or replacement of, a primary aluminum plant or any major alteration therein shall be construed as construction, installation or establishment.

VIII. Special Studies

A. Special studies, covering the areas in subparagraphs 1, 2, and 3 of this subsection shall be conducted at each primary aluminum plant.
1. Emissions of particulates from all sources within the plant, including size distribution and physical and chemical characteristics where feasible, and a separation of fluoride and non-fluoride particulate.
2. Plume opacity from all sources within the plant, including its relationship to grain loading, particulate characteristics, particle emissions in pounds per ton of production and stack characteristics.
3. Emissions of sulfur dioxide, hydrocarbons, carbon monoxide, chlorine and chlorides, oxides of nitrogen, ozone, water vapor, and fluorides from all sources.

B. Each primary aluminum plant shall submit a program for conducting the aforesaid special studies to the Commission for approval within sixty (60) days after the effective date of this regulation.

C. The results of the special studies shall be submitted to the Commission not later than eighteen (18) months after approval of the special studies program.

IX. Other Air Quality Limitations

The emission limits established under these sections are in addition to other emission standards and ambient air standards established or to be established by the Commission unless otherwise provided by rule or regulation.

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL DIVISION

PROPOSED AMBIENT AIR STANDARDS FOR FLUORIDES

and

REGULATIONS TO PROTECT LIVESTOCK AND VEGETATION

I. Policy Limitations

The standards set forth within these regulations are intended to protect livestock and vegetation. All sampling to measure compliance with said standards will be conducted in areas and during time periods appropriate to protect vegetation and livestock.

II. Definitions as used in Sections I and VII, unless otherwise required by context:

A. Ambient Air: Means the air that surrounds the earth, excluding the general volume of gases contained within any building or structure.

B. Commission: Means Environmental Quality Commission.

C. Cured Forage: Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.

D. Department: Means Department of Environmental Quality.

E. Forage: Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

III. Intent of Regulations

Two standards are established by these rules. One shall be for the fluoride content of forage and the other for gaseous fluorides in the ambient air. No person shall cause, let, permit or allow any emission of elemental or chemically combined fluorine, which either alone or in combination with other fluorides that may be present in forage or the ambient air, to be in excess of the standards in Sections IV or V.

IV. Forage Standard

A. The fluoride content of forage calculated by dry weight shall not exceed:

1. Forty parts per million fluoride ion (40 ppm F^-) average for any twelve (12) consecutive months.
2. Sixty parts per million fluoride ion (60 ppm F^-) each month for more than two (2) consecutive months.

3. Eighty parts per million fluoride ion (80 ppm F^-) more than once in any two (2) consecutive months.

B. Cured forage grown for sale as livestock feed shall not exceed forty parts per million fluoride ion (40 ppm F-) by dry weight after curing or preparing for sale.

C. In areas where livestock are not grazed continually, but are fed cured forage part of the year, the fluoride content of the cured forage shall be used as the forage fluoride content for as many months as it is fed to establish the yearly average.

V. Ambient Air Standards

Gaseous fluorides in the ambient air calculated as hydrogen fluoride (HF) by volume shall not exceed: 3.7 $\mu g/m^3$

A. Four and one-half parts per billion (4.5 ppb) average for any twelve (12) consecutive hours.

2.9 $\mu g/m^3$

B. Three and one-half parts per billion (3.5 ppb) average for any twenty-four (24) consecutive hours.

1.7 $\mu g/m^3$

C. Two parts per billion (2.0 ppb) average for any seven (7) consecutive days.

0.84 $\mu g/m^3$

D. One part per billion (1.0 ppb) average for any thirty (30) consecutive days.

VI. Compliance with Standards

When requested by the Department, persons emitting fluorides to the atmosphere shall be required to establish compliance with Sections IV and V by conducting a monitoring program approved in writing by the Department and submitting all data obtained to the Department.

VII. Sampling and Analysis

A. Forage samples shall be taken once each calendar month at 25-35 day intervals as specified in the approved monitoring program to determine compliance with Section IV.

B. Gaseous fluoride shall be sampled according to the approved monitoring program, using the sodium bicarbonate tube method to determine compliance with Section V.

C. Samples shall be analyzed by the Technicon Auto Analyzer or the Modified Willard-Winter Distillation Method. A fluoride specific ion probe may be used to analyze the gaseous ambient air sample when the fluoride is in soluble form. Other sampling and analyses methods which are equivalent in accuracy, sensitivity, reproducibility and applicability under similar conditions may be used after approval by the Department.

APPENDIX B

Excerpt from Reynolds Metals Co. Expansion & Modernization Approval.

FLUORIDE STANDARDS FOR AMBIENT AIR AND FORAGE

I. Ambient Air Standards:

(1) Gaseous fluorides in the ambient air calculated as HF by volume shall not exceed:

a. Four and one-half parts per billion (4.5 ppb) average for any twelve (12) consecutive hours.

b. Three and one-half parts per billion (3.5 ppb) average for any twenty-four (24) consecutive hours.

c. Two parts per billion (2.0 ppb) average for any seven (7) consecutive days.

d. One part per billion (1 ppb) average for any thirty (30) consecutive days.

II. Forage Standards:

(1) The fluoride content of forage calculated by dry weight shall not exceed:

a. Forty parts per million fluoride ion (40 ppm F^-) average for any twelve consecutive months.

b. Sixty parts per million fluoride ion (60 ppm F^-) each month for more than two consecutive months.

c. Eighty parts per million fluoride ion (80 ppm F^-) more than once in any two consecutive months.

Forage samples shall be taken once each calendar month at 25-35 day intervals to determine compliance with Sections II (1) a., b., c.

(2) In areas where cattle are not grazed continually, but are fed cured forage, as hay, during the winter, the fluoride content of the hay shall be used as the forage fluoride content for as many months as it is fed to establish the yearly average.

(3) Cured forage grown in the county of Multnomah for sale as livestock feed shall not exceed 40 ppm F^- by dry weight after curing or preparing for sale.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

JAN 23 1973

REPLY TO ATTN OF: M/S 449

Mr. Diarmuid F. O'Scannlain
Director
Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205

Re: Proposed Amendment of Department of Environmental Quality Primary Aluminum Plant Regulation

Jack

Dear Mr. O'Scannlain:

In response to L. B. Day's request of December 18, 1972, we are providing you our comments on the proposed amendment to aluminum plant regulations.

As you know, EPA is conducting an extensive survey of the state-of-the-art in emissions control at primary aluminum reduction smelters to determine if there is a need for Federal standards of performance for these sources. Source emissions tests have been conducted at several of the better controlled aluminum reduction plants in the country, including both the Reynolds Metals Company at Troutdale and the Martin-Marietta plant at The Dalles in the State of Oregon. Test results from each of the emissions tests conducted in Oregon have been provided to your office. At this time, all the information gathered during the EPA source tests is being reviewed by the Emission Standards and Engineering Division (ES&ED) in North Carolina as a preliminary step to proposing performance standards for the aluminum industry.

We received the attached response from Robert Walsh of that Division in answer to six questions we directed to Reid Iversen of the Industrial Studies Branch, ES&ED, by way of the attached memorandum from Gary Young. In addition, Mr. Walsh provided comments on the stringency of your proposed amendments and the anticipated impact your proposed amendments will have on existing plants in Oregon. These comments are based on the series of source tests performed by EPA.

In making your decisions as to the final form of the regulations for primary aluminum plants you should keep in mind Section 111(d) which requires States to submit to EPA a plan to adopt and enforce emission standards for existing sources of pollutants (1) for which air quality criteria have not been issued by EPA and (2) for which there are standards of performance for new sources of that pollutant. We anticipate that in the future this section will be applicable to fluoride emissions from primary aluminum reduction smelters.

Consequently, it is not known the extent to which State emission standards developed in accordance with Section 111(d) must coincide with Federal regulations on such items as definition of pollutants (e.g., "soluble" fluoride vs. "gaseous" fluoride). Also, the extent to which State emission limitations may differ from Federal emission limitations has not been established.

We hope our comments on your proposed regulations are useful. Do not hesitate to contact us if other questions arise.

Sincerely yours,

Robert S. Burd
Director
Air & Water Programs Division

Attachments

ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Water Programs
Research Triangle Park, North Carolina 27711

REPLY TO ATTN OF: OAQPS, ESED, ESB

DATE: January 22, 1973

SUBJECT: Proposed Revisions in State of Oregon Regulations for Primary Aluminum Plants

TO: Gary B. Young, Chief
Air Programs Branch
Region X

Pursuant to your request of January 15, 1973, we have reviewed the State of Oregon proposal in light of the data accumulated in anticipation of proposing a new source standard for primary aluminum plants. It is emphasized that nothing regarding the NSPS can be considered firm at this time. It will not be possible to propose the regulations for aluminum plants before August of this year. The information we have assembled must be evaluated and discussed within EPA and with advisory committees before we finalize decisions on test methods, affected facilities, units of the standard, and limits. Therefore, it would be virtually impossible at this time to assure the State of Oregon that its standard would conform to the NSPS.

Responses to your specific questions and to the attached proposal from Director L. B. Day are as follows:

1. Water soluble versus gaseous fluorides. We feel that all soluble fluorides are important, be they gaseous, liquid, or solid. Basing the standard only on gaseous fluorides would ignore other soluble fluorides which are hazardous to plants and ultimately to animals who may eat the plants or drink the water containing these fluorides. Insoluble fluorides also may be important. However, since they average only about five percent of the total fluorides and are removed by the same baghouses, scrubbers, etc. which are used to control soluble fluorides, it is reasonable to base the standard only on soluble fluorides. Essentially all data collected by EPA is based on tests for soluble and insoluble fluorides. There is little information on hand to determine gaseous emissions from best controlled primary aluminum plants.

2. Test Method. In all probability, we will base the standard on tests conducted with the EPA particulate Method 5 of 40 CFR 60. Nevertheless, there may be modifications for fluoride collection. An unheated filter may be required between the third and fourth impingers. A somewhat different technique may be required for roof monitors or secondary control systems. Due to the low velocities at these points, it is usually not feasible to sample isokinetically using Methods 1 and 2 of 40 CFR 60. The sampling technique employed at Alcoa's Wenatchee plant might be included for secondary control systems.

Received 1/22/73 lm

EPA Form 1320-6 (11-71)

The analytical procedure for water-soluble fluorides probably will be the SPADNS-Zirconium Lake Method. If insoluble fluorides were to be included, we would have to incorporate a modification in the SPADNS Method to fuse with sodium hydroxide before analysis.

3. Relationship of gaseous and soluble fluorides. EPA did not attempt to determine the relationship between gaseous and soluble fluorides. However, company data indicate that gaseous fluorides make up approximately one third of the total fluoride content with some variations due to the type of cells and control systems employed.

4. Pollutants to be covered. At the present time, it is our intention to include only a standard for water-soluble fluorides and visible emissions. We do not intend to include a standard for particulates inasmuch as test data are questionable in this area. Furthermore, we feel that limiting soluble fluorides will effectively force the application of devices which will provide very good control of particulates.

5. Affected facilities. It is probable that the principal affected facility will be the pot room or rooms housing the reduction cells. In the case of prebake plants, the standard probably will include restrictions on the discharge of organics and/or particulates from anode baking furnace facilities.

6. Time period of compliance tests. While it is uncertain at this time, it appears that the test time for determining compliance will be somewhere between 4 and 24 hours. For ease of compliance, it would be desirable to state the standard in the shortest possible sampling time, however, for secondary control systems where concentrations are reasonably dilute, it may be necessary to sample for as long as 24 hours to obtain a representative sample.

Based on present technology, it would be extremely costly to monitor each aluminum plant on a monthly basis. The monitoring provision included in the Oregon ragulation should serve as a strong stimulus to operators and vendors of monitoring equipment. As stated in the proposed regulation, the monitoring provision looks to be sufficiently flexible to allow the State to change its requirements as better monitoring equipment is developed.

7. Stringency of proposed Oregon regulation. Based on our test data, it would appear that the total fluoride limits of section 2b would be difficult to meet for new well-controlled primary aluminum plants. They may be virtually impossible for some existing plants.

8. Stringency of particulate emission limits. The proposed particulate limit of 3 pounds per ton of aluminum is in our opinion less stringent than the fluorides limits. Our data indicate an approximate ratio of 4.5 pounds of particulate to one pound of fluoride. We believe that the limits could be achieved at new plants but have doubts about many existing plants.

9. Effect on existing Oregon plants. It is our opinion that the proposed regulations would require major modifications to the Reynolds Troutdale plant (prebake cells). The Martin-Marietta plant (BSS cells) would have to improve the efficiency of its secondary control system to meet the particulate and organic regulation.

Since our latest reorganization of the Office of Air Quality Planning and Standards, the Engineering Services Branch is to serve as the focal point for technical assistance to the Regional Offices. It will expedite our response in the future if you will direct to me all such requests. In this particular instance, our project officer on primary aluminum plants, Mr. Iversen, has a tight schedule to meet in connection with the new source standards. It is usually not feasible for the project officer to respond quickly to requests for technical assistance.

It would be most helpful if you could submit future requests for assistance at the earliest possible date. In many instances, we cannot provide the necessary technical review in one week's time.

I hope that we have provided the information you require. Should you have further questions, please contact me.

Robert T. Walsh

Robert T. Walsh, Chief
Engineering Services Branch
Emission Standards and
Engineering Division

cc: R. Iversen
S. Cuffe

10AWA M/S 449 January 15, 1973.

Proposed Changes in the Oregon State Regulations for Primary Aluminum Reduction Smelters

Reid Iverson, Industrial Studies Branch, ATD

As David Lutrick of my staff has indicated to you by telephone today, we would like for you to review and comment on the attached letter from Mr. L. B. Day of the Oregon Department of Environmental Quality on the above subject. In addition to other comments you may have, please address these questions:

(1) It appears from the test methods used in source testing aluminum plants for new source performance standards development that EPA has utilized test methods for "soluble" fluorides as opposed to "gaseous" fluorides. Would you please provide to us the rationale for this approach?

(2) What type of sampling method is being contemplated for determining compliance with a "soluble" fluorides emission limitation?

(3) Are there comparative data available to show the quantitative difference between "soluble" and "gaseous" fluorides emission rates from primary aluminum reduction smelters?

(4) Do you anticipate promulgation of Federal new source emission limitations for total fluorides, particulate matter, and for visible emissions? If not, do you expect the control systems which will meet the contemplated soluble fluorides emission limitation to also effectively control total fluorides, particulate matter, and visible emissions?

(5) What are the anticipated "affected facilities" to which the contemplated Federal new source emission standards will apply?

(6) Will the contemplated emission standards be based on hourly, daily or monthly average emission rates? Would you anticipate any problem in monitoring compliance with the proposed Oregon limitation which is based on a monthly average?

The State of Oregon Environmental Quality Commission will meet on January 26, 1973, to discuss these proposed regulations. Mr. Fred Skirvin of the Department of Environmental Quality must prepare information for that meeting on the proposed regulations. He has requested that you review

the proposed regulations and comment on them. We plan to respond to Mr. Day's attached letter on January 19, 1973, and hope that we can incorporate your written comments into our response.

We appreciate your committment to provide us your comments and look forward to receiving them.

Gary D. Young
Chief
Air Programs Branch

Attachment

GDY:DJLutrick:BCEusebio:ka
File: PS.4

BCEusebio

State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: AQCD Files

Date: February 13, 1973

From: FAS

Subject: Fluoride Regulations, Reynolds Metal Co., Review of January 12, 1973, Submission

The following is a synopsis of material submitted on January 12, 1973, by Reynolds Metals Company, RMC, relative to proposed additions to the DEQ, primary aluminum plant regulation.

In the introduction (page 1), RMC states its position that there is no demonstrated technology available which if applied to the Troutdale plant or any new plant could comply with the proposed standards. This position is affirmed by a discussion and application of what RMC considers best-known technology to the Troutdale plant in the remainder of the text.

The hooding or collection efficiency of the old pots (lines 1, 2, 3 and 4) and new pots (line 5) have been evaluated and are reported as 70 to 79% and 87.5 to 89% respectively for total fluorides. By additional equipment improvements on the old pots and increasing the ventilation air for all pots, RMC has indicated that a 90% across the plant average hooding efficiency can be achieved based on fluoride materials. Newer design and larger cells are able to achieve 96% hooding efficiencies (based on fluorides).

A comparison of the Troutdale plant to a new modern plant is presented to demonstrate how the modern plant is able to achieve the lower air contaminant emission rate. Essentially, the reason stated is because the frequency of the routine tasks (which cause the cell hooding to be opened) per ton of aluminum produced is less for the modern plant. RMC indicates that to upgrade the hooding efficiency at the 30 year-old Troutdale plant to that of a new modern plant would require essentially complete replacement of the entire production facility except for the metal casting unit. The company reports that this does not appear economically feasible. (pp. 12-16).

The dry system being evaluated by RMC was developed by the Aluminum Company of Canada, Alcan. This process involves injecting alumina into the pot exhaust gases whereby gaseous fluorides adhere to the alumina. The particulates from both the pot exhaust and the alumina are subsequently removed using a baghouse. This process is commonly referred to as the Alcan system and has performance capabilities similar to the Alcoa 398 process.

RMC generated operating data using the Alcan system will not be available until June of 1973. However, based on conversations with Alcan representatives RMC is confident that the Alcan system is capable of removal efficiencies equalling at least 95% for particulates and 97% for total fluorides. These same efficiencies are cited for the wet electrostatic precipitators which could be used for pre-bake pots as well as the Soderberg type.

Better performance capabilities than that cited above have been reported for the Alcan process. Since performance cannot be guaranteed, RMC indicated that the 95 and 97% efficiencies were most likely realistic ones. The Company considers the dry system to have advantages over the wet system in that the former creates no water pollution and provides an invisible exhaust stream. (pg. 17-19)

The evaluation of secondary systems for controlling pot room emissions is cited as being most difficult due to the effort to collect and treat cell emissions in the primary system. RMC presented data which indicate generally low efficiencies for the secondary system installed at Troutdale using both recirculated liquor and fresh water.

The Company considers improved hooding efficiency and subsequent treatment by a primary system to be more effective for equal effort and capital expenditures than secondary control systems. (pg. 20-21)

RMC presented typical anticipated potroom emissions for two types of primary treatment systems using no secondary treatment system. The results presented for the best low pressure water scrubber and best dry type (or wet electrostatic precipitator) systems were:

Low Pressure Water Scrubber
lb/T Al

	Total F	Total Particulate
Scrubber Losses	5.4	9.8
Roof Losses	4.0	10.8
TOTALS	9.4	20.6

(based on 85% F removal and 80% total particulate removal)

Best Dry Type Scrubber
(or Wet Electrostatic Precipitator)
lb/T Al

	Total F	Total Particulate
Scrubber Losses	1.1	2.5
Roof Losses	4.0	10.8
TOTALS	5.1	13.3

(based on 97% F removal and 95% total particulate removal.)

The following assumptions were applied in deriving both of the above sets of performance data:

1. 40 lb. F evolved per ton Al produced.
2. 60 lb. total particulate evolved per ton Al produced.
3. F hooding efficiency equals 90%.
4. Total particulate hooding efficiency equals 82%.

(pg. 22-24).

SUMMARY

The Reynolds Metals Company states that there is no demonstrated technology available which if applied to either the Troutdale plant or any new plant could comply with the proposed standards.

The Reynolds Metals Company reports the company considers either wet electrostatic precipitators or dry scrubbers, using alumina injection followed by a baghouse, to be the most effective systems for treating primary emissions. The report indicates that by installing the most effective treatment system and improving hooding or collection at the pots, secondary treatment (or roof exhaust scrubbing) would not be necessary at the Troutdale plant.

The Reynolds Metals Company report includes the following pot-room exhaust control system efficiencies and emission rates:

	Presently Installed Systems		Improved Hooding, Most Effective Primary System & No Second. System	Best Technology New Plant
	Lines 1,2, 3 & 4	Line 5	Lines 1,2,3,4 & 5	
1. Hooding Efficiency, %				
a. Gaseous F^-	NP	NP	NP	NP
b. Total F^-	70-89	87.5-89	90	96
c. Total Particulate	70	NP	82	95
2. Primary System Removal Efficiency, %				
a. Gaseous F^-	NP	NP	NP	NP
b. Total F^-	NP	NP	97	97
c. Total Particulate	NP	NP	95	95
3. Secondary System Removal Efficiency, %				
a. Gaseous F^-	NP	0	0	NP
b. Total F^-	19-29	0	0	NP
c. Total Particulate	NP	0	0	NP
4. Primary System Emissions, lb/ton Al				
a. Gaseous F^-	0.91	0.13	NP	NP
b. Total F^-	4.61	3.36	1.1	NP
c. Total Particulate	12.0	9.2	2.5	NP

NP--Not Presented

Attachment 6

REYNOLDS METALS COMPANY

TROUTDALE, OREGON

January 12, 1973

C O N T E N T S

INTRODUCTION

The Director of the Department of Environmental Quality of the State of Oregon, in a memorandum of October 25, 1972, to the Environmental Commission, recommended proposed additions to regulations for primary aluminum plants. These proposed additions would, in part, establish emissions standards as follows:

1. Total gaseous fluoride emissions from all sources shall not exceed 0.3 pounds of fluoride ions per ton of aluminum produced as a monthly average.

2. The total of all fluoride materials from all sources shall not exceed 1.0 pounds of fluoride ions per ton of aluminum produced as a monthly average.

3. The total organic and inorganic particulate emissions from all sources shall not exceed 8 pounds of total particulate per ton of aluminum produced.

At the invitation of the technical staff of the D.E.Q., we discussed these revised standards with them, advising them that we know of no technology that could be applied to our Troutdale plant to meet these proposed standards and, further, to our knowledge there is no demonstrated technology or controls available anywhere in the world that would permit the construction of a new primary aluminum plant to meet these proposed regulations.

In accordance with this and subsequent communications and at the request of the D.E.Q. staff, we have prepared the following evaluation of the application of the best-known practical technology to our Troutdale plant in support of our communications.

BRIEF TROUTDALE ENVIRONMENTAL HISTORY

Since the installation of the initial primary and secondary pot room control systems and their attendant ancillary items of duct work, pot hooding, etc., the Troutdale plant of Reynolds Metals Company has in the interest of continuing environmental improvement spent almost an additional $6,000,000 in capital projects related to the improvement of the environment. The cost of operation of the installation plus the additional equipment has been appreciably greater than the initial capital investment, with the current budgeted operating costs in excess of $1,000,000 annually on a full-plant operational basis. The capital costs mentioned above do not include the cost of acquisition of land surrounding the plant-site.

The initial installation of scrubbers consisted of low-pressure water spray towers in the courtyard and wood slat spray screens in the roof monitors. These devices were supplied with fresh water which was discharged to the Columbia River without further treatment. In 1956, a cryolite recovery plant was installed to permit recirculation of the scrubbing water and to recover the fluoride ions and particulate matter contained in the scrubber water. Use of the liquor recirculation soon resulted in destruction of the wooden roof scrubbers, and these were replaced beginning in 1963 with wet cyclone separators, which are presently in existence.

In 1968 a program of replacement of the original primary scrubbing towers was begun, and funds for the replacement of eight of the towers were authorized. This program was not extended when test data proved the new design not significantly better than that of the original. At the same time a program of evaluation of other types of scrubbers was begun. Test installation of three of the commercially available wet scrubbers was accomplished at

Troutdale, and one additional type at another plant of Reynolds Metals Company. The four types of scrubbers tested were:

1. High pressure spray screen (Troutdale)
2. Flooded disk scrubber (Troutdale)
3. Single-stage orifice type wet scrubber (Troutdale)
4. High-energy Venturi (Longview)

All of these systems were found to be superior in scrubbing efficiency to the systems in use at that time but, in the light of recent developments, were believed not to represent the best practicable treatment available.

In 1970 experiments were conducted on a cross-flow, packed tower for scrubbing of carbon plant baking furnace fumes utilizing a commercially available scrubber. This unit was found to be impractical, as fine particulate was not eliminated, and build-up of condensible pitch fumes prevented continuous operation.

Following completion of the above-mentioned tests, a pilot model, wet electrostatic precipitator was installed on the carbon plant stack and, although the initial tests were unsatisfactory, modifications of the equipment and reduction in gas flow were beginning to show promise when the tests were interrupted by shut-down of the plant in late 1971. A separate series of tests with electrostatic equipment from another manufacturer have been conducted at another carbon bake plant of RMC.

In July, 1969, a program of improving the collection of effluents from the individual cells was begun in accordance with Reynolds Metals Company's commitment to the state, when Line 1 was equipped with new peripheral collection skirts integral with the ore bins, and new pot shields were installed. Internally-mounted crust breakers were installed to permit pot working without opening the fume collection hoods. This program has been continued across the plant and is now complete in four of the five lines at Troutdale.

With the installation of the fifth pot line at Troutdale, improved hooding and breakers similar to those installed in previous lines were included and the air flow per pot increased to provide better collection at the pot. An improved horizontal wet scrubber was installed. Because of the resultant low concentration of fume expected in the pot room atmosphere and the demonstrated ineffectiveness of roof scrubbers in the original lines, it was concluded that no significant advantage could be attained by the installation of roof scrubbers.

In 1971, the possibility of substituting air curtain fume entrainment for metal hoods and negative interior pressure was investigated. Through use of the W.C.L. Hemeon work "Plant and Process Ventilation," Chapter 9 (Publisher: Industrial Press, Inc.) it became apparent that 15,540 CFM of primary air was required along the sides of the cell, which produced a secondary or exhaust air flow of 66,800 CFM per cell, all of which would require high efficiency scrubbing. Metal hoods require the exhaust and scrubbing of approximately 2,500 CFM per cell. The high dilution factor of the additional air and the unknown effect of the high thermal head existing in the pot gases, together with the practical problem of supplying a total of approximately 15,500 CFM to each of 700 individual cells, removing and scrubbing 66,800 CFM per cell, led to the conclusion that the air curtain principle is not a practical approach to the hooding of reduction cells.

Numerous experimental projects in the areas of cell hooding and fume scrubbing have been conducted by the reduction plants within the company; among them canopy type hoods for prebake cells, domes for Soderberg cells, a dry process scrubbing system, chemical reduction of fluoride fumes, and various types of wet scrubbing systems. Information developed through these experiments is freely exchanged among the plants.

CURRENT TROUTDALE ACTIVITY

When the decision was made to re-start the Troutdale reduction plant in September, 1972, an Environmental Department was included in the organizational structure of the plant. Since re-starting, proprietary operational changes as well as other production practices have been put into effect to reduce the total effluent from the plant. Because of the confidential nature of proprietary process changes, it is inappropriate to review these in this documentation. However, the effect of these changes can be seen by comparing the previous emission data with current data. Aside from the proprietary changes, other production practices have been altered and certain engineering, development, and testing work pursued, as follows:

1. Our reduction cells now use recovered cryolite (approximately 40% Na_3AlF_6 and 60% Al_2O_3) instead of high-grade cryolite (approximately 95% Na_3AlF_6 and 5% Al_2O_3). Because of this, we are now able to convey the recovered cryolite through a pneumatic conveyor and blend it with the incoming alumina, thereby eliminating one process opening of our cells' hoods and the open transport of high-grade cryolite.

2. The operations personnel are oriented toward a pollution reduction program. When a cell has to be opened to perform scheduled work, it is closed as soon as possible thereafter. The sweeping schedules of the cell rooms have been increased, and the sweepings are now being reprocessed in our recovery plant.

3. A new design is under development for the cell hood which is intended to give higher capture efficiency. Our hooding was complicated by virtue of having two different types of bus arrangement, end and quarter riser. The attached drawings show the difference between these two configurations.

The distribution of risers throughout the plant are as follows:

Line I	140 quarter risers	In operation
Line II	140 quarter risers	Not in operation
Line III	112 quarter risers; 28 end risers	Not in operation
Line IV	140 end risers	In operation
Line V	140 end risers	In operation

The complications of the quarter riser pot even led to the consideration of revising this bus arrangement. However, the excessive cost of this and the possible economic impact as it became obvious that this change must be performed with the lines inoperative led us back to a reconsideration of the hooding problem. We now believe that with our new proposed hood design there will be no interference from our quarter risers, and this hooding will be as effective as on an end riser cell.

4. Engineering and pilot work is in progress to bring our carbon plant stack into compliance with the visible emission regulation. Work in this area is also proprietary data.

5. Two bag houses are scheduled for delivery in the near future for installation on our electromelt furnaces. At present, the installation is scheduled for completion in February, 1973.

6. Facility additions are on order and efforts to accelerate and define the testing work are under way, which will facilitate better understanding of cause and effect of pollution control activity.

7. Conversion of the last remaining line (Line 3) to peripheral air pick up, internal crust breakers, and new hoods is in progress at present.

EVALUATION OF HOODING AND COLLECTION

It is, of course, self-evident that the best aluminum industry pollution control beyond process changes to eliminate or reduce them will result from capture of any pollutants at their source in as concentrated a form as possible. The volume of gases generated in the process and, consequently, requiring removal from a fully sealed cell is quite small. However, the need for heat release from the process and the available materials of construction have thwarted every effort to use maximum sealing with minimum evacuation of pre-bake cells. Hooding of the pre-bake cell is currently done so that the operation of adding ore to the bath surface and the crust-breaking operation necessary to introduce the ore into the bath are performed under the enclosed hoods, as these are significant pollutant-causing operations. The hooding and sealing of the cell is further complicated by the need of exposing a portion of the hooded bath area to perform certain routine tasks, the principal ones being daily tapping operation and daily changing of the carbons. These operations could be performed either by total hood removal or by exposure of just a small portion of the bath area. There are infrequent operations that might require the exposure of one side of the pot at any given time, but frequency is measured in weeks rather than in days.

The small pre-bake cells of the Troutdale size that were initially built without fume control considerations are further complicated in space allocation for good gas pick-up distribution throughout the entire area of the cell.

During the period of the Troutdale special studies, the average collection of fluorine ions in the primary system was 31.6 pounds/ton of aluminum produced. With between 40 and 45 pounds of fluorine being evolved from the cell, this would indicate a collection efficiency on fluorine of

between 70 and 79%. We have calculated a capture efficiency of total particulate of 70%. The average volume per cell was approximately 1,600 ACFM during this period of time.

In a single recent test made on our Line #5, we found five pounds of fluorine not collected and, again, with a fluorine evolution of 40 to 45 pounds. This would indicate a capture efficiency of fluorine between 87.5% and 89%. Again the volume per cell was approximately 1,600 ACFM which is considerably below the design capability of the system which at this moment is not entirely in operation. We believe that maximum capture efficiency will be reached in these cells between 2,000 and 2,500 ACFM per unit.

We feel that we can predict that with the increased volume and evacuation per cell and certain hooding and pick-up arrangement revisions on Lines #1 through #4, we can average across our plant a 90% capture of fluorine and an 82% capture of total particulate matter.

The best recorded test data we can find indicates total fluoride hood captures approaching 96% and total particulate approaching 95%. These results have been in the newer, larger cells designed and built for top capture efficiencies. We do not know if these efficiencies are maintainable on continued, routine operation. Reference to TRW "Engineering and Cost Effectiveness Study of Fluorine Emission Control," Vol. I, Figure 3-2, shows a hood efficiency of 89% on fluorine and 85% on total particulate average for old and modern pre-bake cells. Therefore, within the confines of our existing cells we feel that it would be most difficult to improve on these stated efficiencies of 90% and 82%, respectively, on fluorine and particulate. While the 82% particulate capture might appear improvable we have serious reservations especially in light of the fact that we have had to reduce the size of our individual cell

storage ore bins to permit room for improvement of peripheral hood pick-up points. This places a limit on any reduction in the frequency of charging the cell ore bins which, due to physical limitation, cannot be enlarged. This filling operation causes some fugitive alumina dusting and is external to pot hooding. Any appreciable capture efficiency improvement must come from total new cells. In reference to the question concerning the possibility of converting the relatively small Troutdale pot to a larger design which would not only better lend itself to fume control application, but would also offer certain obvious operating advantages, the following comments are appropriate:

While a measurable value of the large modern cell to improved hooding and collection lies in the fact that the environmental factor is a major influence in the cell's basic design and in the availability of greater space for more effective hooding and pick-up systems, the most significant value in improvement to capture efficiency lies in the reduction of the frequency per unit of output of work cycles that cause pollution and that frequently require opening of cell closures.

The following gives a comparison of a recent modern cell versus Troutdale cell:

	Modern Plant	Troutdale Plant
Volts per pot	4.7	4.9
Current	210,000 amperes 970 KW/cell	69,000 amperes 340 KW/cell
#Al per cell day	3,000#	1,000#
Tap Schedule	3,000#/entry	1,000#/entry
No. Carbon change per cell day	1	3
Physical dimension of cell	11' x 45'	6'4" x 19'

	Modern Plant	Troutdale Plant
Ore to cell bins	Once each 48 hours (6 tons)	Once each 24 hours (1 ton)
Avg. No. Cell ore dumps and crust-break, operations/day	12	12
Primary System Gas Volume	4,500 ACFM	2,500 ACFM

Therefore, in comparison of Troutdale's 128,000 TPY plant and a modern plant:

	Modern Plant	Troutdale Plant
No. of Cells operating	234	698
No. tapping operations per day	234	698
No. Carbon changes per day	234	2,094
No. of cell ore bins filled per day	117	698
No. of cell ore dumps and crust-breaking operations per day	4,914	14,658
Volume primary system gas to be handled	1,053,000 ACFM	1,745,000 ACFM

As can be seen from the foregoing tabulation, the number of disturbing operations performed on a small cell is much larger than on a modern one, resulting in lower collection efficiencies.

The present Troutdale cell is 6' 4" wide, 19' long, and 8' high. These pots are installed in rooms having a span of 46' and a height just sufficient to carry by crane the auxiliary equipment required to supply the pots in operation. Seventy pots are installed in each room which is approximately 750' long.

Recently designed cells which carry current loadings from 150,000 to 210,000 amperes as opposed to the 67,000 to 70,000 amperes at Troutdale range in size up to 11' wide, 45' long, and 16' high. They are normally installed in buildings 65' to 120' wide and 1200' to 2200' long.

Since the modern cell will not fit into the present pot room buildings, it would be necessary to completely rebuild the pot room complex to accommodate them. Other considerations are the fact that our present anode manufacturing facility is designed for the production of the small anode used with the present cell and is not, in some major cases such as press capacity, capable of producing the large anode used in the modern cell. For the same reason, the anode rodding facility is also inadequate. Both of these facilities would require large capital investments for conversion.

The net effect of attempting to convert the present Troutdale plant to a modern operation would be the construction of almost a complete new plant.

These new facilities would, of course, be tied to existing facilities that are 30 years old. It has been estimated that the cost of revision to existing facilities, demolition requirements, and new construction would be equivalent to the cost of a "grass roots" new plant, and this does not appear economically feasible.

Because of the lower capture efficiencies of smaller cells and the fact that smaller cells are usually older types of cells, there is some confusion that efficiencies of collection become impaired as a cell actually ages. This is not correct so long as an active maintenance program is maintained. As a matter of fact, the converse is true as to the amount of fluorine lost from the hooding system. When a cell is new, i.e., freshly lined or newly started, and during the first few weeks of operation, it will have a higher than normal evolution and consequent loss of fluorine due to higher than normal operating temperatures.

EVALUATION OF PRIMARY SYSTEM

Tremendous activity has prevailed in the aluminum industry in recent years in the development and testing of high-efficiency removal equipment for primary systems. Some evaluations that were in process have been dropped as obviously more effective units were proven out. Current Reynolds' development activity includes the evaluation of an electrostatic precipitator for Soderberg cells and a prototype dry scrubbing system for Prebake cells.

We include here a listing and results of some of the primary systems evaluations made by Reynolds within the past two years. Listed detailed Reynolds' reports can be made available if so desired. Comparison of removal efficiencies of various systems should be regarded as just that, bearing in mind that in most cases data was collected under varied conditions by different people at different places. Nevertheless, it may be concluded from the data that these evaluations indicate that at this time the primary systems most effective are the wet plate electrostatic precipitator and the dry systems.

1. Krebbs Elbair Scrubber 3000 ACFM
   RMCo. Report, September 16, 1970, J. Walloch
   Longview Reduction Plant
   Particulate efficiency 72.5%
   F^- efficiency 96.8%
   Outlet loading .03 gr/scf

2. Krebbs Elbair Scrubber 3000 ACFM
   RMCo. Report, August 3, 1971, D. Reinger
   Troutdale Reduction Plant
   Particulate efficiency - not checked 8-10#/ton of aluminum
   F^- efficiency 93.4%
   Outlet Loading .821 mg/ft.^{3}

3. Fiber Dyne Scrubber 2000 ACFM
   RMCo. Report, August 3, 1971, D. Reinger
   Troutdale Reduction Plant
   Particulate out 11.6 - 11.9#/ton of aluminum
   F^- efficiency 89.2%
   Outlet loading 1.05 mg/cu ft.

4. Flooded Disc Scrubber
   RMCo. Report, September 20, 1971, D. Reinger
   Troutdale Reduction Plant
   Particulate Out 12 - 14.3#/ton of aluminum
   F^- efficiency 85.0%
   Outlet loading 1.08 - 1.29 mg/cuft.

5. Troutdale Towers
   Special Studies Report
   Particulate efficiency 72%
   F^- efficiency 78%

6. Ducon High Velocity Venturi 40,000 CFM
   RMCo. Report, July 12, 1971 Locke and Whitticar
   Longview Reduction Plant
   Particulate efficiency 80.1%
   F^- efficiency 88.5%
   Outlet loading 0.02 gr/scf

7. Troutdale Proprietary Tower Design
   In-plant Test
   F^- efficiency Best arrangement 90% +

8. Wet Plate Electrostatic Precipitator - Prototype
   RMCo. in-plant test data
   Longview Reduction Plant
   Particulate efficiency 98%
   F^- efficiency 98%
   Outlet 0.003 gr/scf

   Statistical analysis of test data to reflect efficiencies to be used with 99.9% confidence level. (Per Longview Plant)

   Solid particulate 97.1%
   F ions 96.9%

9. Alcoa 398 Dry System
   Sales literature
   Particulate efficiency not stated
   F^- efficiency 97 to 99%

   From analysis of actual practice shown in "Operating Experience with the Alcoa 398 Process for Fluoride Recovery", we would anticipate the following operating experience:

   Particulate 95%
   Fluoride 97%

10. Alcan Dry Injection System
    System inspection and review of testing (5 tests reported by Alcan)
    Particulate efficiency 98.8%
    F^- efficiency 98.3%

From discussion with Alcan personnel it would seem the following efficiencies could be used with high degree of reliability for routine continuous operational application:

Particulate efficiency	95%
F^- efficiency	97%

An evaluation of the detail of each of the foregoing leads us to state that the use of WPESP or dry systems allows us to predict with reliability that these primary systems are available to permit the following system recovery operations:

Particulate efficiencies	95%
Fluorine efficiencies	97%

That while individual test results show figures in excess of these figures, the magnitude of these systems, maintenance and tuning problems preclude continuous average operation in excess of these figures.

Confident that the WPESP and the dry system are basically equal in performance, we currently have under way at other plants two projects covering the installations of these two systems. While we feel that the units are equal in performance in the reduction of air pollution, they are applicable to the two different pot designs used by Reynolds Metals Company. These are the horizontal, side-pin Soderberg or HSS cells and the pre-baked anode cells.

One project is at Longview where a successful prototype wet electrostatic precipitator has been in service on Soderberg pots for approximately one year and has consistently produced fluoride scrubbing efficiencies in the range of 97-98%. Because of the nature of the effluent from the side-pin Soderberg pot design, the dry collection system has not been successfully applied to it; however, the wet electrostatic scrubber may be used on either the Soderberg or the pre-bake design.

The major objections to the wet collection system are:

1. The fact that air pollution problems are converted to water pollution problems, which are as critical and as difficult of solution as those of the air.

2. Due to saturation of the hot gas stream with moisture, a steam condensation plume under average atmospheric conditions is inescapable. Although this plume may be totally free of pollutants, to the layman a false impression of air contamination frequently occurs.

3. Due to corrosive liquor and the need to maintain electrode and plate alignment, some other-than-normal maintenance problems are introduced.

The second project, at a pre-bake plant of identical design to Troutdale, was undertaken during the period of shut-down at Troutdale. This system is comprised of primary hooding, internal bar breakers and ducting, feeding an injected alumina dry scrubbing system. Although this project is now in the construction stage and results from it will not be obtained until June of 1973, it is anticipated that the results of its operation will provide fluoride scrubbing efficiencies in the same range as the wet electrostatic system proven at Longview. Vendors of equipment of this type are reluctant to guarantee any specific level of scrubbing efficiency because of the variations in the supply of alumina which directly affect the performance of the equipment. Published data on systems of this type and inspections of such systems, however, indicate test efficiencies of the order of 97 to 98%. In the absence of guarantees, the lower figure is more likely to be a realistic one.

Published data indicates that the major disadvantage of the dry collection systems are higher capital and operating costs. However, we feel

that this differential will be somewhat reduced when the overall pollution control problems, including water, are considered, as the dry system has the distinct advantages over the wet systems in that it creates no water pollution and provides an invisible exhaust stream.

EVALUATION OF SECONDARY SYSTEMS

The evaluation of secondary systems for the aluminum industry is most difficult due to the fact that every effort is being made to capture cell effluent in concentrated forms at the cell, consequently reducing emissions to secondary systems to such an extent that there are no effective means of treating same. In "Engineering and Cost Effectiveness Studies of Fluorine Emission Control" prepared by TRW for the Office of Air Programs, Environmental Protection Agency, published in January, 1972, we find "roof monitoring systems were not considered in detail in this study since they represent a minority usage and the trend in the industry (aluminum) is expected to be toward more efficient pot hoods." Certain data gives us an indication of the effectiveness of secondary systems:

YORK RESEARCH CONTRACT TESTING FOR EPA
TROUTDALE SECONDARY SYSTEM
NOVEMBER, 1971

Test No.	Total F^- Pounds/ton Al.		Eff.
	Inlet	Outlet	
1	9.09	7.45	18. %
2	9.52	7.01	26.4%
3	8.55	7.43	13.1%
Avg.	9.05	7.3	19.4%

We feel this is fairly indicative of the effectiveness of secondary systems at this level of inlet loadings.

A further evaluation of the secondary system's effectiveness on fluorine has been made from data obtained during the special studies period by maximizing the amount of fluorine ions that could have been introduced to the inlet of the secondary system during this period by computation, which have the effect of maximizing efficiency. The results are as follows:

Computed Secondary from Special Studies

	Inlet	Outlet	Eff.
Total F ion	13.2	9.40	29%

This is about the highest efficiency we could expect at this inlet loading.

A single recent test has been made to indicate effectiveness of secondary system by sampling with liquor off:

	Emission Value in pounds/ton aluminum		
	Liquor Off Test	Liquor on Test (5 tests)	
		Range	Avg.
Particulate	10.3	9.57 - 5.4	7.6
Fluorine	7.9	12.71 - 2.29	9.82

It is obvious more testing must be done and be better correlated to give definitive meaning. This will be done.

Theorizing that effectiveness of secondary system could be increased by the use of fresh water rather than recirculated liquor, tests were run evaluating same, with the following results:

	Emission Values in pounds/ton of aluminum						
	Recirculated Liquor				Fresh Water		
	5/25/71	6/11/71	7/7/71	Avg.	7/1/71	7/2/71	Avg.
Total Particulate	13.3	14.7	11.7	13.20	9.95	8.55	9.25
F^- Gas	5.74	3.62	3.08	4.13	4.40	4.05	4.23

While evaluation was not made for fluorine particulate, it is anticipated that this would show some change with total particulate indicating the possibility of some minor improvement in fluorine capture with fresh water over recirculated liquor. As the system envisioned here incorporated a 12 MGPD water supply system furnishing filtered river water adequate for spray nozzle use along with an equivalent system to return spent liquor over the dike to the river, it was decided, that for so little return considering the high

capital and operating cost as well as potential water pollution problem, effort and money would be better spent on improved capture efficiency than in pursuit of this theory.

Federal effluent guidelines, which have been issued to all EPA regional offices, provide an upper limit of 0.76 lbs. of F ion discharged to natural waters per ton of aluminum produced. It is obvious that if the secondary system removes more than this amount of fluorine ion, then a recovery system for the fluorine contained in the water, whether "once through" or recirculated, is necessary.

Lime settlement systems have been widely used among some segments of the industry for removal of fluorides of once through systems in the past, however, abandonment of this method is under consideration by them because of the difficulty of treatment to the level necessary to meet the federal guidelines.

Process changes and better hooding are drastically reducing the pot effluent in the secondary systems. It is anticipated that the concentrations of fluorine on long-term averages will be in the vicinity of 4 pounds/ton of aluminum with possible peaks as high as 5 or 6 pounds, with a volume of air in excess of 30 million cu. ft. No statistical work has been done that can directly evaluate the effectiveness of low pressure spray system on these concentrations. We feel that the nature of the inlet material will be largely the sub-micron particulate on which scrubbing will be very ineffective. We would anticipate efficiencies of less than 10 per cent. Therefore, in the degree of accuracy of these projections we feel that any value of secondary systems should not be considered as they would have no more overall effect than an improvement of one per cent in capture efficiency on the cells.

TYPICAL ANTICIPATED TROUTDALE POLLUTION CONTROL OPERATING DATA

From the evaluations of collection, primary and secondary systems, a fairly reliable prediction can be made of anticipated plant effluents with the application of these systems.

On the basis of:

40# Fluorine ion/ton of aluminum evolved
60# Total particulate/ton of aluminum evolved
90% Fluorine captured in primary system
82% Total particulate captured in primary system

Typical results anticipated from best low pressure liquor system:

	Emissions per ton of aluminum	
	Total Fluorine	Total Particulate
Primary	5.4	9.8
Secondary	4.0	10.8
Total	9.4	20.6

Based on 85% Fluorine recovery
80% Total particulate recovery

Typical results anticipated from best dry type or wet plate electrostatic system:

	Emissions per ton of aluminum	
	Total Fluorine	Total Particulate
Primary	1.1	2.5
Secondary	4.0	10.8
Total	5.1	13.3

Based on 97% Fluorine recovery
95% Total particulate recovery

These capture efficiencies would have resulting concentrations in our present secondary scrubber gas volumes of .0007 grains and .0018 grains, respectively, of fluorine and total particulate. We cannot predict any appreciable reduction of these quantities by any practicable secondary treatment.

Due to the inherent problems which arise when an attempt is made to separate gaseous from particulate fluoride, sampled from a wet scrubbing system,

we have reported only total fluoride in our evaluation. These problems have been pointed out by Mr. K. E. Lunde, "Performance of Equipment for Control of Fluoride Emission", Industrial Engr. Chem., 1958.

"The most important constituent, the gaseous fluoride emission from the scrubber, is the constituent most difficult to separate from such a mixture. Total fluorides could be analyzed very efficiently, but the ambiguity concerning the proportion of gaseous and particulate fluoride in the emission would remain." Engineering and Cost Effectiveness Study of Fluoride Emission Control, Vol. I, J. M. Robinson, et al. TRW Systems Group, McLean, Virginia.

Considering the foregoing, we furnish the following test data as indicative of split between gaseous and particulate fluoride:

1. Troutdale special studies report:

Effluent from wet primary treatment	Ratio F^- Particulate to F^- Gas
F^- as particulate	8
F^- as gas	1

2. Troutdale 1972 tests average:

Effluent from wet primary treatment:	
F^- as particulate	4
F^- as gas	1

3. Troutdale 1972 test:

Single test of influent to secondary system:	
F^- as particulate	1
F^- as gas	1
Single test, Line 5 monitor:	
F^- as particulate	0.8
F^- as gas	1

4. Data on Alcan dry scrubber from five tests:

Effluent from dry scrubber:	
F^- as particulate	1
F^- as gas	19

AMBIENT AIR AND FORAGE FLUORIDE READINGS

Where determinations of ambient air and forage readings have been made under the discharge of a known pollutant mass, determinations of what these readings would have been under a different mass pollutant effluent can be fairly reasonably predicted, as the relationship is virtually linear. This has been established in several treatises on estimating atmospheric dispersion.

During the entire calendar year of 1970, the Troutdale plant operated at a fairly consistent level of production, with all four lines in continuous operation. The summary of forage fluorides for the year 1970 follows:

Troutdale - Forage Fluorides
1970

Station No.	Distance & Direction from Plant	No. of Samples	PPM F^- (dry weight basis) High	Low	Avg.
20D	1.0 mi. WSW	11	57	18	34
20E	1.0 mi. SW	11	59	16	32
4A	1.5 mi. SE	11	67	29	41
5	0.8 mi. SE	11	46	20	33
6	1.0 mi. S	11	28	10	22
18	1.3 mi. SSW	11	46	17	25
20B	1.5 mi. W	11	90	20	51
4	2.1 mi. ESE	11	65	20	38
4B	2.6 mi. ESE	11	53	9.8	30
4C	2.3 mi. ESE	11	55	15	30

The annual production rate was approximately 102,000 tons and the fluoride emissions 16.1 pounds per ton of aluminum produced. This represented a plant effluent of 188 pounds of F ion per hour. With five lines in production at an annual rate of 130,000 tons per year and 5.5 pounds of fluoride emitted per ton, this would be an hourly rate of 82 pounds of fluoride. This represents a 56% reduction of the amount of fluoride emitted. If the forage fluoride is susceptible to total fluorides, we would then expect that these 1970 readings would have undergone a substantial reduction in the figures, had we operated

all five lines at a fluoride effluent of 5.5 pounds per ton of aluminum produced.

There is considerable evidence in the literature today that the forage fluoride is susceptible to only the gaseous fluorides. If we consider only the gaseous, our emissions in 1970 were at the rate of 68 pounds per hour. Assuming at that time a five-line operation with dry system controls where fluoride emissions would be approximately 60% gaseous, the hourly evolution would be 49 pounds, indicating that a 28% reduction above background levels in the chart above would have been experienced.

The following is a tabular summary of the data which was reported to the DEQ of the 12-hour gaseous fluoride levels during the period of March, 1971 to October, 1971:

Troutdale Ambient Air Gaseous Fluoride

Sta. No.	Distance and direction from plant	No. of Samples	Gaseous F^- (ppb by volume) High	Low	Average
1	1.5 mi W	447	7.22[1]	0.04	0.45
2	1.0 mi SW	445	1.41	0	0.15
3	0.6 mi S	443	1.23	0	0.17
4	1.2 mi SE	441	1.67	0	0.25
5	0.7 mi E	439	3.90	0	0.70

1 Sample contamination suspected

During the time these samples were taken, only three lines were in operation, at a rate of approximately 77,000 tons per year. The gaseous fluoride evolution at 5.82 pounds per ton was at an hourly rate of 51 pounds. If, during the time of these tests, we had operated five lines with a dry scrubbing system, the gaseous effluent would have been 49 pounds per hour, and we would have anticipated that the above readings would have been reduced by 4% of quantities above background level.

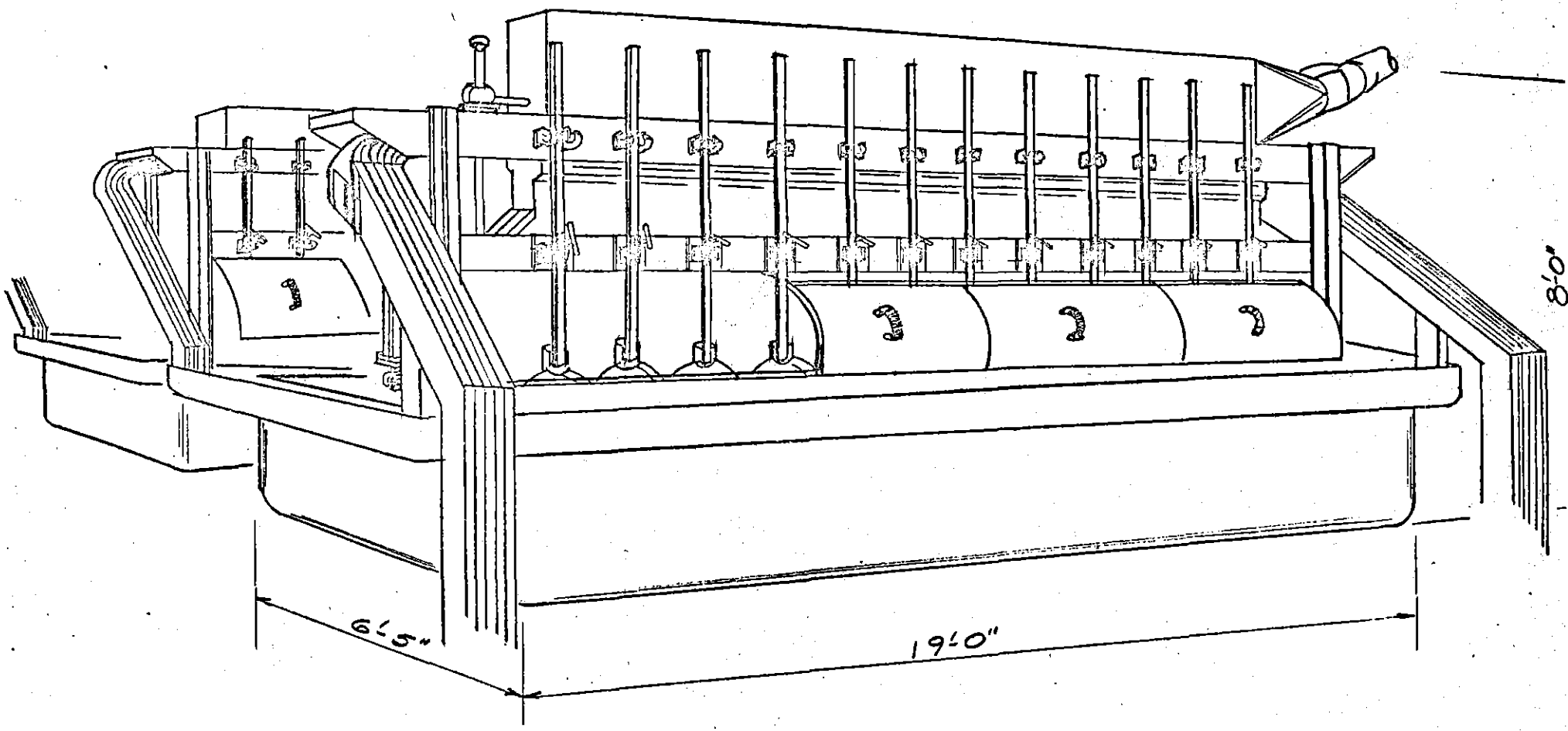
This gives every indication that the reasonable application of best-known present technology to the Troutdale plant would result in ambient air and forage fluoride readings well within the norm of what has been generally accepted as having no adverse effect.

EMISSION DATA REYNOLDS METALS TROUTDALE, OREGON
-Data expressed in pounds per ton aluminum produced-

Date	Sample Source	Primary System TT	Primary System PF	Primary System GF	Secondary System TT	Secondary System PF	Secondary System GF	Total Emission TT	Total Emission PF	Total Emission GF	Total F^- Ion
Av. 1971 Special Studies		20.1	5.89	.87	12.3	4.45	4.94	32.4	10.34	5.82	16.14
1972											
10-12	6S3				8.3	3.0	7.9				
*10-18	5T2	12.8	4.3	0.82				21.1	7.3	8.72	16.0
11-10	5T2	11.7	3.8	0.85							
11-10	6S3				9.6	4.1	8.6	21.3	7.9	9.45	17.35
11-30	17T2	13.4	4.6	1.3							
11-29	16S3				5.4	1.9	4.3	18.8	6.5	5.6	12.1
12-19	17T2	11.8	3.0	0.93							
12-19	16S3				7.9	1.88	2.2	19.7	4.88	3.13	8.01
12-21	5T2	10.3	2.9	0.67							
12-21	6S3				6.8	1.9	0.39	17.1	4.8	1.06	5.86
Av. 1972 to date		12.0	3.7	0.91	7.6	2.6	4.7	19.6	6.3	5.6	11.9
	Line 5										
11-16	21ST4	12.6	4.4	.16							
12-5	Roof				5.4	2.1	2.7				
12-29	21ST4	5.7	2.05	.10							

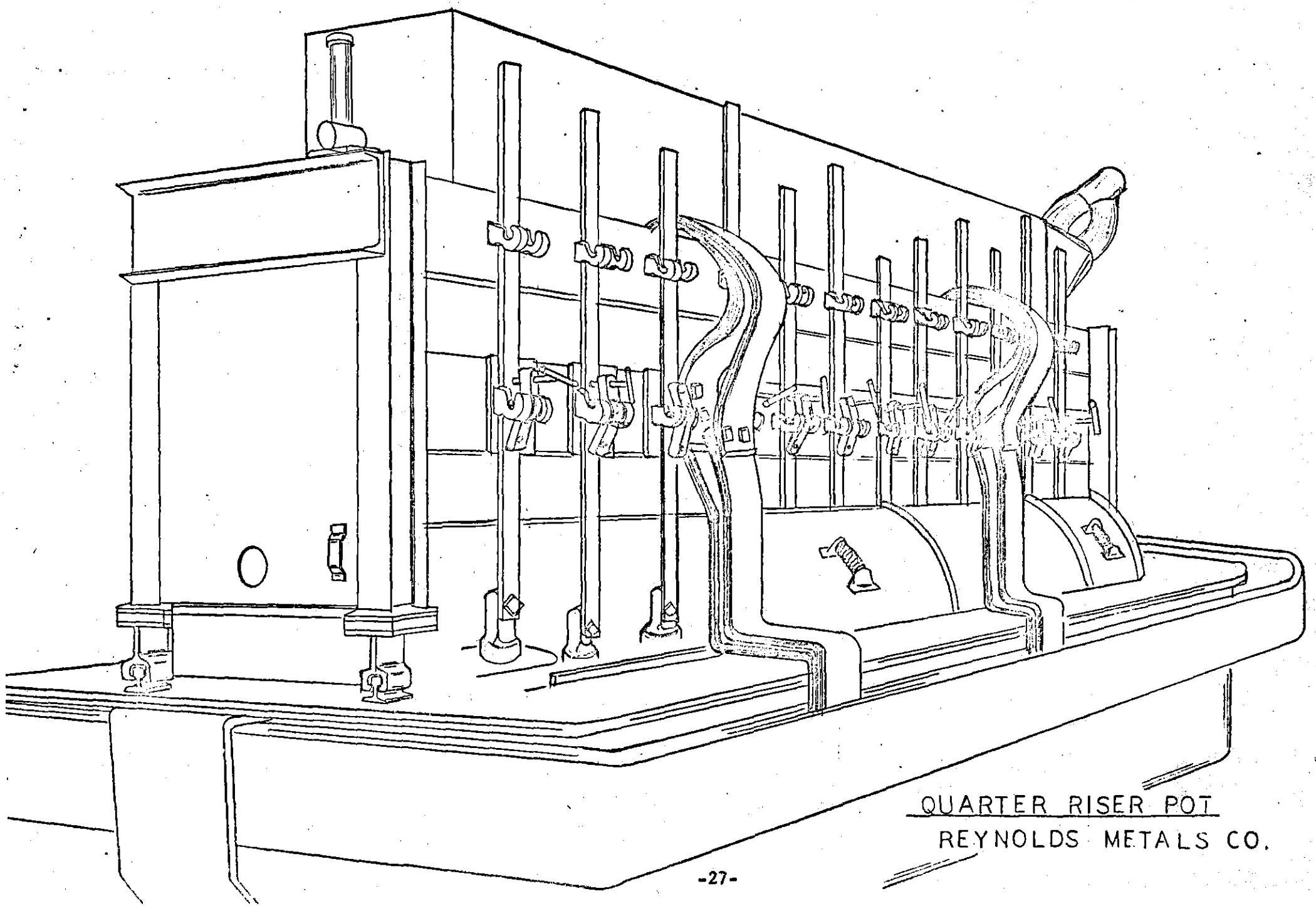
TT= Total particulate PF= Particulate Fluoride Ion GF= Gaseous Fluoride-ion

* Average of two tests



END RISER POT

REYNOLDS METALS CO.



QUARTER RISER POT
REYNOLDS METALS CO.

CONCLUSION

In summary, it may be said that Reynolds Metals Company has, over the past 20 years, devoted large sums of money and many man-years of engineering effort to the determination of parameters of control of effluent from primary reduction plants and to the installation of control equipment and techniques. We have reported diligently, we believe, to the Oregon Air Pollution Control Authorities, all information requested as was available to us from our work, and we intend to continue to work with such authority in the spirit of complete cooperation.

In consideration of the information contained herein, we believe that the best control attainable at the Troutdale plant will consist of improved hooding of the existing cells toward better collection, the installation of a dry primary scrubbing system, and that this system, together with careful operating techniques and good maintenance will provide a level of control which will protect the health and welfare of the community.

Attachment 7

State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: AQCD Files through HMP

Date: February 22, 1973

From: ~~FAS~~ FAS

Subject: Fluoride Regulations, Martin Marietta Aluminum, Review of February 12, 1973, Submission.

Attached is a summary of material submitted on February 12, 1973, by Martin Marietta Aluminum relative to proposed additions to the DEQ primary aluminum plant regulation.

FAS:c
Attachment

SUMMARY

The Martin Marietta Aluminum reports that based on the best available technology of fume collection and control, the proposed emission standards cannot be achieved at The Dalles plant.

The report states that the primary and secondary control systems presently installed at The Dalles plant represent the best available technology with results which are unequaled for vertical stud soderberg operations. No improvements or modifications to the existing control systems are proposed in the report.

Control system performances and resulting emissions at The Dalles plant were not included in the report.

Notation: A summary of control system performances and emission data which have been previously reported by the company is presented below for reference purposes.

	Presently Installed Systems	
	Primary System	Secondary System
1. Hooding Efficiency, %[1]		Not Applicable
a. Gaseous F^-	85.7	
b. Total F^-	81.1	
c. Total Particulate	55.5	
2. Removal Efficiency, %[1]		
a. Gaseous F^-	99.9	88
b. Total F^-	98.9	42
c. Total Particulate	99	77
3. System Emissions, lb/ton Al[2]		
a. Gaseous F^-	0.007	0.49
b. Total F^-	0.017	1.20
c. Total Particulate	0.16	11.5

1. Fume Control at Harvey Aluminum, J. Byrne, PNWIS-APCA Paper No. 70-AP-10.
2. Source test data from monthly monitoring reports.

Attachment 8

RTIN MARIETTA ALUMINUM

REDUCTION DIVISION
POST OFFICE BOX 711
THE DALLES, OREGON 97058
TELEPHONE (503) 296-6161

February 8, 1973

Diarmuid F. O'Scannlain, Director
Department of Environmental Quality
State of Oregon
1234 S. W. Morrison
Portland, Oregon 97205

Dear Sir:

The enclosed material is in response to our recent conferences and correspondence with your staff, related to the proposed emission standards for aluminum reduction plants covering fluorides and particulates.

The enclosures cover two areas of interest. The first is a technical evaluation of the proposed standards. The second presents the development of the technology in use at The Dalles Plant of Martin Marietta Aluminum.

Martin Marietta Aluminum has developed a level of control that is outstanding in the industry. It is in fact being used as one of the standards upon which the upcoming Federal emission standards for new construction will be based. This standard, incidently, will probably be substantially higher than those proposed by Oregon, now under consideration.

It is our conviction that no technical basis exists for the proposed emission standards. We have kept abreast of the latest developments in the industry and Martin Marietta is not aware of any technology that would enable us or anyone else to meet them.

Very truly yours,

Joseph L. Byrne
Environmental Control Engineer
Northwest Operations

JLB:gc
Encls.

TECHNICAL APPRAISAL OF PROPOSED REGULATIONS

I. SUMMARY AND CONCLUSIONS

On October 25, 1972 the Director of the Department of Environmental Quality, State of Oregon, proposed (Reference 1) new emission regulations for primary aluminum plants. We have examined these proposed regulations carefully and reached the following conclusions:

1. The proposed standards are excessively restrictive.

2. No technical basis exists for establishing these proposed regulations.

3. We are well aware of best available technology of fume collection and control. We see no means available to us to meet the proposed emission standards at The Dalles Plant of Martin Marietta Aluminum Inc.

4. The Department of Environmental Quality has not shown any evidence of need for the excessively stringent levels of emissions proposed, and, in fact, admits that "data are not presently available or forseeable to develop quantitative correlations between damage to sensitive crops, ambient fluoride levels and emission levels."

5. We are particularly disturbed by the statement of the Department of Environmental Quality that, "it is technically possible, by improving collection and treatment, to reduce the fluoride emissions from the secondary system at the Martin Marietta plant by as much as 50%." Our experience and that of all technologists and practitioners in this field shows that although theory may provide for complete or nearly complete removal of miniscule amounts of gas and particulate from very large quantities of air, best available technology with its implications of technical and economic feasibility simply does not provide us at this time with treatment systems which are highly efficient under these circumstances.

6. The Department of Environmental Quality seems to have forgotten the Statement of Purpose of the present regulations, wherein it is stated, "it is hereby declared to be the purpose of the Commission in adopting the following regulations to: Establish standards which based upon presently available technology are reasonably attainable with the intent of revising standards as needed when new information and better technology are developed." (Underline is ours)

7. No new information or technology is available to us which will allow us to meet the proposed emission regulations. The approaches suggested by the Technical Staff of the Department of Environmental Quality have been the subject of extensive research, development and production testing. Unfortunately none of these approaches have been found to provide means which are technically or economically feasible to meet the proposed regulations.

II. THE PROPOSED ADDITION TO PRIMARY ALUMINUM REGULATIONS

The following specific proposals were made to the Commission by the Director of the Department of Environmental Quality:

"1. The Department has developed a proposed emission regulation requiring an approximate 50% reduction of present emissions from the secondary system at the Martin Marietta plant, which is equivalent to a 41% overall reduction in total fluorides. This same standard would require 93% reduction of total fluorides at the Reynolds Metals plant.

"2. The following proposed language which would be added to section 25-265 as subsection (2). The existing section 25-265 (2) would become 25-265 (3).

25-265 EMISSION STANDARD

(2) (a) The total of gaseous fluoride emissions from all sources shall not exceed 0.3 pound of fluoride ion per ton of aluminum produced as a monthly average.

(b) The total of all fluoride materials from all sources shall not exceed 1.0 pound of fluoride ion per ton of aluminum produced as a monthly average.

(c) The total organic and inorganic particulate emissions from all sources shall not exceed eight pounds of total particulate per ton of aluminum produced.

(d) Representative monitoring on a continuous basis shall be conducted to demonstrate compliance with (2) (a), (b) and (c) above. The monitoring results shall be reported to the Department on a monthly basis.

(e) Compliance programs required to meet the emission standards established by (2) (a), (b) and (c) above shall be established not later than May 1, 1973, with each individual company (to be incorporated in the Air Contaminant Discharge Permit issued for each plant)."

III. TECHNICAL APPRAISAL

We conclude that no technical basis exists for the proposed emission standards.

Our conclusion is based on:

1. An exhaustive review of the literature,

2. Study of the latest demonstrated techniques for emission control,

3. Review of development efforts and present operating performance of control schemes at The Dalles Plant of Martin Marietta Aluminum and other primary aluminum plants,

4. Discussions with technical experts in the aluminum industry,

5. Review of literature on levels of air quality determined to exert no economic damage to flora and fauna,

6. Other pertinent documents and sources of information.

In particular, we challenge the conclusion on page 7 of the proposed amendment that "it is technically possible, by improving collection and treatment, to reduce the fluoride emissions from the secondary system in the Martin Marietta plant by as much as 50%."

A. Best Technology

We are puzzled by this present stance of the Director of the Department of Environmental Quality in the light of all the information available on best technology for emission control systems, and in the light of the stated position taken by the State of Oregon in developing the existing regulations and standards for primary aluminum plants. We observe that the Statement of Purpose of the present regulations states, "it is hereby declared to be the purpose of the Commission in adopting the following regulations to: Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising standards as needed when new information and better technology are developed." (Underline is ours)

We further observe that the Martin Marietta Aluminum Plant is using presently available technology with results which are unequaled for our type of operation, and we know of no new information or better technology which will allow us to meet the proposed regulations.

We are also puzzled by the stance of the Director in the light of the actual technical findings of his department in respect to emissions at The Dalles Plant of Martin Marietta Aluminum. We find that the Analysis Section of the captioned document states:

1. (Item 14) "Based on available data, gaseous fluoride, particulate fluoride and total particulate, emissions from the Martin Marietta plant are among the lowest in the country."

2. (Item 16) "Treatment of collected pot exhaust (primary system) at the Martin Marietta plant is considered to be equivalent to highest and best practicable treatment. Approximately 99% of the total fluorides emitted are from the roof scrubbers (secondary system)."

3. (Item 2) "The Martin Marietta plant is presently in compliance with Oregon Primary Aluminum Plant Regulation."

4. (Item 5) "Martin Marietta, based on a limited number of hay samples, is operating well below fluoride forage standards in effect in the State of Washington (sample results range from 5 to 9 ppm fluoride ion versus Washington standard of 40 ppm)."

5. (Item 4) "Both plants (Martin Marietta and Reynolds) in Oregon are essentially operating in compliance with ambient air fluoride standards in effect in the State of Washington. (Essentially the same standards are in effect in other States)."

6. (Item 18) "Data are not presently available or foreseeable to develop quantative correlations between damage to sensitive crops, ambient fluoride levels and emission levels."

B. Efficiency of Secondary Emission Control Systems

The Oregon Department of Environmental Control seems to misunderstand, or at least greatly underestimate, the technical problems of removing miniscule amounts of gaseous and particulate materials from very large volumes of air.

Incoming "loadings" to the secondary control system at The Dalles Plant of MMAL are extremely low. For example, our tests have shown that the gaseous fluoride content of air to the monitor scrubbers generally ranges from approximately 0.0003 to 0.0008 grains per standard cubic foot or 0.04 to 0.11 lbs. of gaseous fluoride per million cubic feet of air. Similarly, the solid fluoride content of air to the secondary treatment system generally contains approximately 0.0003 to 0.0007 grains per standard cubic foot of air or only 0.04 to 0.1 lb. of solid fluoride per milllon cubic feet of air.

These fluoride loadings in the air to The Dalles Plant secondary system make the proverbial needle in the haystack appear easy to find and remove.

Further, the grain loadings of particulate discharged from the secondary control system are of the same order as those discharged from the primary system, i.e., 0.0013 grains/cubic foot and 0.0015, respectively. To meet the proposed 8 lbs. of particulate per ton of aluminum would require a net result on a very large volume, very low concentration air stream, better than that obtained on a low volume high concentration treated at 99% efficiency by scrubbers and wet electrostatic precipitators. This is an obvious impossibility.

C. Removal Efficiency When Treating Very Dilute Streams

An appreciation of the problems of treating secondary gas streams is given in the Singmaster & Breyer report "Air Pollution Control in the Primary Aluminum Industry" (Reference 2) as follows:

> "Pollutant concentrations, both particulate and gaseous, in secondary gas streams, especially when primary cell collection efficiency is high, may be only a hundredth as great as concentration in the primary streams--equivalent to the discharge from a 99% efficient removal device on the primary. Present technology does not offer equipment at reasonable cost which is capable of high removal efficiency on these dilute streams."

D. Published Data on Vertical Stud Soderberg Aluminum Plant Emissions and Efficiencies of Treatment Systems

Although cell design, thermal balance, systems of operations, nature and amount of emissions, etc., can be markedly different for vertical stud Soderberg cells versus prebake cells, the Department of Environmental Quality in the captioned document (page 16) chose to compare the performance of the Martin Marietta Aluminum Plant (a VSS plant) with three prebake potroom installations which use the Alcoa A-398 Process for Fluoride Recovery.

The Department should know that such a comparison is not valid particularly in the light of information provided by Less and Waddington (Reference 3) and by Nielsen (Reference 4, page 196).

In addition, the Department is referred to other publications which describe the most recent technical developments in pollution control systems applied to vertical stud Soderberg potrooms (References 5-11 inclusive).

These documents show that efficiencies of removal of particulates in secondary scrubbing systems of the most recent design are usually of the order of 50% and never as high as 80% and that in no case is the total fluoride emissions from these plants (which represent application of the latest and best of the world's technology) lower than that from the Martin Marietta Plant at The Dalles, Oregon.

E. Efficiencies of Primary and Secondary Treatment Systems Required to Meet Proposed Oregon Regulations

Inspection of the proposed regulation shows that the requirement that gaseous fluoride emission not exceed 0.3 lbs./ton aluminum is a particularly critical regulation and unattainable at The Dalles Plant with the best existing technology.

Establishment of efficiencies of collection systems and removal schemes required to meet a given level of fume emission is complicated by the difficulty of determining the uncontrolled emission of fume from the electrolytic cells employed. This is so because uncontrolled emission is a function of many factors stemming from cell design and methods of cell operation.

We can, however, employ values of uncontrolled emissions from the literature and our own experience for calculations.

Case A - If we use data in Table 8.1 of the Singmaster Breyer Report (Reference 2, Page 8-8) on uncontrolled emissions from vertical stud Soderberg cells; i.e.,

40 lbs. Gaseous F per ton aluminum
46 lbs. Total F per ton aluminum
78 lbs. Total Solids per ton aluminum

the proposed new Oregon regulation for gaseous fluoride emission would require the following combinations of efficiencies of collection at the cell and removal in the primary and secondary treatment systems:

Primary Collection Efficiency %	Primary Removal Efficiency %	Secondary Removal Efficiency %
85	100	95
90	100	92.5
95	99.5	95

Calculations of gaseous fluoride emissions resulting from various combinations of collection and removal efficiencies are shown in Table 1 attached.

Note, that at this time, with primary treatment collection efficiencies which are attainable; i.e., 85%, the removal efficiencies required in the primary and secondary treatments to meet the regulation are unattainable in everyday plant operations.

Case B - Similarly, if we use the somewhat lower values for uncontrolled gaseous fluoride emissions which we have found in test work during best representative plant operations (which interestingly are similar to data reported by Singmaster and Breyer for prebake type reduction cells), i.e.,

28 lbs. Gaseous F per ton aluminum
46 lbs. Total F per ton aluminum

we find that the following combinations of primary collection efficiency and removal efficiencies of the primary and secondary treatment systems will be required to meet the proposed regulations:

Primary Collection Efficiency %	Primary Removal Efficiency %	Secondary Removal Efficiency %
85	100	93
90	99.5	94
93	99.5	92
94	99.5	90

Note again, that at this time with primary treatment collection efficiencies which are attainable, that removal efficiencies required to meet proposed regulations in the primary and secondary treatment systems are unattainable. Details of calculations for Case B are shown in Table 2 attached.

Also, note that as the efficiency of collection of the cell fume for primary treatment increases, the fume content of the vast volumes of air going to the secondary treatment decreases and efficiency of the secondary treatment must of necessity also decrease.

Reid Iverson of the Environmental Protection Agency in Reference 6 has stated the problem very well. "During operation, access to the pots is necessary for several purposes. Reagents must be added, metallic aluminum must be tapped, electrode adjustments have to be made, anode effects must be corrected, gas holes punched, maintenance performed, and crust breaking operations and other activities related to the pot must be conducted. Thus, even with the best designed and maintained hood and ventilation system, 100 percent collection effectiveness is not possible at the present time. It is reported that, in some plants where special precautions are taken, 95 percent collection is attainable (that is, 95 percent of the pot emissions are delivered to the potline air cleaning equipment and 5 percent goes to the roof monitors where it may or may not be cleaned)." Here Mr. Iverson refers to prebake cell operations.

Our experience does not apply to prebake operations, but we are well aware of the very difficult problems of collecting or capturing gaseous and particulate fume from vertical Soderberg cells. This is recognized throughout the industry and the Singmaster Breyer Report (Reference 2, page 8-13) states, "the nature of the design of both VSS and HSS Soderberg cells make it virtually impossible to achieve collection efficiencies as high as for modern prebake potlines."

IV. PROPOSED SCHEMES TO INCREASE EFFICIENCY OF TREATMENT SYSTEMS

A. General

Although the Oregon Department of Environmental Quality admits (Reference 1, page 3) that it "is not aware of any recent information which clearly correlates the emission of gaseous and particulate fluorides from a source or sources that would provide a basis for establishing emission standards," it now chooses to propose completely unreasonable standards and regulations on fluoride and particulate emissions from primary aluminum plants.

We challenge this action and question the basis on which the Department has developed these emission standards.

Further, we find it capricious, indeed, for the Department without a basis for its actions to advise the Commission that (Ref. 1, page 3) "To meet the proposed standards, new control technology, improved collection techniques and/or a change of process may be required by both aluminum plants in Oregon."

We must repeat that we know of no new demonstrated control technology that will allow us to meet the new standards and we certainly do not know of an economic process for making aluminum alternate to the Hall-Heroult electrolytic process now employed.

We will, however, continue with our long standing effort to upgrade and improve our present systems and look for new techniques, controls, etc. to reduce our emissions.

B. Proposed Areas for Improving Fume Collection and Treatment

At a November 10, 1972 meeting with the Technical Staff of the Oregon Department of Environmental Quality, J. Byrne of Martin Marietta Aluminum asked for and received suggestions on approaches we might take to meet the new regulations. We are appreciative of these suggestions and have examined them carefully.

Unfortunately, none of the approaches at this time offer technically feasible and/or economically practical means which will allow us to comply with the proposed regulations. All have been the subject of careful study by the aluminum industry both in the U. S. and abroad without success at the level required in this instance.

The specific areas proposed by the Technical Staff, Department of Environmental Quality are discussed below:

1. Supplementary or Improved Mechanical Hooding of the Pots

At first blush this suggestion appears to be a logical approach to the problem. However, in the case of vertical stud Soderberg cells, in spite of extensive experimentation and effort over a period of many years, supplementary hooding has not been possible. In his deposition (Reference 12) Kristian F. Ramse of Elektrokemisk A/S, the organization that designed and developed the Soderberg system, states:

"Based on my experience during many years of experimental and operational work with the Soderberg system, which also includes gas collection, I regard it - for operational reasons - as being impossible to arrange individual overhead hooding of the cells in such a manner that it will improve on the reported fluoride collection efficiency of 90% as obtained by the already existing collection devices at the plant. I consider it even more unlikely that such overhead hooding can substitute a combination of collection devices of such principles as reported installed at the plant."

Also, Wesley C. L. Hemeon, a recognized authority in the field of hooding and ventilating, in his deposition (Reference 13) states (after examining the question of hooding the VS Soderberg cells at the Martin Marietta Aluminum Plant at The Dalles) that it is literally impossible to put a hood on these cells which at the same time would allow operation of the cells.

In addition to the mechanical problems of hooding on vertical stud Soderberg cells, the use of auxillary hooding would result in severe upset of the critical heat balance in the anode and electrolyte systems. This in turn could lead to serious operating problems as well as increased emission of fume. For example, increase in the heat retained in these systems would result in difficulty in keeping a crust on the cell bath, which in turn would result in an increase in the amount of fume emitted

from the cell. Also the bake zone in the anode would be seriously altered with additional operation problems.

2. Air Curtain or Screen to Obtain Better Primary Collection of Fume

A number of schemes have been considered to provide an air curtain or screen at the periphery of aluminum reduction cells to contain effluent andiincrease collection of the pot gases into the primary treatment system. None of these schemes have proven to be workable Air volumes required are excessive; piping is extremely vulnerable to damage. More important, use of an air curtain would require complete revision of the primary collection and treatment system. In the case of the MMAL plant, calculations by our engineers show that air in the amount of 45,000 cfm is required per cell to generate a 6 ft. high air curtain with linear velocity of 5000 fpm. Energy requirement for 300 cells is calculated to be 13,500 HP. The problems of revamping the primary collection system and in particular the increased air flow required are discussed below.

3. Increased Air Flow In the Primary System

Calculations previously presented show that in order to meet proposed regulations at The Dalles Plant, that collection efficiency of the primary system must be well over 90% in order to allow for removal efficiencies in the secondary system which are technically achievable. The use of greater air flow in the primary system to achieve this does not constitute a technically or economically feasible approach. Such an increase would result in increased oxidation (burning) of the anode and increased entrainment of alumina, etc. into the air stream.

Air flow in the primary treatment system at The Dalles Plant was carefully worked to minimize these adverse effects.

4. Improved Secondary Treatment System

The Technical Staff of Department of Environmental Quality has suggested use of additional nozzles and/or more water or higher pressure of water used in secondary treatment system. We will continue to try to improve our secondary system, but our experience, and that of the rest of industry, shows that efficiencies of the secondary system required to meet the proposed regulations are "just not in the cards."

Reference is made to the Singmaster Breyer Report (Reference 2, page 10-10) which states, "Pollutant concentrations, both particulate and gaseous, in secondary gas streams, especially when primary cell collection efficiency is high, may be only a hundredth as great as concentration in the primary streams - equivalent to the discharge from a 99 percent efficient removal device on the primary. Present technology does not offer equipment at reasonable cost which is capable of high removal efficiency on these filute streams." The suggestion that wet electrostatic precipitators be used to treat effluent from the present secondary treatment system at the Martin Marietta Aluminum Plant "falls apart" when it is realized

that the effluent loadings from the secondary system are about the same as the effluent loadings from the primary system which uses wet electrostatic precipitators.

Increasing water flow in the secondary system at The Dalles Plant will not provide the improvements in fume removal required by the proposed standards. Doubling the water flow would cost about $700,000 at this plant but more important our pilot tests showed the following:

Water Flow Gals./1000 CFM	Efficiency of HF Removal
0.6	20%
0.8	67%
1.1	80%
2.5	80%

High energy systems for water spray treatment of very dilute gaseous streams are simply not practical from both capital and operating cost standpoint. Further, as previously stated, much of the particulate in the fume from the cells is in the submicron size where force fields surrounding the tiny particles can tend to repel wetting by the scrubbing liquid.

We see no new information or better technology at this time which will allow us to reduce the fluoride or particulate emissions from the secondary treatment system.

REFERENCES

1. L. B. Day memorandum to Oregon Environmental Quality Commission, "Agenda Item No. H(1), October 25, 1972, EQC Meeting Authorization for a Public Hearing: Proposed Amendment of Primary Aluminum Plant Regulation OAR, Chapter 340, Sections 25-225 through 25-290."

2. Singmaster and Breyer, Report in Brief, "Air Pollution Control in the Primary Aluminum Industry," March 17, 1972.

3. L. Less and J. Waddington. The Characterization of Aluminum Reduction Cell Fume," paper presented at the March 1971 AIME meeting in New York.

4. K. Nielsen et al, "Recent Developments in Dry Scrubbing Techniques." *

5. T. Eftestol et al, "Duplex Gas Cleaning at a Modern VS Soderberg Plant." *

6. Reid Iverson "Air Pollution Control: Engineering and Cost Study of the Primary Aluminum Industry." *

7. E. Moser "The Treatment of Fumes from Primary Aluminum Reduction Plants," Proceedings; International Conference on Air Pollution, Basle, Switzerland, October 1969.

8. G. Callaioli et al, "Systems for Gas Collection and Cleaning in Electrolytic Cells of Monlecatini Edison Aluminum Plants." *

9. E. Brenner, "Gas Collection; Cleaning and Control at Sako, Sundsvall Works." *

10. W. Menchin et al, "Dry Scrubbing Process for Vertical Stud Soderberg Cell Gases." *

11. C. Cook, et al, "Alcoa-398 Process Application to Soderberg Cells" Paper presented at Sumposium at Trondheim, Norway, June 1972.

12. K. F. Ramse, Deposition, February 10, 1964.

13. W. C. L. Hemeon, Deposition, March, 1966.

*Paper presented at February 1972 AIME Meeting in San Francisco.

TABLE 1 RELATION BETWEEN EMISSIONS AND COLLECTION AND R VAL EFFICIENCIES

Pot Emission Lbs/Ton Al	Primary Collection Efficiency	Primary Treatment Removal Efficiency	Primary Treatment Gaseous F To Outside	Secondary Treatment Removal Efficiency	Secondary Treatment Gaseous F To Outside	Total Gaseous F To Outside Lbs/Ton Al
40 Lbs. Gaseous Fluoride	85%	99.0%	0.34	85%	0.90	1.24
				90	0.60	0.94
				95	0.30	0.64
		99.5	0.17	85	0.90	1.07
				90	0.60	0.77
				95	0.30	0.47
		100.0	0.00	85	0.90	0.90
				90	0.60	0.60
				95	0.30	0.30
40 Lbs. Gaseous Fluoride	90%	99.0%	0.36	85%	0.60	0.96
				90	0.40	0.76
				95	0.20	0.56
		99.5	0.18	85	0.60	0.78
				90	0.40	0.58
				95	0.20	0.38
		100.0	0.00	85	0.60	0.60
				90	0.40	0.40
				92.5	0.30	0.30
				95	0.20	0.20
40 Lbs. Gaseous Fluoride	95%	99.0%	0.38	85%	0.30	0.68
				90	0.20	0.58
				95	0.10	0.48
				100	0.00	0.38
		99.5	0.19	85	0.30	0.48
				90	0.20	0.39
				95	0.10	0.29

TABLE 2 - RELATION BETWEEN EMISSIONS AND COLLECTION AND REMOVAL EFFICIENCIES

Pot Emission Lbs/Ton Al	Primary Collection Efficiency	Primary Treatment Removal Efficiency	Primary Treatment Gaseous F To Outside	Secondary Treatment Removal Efficiency	Secondary Treatment Gaseous F To Outside	Total Gaseous F To Outside Lbs/Ton Al
28 Lbs. Gaseous Fluoride	85%	99.0%	0.238	85%	0.63	0.868
				90	0.42	0.658
				95	0.21	0.448
		99.5	0.119	85	0.63	0.749
				90	0.42	0.532
				95	0.21	0.329
		100.0	0.00	85	0.63	0.63
				90	0.42	0.42
				93	0.30	0.30
				95	0.21	0.21
28 Lbs. Gaseous Fluoride	90%	99.0%	0.252	85	0.42	0.672
				90	0.28	0.532
				95	0.14	0.392
				98.3	0.05	0.302
		99.5	0.126	85	0.42	0.546
				90	0.28	0.406
				94	0.17	0.296
		100.0	0.00	85	0.42	0.42
				90	0.28	0.28
28 Lbs. Gaseous Fluoride	95%	99.0	0.266	85	0.21	0.476
				90	0.14	0.406
				95	0.07	0.336
		99.5	0.133	85	0.21	0.343
				90	0.14	0.273
		100.0	0.00	80	0.28	0.28

DEVELOPMENT OF TECHNOLOGY AT THE DALLES

The Dalles Reduction Plant was built 1957-1960. The technology and engineering were purchased from Pechiney, the largest and oldest aluminum company in Europe. The first pots were cut in August 1958 and the plant was completed in 1960 when the fifth and last building was cut in. Production in 1961 was about 75,000 tons/year. Present production is about 90,000 tons/year.

Each of 300 cells was equipped as part of the original construction with a primary system consisting of collecting skirts affixed to the base of the anode casing together with a burner in which the carbon monoxide and hydrocarbons were burned. The cells were manifolded together in groups of 15 and the gases and particulates drawn off by means of 40 HP fans through multiclones (fans and multiclones in parallel for backup) and discharged through redwood scrubbing towers. Plans and specifications were submitted to the then Oregon State Sanitary Authority.

The following discussion will consider modifications undertaken to reduce emissions from the plant through improvements in collection and removal of all off gases and/or changes in operational procedures and processes.

THE PRIMARY CONTROL SYSTEM

The primary system consists of a segmented skirt affixed to the anode casing in which the pot gases (which are generated under the anode) are captured; a burner or burners to burn off the combustibles such as CO and hydrocarbons; a fan to exhaust these gases; and, treatment devices to remove gases and particulates.

Collection

The Skirt - The original castings of the Pechiney design skirts plugged frequently and had a very short service life. The latter was due to a faulty alloy formulation of the supplier. All skirts had to be replaced and this was completed in 1960.

The first design change to improve collection and service life was made in 1961 and by the end of 1962, all cells were equipped with the new skirt.

The second design change was directed to facilitate ease of replacement by using a two-piece skirt; one hundred cells were thus equipped in 1963. This design was a failure.

The third design was a single piece, ribbed type. This design was installed on fifty cells. Modifications were made to this design for better sealing at skirt section joints and to the ribs. A replacement program started in 1963 and all three hundred cells were equipped with this skirt by July 1964.

Skirt service life increased from 3-6 months for the original design to 3-5 years for the present type. Plugging which was a problem with the original design, has been all but eliminated.

Burners - The original installation consisted of a single burner per cell. In 1960, a program to equip the cells with two burners was initiated. This program was completed in 1962. Some changes have been made to improve combustion efficiency over the years but essentially the burners are the original Pechiney design.

Hoods - Attempts have been made by European companies such as Elektrokemisk and Pechiney and Alcoa in this country to devise a workable hooding system for the vertical stud Soderberg cell. None of these have been successful.

The end result of all the research has been the development of the skirt and burner system employed universally.

All this notwithstanding, in 1964 Mr. W. C. L. Hemeon, an expert in industrial ventilation and fume collection, was retained to determine if a hood could be designed for the cells in use at The Dalles Plant. Mr. Hemeon's conclusion was that it was impossible to put a hood over the cells that would allow the plant to continue to operate.

Removal Devices

The original installation by Fluor Corporation consisted of 40 H.P. fans for evacuation, Western Precipitation multiclones for particulate removal (these first two in parallel so that maintenance could be accomplished with as little downtime as possible), followed by redwood scrubbing towers for HF removal. There are no good figures available as to the efficiency of this original system.

In late 1960, a program to upgrade the efficiency of the towers was begun. Some experiments were run using lime additions to the scrubber water. No increased efficiency was obtained. Subsequently, a "bubbler" was devised and incorporated into the base of a scrubber tower. Removal efficiencies of 99% on HF gas were obtained. The installation of "bubblers" in all towers was completed in May of 1951.

Further efforts to improve the system relative to particulates and plume opacity were made over the years. In late 1962, a venturi scrubber was installed at one tower in an attempt to remove the visible plume. It soon became apparent that pressure drops in excess of 70-80" would be necessary to achieve the necessary particulate removal. Severe erosion also indicated materials of construction and maintenance problems. This project was dropped as impractical.

A floating bed "ping pong ball" scrubber was installed in a tower in September 1963. No improvement over the existing system was noted and the project was abandoned.

In late 1964 a pilot baghouse was installed drawing about 1000 cfm from one section of the primary system by means of a "robber" pipe. The advent of DuPont's "Nomex" bag which could operate at temperatures of 475° F. for the first time made a baghouse application a possibility. In June of 1965, a second model baghouse was piloted. The bag cleaning action of this second device was a new concept. These two units were operated on and off over the next two years.

The empirical test of reduction of plume opacity indicated sufficient promise that a full scale installation on one tower of the second type baghouse was made in October 1967. Unfortunately, the bag cleaning efficiency of this full scale unit was not as satisfactory as had been indicated by the small pilot model. Subsequently, a model with a more positive bag cleaning action was installed in October 1968. This was successful in removing substantially all of the visible plume but operational problems developed. Over a period of six months, attempts were made to overcome these difficulties. Ore injection was tried with some success. However, material handling problems and metal grade considerations led us to abandon this approach.

In late 1968 and early 1969, several vendors of electrostatic precipitators were approached to explore the application of these devices to vertical stud Soderberg cell off gases with a view to meeting a 20% plume opacity regulation. None of the vendors contacted at this time were willing to talk about plume opacity and were reluctant to talk about efficiencies above 90-95% at any reasonable cost figure.

In March 1969, contact was made with a vendor with a new concept for a wet electrostatic precipitator. This vendor was not only willing to guarantee high efficiency but was willing to bet on the probability of meeting a 20% plume opacity regulation. A full scale prototype was installed in March 1970. Data developed on this prototype was used for the design of the units installed in early 1972. While there have been some problems with materials of construction, these units have been successfully in operation since March 1972.

During this same period, another type of wet electrostatic precipitator was evaluated. While it did an adequate job, the manufacturer had had no experience with any model larger than that which we used as a pilot model. Consequently, it was decided to go with the type we had prototyped at full scale.

Also, during this same period, an inertial venturi principle, particulate separator was investigated. This "Peterson Separator" which had been developed for fine mist removal was installed in one of the towers. It did a good job of removing the plume but plugged rapidly. No way was found to easily deplug it or to keep it from plugging. As a consequence, this concept was abandoned.

The primary system as it has been developed at The Dalles consists of the universally used anode skirt and burner collection system which delivers the off gases to scrubbers and wet electrostatic precipitators. This system operates in excess of 99% efficiency on both gaseous fluorides and particulates of all kinds.

THE SECONDARY CONTROL SYSTEM

In June 1961, in conjunction with the Oregon State Sanitary Authority, a sampling program of the roof monitor was begun to determine the emissions from the cell rooms proper.

In August 1961, a design of a prototype roof scrubber was submitted to the Oregon State Sanitary Authority. With their approval, one half of "E" Building was equipped with this system; tests in conjunction with the O.S.S.A. were conducted over a period of months; some modifications were made; and, a plan to install this scrubber in all buildings was presented by late 1961.

Construction of the plantwide system was started with the approval of the O.S.S.A. in March 1962. Problems with materials of construction delayed the full operation of the system plantwide until February 1963. Fluoride air and leaf levels were substantially reduced. This system was operated except during the winter months at which time all the nozzles and screens were removed for cleaning and refurbishing. The system would be back on stream by February or March. Below are fluoride levels in cherry leaf as reported by Oregon State University through 1968:

Date Sampled	No. of Samples	Fluorine Content Dry Weight Basis	
		Range	Average
		ppm	ppm
August 13, 1953	18	3-17	8
July 1, 1957	20	5-18	13
October 2, 1957	23	5-20	11
June 20, 1958	23	3-14	6
October 7, 1958	23	16-197*	65*
June 17, 1959	24	9-65	29
August 27, 1959	24	20-207	88
July 8, 1960	26	30-248	96
September 20, 1960	26	56-431	196
July 12, 1961	44	20-202	68
September 7, 1961	44	23-144	79
July 16, 1962	44	7-111	32
October 10, 1962	43	28-232	95
July 16, 1963	41	4-34	13
September 19, 1963	41	9-72	22
July 1, 1964	51	4-31	11
September 17, 1964	51	6-52	19
July 7, 1965	30	3-15	7
September 7, 1965	31	5-40	16
July , 1966	51	3-19	6
September , 1966	48	6-48	13
July 5, 1967	70	2-14	6
September 6, 1967	69	6-43	14
July 5-10, 1968	62	4-11	7
September 3-6, 1968	61	5-23	10

*Aluminum factory started operating July 26, 1958.

Because of the different methods and locations used over the years, a realistic comparison of fluoride levels in the ambient air is not possible. Suffice it to say that the reduced air levels are reflected in the above leaf data.

After five years of operation, this system which had been installed within the existing room structure, was developing structural problems. Two alternatives were considered. The first was to rebuild the existing system. The second was to devise an improved system. The second alternative was chosen.

In March of 1968, a small pilot tunnel scrubber was fabricated and installed in the monitor of "A" Room. Spray and screen configuration were studied together with air and water flow rates.

The results obtained from this pilot study led to the installation of a full scale module of a tunnel scrubber for the cell room air in the fall of 1968. This was installed on a section of "E" Room. This module was 120 ft. long, drew the cell room air out through dormers at either end and exhausted to the atmosphere by means of a large fan.

The data developed was reviewed by the Staff of the D.E.Q. in October or November 1969.

In November 1969, the preliminary phases of construction for a plantwide installation were begun. In September of 1970, Messrs. Spies and Patterson visited the plant to observe the operations of those sections already operating.

The present secondary system consists of a continuous tunnel outside of the building proper and located at roof level. The room air is ducted into this tunnel by means of dormers into the building proper. These dormers are located on 100 ft. centers. Between each dormer is a propeller type fan capable of moving 250,000 cubic feet of room air a minute.

As the room air is pulled into the dormers and thence to the tunnel proper, it passes through a water spray section consisting of 400 counter current sprays, followed by a double woven plastic screen which is continuously backwashed by nine coarse sprays, thence to a mist eliminator and is then exhausted to the atmosphere. Each of these spray sections is 30 ft. long. The room air scrubber system is considered to be primarily a gaseous fluoride scrubber.

The fluoride particulate loadings into the room air system are of the same order as those at the exhaust of the primary system. The particulate loadings entrained in the room air are so low that high removal efficiency is not practicable.

This project was completed in October 1970 with the approval of the Department of Environmental Quality.

CHANGES IN PROCESS OR PROCEDURES

In addition to the extensive improvements made in the fume control system, programs to decrease the emissions at the cell were carried out.

"Light" Suppression Program (Anode Effects)

Since it is at the time of a light or an anode effect that there is the greatest escapement of fluorides into the cell rooms, a program designed to reduce the number of lights was instituted in September of 1962. This program consisted in changes in the schedule and manner in which the pots were worked.

This program has been successful as shown below:

LIGHT FREQUENCY

Year	Average Lights Cell Day
1962	2.4
1963	1.1
1964	0.6
1967	0.5
1968	0.3-0.4
1971	0.3-0.4

Bath Chemistry

Starting in late 1961, CaF_2 was added to the bath to reduce the melting point and thus the temperature at which the cells could be operated. By January 1965, the CaF_2 has been brought up to 5.5% concentration in the bath. By April of 1964, the concentration had reached the optimum for an operation of 6.00%. These changes together with more advantageous work schedules and consequently more efficient operations led to lower operating temperatures. Average bath temperatures have been reduced by 10° centigrade:

Average Bath Temperature 1961 - 981° C.
1964 - 978° C.
1967 - 974° C.
1971 - 971° C.

Air Lance

A program not only to reduce the number of lights as above, but also to decrease the duration of the lights, was begun in mid-1963. This led to the development of an air lance which is used to purge the gases collected under the anode at the time of a light. This lance is much more efficient than the previously used wooden poles and has enabled the operator to purge these gases without breaking in large areas of crust. Thus there is better capture by the primary system at this time.

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Although it is impossible to assign incremental improvements in emissions to each of these factors, the net result has been a vertical stud Soderberg plant with emissions comparable to any in the industry including "modern" prebake plants equipped with "dry systems." There is no known practical control technology which would enable us to substantially lower the present fluoride and/or particulate emissions.

Attachment 9

AMAX ALUMINUM COMPANY, INC.
Suite 250
1600 S.W. Fourth Avenue
Portland, Oregon
97201

May 11, 1973

Mr. D. F. O'Scannlain, Director
Department of Environmental Quality
Terminal Sales Building
1234 S.W. Morrison Street
Portland, Oregon 97205

Subject: Proposed Amendment of Primary Aluminum Plant Regulation

Dear Mr. O'Scannlain:

The Oregon Department of Environmental Quality (DEQ) has proposed to the Environmental Quality Commission an amendment of Section 25-265 of primary aluminum plant regulations, OAR Chapter 340, Sections 25-225 through 25-290. The amendment would establish specific limitations for fluoride materials and particulate emissions from all sources at aluminum reduction plants within the State. This supersedes our previous comments.

Section 25-270 of the primary aluminum plant regulations provides that notwithstanding the specific emission limits set forth in Section 25-265 (which is to be amended), in order to maintain the lowest possible emission of air contaminants, the highest and best practicable treatment and control currently available shall in every case be provided. This standard is more comprehensive than the specific emission standard now being proposed. However, we fully support this best practicable treatment and control available standard.

The ability of an aluminum reduction plant to control emissions will vary with the design of the plant and the operating methods employed. Therefore, we find it difficult to specify a particular emission level that should be adopted as a state-wide standard. We can state that the plant which we propose to build at Warrenton will utilize the best practicable treatment and control available and will be capable of operating at an emission level which will not exceed 1.5 pounds of fluoride ion per ton of aluminum produced as a monthly average.

Thank you for the opportunity to comment.

Very truly yours,

AMAX ALUMINUM COMPANY, INC.

H. C. Clough

r

Attachment 10

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FARRAND M. LIVINGSTON

LAMAR TOOZE
1895 — 1971

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
MAY 11 1973
OFFICE OF THE DIRECTOR

May 10, 1973

Mr. Diarmuid O'Scannlain, Director
Department of Environmental Quality
1234 S.W. Morrison Street
Portland, Oregon 97205

RE: Harvey Aluminum, Inc.
(aka Martin Marietta Aluminum)
Our File: S795-27

For your convenience I enclose a copy of my letter of April 19, 1972, to Mr. L. B. Day, which comments on the background report which I mentioned to you. I also enclose a copy of Dr. Aaron Teller's letter to Mr. Day of May 19, 1972, which became an exhibit to Dr. Teller's deposition of March 19, 1973. In the next day or two I should have for you my specific comments on the proposal which Mr. Day made with respect to Agenda Item H (1) for the October 25, 1972, meeting of the Environmental Quality Commission. He had proposed amending Section 25-265 by adding a new subsection (2). Basically, our view is that the average of 0.3 pounds of fluoride ion per ton of aluminum produced as a monthly average for gaseous fluoride emissions is fine, as an average (subparagraph (a)). Similarly, the 1.0 pounds of fluoride ion per ton aluminum produced for fluoride materials from all sources - which I understand to mean both gaseous and particulate - is fine as a monthly average (subparagraph (b)). There should be, however, a specific figure as a fixed limit for any given day in addition to the average figures. That specific figure is one which I will suggest to you in the next few days.

Subparagraph (d) of the proposed amendment of Section 25-265 is crucial. The representative monitoring should not rely solely upon the emission source. Unless the Department of Environmental Quality itself does some monitoring, we would be greatly concerned about the reliability of the sampling results reported to the DEQ by the emission source.

If you have any questions or suggestions to which I can respond, I would be happy to do so.

Arden E. Shenker

AES:et
Enclosures

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LAMAR TOOZE
1895 — 1971

April 19, 1972

Mr. L. B. Day
Director, Department of
Environmental Quality
1234 SW Morrison
Portland, Oregon 97205

Dear Mr. Day:

Re: Harvey Aluminum Incorporated
The Dalles, Oregon
Our File: S-795-27

I am delighted that representatives of your department and of the Mid-Columbia Experiment Station, the Harvey Aluminum Company, and the Wasco County Fruit & Produce League have executed an interim air monitoring agreement as of March 31, 1972. Now I trust that the State Emergency Board will grant your request for the necessary funding.

We look forward to further discussions with you about the monitoring necessary within the Harvey plant, and the consideration of in-plant controls, to fairly achieve the state of the art. Nothing less will protect the environment at The Dalles and the rights of the orchardists there.

I believe I should comment on the background report which your staff prepared incident to your request for funding from the Emergency Board. The inclusion of the letter of March 3, 1970 from Fred Scholes of Harvey to Fred Skirvin of your staff concerns me because that statement is susceptible of inferences which could distort the nature of the problem, because the text of the background study does not put that letter into proper context. More important, the report attempts to declare actual emissions based upon data provided your staff during the year 1971. Indeed, the staff uses that 1971 data to estimate emissions from operations of the plant

all the way back to 1963, and even earlier. Your staff report indicates that substantial emission test data of the 1963 system was not available, and that the volume of emissions could not be determined reliably. Although the report disclaims any discussion of the extent to which positive operational practices have been implemented by the plant, there is the oblique suggestion that some desirable techniques have been put into practice. If undesirable procedures have resulted in greater emissions than would otherwise be necessary, it seems that the report should be addressing itself to that fact. It is well know, of course, that the volume of emissions evolved from a reduction cell is very significantly affected by operating conditions of a voluntary nature: temperature, bath ratio, etc.

There is attached to the report, as well as to the interim monitoring agreement, a "chronolog of production and air pollution controls at Harvey Aluminum, Inc., The Dalles, Oregon 1958-1972." That chronolog footnotes the fact that a federal judge noted the daily emissions from the Harvey plant, which are substantially at variance with the amounts declared in the report. The court's adoption of the emission level of 1,300 pounds of fluorides per day was based upon Harvey's stipulation that it emitted 1,300 pounds of fluorides per day. It is misleading to suggest, therefore, that Harvey's emissions are one half of what it agreed it was emitting in 1963. Your report lists the date for this emission level as February 1963; the trial in which Harvey's stipulation to 1,300 pounds per day was given took place in August 1963; the court's opinion reciting those levels was handed down in December 1963. It is significant that the emission levels cited from 1958 through 1963 are based on 1969 and 1971 tests. Tests had been performed by Harvey through 1966, which establish far different emission levels. There is an indication that a 1966 test was relied on in this chronolog prepared by your staff. That test actually occurred in 1964 and claimed an efficiency of 70 percent. In fact, the efficiencies reported in those tests varied from less than 30 percent to scarcely more than 50 percent, except on November 11, 1964, when Harvey's power was radically reduced, which caused Harvey to assert an approximate 70 percent efficiency. Harvey itself acknowledges that this test was not representative of actual operations.

To the extent that any of the data which appear in that chronolog are based upon 1971 reports given to your staff by Harvey, we doubt the reliability of such data. In fact, it was not Harvey's intention to provide full reports of its actual emissions. Harvey's intention in 1971 was to test its testing procedures. There are two different control systems for which data was furnished your staff in 1971 by Harvey. There was no single day on which both of the control systems were tested, so that there would be no opportunity for any conclusion to be drawn as to the entire plant's control system's efficiencies or total emissions. We are particularly concerned that the data for 1971 tests, moreover, provide only extrapolative information based upon emissions from 5 to 10 percent of the control outlets at the Harvey plant. The data in 1971 show that any given control outlet would have substantially different efficiencies and total emissions than any other given control outlet. Past tests at Harvey have demonstrated radical disparities between control-system exhaust outlets, in both the volume and the concentration of polluted emissions. A test based on extrapolation in the order of 9:1 is either erroneous or misleading or both.

We bring these concerns to your attention now because you may naturally have considered the background report to be an accurate chronology of past activities. Your department is engaged now in trying to solve the problem that has been plaguing Wasco County for over a dozen years. You have no intention of taking sides on the question of how bad the controls have been in the past. But in your attention to the future, and the maintenance of proper controls, I know that you would not want your department to take a stand based upon misleading data furnished to your staff, nor based upon misinterpretations of that data by your staff. Indeed, it is precisely the unreliability of the data and the misinterpretation of the control efficiency and emission levels which make your in-plant testing of the effectiveness (not only the efficiency) of the Harvey system all the more important.

We would be happy to discuss these considerations with you at your convenience.

Very truly yours,

Arden E. Shenker

AES:w

Dear Mr. Day:

The comments which I discussed with you on April 28 can be broken into three major areas of concern. The economic considerations result only from a full and thorough analysis of unquestioned data in each of these areas. First, we discussed the effectiveness of the present and projected abatement efforts. Next we discussed the relationship of the analytic results with actual emissions, based upon the data made available to you thus far. Finally, we considered the changes of physical and chemical characteristics of the pollutants from the pollution source. I can make some ball park estimates of costs, and I will indicate those to you.

If the claimed emission data as presented by Harvey during 1971 are correct, then the performance of the system is in the range of the highest state of the art. That conclusion is puzzling, however, in view of the finding that substantial damage continued in 1971, according to the scientist-arbitrators operating under a federal court consent decree. It is my feeling that secondary changes in the atmosphere are the continuing cause of the real problem. In order to overcome this problem the inversion layer in which the pollution fumes lie can be "punched." To achieve that objective, high velocity emission stacks, either extensions of the existing stacks or combinations of the existing stacks and new stacks will be necessary. The total cost for such modifications should be in the range of one million dollars. The additional power necessary to operate such a system would approximate $150,000 per year.

The claimed performance of Harvey's existing double systems (the skirt and the roof) is both puzzling and surprising on

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the basis of Harvey's data submitted to your staff. The performance, indeed, is much better than anyone I know could predict from the kinetics related to the system geometry on Harvey's present controls. In looking at the data I was disturbed to find that the 40 fans operating in the five buildings of Harvey, on some analysis of the data, appear to look like 166 fans, or perhaps even 193 fans. That may be a computational error on the part of those who prepared the data for you. What most distresses me about the data is that it preponderates on those roof fans (the roof system) which are at positions on the ends of the building. The frequency distribution of tests and average emissions are:

Position	No. of Tests	Average Emission Index
1-2	5	54
2-3	8	90
3-4	0	-
4-5	0	-
5-6	2	165
6-7	2	182
7-8	4	139
1-3	13	76
5-8	8	135

There is an obvious maldistribtion of flow in the buildings, and from thermal lift it is easily inferred that the maximum concentrations in the emissions would be in the center of the building. I would expect reduced emissions at positions numbered 1-3 and 7-8. I would expect the highest emissions to be in positions numbered 3-6. I certainly would expect positions numbered 4 and 5 to have the highest emissions. Those are not measured at all by Harvey's data submitted to you.

When I further plot the 1971 data submitted by Harvey, there is a plain rise in emissions for the same positions of testing over the testing period for which data was furnished to me for March through November of 1971. See Figure 1 attached. So plotting of the data makes clear to me that the maintenance of the capture apparatus by Harvey was clearly inadequate during

the year. No pollution control system can be expected to function without very vigorous maintenance. Harvey's present system requires particularly keen maintenance, and a regular, systematic program is necessary to achieve reasonable results within the contours of Harvey's present system.

The relative concentrations of fluoride in the gaseous and particulate phases may be a function of the mode of sampling. If the filter preceding the impingers used by Harvey is not heated to a sufficiently high temperature (above 250°F) the relative quantities of gaseous and particulate F^- can be significantly distorted, masking the gaseous effluent. This would be true for both the roof and skirt sampling systems. In order to determine the accuracy of the actual emission data (and this is particularly true for fluoride measurements when the concentrations are low, which of course is typical), an appropriate test for the validity of the data would be to sample the inlet and exhaust simultaneously. Only in this way can the operating efficiency of the control be accurately measured. This evidently was not done by Harvey, and certainly no such data was furnished to me. I would conclude that in order to have an effective monitoring system it will be necessary for you to independently determine Harvey's emissions. These are the monitoring steps I would recommend:

1. The roof monitors should be sampled in parallel for hydrogen fluoride.

2. Particulate emissions require isokinetic sampling, and any data obtained in a manner not meeting isokinetic requirements are valueless.

3. Using sonic orificies at each stack would provide equal sampling rates. Those samples then should be merged into a common heated manifold and run through the Environmental Protection Agency's train.

4. Particulate samples could be obtained separately from each stack under isokinetic conditions.

This monitoring can be done manually, and the cost of the installation of such a system would be in the range of $15,000, in addition to the Environmental Protection Agency's train. If the monitoring were to be done by automatic recording, the

capital outlay would be in the range of $150,000 for all five of Harvey's cell buildings, for the 300 pots there.

Apparently the major cause of the damages to the neighboring fruit orchards in The Dalles is the nucleation of the F^- emission and subsequent dissolution of hydrogen fluoride in the nuclei. Under quiescent conditions of inversion and the high humidity prevalent in The Dalles area, a stagnant mass of high concentration hydrogen fluoride mist (visible or in invisible vapor form) can be created in
6. proximity to the Harvey plant and waft into the fruit orchards. This buildup can concentrate several hundred pounds of fluorides in liquid particulate solutions as mist resulting in extremely high concentrations, which would not be measured by an air sampling device which is geared to determine the presence of hydrogen fluoride gas.

When a mass of concentrated fluoride is moved in plug motion by low velocity wind following an inversion, the impact on the orchards can be disastrous. The crops would be exposed for short intervals to concentrations of fluorides that could easily exceed the actual concentrations emitted at the Harvey exhausts. Evidence of this phenomenon has been seen by me
7. personally in lagoons holding waste water from phosphate plants: severe damage to adjacent trees occurred by transported mist, even though the normal F^- levels over the pools were at a low, harmless level. The phenomenon seems to occur when the atmosphere around the emission source is near dew point, typically in early morning hours. An inversion tends to produce the operative condition.

In Table I attached, I indicate my review of data of fluoride emissions measured in the ambient air from an airplane in The Dalles area, correlated with humidity conditions indicated by the official United States Weather Bureau statistics for the area and at the times in question (1970). Although
8. monitoring units indicate low concentrations of hydrogen fluoride (generally less than 1 ppb), these data are measured over a period of 24 hours for intervals of not less than 6 and usually as much as 12 hours at a time. I am impressed with the data that I have seen showing that air measured during apparent inversions, at elevations equal to the orchards in The Dalles area, reveal values from 40 to 100 ppb. These concentrations appear to be related both to wind flow

and humidity: the lower the wind velocity the higher the concentration; the higher the humidity the higher the concentration; the higher the concentration during the blossom season evidently, the more likely that damage will follow in substantial degree.

If the fruit orchards are exposed to the elevated concentrations of fluorides which the airplane tests would indicate are quite possible, when correlated with my experience of the concentrations of fluorides in water vapor, then extremely short exposure subsequent to a static air inversion can permit severe damage to ensue. It would be wise for you to determine whether this phenomenon is at work. You can achieve confirmation or refutation of this theory by short sampling periods and correlating concentrations with temperature, humidity, and wind flow. I would recommend that sampling stations should be located radially downwind from the pollution source so that the concentrations can be related to distance. Since the concentration-distance from the source relationship for particulates is different from gases, the physical form of the fluoride can be confirmed. I think it might be well for you to use your existing air sampling stations, and for some substantial period during the growing season to move those sampling stations or to provide other sampling stations which are laid out radially in linear axis from the aluminum plant.

9

There are alternate forms of solution available. If the present emission levels as reported by Harvey are confirmed, then inversion punching at least would be required, and I have given you my approximate economic assumptions for that solution. My suspicion is that the general emissions from Harvey are significantly higher than your staff's data would reveal, based upon Harvey's own measurements, and that short-term levels incident to inversions are extremely high. If these inferences are correct, it would be necessary to institute a different form of recovery system, which should be able to suppress fluorine emissions almost totally. The Alcoa type dry process system, with the added virtue of total recycling, as made applicable to a Soderberg cell form of aluminum production, should be installed, with a system for a dispersal of the inversion layer (punching), at an approximate cost of ten million dollars. It is easily possible to institute an improved scrubbing system, based upon significant modifications of present Harvey control parameters; in that

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event, with a dispersion punch system, the approximate cost would be in the range of five million dollars.

I will be happy to meet again with you to discuss my perceptions and perspectives in resolving this vexing problem. I enjoyed the opportunity to meet with you.

1970	Peak F⁻ PPB	Air Sampling – Wind knots: 2 hrs Prior	Air Sampling – Wind knots: Sampling Time	°F DBT	°F D.P.	Position Elevation
19 March	45.6	0	0	28	25	Airport 8[illegible]
27	24.2	0	4	42	37	Eagle Crest 8[illegible]
30	10.0	5	6	44	32	Fwy. 700'
31	17.3	0	0	44	33	E Folly Lks 8[illegible]
2 April	7.9	17	18	49	31	City 700'
3	26.2	4	4	35	33	Eagle Crest 800'
4	6.4	0	18	50	36	Klind Pop
5	28.6	0	0	50	44	Hwy 700'
6	6.8	4	12	51	44	Aquilos [illegible] 805'
7	7.3	5	5	40	33	Bailey [illegible] 800'
8	37.0	5	0	40	33	Armory 1100'
9	30.2	4	6	47	33	Crigler 1000'
12	22.5	4	5	37	30	Stockyard 800'
13	29.8	0	0	35	30	Hwy McCluskey 7[illegible]
19	14.1	14	17	44	35	East of Trailer Factory 8[illegible]
17 July	17.6	9	12	66	50	Thompson Road 8[illegible]
31	26.4	6	7	69	49	1300' [illegible]
12 March	37.9	0	3	36	36	Trailer Factory
13	39.7	3	0	47	45	Trailer Factory

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TABLE I

Ex 207

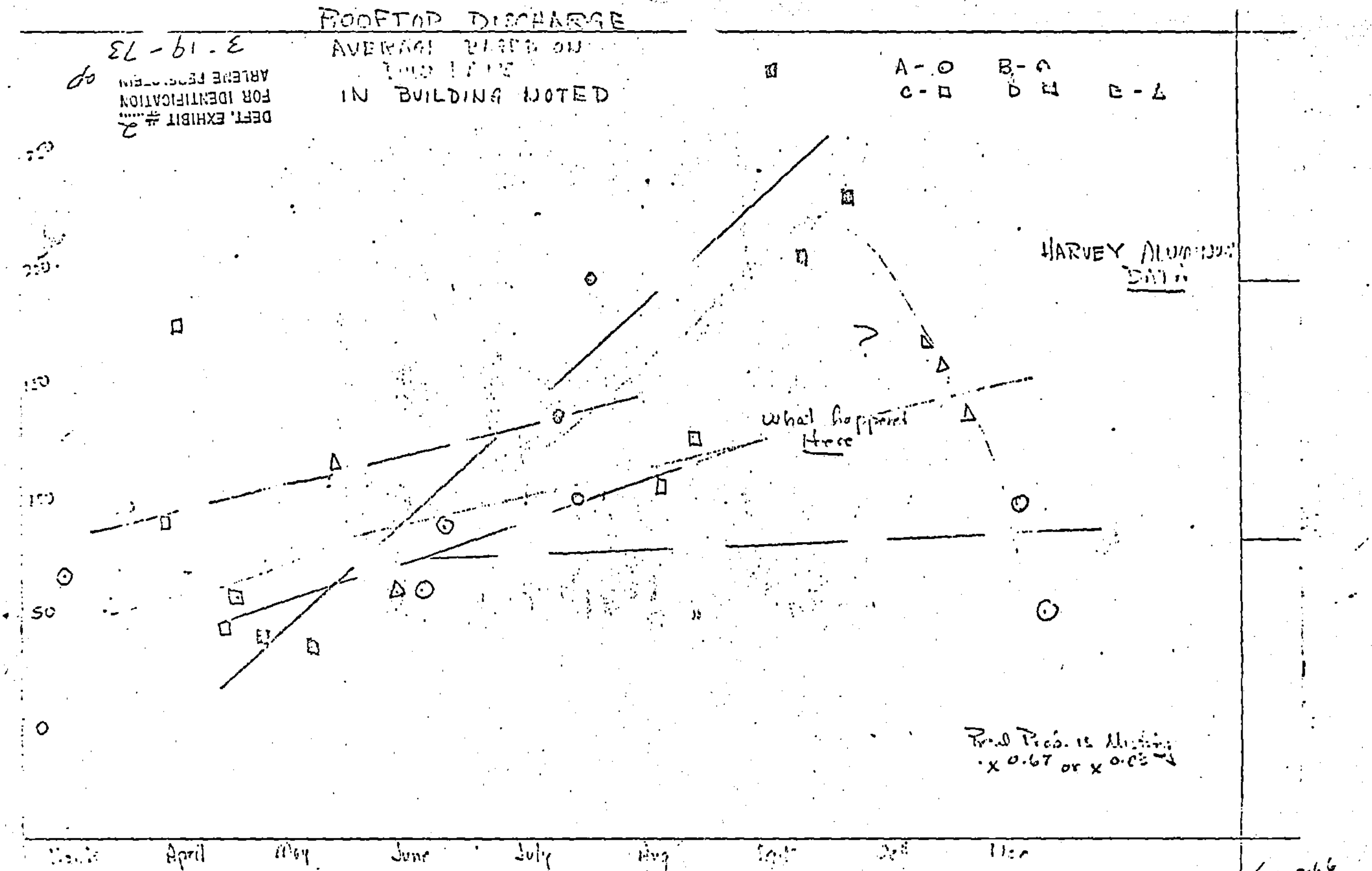

Figure 1

Ex 266

Name:	Aaron J. Teller
Profession:	Engineer
Address:	22 Park Place, Great Neck, New York
Date & Place of Birth:	30 June 1921, Brooklyn, New York
Education:	B. Ch.E. - The Cooper Union - 1943
	M. Ch.E. - Brooklyn Polytechnic - 1949
	Ph.D. - Case Institute of Tech. - 1951
Organizations:	AIChE, ACS, APCA, MECAR, NECORE
Professional Career:	1942-44 Manhattan Project, Columbia Univ. Research Group Leader - Deuterium and BF_3 process development
	1944-45 Publicker Commercial Alc. Co. Shift Superintendent - Butadiene Production
	1945-46 Martin Laboratories - Plant Mgr. Thioglycolic Acid Production
	1946-47 City Chemical Corporation Development Leader - Paradichloro-benzene
	1947-56 Professor and Department Head Fenn College - Cleveland State Univ. Consultant - Harshaw Chem. Co. Fullwell Motor Prod. U. S. Rubber

1956-60 Professor and Department Head
University of Florida
Teaching and Research
Consultant - Harshaw Chemical
W. R. Grace
Hudson Pulp and Paper
Colonial Iron Works

1960-63 Technical Director and Director
Colonial Iron Works Division of
Patterson Industries
Directing Design of Distillation-
Towers, Scrubbers, Driers, Reactors
and Heat Exchangers

1963-70 Dean, School of Engineering and
Science - The Cooper Union
Developed Graduate Schools of
Engineering and Tutorial Ph.D.
Redesigned curricula to develop
creative design potential
Consultant in Air Pollution Control
among clients:
American Agriculture Chemical
Armour & Company
Bechtel
Borden

C. F. Braun

Canadian Industries Ltd.

Ceilcote

Chemical Construction

Collier Chemical

Dorr Oliver

Erco (Canada)

Esso Oil

Fiberglass Canada

International Minerals & Chemicals

Department of the Interior

Mobil Oil

NASA

Olin Industries

Sinclair

Texas Gulf Sulphur

TVA

Wellman - Lord

F. S. Wintzer Company

1970 - President, Teller Environmental Systems Incorporated

Dr. A. J. Teller has had an engineering career involved in research, design and invention, education, professional and public activities. He is now President of Teller Environmental Systems, Inc., and serves as a Director of The Ceilcote Company, Inc., Fine Organics, Inc., and the National Air Pollution Control Foundation. He is also a Consulting Editor to McGraw-Hill. He is listed in American Men and Women of Science, Who's Who in America, and the International Blue Book. In the four categories listed, his major activities have been as follows:

Research: Surface Renewal Factor in Mass Transfer Kinetics;
Development of Chromatographic Transfer for Recovery of Gases;
Nucleation Mechanism for Particle Growth;
Chlorination of Organics by HCl-Air.

Design & Invention: The Cross-Flow Scrubber - (named by McGraw-Hill as the Teller Scrubber);
Tellerette Packing*;
Nucleation Scrubber*;
Storage Building Air System*;
Coaxial Venturi;
Rendering Plant Control System*;

*Patent or Patent Pending

Packed Cyclone*;

Regenerative Chromatographic Separation*;

Cooling Tower*;

Continuous Solvent Recovery System*

Responsibility for over $100 million in plant installation for pollution control.

Education: Established first accredited Chemical Engineering Department at Cleveland State University;

Research Professor and Department Head at University of Florida;

Dean, Engineering and Science, The Cooper Union;

Established Masters Degree in:

Engineering Design

Ph.D. - Tutorial

*Patent or Patent Pending

Professional Societies & Public Activities:

Chairman of Air Comm. AIChE;

Founder of Metropolitan Engineers' Council on Air Resources;

Planner and Chairman of the National Engineers' Commission on Resource Economy (NECORE);

Advisor to Muskie Committee and Proxmire Committee on Pollution Control Legislation;

Member of President's National Air Pollution Control Techniques Advisory Committee (EPA);

Advisor to Environmental Protection Agency Enforcement.

HONORS AND AWARDS

Tau Beta Pi

Distinguished Alumnus

Polytechnic Institute of Brooklyn

Teller Environmental Systems, Inc. was a recipient of the 1970 Business Week Award for Business Citizenship in the Field of the Physical Environment.

Dr. Teller has published over (40) fundamental papers.

LIST OF PUBLICATIONS

1. Chemical Engineering Progress, 50 67-71, (1954), "The Rosette, A New Packing for Diffusional Operations on the Principle of High Interstitial Holdup"

2. Chemical Engineering, 61, 168-188, (Sept., 1954), "Binary Distillation"

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19. Science and Technology Yearbook - McGraw Hill, 1-10, (1966),
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20. Proceedings of Environmental Engineering Conference, Fairleigh Dickinson University, (1966),
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21. IEEE Spectrum, 4, 124-128, (March, 1967),
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24. MECAR Symposium, 1-11, (1967)
"Recovery of Sulfur Oxides from Stack Gases"

25. MECAR Symposium, 91-96, (1967):

"Advances in Noxious Gas Control"

26. TRW Lecture, University of Southern California:

"Application of Fundamental Concepts to Achieve Solutions for Environmental Control"

27. Fertilizer Science and Technology Section on Fluorine Abatement, (published in 1968)

28. AIChE - May 1968 Meeting - Tampa, Florida:

"Selective Chromatographic Recovery- A New Rapid Dry Technique for Recovery of Dilute Solute Gases:

Accepted for publication.

29. Journal of The Air Pollution Control Association, - (March, 1970):

"Preservation of Natural Resources Depends on Adequacy of Technology and Economics"

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"Should All Our Environmental Waste Be Economic Waste?"

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32. Engineering Digest - (August, 1970):
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"New Concepts of Pollution Control:

33. National Association of Manufacturers - (NAM Reports Vol. 15, October 19, 1970, No. 42):

"Pollution - Symptomatic Treatment or Cure"

34. National Association of Manufacturers - (NAM Reports - Vol. 15, November 23,,1970, No. 47):

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35. National Association of Manufacturers - (NAM Reports - Vol. 16, January 18, 1971, No. 3):

"Regulations and Profit Are Not Incompatible"

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"Impossibility vs Profitability"

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"A Fresh Look at The Technology of Particulate Removal via Scrubbing"

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"We Are Unprepared for The Inevitable"

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"Economic Abatement of Stationary Turbine Engine Emissions"

PATENTS

USP	3,183,645	Process for Deodorization of an Odoriferous Atmosphere
USP	3,183,649	Stepwise Rotary Adsorber
USP	3,324,630	Cross-Flow Scrubbing Process and Apparatus
USP	3,470,811	Storage Building
USP	3,505,788	Gas Scrubber Apparatus & Process
USP	2,867,425	Tellerette Packing
Canadian	873,997	Selective Chromatographic Separation
Great Britain	1,223,132	Selective Chromatographic Separation
Italian	758,568	Selective Chromatographic Separation
French	1,450,111	Selective Chromatographic Separation
Australian	405,547	Selective Chromatographic Separation
German	1,673,102	Selective Chromatographic Separation

Attachment 11

TELLER ENVIRONMENTAL SYSTEMS, INC.

295 FIFTH AVENUE, NEW YORK, N.Y. 10016 (212) 889-0565

CABLE: TESILOOP, NEW YORK

DR. AARON J. TELLER
PRESIDENT

May 31, 1973

Mr. Diarmuid F. O'Scannlin
Director
Dept. of Environmental Quality
1234 S.W. Morrison
Portland, Oregon 97205

Dear Mr. O'Scannlin:

Mr. Arden Shenker suggested that I transmit my views regarding control of emissions from primary aluminum manufacture.

With respect to the emission of water soluble fluorides (WSF) the primary emissions from the furnace hood, using the best available technology ranges from 0.03 to 0.14 lb. fluorine per ton of aluminum produced.

Uncontrolled roof emissions generally range from 1 to 2 lb. WSF per ton of aluminum produced. These emissions constitute a major concern since they are emitted at an elevation of 60 ft. to 100 ft. above ground level and are not dissipated.

Thus, control of these emissions is critical.

Even with a low recovery efficiency 75-80% of the WSF emitted at the monitor, the maximum emission will be in the range of 0.4 to 0.5 lb. F/ton of aluminum produced.

It is therefore suggested that total emissions be restricted to 0.5-0.6 lb. WSF per ton of aluminum produced.

Very truly yours,

Aaron J. Teller
President

AJT:ts
cc: A. Shenker

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5301

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item I, June 29, 1973, EQC Meeting

Amendments to OAR 340, Division 4, Subdivision 1

Background

1. On April 30, 1973, a public hearing was held to receive testimony relative to proposed amendments to Oregon's Water Quality Standards. The Environmental Quality Commission held the hearing record open for ten additional days to receive further written testimony.

2. On May 29, 1973, the Commission considered the Department's evaluation of testimony and adopted proposed standards revisions.

3. In the process of filing the revised standards with the Secretary of State, it was determined that one word had been accidentally omitted from the dissolved gas standard thus necessitating a correction prior to filing.

Proposed Correction

Attached is a draft of the corrected version of the proposed amended standards. On Page 2, Section II, relating to OAR 340-41-025 (12), the word flood has been added as the last word of the sentence.

This word was accidentally omitted from the draft presented on May 29, 1973. Correction of this error is essential in order to properly interpret the standard.

Director's Recommendation

It is recommended that the proposed revised Water Quality Standards as contained in the attached corrected draft be adopted.

DIARMUID F. O'SCANNLAIN

HLS:ak

Encl. - Revised Amendments to Oregon Administrative Rules (Corrected Draft) - Seven Pages

June 28, 1973

Exhibit

AMENDMENTS TO OREGON ADMINISTRATIVE RULES

CHAPTER 340, DIVISION 4, SUBDIVISION 1

Section I. Items 41-023 and 41-024 shall be added to OAR 340, Division 4, Subdivision 1

41-023 MIXING ZONES

(1) The Department may suspend the applicability of all or part of the water quality standards set forth in this subdivision, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of very limited size adjacent to or surrounding the point of wastewater discharge.

(2) The sole method of establishing such a mixing zone shall be by the Department defining same in a waste discharge permit.

(3) In establishing a mixing zone in a waste discharge permit the Department:

(a) May define the limits of the mixing zone in terms of distance from the point of the wastewater discharge or the area or volume of the receiving water or any combination thereof,

(b) May set other less restrictive water quality standards to be applicable in the mixing zone in lieu of the suspended standards; and

(c) Shall limit the mixing zone to that which in all probability, will

(i) not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and

(ii) not adversely affect any other beneficial use disproportionately.

41-024 TESTING METHODS

The analytical testing methods for determining compliance with the water quality standards contained in this subdivision shall be in accordance with the most recent edition of Standard Methods for the Examination of Water and Waste Water published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, unless the Department has published an applicable superseding method, in which case testing shall be in accordance with the superseding method; provided however that testing in accordance with an alternative method shall comply with this section if the Department has published the method or has approved the method in writing.

Section II OAR 340-41-025 (9) and (12) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(9) Any measurable increase in temperature when the receiving water temperatures are 64° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 63.5° F. or less; or more than 2° F. increase due to all sources combined when receiving water temperatures are 62° F. or less.

(12) The [dissolved nitrogen] concentration [(DN)] of total dissolved gas relative to [the water surface] atmospheric pressure at the point of sample collection to exceed one hundred and five percent (105%) of saturation, except when stream flow exceeds the 10-year, 7-day average flood.

Section III OAR 340-41-040 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 72° F. or [above] greater, or more than 0.5° F. increase due to single-source discharge when receiving

water temperatures are 71.5° F. or less, or more than 2° F. [cumulative] increase due to all sources combined when river temperatures are 70° F. or less.

Section IV. OAR 340-41-045 (4)(a) and (b) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature

(a) (Multnomah channel and main stem Willamette River from mouth to Newberg, river mile 50). Any measurable increase when river temperatures are 70° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 69.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 68° F. or less.

(b) (Main stem Willamette River from Newberg to confluence of Coast and Middle Forks, river mile 187). Any measurable increase when river temperatures are 64° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 63.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 62° F. or less.

Section V. OAR 340-41-050 (5) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(5) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VI. OAR 340-41-055 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F.

increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VII. OAR 340-41-060 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are 68° F. or [above,] greater; or more than 0.5° F. due to a single-source discharge when receiving waters are 67.5° F. or less or more than 2° F. increase due to all sources combined when river temperatures are 66° F. or less.

Section VIII. OAR 340-41-065 (4) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(4) Temperature. Any measurable increase when river temperatures are [70°] 68° F. or [above] greater; or more than 0.5° F. increase due to a single-source discharge when receiving waters are 67.5° F. or less; or more than 2° F. increase due to all sources combined when river temperatures are [68°] 66° F. or less.

Section IX. OAR 340-41-080 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less or or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section X. OAR 340-41-085 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XI. OAR 340-41-090 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XII. OAR 340-41-095 (d)(A) and (B) are to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(d) Temperature.

(A) In salmonid fish spawning areas, any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F.

increase[s] due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate essential uses or activities where temperatures in excess of this standard are unavoidable.

(B) In all other basin areas, any measurable increases when stream temperatures are 68° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 67.5° F. or less; or more than 4° F. increase due to all sources combined when river temperatures are 64° F. or less.

Section XIII. OAR 340-41-100 (e) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(e) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase due to all sources combined when stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.

Section XIV. OAR 340-41-105 (c) is to be amended as follows (additions are underlined, deletions are enclosed in brackets):

(c) Temperature. Any measurable increases when stream temperatures are 58° F. or [above,] greater; or more than 0.5° F. increase due to a single-source discharge when receiving water temperatures are 57.5° F. or less; or more than 2° F. increase[s] due to all sources combined when

stream temperatures are 56° F. or less, except for certain short-term activities which may be specifically authorized by the Department of Environmental Quality under such conditions as it may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable.