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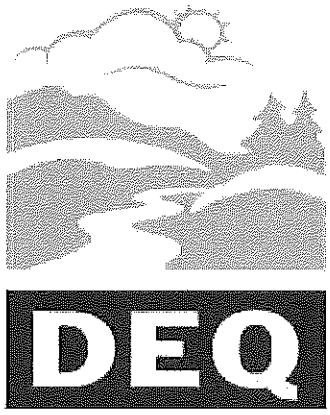
OREGON

ENVIRONMENTAL QUALITY

COMMISSION MEETING

MATERIALS 08/11/2005



State of Oregon
Department of Environmental Quality

Updated: August 3, 2005

Environmental Quality Commission Meeting
August 11 - 12, 2005[1]

Red Lion Hotel – Estate Room
204 Coburg Rd, Eugene, Oregon

At 12:30 p.m., prior to the regular meeting, the Commission will hold an executive session to consult with counsel concerning legal rights and duties regarding current and potential litigation against the DEQ[2]. Only representatives of the media may attend, and media representatives may not report on any deliberations during the session.

Thursday, August 11 – regular meeting begins at 1:30 p.m.

A. Informational Item: Update on the Status of the Umatilla Chemical Agent Disposal Facility

Dennis Murphey, DEQ Chemical Demilitarization Program Administrator, will give an update on the status of recent activities at the Umatilla Chemical Agent Disposal Facility (UMCDF). In August 2004, the Commission gave approval to start chemical weapon destruction at the facility, and DEQ's Chemical Demilitarization Program continues close oversight of work at the facility.

B. Contested Case No. LQ/HW-NWR-03-060 regarding United States Army Corps of Engineers

The Commission will consider a contested case in which United States Army Corps of Engineers appealed a proposed order and $84,900 civil penalty violations pertaining to hazardous waste. The Commission will hear statements on behalf of the Corps and the DEQ at this meeting.
[Additional information: Staff Report]

C. Rule Adoption: Air Quality – Lakeview PM10 Maintenance Plan and LaGrande PM10 Maintenance Plan*

The Department proposes the EQC adopt both the Lakeview and La Grande PM_{10} Maintenance Plans which include amended air quality permitting rules associated with each community. This will enable the Department to request that EPA redesignate both Lakeview and La Grande from nonattainment to attainment for PM_{10}.
[Additional information: Lakeview and La Grande PM_{10} Maintenance Plan Revision web site, Staff Report]

D. Director's Dialogue

Stephanie Hallock, DEQ Director, will discuss current events and issues involving the Department and the state with Commissioners.

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[1] This agenda and the staff reports for this meeting can be viewed and printed from DEQ's web site at http://www.deq.state.or.us/about/eqc/eqc.htm.

[2] This executive session will be held pursuant to ORS 192.660(1)(h).

Friday, August 12 – regular meeting begins at 8:30 a.m.

E. Adoption of Minutes
The Commission will review, amend if necessary, and approve draft minutes of the June 23 -24, 2005, Environmental Quality Commission meeting.

F. Informational Item: Confederated Tribes of the Umatilla Indian Reservation Report on Fish Consumption Study
The Tribes will report on their findings regarding water quality toxic standards and fish consumption.
NOTE: This item has been postponed until the October 20-21 EQC meeting.

G. Informational Item: Water Quality Turbidity Overview
The Department will brief the Commission on plans to develop a new turbidity rule, and will discuss the key issues involved in revising the current criteria.
[Additional information: WQ Turbidity Draft Rules, Turbidity Criteria, Staff Report]

H. Public Forum
Members of the public are invited to request time before the Commission during this agenda item by filling out a public forum request form and turning it in to Cathy Skaar ahead of time. **

I. Commissioners' Reports

Adjourn

Future Environmental Quality Commission meeting dates for 2005 include:
October 20-21 December 8-9

Updated: August 3, 2005

Agenda Notes

***Rule Adoptions**: Hearings have been held on Rule Adoption items and public comment periods have closed. In accordance with ORS 183.335(14), no comments may be presented by any party to either the Commission or Department on these items at any time during this meeting.

Staff Reports: Staff reports for each item on this agenda can be viewed and printed from DEQ's web site at http://www.deq.state.or.us/about/eqc/eqc.htm. To request a particular staff report be sent to you in the mail, contact Cathy Skaar in the Director's Office of the Department of Environmental Quality, 811 SW Sixth Avenue, Portland, Oregon 97204; telephone 503-229-5301, toll-free 1-800-452-4011 extension 5301, or 503-229-6993 (TTY). Please specify the agenda item letter when requesting reports. If special physical, language or other accommodations are needed for this meeting, please advise Ms. Skaar as soon as possible, but at least 48 hours in advance of the meeting.

****Public Forum**: The Commission will break the meeting at approximately 11:00. on Friday, August 12 to provide members of the public an opportunity to speak to the Commission on environmental issues not part of the agenda for this meeting. Individuals wishing to speak to the Commission must sign a request form at the meeting and limit presentations to five minutes. The Commission may discontinue public forum after a reasonable time if a large number of speakers wish to appear. In accordance with ORS 183.335(13), no comments may be presented on Rule Adoption items for which public comment periods have closed.

Note: Because of the uncertain length of time needed for each agenda item, the Commission may hear any item at any time during the meeting. If a specific time is indicated for an agenda item, an effort will be made to consider that item as close to that time as possible. However, scheduled times may be modified if participants agree. Those wishing to hear discussion of an item should arrive at the beginning of the meeting to avoid missing the item.

Updated: August 3, 2005

Environmental Quality Commission Members

The Environmental Quality Commission is a five-member, all volunteer, citizen panel appointed by the governor for four-year terms to serve as DEQ's policy and rule-making board. Members are eligible for reappointment but may not serve more than two consecutive terms.

Mark Reeve, Chair
Mark Reeve is an attorney with Reeve Kearns in Portland. He received his A.B. at Harvard University and his J.D. at the University of Washington. Commissioner Reeve was appointed to the EQC in 1997 and reappointed for a second term in 2001. He became Chair of the EQC in 2003. Commissioner Reeve also serves as a member of the Oregon Watershed Enhancement Board.

Lynn Hampton, Vice Chair
Lynn Hampton serves as Tribal Prosecutor for the Confederated Tribes of the Umatilla Indian Reservation and previously was Deputy District Attorney for Umatilla County. She received her B.A. at University of Oregon and her J.D. at University of Oregon School of Law. Commissioner Hampton was appointed to the EQC in July 2003 and lives in Pendleton.

Ken Williamson, Commissioner
Ken Williamson is head of the Department of Civil, Construction and Environmental Engineering at Oregon State University and serves as Co-Director of the Center for Water and Environmental Sustainability. He received his B.S. and M.S. at Oregon State University and his Ph.D. at Stanford University. Commissioner Williamson was appointed to the EQC in February 2004 and he lives in Corvallis.

Judy Uherbelau, Commissioner
Judy Uherbelau is a graduate of Ball State University with a B.S. in Economics/Political Science. She received a J.D. from UCLA School of Law and currently works as an attorney with Thomas C. Howser, PC in Ashland. Judy served in the Peace Corps and the Oregon House of Representatives as well as numerous boards and commissions. Commissioner Uherbelau was appointed to the EQC in February 2005 and lives in Ashland.

The fifth Commission seat is currently vacant.

Stephanie Hallock, Director
Department of Environmental Quality
811 SW Sixth Avenue, Portland, OR 97204-1390
Telephone: (503) 229-5696 Toll Free in Oregon: (800) 452-4011
TTY: (503) 229-6993 Fax: (503) 229-6124
E-mail: deq.info@deq.state.or.us

Cathy Skaar, Assistant to the Commission
Telephone: (503) 229-5301

gcl copy to Bob B. for mailing list.

Oregon Environmental Quality Commission

Public Forum
Request to Present Information

W. LARRY M. CHASE
Name (Please Print Clearly)

830 RIVER Hills DRIVE, Springfield, OR. 97477
Address

MINERAL RESOURCES LEGAL Foundation
Affiliation

Agenda Item ______ **or**
Topic of Presentation SMALL SCALE MINING

Please limit comments to five minutes

For official EQC record 8/11-12 Eugene

Please Sign In

Environmental Quality Commission
Meet & Greet w/Local Officials
August 11, 2005

Name	Organization
Merlyn Hough	LRAPA
Peter Ruffier	MWMC
Susie Smith	Springfield and MWMC
Gary Reeyes	LRAPA

State of Oregon
Department of
Environmental
Quality

Umatilla Chemical Demilitarization Program
Status Update
Environmental Quality
August 11 – 12 , 2005
(Agenda Item A)

Umatilla Chemical Demilitarization Program

Permit Modification Requests (PMRs) for the Umatilla Chemical Agent Disposal Facility (UMCDF)

Since the last update, the Department has received the following UMCDF PMRs of note:

- Class 2 PMR UMCDF-05-033-MPF(2TA)--proposes changes to the Metal Parts Furnace (MPF) system that are designed to improve the facility's ability to more safely respond to forced shutdown situations (e.g. loss of power, combustion air or burner flame, etc.) while hazardous waste is being processed in the MPF. The proposed changes were developed in response to forced shutdown occurrences at other chemical demilitarization facilities. Any approved changes will need to be implemented prior to the initiation of chemical agent processing in the MPF. This PMR was submitted on July 26 and the public comment period ends September 26. A Temporary Authorization Request was submitted in conjunction with this PMR that would allow UMCDF to begin implementing the proposed changes prior to the Department making a decision on this PMR. The Temporary Authorization Request is currently being reviewed by the Department.

- Class 1 PMR UMCDF-05-031-MPF(1R)--proposes changes to the MPF system that are designed to provide better temperature control in the MPF during hazardous waste treatment operations. The proposed changes are based on lessons learned at other chemical demilitarization facilities and will need to be implemented prior to the initiation of chemical agent processing in the MPF. This PMR was submitted July 21 and is currently being reviewed by the Department.

The Department has approved the following UMCDF PMRs of note:

- On July 29, Class 2 PMR UMCDF-04-022-MPF(2)--approved new chemical agent monitoring requirements for the MPF discharge airlock during the processing of GB chemical agent munitions and bulk items. The primary change was the establishment of "low-temperature" (i.e. discharge airlock temperatures <600° F) and "high-temperature" agent monitoring procedures and the conditions (e.g. normal vs. upset conditions) under which each approach would be employed. These changes were necessary because operational experience at other chemical demilitarization facilities has shown that agent

monitoring systems cannot accurately and reliably detect chemical agent at temperatures greater than 600° F. The Department previously approved PMR UMCDF-04-008-MPF(1R) in July 2004 that required "low-temperature" monitoring during the processing of secondary waste, and approved the physical changes to the discharge airlock necessary to reduce the time needed to conduct such monitoring.

- On July 26, Class 1 PMR UMCDF-04-046-MPF(1R)--approved chemical agent monitoring requirements for the MPF discharge airlock cool-down enclosure during the processing of secondary waste. The cool-down enclosure is an area outside of the Munitions Demilitarization Building where trays of waste removed from the MPF discharge airlock after processing are held until they are cool enough for personnel to handle them. The Hazardous Waste Permit did not previously include any such agent monitoring requirements for this area of the facility. The addition of agent monitoring capabilities for this area of UMCDF was in response to recommendations made by the Centers for Disease Control and Prevention during an evaluation of the UMCDF agent monitoring program.

- On July 25, Class 1 PMR UMCDF-05-025-MISC(1R)--approved the specific transportation, sampling and storage requirements for the receipt and handling of four GB ton containers being moved from the Umatilla Chemical Depot (UMCD) to the UMCDF for storage while awaiting processing. These ton containers have always been destined for processing at UMCDF, but due to the discovery of more advanced deterioration in the condition of the containers, it was determined that the movement to UMCDF needed to be expedited to ensure storage under better engineering controls. These ton containers will be processed in the MPF very early in the bulk GB chemical agent campaign (likely to occur in Fall 2005).

Agent Operations at UMCDF

As of August 3, 2005 the site had processed 25,610 GB rockets (28% of the inventory of GB rockets at UMCD) and destroyed more than 267,000 lbs. of GB agent (approximately 13% of the inventory of GB agent at UMCD).

The Deactivation Furnace System (DFS) and the Liquid Incinerator #1 (LIC1) have been operating very well in the destruction of liquid GB agent and drained rockets. The brine reduction area continues to function effectively and UMCDF has been able to process all brines generated from the operation of the DFS, LIC1, and MPF.

Preparations are underway by UMCDF for beginning agent operations in the metal parts furnace, so they can process GB bombs, while they continue to destroy GB rockets.

Analysis of Rocket Propellant Samples

The evaluation of propellant samples from nine rockets at UMCD that were shipped to the Picatinny Arsenal in June has shown separation of nitroglycerin from the propellant and migration of liquid nitroglycerin to the outer edge of the propellant grain on all nine samples. Based upon preliminary results, the Army's Chemical Materials Agency does not believe that this presents an additional risk for the transport and handling of the rockets by UMCD and UMCDF personnel. However, it may be the cause of observed low-order explosions resulting

from the rocket shearing process at UMCDF. A written report on the propellant evaluation is expected by mid- to late August.

Additional propellant samples from the Pine Bluff Arsenal are being shipped to Picatinny for comparative analyses.

Additional Fire in Explosive Containment Room (ECR)
On Friday, July 29 at 9:16 p.m., another rocket fire occurred at the rocket shear station in ECR-B. It was very similar to the three fires in April and May. A low-order explosion occurred on the fifth cut of the rocket, followed by ignition of the propellant. The deluge system quickly extinguished the flames, but the propellant continued to burn until it was consumed. No agent was released outside of engineering controls, no workers were exposed or injured, and very little damage occurred to equipment (the only subsequent repair was replacement of a hinge pin on the rocket pusher arm). One distinction of this fire relative to the earlier fires: while the propellant in the three fires in April and May was manufactured in October 1962, the propellant in this latest fire was manufactured in August 1963.

The Department was notified immediately and kept apprised as UMCDF responded to the incident. After replacing the rocket shear blade and working through all the required activities in the resumption plan agreed to by the Department following the May 18 fire, UMCDF conferred with the Department and resumed rocket processing in ECR-A at approximately 5:00 p.m. on Saturday, July 30 and in ECR-B at approximately 3:00 a.m. on Sunday, July 31.

At the time of this fire, UMCDF had processed more than 10,000 rockets since the May 18 fire.

Enforcement Actions
On July 22, 2005, the Department provided a Mutual Agreement and Order to the UMCDF Permittees to settle Notices of Violations and Assessments of Civil Penalties (NOVs) issued by the Department to Washington Demilitarization Company and the U.S. Army in 2004 on February 10, March 18, and May 5. It is expected that all parties will sign the agreement and the Permittees will pay one total civil penalty of $40,800.

On July 22, 2005, Washington Demilitarization Company paid a civil penalty of $7,200 pursuant to an NOV issued by the Department on July 5, 2005 for processing spent decontamination solution in liquid incinerator #1 with an automatic waste feed cut-off instrument at the wrong set point and taking an ACAMS (automatic continuous air monitoring system) agent monitor off-line from one of the heating, ventilation, and cooling system (HVC) filters at the same time the common stack ACAMS for all of the HVC filters was off-line.

On March 15 and May 16, 2005, Notices of Non-Compliance were issued to the UMCDF Permittees for various violations related to management of hazardous waste containers. These two Notices of Non-compliance have been referred to the Department's Office of Compliance and Enforcement with a recommendation for formal enforcement action.

Agent Trial Burns
The GB rocket agent trial burn for the Deactivation Furnace System (DFS) was completed on July 9, 2005. UMCDF plans to submit the preliminary agent trial burn report to DEQ by August 10. Until the preliminary report is approved, the DFS is limited to 19 rockets/hour or 10.3 lbs./hour of GB agent (50% of the maximum feed rates in the permit).

The agent trial burn for the Liquid Incinerator #1 (LIC1) was completed on July 23, 2005. Until the preliminary agent trial burn report is submitted by UMCDF and approved by the Department, LIC1 is restricted to a feed rate of 515 lbs./hour of GB agent and 1011 lbs./hour of spent decontamination solution.

Umatilla Chemical Depot (UMCD)

Installation of New Depot Commander
On July 14 Lt. Colonel Donna E. Rutten assumed command of the Umatilla Chemical Depot. Lt. Col. Rutten comes to UMCD with a background in chemical weapons and environmental management. She graduated from the U.S. Military Academy with a B.S. degree in physical geography. She also earned an M.A. in National Security and Strategic Studies from the Naval War College in Newport, Rhode Island and an M.S. in Environmental Systems Engineering from Clemson University. In addition to other assignments, Lt. Col. Rutten has served as the Environmental Program Manager and Operations Officer at the Army Environmental Center, Aberdeen Proving Ground, Maryland and Commander of the U.S. Army Edgewood Chemical Activity, Aberdeen Proving Ground.

GB Ton Containers
Pursuant to an approved permit modification, UMCD moved four GB ton containers from a storage igloo to UMCDF for expedited characterization and processing due to the deteriorating condition of the ton containers. Beginning on July 29, the first of the containers was transported in an EONC (enhanced on-site container) to the toxic maintenance area of UMCDF, where it was depressurized and sampled. On August 2, the last of the four containers was transported, depressurized, and sampled. The ton containers are now stored in the buffer storage area at UMCDF pending characterization of their contents and completion of the design, permitting, procurement, installation, and systemization of the processing system that will be used for the contents of these containers. UMCDF plans to process the contents of these containers at the beginning of the bulk GB chemical agent campaign.

Appeal of Permit Conditions in UMCD Hazardous Waste Storage Permit
Staff level discussions are underway to explore whether UMCD's appeal of six conditions in the hazardous waste storage permit issued in January 2005 can be resolved without proceeding to a formal appeal hearing. The Department will keep the Commission apprised of further progress on this item.

Significant Events at Other Demilitarization Facilities

Anniston Chemical Agent Disposal Facility (ANCDF), Alabama

On July 28, ANCDF experienced a total power outage. Backup generators started, but failed to accept facility loads. The plant was not processing munitions at the time of the power failure. According to reports from ANCDF, there were no chemical agent alarms in the common stack or the exhaust stack from the heating, ventilation, and cooling system in the munitions demilitarization building. Partial power was restored in approximately 42 minutes and most of the main power systems were restored at that time. An investigation is underway to determine the cause of the power outage (initial indications are that it was related to a lightning storm in the area) and why the emergency generators did not accept facility loads.

The situation at ANCDF is significantly different from UMCDF. Unlike ANCDF (which has only one main power feed line coming into the site), UMCDF has two main power feed lines to the facility. Subsequent to the ANCDF power outage, UMCDF has evaluated its emergency power systems to ensure they will be operational in the event power is lost to the site from both of the main feed lines. The Department will continue to obtain additional information regarding the investigation at ANCDF and any implications for UMCDF.

Newport Chemical Agent Disposal Facility (NECDF), Indiana

On June 30, Army officials announced that destruction of VX nerve agent at NECDF has been halted indefinitely due to analytical results that showed the hydrolysate from the neutralization of VX was significantly more flammable than previously believed. New tests at NECDF showed that the VX hydrolysate has a flash point between 68 and 88 degrees. The flash point is the lowest temperature at which the vapor of a combustible liquid can ignite. Anything with a flash point less than 200 degrees is classified as flammable.

Pine Bluff Chemical Agent Disposal Facility (PBCDF), Arkansas

Chemical weapons processing resumed at PBCDF on July 26 after an 18 day shutdown. The maintenance outage was extended due to a significant surety issue at PBCDF: it was discovered that facility workers had exchanged security badges, allowing some personnel to have unauthorized access to certain areas of PBCDF. According to the project general manager for the site contractor (Washington Group International), on July 5, WGI discovered that five of its employees were involved in exchanging badges in May of 2005. An unspecified number of the employees were terminated.

Blue Grass Chemical Agent Destruction Pilot Plant (BGCAPP), Kentucky

As a result of the rocket fires at UMCDF and PBCDF, the Army is considering an alternative approach in the design for future rocket processing at Blue Grass. A proposal is under consideration to separate the rocket warheads (containing the nerve agent) from the rocket motors (containing the propellant) prior to draining the warheads and treating the nerve agent with a neutralization process. The rocket motors would then be processed separately.

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

August 29, 2005

Via Certified Mail

Misty M. Latcu
Assistant District Council
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR97208-2946

RE: Case No. LQ/HW-NWR-03-060

Dear Ms. Latcu:

On August 29, 2005, the Environmental Quality Commission issued the attached Final Order in Case Number LQ/HW-NWR-03-060, which found that USACE is liable for a civil penalty of $84,900 to be paid to the State of Oregon. As noted at the bottom of the order, you have 60 days to appeal the decision to the Oregon Court of Appeals. Regardless of whether you decide to appeal, the penalty is due and payable 10 days after the date of this letter, or September 8, 2005, pursuant to Oregon Revised Statute (ORS) 183.090. *Even if you decide to appeal the order, you are required to pay the penalty.*

Please immediately send a check or money order in the amount of $84,900, made payable to "State Treasurer, State of Oregon," to the Business Office, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, Oregon 97204.

If we do not receive payment in full by September 8, 2005, we will file the Final Order with the appropriate counties, thereby placing a lien on any property you own within Oregon. We will also refer the Final Order to the Department of Revenue and/or a private collection agency for collection, pursuant to ORS 293.231. Statutory interest on judgments is nine percent per annum.

If you have any questions, please call Deborah Nesbit at DEQ's Office of Compliance and Enforcement in Portland, (503) 229-5340.

Sincerely,

Cat Skaar
Assistant to the Commission

cc: Business Office, DEQ
Jeff Bachman, OCE, OD, DEQ
Deborah Nesbit, DEQ
Lynne Perry DOJ

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MISTY M LATCU - ASST DISTRICT COUNCIL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OREGON 97208-2946

PS Form 3800, June 2002 — See Reverse for Instructions

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1. Article Addressed to:

MISTY M LATCU - ASST DISTRICT COUNCIL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OREGON 97208-2946

2. Artic
(Tran

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02595-02-M-15

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

In the Matter of	)	
	)	Final Contested Case
The United States Army	)	Hearing Order
Corps of Engineers,	)	
	)	No. LQ/HW-NWR-03-060
Appellant	)	

On August 11, 2005, the Environmental Quality Commission considered The Army Corps of Engineers' petition for review of the Proposed Order issued by the Administrative Law Judge Andrea H. Sloan on December 29, 2004 and incorporated herein as Attachment A. The Commission considered the exceptions and briefs submitted by Misty M. Latcu, Assistant District Counsel on behalf of The Army Corps of Engineers and the briefs submitted on behalf of the Department of Environmental Quality by Lynne Perry, Assistant Attorney General and Jeff Bachman, Environmental Law Specialist. The Commission also considered oral arguments presented by Ms. Latcu, Ms. Perry and Mr. Bachman.

The Commission affirms the Proposed Order of the Administrative Law Judge in all respects and it is incorporated by reference into this Order.

Dated this 29th day of August, 2005.

Stephanie Hallock

Stephanie Hallock, Director
Department of Environmental Quality
On behalf of the
Environmental Quality Commission

Notice of Appeal Rights

RIGHT TO JUDICIAL REVIEW: You have the right to appeal this Order to the Oregon Court of Appeals pursuant to ORS 183.482. To appeal you must file a petition for judicial review with the Court of Appeals within 60 days from the day this Order was served on you. If this Order was personally delivered to you, the date of service is the day you received the Order. If this Order was mailed to you, the date of service is the day it was *mailed*, not the day you received it. If you do not file a petition for judicial review within the 60-day time period, you will lose your right to appeal.

Attachment A

State of Oregon
Department of Environmental Quality Memorandum

Date: July 19, 2005

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item B | Contested Case No: LQ/HW-NWR-03-060 regarding Appeal of Proposed Order in the Matter of United States Army Corps of Engineers, EQC Meeting, August 11-12, 2005

Appeal to EQC

The United States Army Corps of Engineers (USACE) appealed the Proposed Order (Attachment G) dated December 29, 2004, which assessed USACE an $84,900 civil penalty for hazardous waste management violations.

Background

DEQ issued USACE Notice of Assessment of Civil Penalty No/ LQ/HW-NWR-03-060 (the Notice) on November 18, 2003, alleging that USACE had committed multiple violations of hazardous waste regulations. The Notice assessed civil penalties totaling $116,995 for the violations.

On December 10, 2003 USACE filed an answer and appeal of the Notice in which it admitted violations 1 through 4 of the Notice, but contested the economic benefit portion of the civil penalties and denied Violation 5. On June 24, 2004, a pre-hearing conference was held in which the parties agreed to stipulate to the facts relevant to the calculation of the economic benefit portion of the civil penalty and submit written arguments in lieu of a full hearing.

On July 12, 2004, the Department amended the Notice to reduce the economic benefit portion of the civil penalties from $108,955 to $76,500. The Department reduced the economic benefit after determining that the BEN computer model, which had been used to determine the economic benefit alleged in the Notice, did not result in the most accurate approximation of the USACE's economic benefit. On September 1, 2004, USACE withdrew its denial of Violation 5, limiting the issue in the contested case solely to the economic benefit portion of the total civil penalty. Written arguments were submitted and the hearing record closed on November 15, 2004.

On December 29, 2004, Administrative Law Judge (ALJ) Andrea Sloan issued a Proposed Order assessing USACE a civil penalty of $84,900, including $76,500 in economic benefit. On January 28, 2005, USACE filed a timely appeal of ALJ Sloan's Proposed Order.

Proposed ALJ Order Findings of Fact

The Stipulated Facts incorporated by the ALJ as Findings of Fact (FOF) in her Proposed Order are summarized as follows:

USACE's Bonneville Lock and Dam facility is a large quantity generator of hazardous wastes. DEQ based the economic benefit portion of the civil penalties assessed in the November 18, 2003 Notice on a statement from a February 26, 2003, letter from James R. Mahar, P.E., Operations Manager for the Bonneville Lock and Dam. Mr. Mahar's letter was in response to a Notice of Noncompliance DEQ issued after its November 19, 2002 inspection of the Bonneville facility. FOF 7.

In the letter, Mr. Mahar stated that USACE's violation of the 90-day interim hazardous waste storage limit "was partially a result of heavy workload and [we] responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities. In September 2002 we received approval to add a second permanent ECC to our staff." The ECC referred to in Mr. Mahar's letter was hired in May 2002 and continued until USACE hired a replacement ECC in April 2003. FOF 8.

DEQ alleged that USACE received an economic benefit by delaying hiring and avoiding the cost of paying a second ECC at Bonneville during the 18 months in which the violations occurred, from November 2000[1] through April 2002. In determining the monthly salary amount for an ECC, DEQ relied on a job announcement for an Environmental Protection Specialist (Environmental Compliance Coordinator) position at the Bonneville facility attached to Mr. Mahar's February 26, 2002 letter to DEQ. The announcement does not list a salary but states that that the position is series/grade "GS-0028-11" on the federal salary scale. DEQ performed an Internet search of government job listings and found an announcement for an Environmental Protection Specialist with the United States Environmental Protection Agency (USEPA) in Portland. The announcement states that the position is Series/Grade GS-0028-9/11 on the federal salary scale and further states that the salary range for the position is $40,176 to $63,198. FOF 9 and 10.

[1] Storage in Drum #20-7-7 began on July 27, 2000. USACE exceeded the 90-day storage limit for this container on October 26, 2000.

Choosing the mid-range of the salary in the EPA announcement, DEQ estimated that USACE would pay an ECC at the Bonneville facility $51,000 a year or $4,250 a month. DEQ estimated that by avoiding the labor cost of $4,250 per month for 18 months, USACE received an economic benefit of $76,500. FOF 11.

In her Conclusions of Law, the Administrative Law Judge found that USACE was subject to the economic benefit penalty of the Notice. The ALJ found that DEQ had the authority to assess USACE economic benefit, despite USACE's arguments to the contrary, for the following reasons:

1. Oregon law authorizes DEQ to assess civil penalties, including economic benefit, against federal facilities that violate state hazardous waste statutes and regulations.

2. Congress has waived federal facilities sovereign immunity to state civil penalties for hazardous waste violations, including penalties for economic benefit.

3. DEQ's basis for determining economic benefit, 18 months of the mid-range salary of a federal Environmental Compliance Coordinator, was a reasonable approximation of the economic benefit.

Issues on Appeal

USACE appealed the ALJ's Proposed Order to the Commission on January 28, 2005. On February 25, 2005, USACE filed its Exceptions and Brief. In its appeal to the Commission, USACE took the following exceptions or proposed the following alternative findings to the Proposed Order and DEQ gave the following response:

USACE exception one

USACE took exception to the ALJ's conclusion that federal law has waived federal facilities' sovereign immunity from state economic benefit penalties. USACE argues that the waiver of sovereign immunity for state hazardous waste penalties found in 42 USC § 6961(a) does not expressly include economic benefit penalties. Federal sovereign immunity jurisprudence requires such an express waiver before immunity is waived. Furthermore, economic benefit is not included

in the factors to be considered in calculating civil penalties for federal hazardous waste violations.

DEQ response to USACE exception one

In its response brief, DEQ argued that the waiver of sovereign immunity for federal hazardous waste facilities waives immunity for all state civil penalties calculated under state law. Therefore, a waiver to economic benefit penalties need not be express in the federal statute, nor is DEQ limited to the factors set forth for calculating penalties under federal law. Even if DEQ were limited in calculating those penalties, case law is clear that federal facilities may be assessed economic benefit penalties for violating federal hazardous waste regulations.

USACE exception two

Under federal fiscal law, USACE does not have the authority to pay economic benefit penalties. USACE argues that Congress and the President dictate how and when a federal agency can obligate funds. Without a specific Congressional appropriation, USACE cannot pay an economic benefit penalty.

DEQ Response to USACE exception two

In its response brief, DEQ pointed out that USACE did not cite any authority for its claim that federal fiscal law bars it from paying economic benefit penalties. In addition, the only case law on point states that federal fiscal law does not prohibit payment of economic benefit penalties by federal facilities.

USACE exception three

USACE did not receive any economic benefit as a result of the violations cited in the Notice. USACE argues that, because federal facilities are not in market competition with other entities, they cannot receive economic benefit. USACE also states that 18 months of an Environmental Compliance Coordinator's (ECC's) salary is not a fair and reasonable approximation of the avoided cost of complying with the regulations it violated. The time required to comply with those regulations would have been only a fraction of the ECC's time on the job, and USACE was not in continuous violation for the entire 18-month period covered by the economic benefit.

DEQ Response to USACE exception three

In its response brief, DEQ said that an ECC's full salary is a reasonable approximation of USACE's economic benefit, even if only a fraction of the ECC's time would have been spent ensuring compliance with the regulations USACE violated, because USACE needed to have another person available full-time to ensure ongoing compliance. Eighteen months of an ECC's salary was a reasonable approximation of USACE's avoided costs, because USACE was in periodic violation over the course of eighteen months. It is not reasonable to believe that USACE could have anticipated its noncompliance in a manner that would have allowed it to hire staff for only those periods when it was in noncompliance.

EQC Authority

The Commission has the authority to hear this appeal under OAR 340-011-0132.

Alternatives

1. As requested by DEQ, uphold the ALJ's Proposed Order that USACE is liable for the $84,900 civil penalty.
2. As requested by USACE, reverse the part of the ALJ's Proposed Order assessing $76,500 in economic benefit for the violations, leaving a civil penalty of $8,400.
3. Uphold the ALJ's Proposed Order, but adopt different reasoning.
4. Remand the case to the ALJ based on an EQC determination that the case cannot be decided without the ALJ considering new evidence.

Under ORS 183.600 to 183.690, the Commission's authority to change or reverse an ALJ's proposed order is limited.

The most important limitations are as follows:

(1) The Commission may not modify the form of the ALJ's Proposed Order in any substantial manner without identifying and explaining the modifications.[2]
(2) The Commission may not modify a recommended finding of historical fact unless it finds that the recommended finding is not supported by a

[2] ORS 183.650(2)

preponderance of the evidence.[3] Accordingly, the Commission may not modify any historical fact unless it has reviewed the entire record or at least all portions of the record that are relevant to the finding.

(3) The Commission may not consider any new or additional evidence, but may only remand the matter to the ALJ to take the evidence.[4]

(4) The Commission will not remand a matter to the ALJ to consider new or additional facts unless the proponent of the new evidence has properly filed a written motion explaining why evidence was not presented to the hearing officer.[5]

The rules implementing these statutes also have more specific provisions addressing how Commissioners must declare and address any *ex parte* communications and potential or actual conflicts of interest.[6]

Attachments

A. USACE's Reply Brief, dated May 5, 2005.
B. Department of Environmental Quality's Answering Brief in Response to USACE Exceptions and Brief, dated April 18, 2005.
C. Letter from Jane Hickman, Acting Assistant to the EQC, to Jeff Bachman, DEQ, dated March 24, 2004.
D. Letter from Jeff Bachman, DEQ, to Jane Hickman, dated March 21, 2005.
E. USACE's Exceptions and Brief, dated February 25, 2005
F. Letter from Mikell O'Mealy, Assistant to the Commission, to Misty Latcu, USACE, dated February 1, 2005.
G. USACE's Petition for Commission Review, dated January 28, 2005.
H. ALJ's Proposed Order in the Matter of United States Army Corps of Engineers, DEQ Case No. LQ/HW-NWR-03-060, dated December 29, 2004.
I. DEQ's Reply Brief, dated November 10, 2004.
J. USACE's Legal Brief, dated October 15, 2004.
K. DEQ's Legal Brief, dated September 16, 2004.
L. Hearing Exhibits

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[3] ORS 183.650(3). A historical fact is a determination that an event did or did not occur or that a circumstance or status did or did not exist either before or at the time of the hearing.
[4] OAR 137-003-0655(5)
[5] OAR 340-011-0575(6)
[6] OAR 137-003-0655(7), referring to ORS Chapter 244; OAR 137-003-0660

A-1 Letter to DEQ from David C. Shank, Assistant Operations Manager, Bonneville Locks and Dam.
A-2 Amendment to Notice of Assessment of Civil Penalty No. LQ/HW-NWR-03-060, dated July 12, 2004.
A-3 Job Vacancy Announcement, Environmental Protection Agency, dated July 2, 2003.

M. Stipulated Facts, Case No. LQ/HW-NWR-03-060, dated August 9, 2004.
N. Notice of Pre-Hearing Conference, dated June 21, 2004.
O. Answer and Request for Contested Case Hearing, dated December 10, 2003.
P. Notice of Violation and Assessment of Civil Penalty, dated November 18, 2003.

Documents Available Upon Request OAR Chapter 340, Division 11, ORS Chapter 468

Report Prepared By:

Cathy Skaar
Assistant to the Commission
Phone: (503) 229-5301

Attachment A

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: **UNITED STATES ARMY CORPS OF ENGINEERS,** Respondent.	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 CERTIFICATE OF SERVICE

I hereby certify that on May 5, 2005, I caused copies of the Respondent's Reply Brief to be served on each of the following named persons at his or her last known addresses in the manner indicated below:

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Misty M. Latcu
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BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: **UNITED STATES ARMY CORPS OF ENGINEERS,** Respondent.	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 RESPONDENT'S REPLY BRIEF

Respondent, United States Army Corps of Engineers (USACE), submits this brief in reply to the Department of Environmental Quality's (Department) Answering Brief. As the Department recognizes, USACE does not deny any of the five violations or challenge the gravity-based portion of the Department's penalty. USACE's sole objection to Judge Sloan's Proposed Order relates to the Department's authority to include economic benefit in its penalty assessment. It is USACE's position that the Department does not have the specific authority to seek economic benefit penalties from the Federal Government. Since Congress has not addressed economic benefit in the SWDA, USACE is without authority to pay this type of penalty.

The Department argues that USACE is subject to the economic benefit component of the penalty in part, because, according to the Department: (1) the SWDA waives the Federal Government's sovereign immunity to requirements and sanctions of state law; (2) the state, not federal, penalty criteria apply; and (3) state law penalty criteria provides for consideration of economic benefit. It is the second contention which is erroneous.

DISCUSSION

I. THE SWDA DOES NOT PROVIDE A CLEAR WAIVER OF SOVEREIGN IMMUNITY TO ECONOMIC BENEFIT PENALTIES

In general, the Federal Government is immune from state requirements under the doctrines of Federal supremacy and sovereign immunity under the United States Constitution. As stated in USACE's Exceptions and Brief, under the doctrines of Federal supremacy and sovereign immunity under the U.S. Constitution, federal law must authorize the state to impose a penalty. See U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 615 (1992). The relevant waiver of sovereign immunity at issue in this case is Section 6001of the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA) of 1976:

> The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and ***all civil and administrative penalties and fines***, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or ***civil or administrative penalty or fine*** referred to in the preceding sentence, or reasonable service charge).

42 USC § 6961(a) (emphasis added).

Judge Sloan and the Department give cursory explanation as to how the waiver of sovereign immunity is so clear as to subject USACE to economic benefit penalties. Judge Sloan states that the waiver "is broad and does not prohibit economic benefit penalties." The Department states that the waiver is "clear on its face" and that "Congress could have, but did not, include an exception for the economic benefit component of state penalties." These conclusions are not supported by sovereign immunity federal case law.

A waiver of the Federal Government's sovereign immunity must be *unequivocally expressed* in statutory text and may not be implied. See United States v. Nordic Village, Inc., 503 U.S. 30, 33-34, 37 (1992); Irwin v. Department of Veterans Affairs, 498 U.S. 89, 95 (1990).

Waivers of immunity will be *strictly construed*, in terms of scope, *in favor of the sovereign* and *will not be enlarged beyond the language* of the statute. See U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 615 (1992) (citations omitted); United States v. Williams, 514 U.S. 527, 531, 115 S.Ct. 1611, 1616, 131 L.Ed.2d 608 (1995).

It is simply not relevant whether the statute does not specifically "prohibit" the penalty or Congress did not provide an exception. What is relevant, under the doctrine of sovereign immunity, is what is unequivocally expressed in the statutory text. The statute does waive the Federal Government's sovereign immunity to "all civil and administrative penalties and fines[.]" However, this waiver of sovereign immunity does not define these penalties or fines. The SWDA does provide some criteria for the Administrator of the EPA in assessing a penalty: (1) seriousness of the violation and (2) any good faith efforts to comply with applicable requirements. 42 USC § 6928(a)(3). Nowhere in the SWDA is there any reference to economic benefit.

USACE does not contest the gravity-based portion of the civil penalties for any of the violations. The SWDA provides only two factors in assessing fines and penalties (seriousness of the violation and good faith efforts to comply with applicable requirements). See 42 USC § 6928(a)(3). Both of these statutory factors were considered in the gravity-based component of the Department's civil penalty determination. The gravity-based portion of the civil penalty that the Department assessed comports with the waiver of sovereign immunity and statutory criteria for assessing a penalty under the SWDA. USACE will pay this part of the penalty, which totals $8,400. The economic benefit portion of the penalty does not comport with the waiver of sovereign immunity and statutory penalty criteria under the SWDA because the statute does not

specifically mention economic benefit. The Department has added an additional factor in determining a civil penalty under the SWDA.[1]

As outlined in USACE's earlier brief, it is interesting to note that in 1992, Congress amended the SWDA through the Federal Facility Compliance Act to clarify the application of requirements and sanctions to federal facilities. PL 102-386. Congress could have chosen to add economic benefit as a statutory penalty factor. It did not. This is even more significant considering that Congress amended the SWDA in 1992, when other environmental statutes (for example, the Clean Water Act, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and Clean Air Act) did include economic benefit as a statutory penalty factor.

This particular legal issue – the applicability of economic benefit penalties to federal facilities – has not been addressed by any federal court decision. The Department cites a number of cases in which courts have determined penalties under the SWDA may include consideration of economic benefit. None of these cases involve application of economic benefit penalties to the Federal Government, only to private parties. The United States Environmental Protection Agency Environmental Appeals Board (EAB) did address the issue partially in In re U.S. Army, Fort Wainwright Central Heating and Power Plant, Docket No. CAA-10-99-0121 (June 5, 2003), 2003 WL 21500416. In this case, the EAB determined that as a matter of law, economic benefit could be considered in a civil penalty imposed against a federal facility for Clean Air Act violations. The case is distinguishable for two important reasons: (1) it involved Clean Air Act violations and (2) as noted above, under the Clean Air Act, economic benefit is a clearly stated factor in the statute (in assessing penalties under the CAA, the EPA Administrator or court "shall

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[1] It is worth noting that under Oregon hazardous waste law, like the SWDA, economic benefit is not listed in the statute as a factor to consider in assessing a penalty. The Department promulgated regulations, which provide the civil penalty matrices for "any violation pertaining to the Commission's or Department's statutes, rules or orders[.]" OAR 340-012-0042. The civil penalty determination under the regulations includes economic benefit as a factor.

take into consideration... *the economic benefit of noncompliance[.]"* 42 USC § 7413(e) (emphasis added)).

II. UNDER FEDERAL FISCAL LAW, RESPONDENT DOES NOT HAVE AUTHORITY TO PAY ECONOMIC BENEFIT PENALTIES

There are numerous fiscal law requirements that dictate how and when a federal agency can obligate funds. Congress, along with the President, sets a federal agency's budget. Pursuant to fiscal law, federal agencies must ensure that expenditure of funds falls within the scope of the congressional purpose behind the funds. The expenditure must be authorized by federal statute. The failure by Congress to address economic benefit penalties in the SWDA is in fact a recognition that such penalties have no application to federal governmental agencies whose programs and activities are specifically funded by Congress through federal appropriations. Even if the state imposes this economic benefit penalty on USACE, USACE has no authority to pay such a penalty. To compensate the Department with this type of administrative penalty will require a specific Congressional appropriation, pursuant to a federal statute.

CONCLUSION

For the reasons stated in Respondent's Exceptions and Brief and reiterated herein, Respondent requests that the Commission adopt Respondent's alternative conclusions of law and/or findings of fact and order.

Dated this 5th day of May, 2005

Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
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April 18, 2005

By Hand Delivery

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By Certified Mail 7002 2410 0002 2229 5196

Misty Latcu, Assistant District Counsel,
United States Army Corps of Engineers
P.O. Box 2946
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Re: Reply Brief
United States Army Corps of Engineers
Contested Case No. LQ/HW-NWR-03-060
Multnomah County

Dear Ms. Hickman and Ms. Latcu:

Please find enclosed the Department of Environmental Quality's reply brief in the referenced case pending before the Environmental Quality Commission.

If you have any questions please contact me at (503) 229-5950

Sincerely,

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement

cc: Lynne Perry, Oregon Department of Justice

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent.	)	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 DEPARTMENT OF ENVIRONMENTAL QUALITY'S ANSWERING BRIEF

The Department of Environmental Quality (Department) submits this brief in response to the Exceptions and Brief filed by Respondent US Army Corps of Engineers (USACE). USACE does not deny any of the five violations or challenge the gravity-based portion of the Department's penalty. USACE's sole objection to Judge Sloan's Proposed Order relates to the Department's authority to include economic benefit in its penalty assessment.[1]

To that end, USACE proposes two alternative conclusions: (1) that as a federal agency, USACE is not subject to the economic benefit component of the penalty, and (2) that USACE did not realize any economic benefit from its noncompliance. These conclusions are inconsistent with both the law and the particular facts of this case.

DISCUSSION

I. USACE is Subject to the Economic Benefit Component of the Penalty.

USACE's argument that it is not subject to the economic benefit portion of the civil penalty is premised on two fundamental errors: (1) that the criteria for assessing civil penalties in this matter are found in Solid Waste Disposal Act (SWDA) § 3008, and (2) that SWDA § 3008 does not allow for consideration of economic benefit. Both assertions are incorrect.

A. This is a state law matter.

USACE may be a federal agency, but this is a state law matter. The Department's Notice of Violation and Assessment of Civil Penalty (Notice) does not allege violations of federal law. It alleges five violations of Oregon's hazardous waste laws and regulations, specifically

[1] "Economic benefit" or "EB" reflects the sum the violator gained from its noncompliance through avoided or delayed costs.

violations of ORS Chapter 466, and OAR Chapter 340 Divisions 100 and 102.[2] USACE does not deny the state law violations cited in the Notice.

Absent a waiver of sovereign immunity, the federal government is generally immune from such state requirements. In this case, however, there has been a waiver of sovereign immunity. That waiver is found in SWDA § 6001(a), which states in relevant part:

> ***Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any solid waste management facility or disposal site, or (2) engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural, respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements, including the payment of reasonable service charges... The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge)***. 42 USC § 6961(a) (emphasis added).

Thus, the statute is clear on its face that federal facilities are subject to the requirements and sanctions of applicable state law to the same extent as private parties.[3]

B. The state law penalty criteria are applicable here.

Respondent asserts that the criteria for assessing a penalty for SWDA violations is set forth in SWDA § 3008 (42 USC § 6928). (USACE Brief at 4.) Although not inaccurate, this assertion is wholly irrelevant to the state law issue now before the Commission.

Simply put, the Department does not have the authority to enforce the SWDA and this matter does not involve SWDA violations. It involves violation of state hazardous waste laws and regulations. SWDA § 3008 pertains solely to enforcement actions by EPA under SWDA Subchapter III (Hazardous Waste Management). That is evident from its express language, as

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[2] The Department administers and enforces the state program in lieu of the federal program as provided in 42 USC § 6926.

[3] In fact, USACE seems to concede that the waiver requires the state to treat USACE as it would any other person by noting in its brief that to the extent that the state does not assess the economic benefit component of its penalties against other parties, it cannot do so against federal facilities. (See USACE Brief at 7.) The flaw in this argument is that the state *does* impose the economic benefit component of its penalty against private parties.

well as from its apt title: "Federal enforcement." It is wholly inapplicable to the state enforcement action at issue. Petitioner reliance on it is both misplaced and inexplicable.

Further, even if SWDA § 3008 applied here, which DEQ denies, it does not preclude consideration of economic benefit. SWDA § 3008(a)(3) provides in relevant part as follows:

> In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements. 42 USC § 6928(a)(3) (emphasis added).

The language of the statute does not, however, state or even imply that the two factors listed are the only factors to be considered by EPA in assessing a penalty. Thus, courts have uniformly determined that penalties assessed under SWDA § 3008 may include consideration of other factors, including economic benefit. As the Sixth Circuit noted in *US v. Ekco Housewares, Inc.*, 62 F3d 806, 814 (1995) with respect to similar violations:

> In imposing civil penalties, it is appropriate for the court to take into account the seriousness of the violation and any good faith efforts to comply. Numerous other factors are relevant, including the harm caused by the violation, ***any economic benefit derived from noncompliance***, the violator's ability to pay, the government's conduct, and the clarity of the obligation involved. 62 F3d at 814 (emphasis added).

See also, *US v. WCI Steel,* 72 F Supp 2d 810, 828 (ND Ohio 1999)(in determining appropriate civil penalties under SWDA § 3008, court considers economic benefit among other factors); *US v. Bethlehem Steel Corp.,* 829 F Supp 1047, 1055 (ND Ind 1993)(same).[4] *See also*, EPA's *RCRA Civil Penalty Policy*, which provides for penalties that include (1) a gravity-based component, (2) a multi-day component, and (3) the economic benefit of noncompliance. *See also*, *Titan Wheel Corp. v. US EPA*, 291 F Supp 899, 919, *aff'd* 2004 US App LEXIS 24330 (8th Cir 2004) (upholding EPA penalty assessment under SWDA § 3008, including economic benefit component, based on EPA's RCRA Civil Penalty Policy).

In sum, SWDA § 3008 is not relevant here. But even if it were, neither the caselaw nor the government's own policy support USACE. The state, not federal, penalty criteria apply.

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[4] Respondent goes to great length in an effort to distinguish SWDA § 3008 from the penalty criteria in other federal statutes because SWDA § 3008 does not specifically mention "economic benefit." Respondent does not explain how or why consideration of economic benefit is authorized under SWDA § 3008 when the federal government is the plaintiff (as in each of the cases cited above), but not when the federal government is the defendant or respondent.

C. The state law penalty criteria provide for consideration of economic benefit.

The Department's civil penalty formula is found in OAR 340-012-0045(1)(c). It expressly provides for consideration of the economic benefit realized through noncompliance. The civil penalty formula is expressed as: BP + [(.1 x BP) x (P+H+O+R+C)] + EB where BP is the base penalty, P, H, O, R, and C are aggravating and mitigating factors, and EB is the economic benefit that the Respondent gained through noncompliance. OAR 340-012-0045(1)(c). EB is calculated by determining both avoided costs and the benefits obtained through delayed costs. OAR 340-012-0045(1)(c)(F).

This same penalty formula is applied with respect to violations of the sort at issue here regardless of the identity of the violator. There is not, nor should there be a different penalty formula for federal government entities as is evident from SWDA § 6001(a), which directs that federal facilities be treated the same as private parties.[5]

D. Federal fiscal law does not dictate a different result here.

USACE not only argues that the federal government should not be treated differently than private parties (a proposition with which the Department agrees), USACE also argues that the federal government *should* be treated differently than private parties based on federal fiscal law. (USACE Brief at 7-8).

USACE appears to argue that it cannot pay the economic benefit component of the penalty because such a penalty is not authorized by statute (again relying on an erroneous interpretation of SWDA § 3008). Further, USACE argues that federal fiscal law limits how and when the agency can obligate funds, and the agency has not had a specific appropriation for such penalties. Respondent offers no support for this latter proposition and it is directly refuted by the only authority on the subject.

As an initial matter, Respondent's argument is wholly inconsistent with SWDA

[5] Respondent's erroneous assumptions that SWDA § 3008 applies and that SWDA § 3008 precludes assessment of economic benefit-based penalties, leads it to the equally erroneous conclusion that the federal government is being treated differently and more harshly than private parties would be under the same circumstances, inconsistent with the statutory waiver of sovereign immunity in SWDA § 6001.

§ 6001(a), which directs that federal facilities are liable for all civil penalties imposed under state law to the same extent as any other person. Congress could have, but did not, include an exception for the economic benefit component of state penalties. USACE is effectively asking this Commission to write such an exception into SWDA § 6001(a) for Congress.

USACE's argument is also inconsistent with the federal government's own policy. For example, the US Environmental Protection Agency's (EPA) June 2003 *RCRA Civil Penalty Policy* notes that EPA's BEN program, a computer program that calculates the economic benefit from delayed and avoided costs, can calculate the economic benefit "for any type of entity, including Federal facilities." RCPP at 31. This would hardly seem necessary if economic benefit-based penalties for RCRA (SWDA) penalties could not be assessed against federal facilities as USACE argues. *See also Final Enforcement Guidance on Implementation of the Federal Facility Compliance Act* (EPA July 6, 1993) (EPA to apply its penalty policy against the federal government for violations of RCRA in the same manner and to the same extent as against any private party).

Finally, USACE's argument is contrary to the only reported decision on this point, *In re US Army, Fort Wainwright Central Heating and Power Plant*, 2003 EPA App LEXIS 6 (EAB, June 5, 2003). In the *Fort Wainwright* matter, the Army argued that the economic benefit factor could not be applied because it conflicts with federal fiscal law applicable to federal facilities. The US EPA's Environmental Appeals Board (EAB) ruled that the federal fiscal law applicable to federal agencies did not, as a matter of law, preclude application of the economic benefit penalty factor. 2003 EPA App LEXIS 6, at *54 and *66. It further rejected the Army's contention that application of the economic benefit factor should be limited to traditional "for-profit" businesses with competitors. 2003 EPA App LEXIS 6, at *64.

The EAB did note that certain limits on the use of appropriated funds might bear on *calculation* of the economic benefit realized by the violator but that some types of economic benefit could be taken into consideration notwithstanding those limits. 2003 EPA App LEXIS 6,

at *75 – 80. Thus, the EAB remanded for an evidentiary hearing to develop the relevant facts regarding the potential economic benefit realized through the Army's delayed compliance.

USACE seeks to distinguish the *Fort Wainwright* case because it involved violations of the Clean Air Act (CAA), not the SWDA. This distinction is without merit. The fact that the term "economic benefit" is expressly included in the CAA penalty provision (CAA § 113(e)), but not in SWDA § 3008, does not affect the analysis. Economic benefit *is* expressly included in the penalty formula applicable in this case, namely, that in OAR 340-012-0045(1)(c). Thus, assessment of the economic benefit portion of the penalty is equally appropriate here.

In sum, the Department is well within its authority to assess a civil penalty based on the economic benefit realized by a violator -- even when the violator is an agency of the federal government, notwithstanding federal fiscal law.

II. The Department correctly Calculated the Economic Benefit Realized by Respondent.

USACE asserts that any economic benefit it received was limited to the costs of physically preparing and transporting for disposal the drums at issue in the violation. According to USACE, the "reason" USACE failed to comply with storage requirements, that it had insufficient personnel to properly manage its hazardous waste, should not be included as economic benefit. USACE's line of reasoning leads to the illogical conclusion that a regulated entity can comply with hazardous waste management requirements without paying someone to actually do the work.

The applicable Oregon Administrative Rule states that economic benefit is "the approximated dollar sum ... gained through noncompliance." See OAR 340-012-0045(1)(c)(F). Accordingly, economic benefit is measured by compliance costs that a regulated entity avoids or delays paying. Compliance costs are not limited to the cost of pollution control equipment or services by outside contractors, such as hazardous waste transporters. Part of the compliance costs incurred by any regulated entity is the cost of a person to operate pollution control equipment or to ensure that hazardous waste is shipped to a disposal facility in accordance with the law. In this instance, USACE admits that it violated hazardous waste management requirements because it did

not have sufficient staff resources and that it had to hire a second Environmental Compliance Coordinator to ensure future compliance. See February 26, 2003 letter to the Department from James R. Mahar, P.E., Operations Manager for the Bonneville Lock and Dam, attached to Stipulated Facts.

USACE also argues that its economic benefit is de minimis because even if it had hired a second ECC, the hazardous waste management requirements violated would only have taken up a fraction of that person's time. Regardless, USACE still needed to hire an additional person to ensure compliance with the management requirements violated, as evidenced by its decision to do so. Therefore, that person's entire salary is a reasonable approximation of the cost avoided, even if that person would have been performing other duties.

Finally, USACE claims that the total period of time that is was in noncompliance was approximately five months, so any economic benefit should be limited to the cost of adequate staffing for those five months. USACE's argument fails because its noncompliance was intermittent. USACE argument presumes that it would have been able to hire temporary staff just in time to prevent a violation, than release that person, only to have to hire another person just in time to prevent a second violation, release that person, and so on. It also begs the question of if they were able to anticipate noncompliance, why would they have needed to hire anyone at all. USACE needed a full-time permanent staff member to prevent its periodic noncompliance. The costs associated with that are a reasonable approximation of USACE's economic benefit.

Dated this 18th day of April, 2005.

/s/

Lynne Perry, OSB #90456
Assistant Attorney General
Oregon Department of Justice

Jeff Bachman,
Environmental Law Specialist
Oregon Dept. of Environmental Quality

CERTIFICATE OF SERVICE

I hereby certify that I served the Brief within on the 18th day of April, 2005 by PERSONAL SERVICE upon

Oregon Environmental Quality Commission
c/o Jane Hickman, Acting Assistant to the Commission
811 SW Sixth Avenue
Portland, OR 97204

and upon

United States Army Corps of Engineers – Portland District
c/o Misty Latcu, Assistant District Counsel
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by personal delivery and by mailing a true copy of the above by placing it in a sealed envelope, with postage prepaid at the U.S. Post Office in Portland, Oregon, on April 18, 2005

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March 24, 2004

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement
Oregon Department of Environmental Quality
811 S.W. 6th Avenue
Portland, Oregon 97204

Re: U.S. Army Corps of Engineers
Agency No. LQ/HW-NWR-03-060

Dear Mr. Bachman:

On March 21, 2005, the Environmental Quality Commission received your request for an extension of time to file the Department's brief in the above-referenced case, based on workload issues. The Commission has granted your request for extension to file the Department's Answering Brief until April 18, 2005.

If you have any questions, please call me at (503) 229-5555.

Sincerely,

Jane K Hickman

Jane K. Hickman
Acting Assistant to the Commission

Cc: Via Certified Mail
Misty Latcu, Assistant District Counsel
United States Army Corps of Engineers
P. O. Box 2946
Portland, Oregon 97208-2946

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

March 21, 2005

Oregon Environmental Quality Commission
c/o Jane Hickman, Acting Assistant to the Commission
811 SW Sixth Avenue
Portland, OR 97204

Re: In the Matter of:
United States Army Corps of Engineers
Contested Case No. LQ/HW-NWR-03-060
Multnomah County

Dear Ms. Hickman:

The Department of Environmental Quality requests an extension until Apri1 18, 2005, for the filing of its brief in the referenced case. Workload issues necessitate this request.

If you have any questions please contact me at (503) 229-5950

Sincerely,

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement

cc: Misty Latcu, Assistant District Counsel,
United States Army Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

Attachment E

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: **UNITED STATES ARMY CORPS OF ENGINEERS,** Respondent.	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 CERTIFICATE OF SERVICE

I hereby certify that on February 25, 2005, I caused copies of the Respondent's Exceptions and Brief to be served on each of the following named persons at his or her last known addresses in the manner indicated below:

Jeff Bachman, Environmental Law Specialist
Oregon Department of Environmental Quality
811 SW Sixth Ave.
Portland, OR 97204-1390
E-mail: bachman.jeff@deq.state.or.us

[ ] Via E-mail
[X] Via First-Class mail, postage pre-paid

Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR 97208-2946

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF:	OAH Case No. 115312
	Agency Case No. LQ/HW-NWR-03-060
UNITED STATES ARMY CORPS OF ENGINEERS,	RESPONDENT'S EXCEPTIONS AND BRIEF
Respondent.	

Respondent, United States Army Corps of Engineers (USACE), submits these Exceptions and Brief in response to the Proposed Order issued by Judge Andrea H. Sloan of the Office of Administrative Hearings in the above-referenced case on December 29, 2004.

EXCEPTIONS

I. OBJECTIONS TO FINDINGS AND CONCLUSIONS

Respondent objects to the finding that "the Department's calculation of economic benefit realized by Respondent was reasonable and accurate[.]" Note, that this particular finding by the ALJ was not stated in the "Findings of Fact," but rather within the body of the ALJ's opinion.

Respondent also objects to the conclusion of law that "Respondent is subject to the economic benefit penalty assessed by the Department."

II. PROPOSED ALTERNATIVE FINDINGS AND CONCLUSION OF LAW

Respondent proposes the following as an alternative conclusion of law: Respondent, as a Federal Agency subject to all Federal law, especially the statutes dealing with the appropriation of funds for authorized Federal programs, is not subject to the economic benefit penalty assessed by the Department.

If the Commission does not adopt Respondent's proposed alternative conclusion of law, Respondent proposes adding the following finding of fact to the ALJ's opinion: Respondent did not receive any economic benefit.

III. PROPOSED ALTERNATIVE FINAL ORDER

If the Commission adopts Respondent's proposed alternative conclusion of law, Respondent proposes the following alternative Final Order: USACE is not subject to economic benefit penalties. The economic benefit portion of the civil penalty ($76,500) shall be removed.

If the Commission does not adopt Respondent's proposed alternative conclusion of law, Respondent proposes the following alternative Final Order: USACE received no economic benefit. The economic benefit portion of the civil penalty ($76,500) shall be removed.

BRIEF

I. RESPONDENT IS NOT SUBJECT TO THE ECONOMIC BENEFIT PENALTY ASSESSED BY THE DEPARTMENT

Judge Sloan's opinion first addresses the Department's right under *state law* to recover economic benefit. Whether state law authorizes the Department to recover economic benefit is irrelevant for purposes of imposing such a penalty against the United States. Under the doctrines of Federal supremacy and sovereign immunity under the U.S. Constitution, federal law must authorize the state to impose such a penalty. See U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 615 (1992). Cursory explanation is given for how federal law establishes the Department's right to recover economic benefit penalties with the exception of citing Section 6961 of the Solid Waste Disposal Act and concluding "[t]he terms of SWDA make it clear that the federal government has waived its sovereign immunity and is subject to administrative penalties or fines based on USACE's violation of hazardous waste laws. The waiver is broad and does not prohibit economic benefit penalties."

This particular legal conclusion is faulty in two respects: (1) the legal standard for a waiver of sovereign immunity is not whether the waiver is "broad" and "does not prohibit economic benefit penalties[,]" and (2) the SWDA does not clearly waive the federal government's sovereign immunity to economic benefit penalties. Of further note is that under federal fiscal law, Respondent has no authority to pay economic benefit penalties if Congress has not waived sovereign immunity for the penalty.

A. FEDERAL SOVEREIGN IMMUNITY

In general, the federal government is immune from state requirements under the doctrines of Federal supremacy and sovereign immunity under the United States Constitution. To recover economic benefit penalties against Respondent, the Department must establish its statutory right under *federal law*. A waiver of the federal government's sovereign immunity must be unequivocally expressed in statutory text and may not be implied. See United States v. Nordic Village, Inc., 503 U.S. 30, 33-34, 37 (1992); Irwin v. Department of Veterans Affairs, 498 U.S. 89, 95 (1990). Waivers of immunity will be strictly construed, in terms of scope, in favor of the sovereign and will not be enlarged beyond the language of the statute. See U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 615 (1992) (citations omitted); United States v. Williams, 514 U.S. 527, 531, 115 S.Ct. 1611, 1616, 131 L.Ed.2d 608 (1995).

A waiver of sovereign immunity may not be implied just because a statute appears "broad" or doesn't specifically "prohibit" the penalty. The statute must be specific and unequivocally waive the federal government's sovereign immunity to the penalty.

B. THE SWDA'S WAIVER OF SOVEREIGN IMMUNITY

The relevant waiver of sovereign immunity that the Judge Sloan relies upon is found in Section 6001of the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA) of 1976:

> The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).

42 USC § 6961(a).

The criteria for assessing a penalty for SWDA violations is set forth in Section of 3008 of the SWDA, 42 USC § 6928(a)(3), which provides just two factors for any order by the Administrator of the EPA in assessing a penalty: (1) seriousness of the violation and (2) any good faith efforts to comply with applicable requirements. Nowhere in the SWDA is there any reference to economic benefit.

Respondent does not contest here the gravity-based portion of the civil penalties for any of the violations. Under Section 6001 of the SWDA, Congress waived the federal government's sovereign immunity to "administrative penalties and fines[.]" 42 USC § 6961(a). The SWDA provides only two factors in assessing fines and penalties (seriousness of the violation and good faith efforts to comply with applicable requirements). See 42 USC § 6928(a)(3). Both of these statutory factors were considered in the gravity-based component of the Department's civil penalty determination. The gravity-based portion of the civil penalty that the Department assessed comports with the waiver of sovereign immunity and statutory criteria for assessing a penalty under the SWDA. Respondent will pay this part of the penalty, which totals $8,400.

The economic benefit portion of the penalty does not comport with the waiver of sovereign immunity and statutory penalty criteria under the SWDA because the statute does not specifically mention economic benefit.

In 1992, Congress amended the SWDA through the Federal Facility Compliance Act to clarify the application of requirements and sanctions to federal facilities. PL 102-386. The absence of the mention of economic benefit in the SWDA is particularly notable because at the time the SWDA was amended, several other environmental statutes included economic benefit as a factor in assessing penalties:

- **Clean Water Act**, 33 USC 1319(g) (in determining administrative penalty, EPA Administrator "shall take into account the nature, circumstances, extent and gravity of the violation, or violations, and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, *economic benefit or savings (if any) resulting from the violation*, and such other matters as justice may require" (emphasis added)).
- **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**, 42 USC § 9609(a)(3) (in determining administrative penalty, the President "shall take into account the nature, circumstances, extent and gravity of the violation or violations and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, *economic benefit or savings (if any) resulting from the violation*, and such other matters as justice may require" (emphasis added)).
- **Clean Air Act**, 42 USC § 7413(e) (in determining penalty, EPA Administrator or court "shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply,

the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, *the economic benefit of noncompliance*, and the seriousness of the violation" (emphasis added))

In its legal brief, the Department cites the well-established rule of statutory construction – "the plain language of the statute is the best evidence of legislative intent. It is an equally well-settled rule that judges are not to insert language in statutes that has been omitted by legislators." Department Legal Brief at 3. Respondent agrees. As stated earlier, in order for the Department to assess a fee against the federal government, there must be a clear and specific waiver of sovereign immunity. The relevant waiver in this instance is found in Section 6001 of the SWDA. The waiver does subject the federal government to administrative fines and penalties. However, the SWDA provides only two factors in assessing fines and penalties (seriousness of the violation and good faith efforts to comply with applicable requirements). See 42 USC § 6928(a)(3). Both of these factors were considered in the gravity-based component of the Department's civil penalty determination as noted in Exhibits 1-5 of the Notice. The Department has added an additional factor in determining a civil penalty under the SWDA.[1] Congress could have chosen to add economic benefit as a statutory penalty factor. It did not. This is even more significant considering that Congress amended the SWDA in 1992, when other environmental statutes did include economic benefit as a statutory penalty factor

This particular legal issue – the applicability of economic benefit penalties to federal facilities – has not been addressed by any federal court decision. However, the United States Environmental Protection Agency Environmental Appeals Board (EAB) did address the issue partially in In re U.S. Army, Fort Wainwright Central Heating and Power Plant, Docket No.

[1] It is worth noting that under Oregon hazardous waste law, like the SWDA, economic benefit is not listed in the statute as a factor to consider in assessing a penalty. The Department promulgated regulations, which provide the civil penalty matrices for "any violation pertaining to the Commission's or Department's statutes, rules or orders[.]" OAR 340-012-0042. The civil penalty determination under the regulations includes economic benefit as a factor.

CAA-10-99-0121 (June 5, 2003), 2003 WL 21500416. In this case, the EAB determined that as a matter of law, economic benefit could be considered in a civil penalty imposed against a federal facility for Clean Air Act violations. The case is distinguishable for two important reasons: (1) it involved Clean Air Act violations and (2) as noted above, under the Clean Air Act, economic benefit is a clearly stated factor in the statute (in assessing penalties under the CAA, the EPA Administrator or court "shall take into consideration… *the economic benefit of noncompliance[.]"* 42 USC § 7413(e) (emphasis added)).

The waiver of sovereign immunity in the SWDA provides that the Federal Government "shall be subject to, and comply with, all Federal, State, interstate, and local requirements...in the same manner, and to the same extent, as any person is subject to such requirements[.]" 42 USC Sec. 6921(a). To the extent that the state does not require other parties to pay "economic benefit" penalties for SWDA violations measured by hypothetical employee salaries (or to the extent they do not require parties to pay "economic benefit" penalties at all), the SWDA does not allow the state to assess these penalties against Respondent. Requiring Respondent to pay such amounts (measured in this way) would be treating a Federal agency different than other "persons" under the SWDA.

C. UNDER FEDERAL FISCAL LAW, RESPONDENT DOES NOT HAVE AUTHORITY TO PAY ECONOMIC BENEFIT PENALTIES

There are numerous fiscal law requirements that dictate how and when a federal agency can obligate funds. Congress, along with the President, sets a federal agency's budget. Pursuant to fiscal law, federal agencies must ensure that expenditure of funds falls within the scope of the congressional purpose behind the funds. The expenditure must be authorized by federal statute. The failure by Congress to address economic benefit penalties in the SWDA is in fact a recognition that such penalties have no application to Federal Governmental Agencies whose programs and activities are specifically funded by Congress through Federal Appropriations.

Even if the state imposes this economic benefit penalty on Respondent, Respondent has no authority to pay such a penalty. To compensate the Department with this type of administrative penalty will require a specific Congressional appropriation, pursuant to a Federal Statute.

II. RESPONDENT DID NOT RECEIVE ANY ECONOMIC BENEFIT

A. AS A FEDERAL AGENCY, RESPONDENT CANNOT REALIZE ANY ECONOMIC BENEFIT

In Exhibit 2 of the Notice, the Department states that:

> Economic benefit is not designed to punish the Respondent, but to (1) "level the playing field" by taking away any economic advantage the violation gained over its competitors through noncompliance, and (2) deter potential violators from deciding it is cheaper to violate and pay the penalty than to pay the costs of compliance.

This is a reasonable policy for an enforcing agency to adopt when dealing with the private sector – the private sector often has substantial economic incentives to delay environmental compliance. However, there are critical constitutional, statutory, and public policy differences between federal facilities and private facilities. Unlike private facilities, federal agencies are not in competition with other entities and cannot charge fees for its services, nor borrow money to raise funds to pay for penalties. Respondent operates the Bonneville Dam, a large, Federal, interstate hydroelectric project on the Columbia River, by specific congressional authorization. Unlike a private entity, Respondent has no "competitor" over whom it would gain an "economic advantage" in operating and maintaining this facility, so there is no "playing field" to "level."

Congress, along with the President, not only creates federal agencies, but also provides the sole means of financial support for federal agencies. There are numerous fiscal law requirements that dictate how and when a federal agency can obligate funds. Any "business" decisions are made by Congress and the President. The Department claims that economic benefit is not intended to punish, but the end result here is punitive. Respondent is appropriated a specific amount of money from Congress annually for operation and maintenance. These

funds are used in part by Respondent to fund and staff its environmental compliance responsibilities. Any amount of penalty that Respondent pays to the state for an "economic benefit" assessment will displace operation and maintenance expenditures elsewhere. Paying an economic benefit penalty does not remove "profit" or "savings" associated with the noncompliance at issue; it removes funds that would otherwise be spent on mission-essential items, such as environmental compliance.

B. RESPONDENT DID NOT RECEIVE ANY ECONOMIC BENEFIT

The Department alleges that by storing twelve 55-gallon drums of hazardous waste, consisting of items such as paint rags, waste paint and paint thinner, for greater than 90 days, Respondent received an economic benefit of $76,500. In response to the Department's January 30, 2003 Notice of Noncompliance, Respondent stated that: "Our internal review process indicated noncompliance during the early part of 2002. We determined that this was partially a result of heavy workload and responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities." The Department then concluded that Respondent's *reason* for noncompliance was the measurement of "economic benefit" – namely, that the avoided costs of the Corps noncompliance in storing twelve 55-gallon drums of hazardous wastes for greater than 90 days is measured by the cost of a salary of an additional ECC between November 2000 and May 2002. The Department argues this resulted in $76,500 in avoided compliance costs.

It is overly simplified to say that Respondent's *reason* for noncompliance should also therefore be the measure of its avoided cost. The ECC has a wide range of duties for a project as large as Bonneville. Disposing of twelve drums of hazardous waste would only be one of those duties and would take a fraction of the 18 months that the Department is assessing economic benefit. Further, Respondent was in noncompliance for a fraction of the 18 months.

The longest delay cited by the state for Respondent's delay in drum disposal is 89 days for a drum of paint chips. The shortest delay is 12 days for a drum of paint rags. In total, Respondent was in noncompliance for a total of 159 days, or just over 5 months. However, the Department is penalizing Respondent for 18 months of economic benefit. As noted in the Notice, the twelve drums were disposed of on 4 separate days: January 22, 2001; November 13, 2002; November 23, 2002; and November 25, 2002. It is unreasonable and clearly punitive to measure the avoided costs for the failure to dispose of the twelve drums cited by the state in a timely fashion by calculating *18 months* of a hypothetical Federal employee's salary.

A more logical assessment of avoided costs would be those costs directly associated with disposing of the twelve drums of hazardous waste. These costs would include any costs in preparing the twelve drums for shipping and any costs Respondent may pay to transport and dispose of the drums off the project site. As pointed out in the Notice, each of the twelve drums was disposed of. The costs associated with the disposal of these drums, while delayed, *were incurred* by Respondent. Since the disposal costs were in fact incurred by Respondent, it did not avoid any costs (and consequently gain an "economic benefit") in delaying the disposal of the drums. The Department's civil penalty regulations allow the Department to forgo calculating economic benefit "when the benefit obtained is de minimis[,]" which is clearly the situation in this case. OAR 340-012-0045(1)(c)(F)(ii).

It was not cheaper for Respondent to violate and pay the penalty than pay the costs of compliance. Respondent *did pay* the costs of compliance at the time it disposed of the twelve drums, so no costs were avoided. Respondent takes responsibility for its noncompliance and is liable for the $8,400 portion of the civil penalty, and Respondent will pay this amount.

CONCLUSION

For the reasons state herein, Respondent requests that the Commission adopt Respondent's alternative conclusions of law and/or findings of fact and order.

Dated this 25th day of February, 2005

Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR 97208-2946

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

February 1, 2005

Via Certified Mail

Misty M. Latcu
Assistant District Counsel
US Army Corps of Engineers, Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: LQ/HQ-NWR-03-060

Dear Ms. Latcu:

On January 28, 2005, the Environmental Quality Commission (Commission) received your timely request for Commission review of the Proposed Order for the above-referenced case.

The Proposed Order outlined appeal procedures, including filing of exceptions and briefs. The hearing decision and Oregon Administrative Rules (OAR 340-011-0575) state that you must file exceptions and brief within thirty days from the filing of your request for Commission review, or February 27. Your exceptions must specify the findings and conclusions in the Proposed Order that you object to, and also include proposed alternative findings of fact, conclusions of law, and an alternative order with specific references to the parts of the record upon which you rely. The brief must include the arguments supporting these alternative findings of fact, conclusions of law and order. Failure to take an exception to a finding or conclusion in the brief waives your ability to later raise that exception. Once your exceptions have been received, a representative of the Department of Environmental Quality may file an answering brief within thirty days. The Commission may extend any of the time limits contained in OAR 340-011-0575(5) if an extension request is made in writing and is filed with the Commission before the expiration of the time limit. I have enclosed a copy of the applicable administrative rules for your information.

To file exceptions and briefs, please mail these documents to Mikell O'Mealy, on behalf of the Environmental Quality Commission, at 811 SW 6th Avenue, Portland, Oregon, 97204, with a copy to Jeff Bachman, Oregon Department of Environmental Quality, 811 SW 6th Avenue, Portland, Oregon 97204. If you fail to timely file the exceptions or brief, the Commission may dismiss your petition for review. At the time of dismissal, the Commission will also enter a final order upholding the proposed order.

After both parties file exceptions and briefs, this item will be set for Commission consideration at a regularly scheduled Commission meeting, and I will notify you of the date and location. If you have any questions about this process, or need additional time to file exceptions and briefs, please call me at 503-229-5301 or 800-452-4011 ext. 5301 within the state of Oregon.

Sincerely,

Mikell O'Mealy
Assistant to the Commission

cc: Jeff Bachman, Oregon Department of Environmental Quality

Oregon Administrative Rules 340-011-0575

Review of Proposed Orders in Contested Cases

(1) For purposes of this rule, filing means receipt in the office of the director or other office of the department.

(2) Following the close of the record for a contested case hearing, the administrative law judge will issue a proposed order. The administrative law judge will serve the proposed order on each participant.

(3) Commencement of Review by the Commission: The proposed order will become final unless a participant or a member of the commission files, with the commission, a Petition for Commission Review within 30 days of service of the proposed order. The timely filing of a Petition is a jurisdictional requirement and cannot be waived. Any participant may file a petition whether or not another participant has filed a petition.

(4) Contents of the Petition for Commission Review. A petition must be in writing and need only state the participant's or a commissioner's intent that the commission review the proposed order. Each petition and subsequent brief must be captioned to indicate the participant filing the document and the type of document (for example: Respondents Exceptions and Brief; Department's Answer to Respondent's Exceptions and Brief).

(5) Procedures on Review:

(a) Exceptions and Brief: Within 30 days from the filing of a petition, the participant(s) filing the petition must file written exceptions and brief. The exceptions must specify those findings and conclusions objected to, and also include proposed alternative findings of fact, conclusions of law, and order with specific references to the parts of the record upon which the participant relies. The brief must include the arguments supporting these alternative findings of fact, conclusions of law and order. Failure to take an exception to a finding or conclusion in the brief, waives the participant's ability to later raise that exception.

(b) Answering Brief: Each participant, except for the participant(s) filing that exceptions and brief, will have 30 days from the date of filing of the exceptions and brief under subsection (5)(a), in which to file an answering brief.

(c) Reply Brief: If an answering brief is filed, the participant(s) who filed a petition will have 20 days from the date of filing of the answering brief under subsection (5)(b), in which to file a reply brief.

(d) Briefing on Commission Invoked Review: When one or more members of the commission wish to review the proposed order, and no participant has timely filed a Petition, the chair of the commission will promptly notify the participants of the issue that the commission desires the participants to brief. The participants must limit their briefs to those issues. The chair of the commission will also establish the schedule for filing of briefs. When the commission wishes to review the proposed order and a participant also requested review, briefing will follow the schedule set forth in subsections (a), (b), and (c) of this section.

(e) Extensions: The commission or director may extend any of the time limits contained in section (5) of this rule. Each extension request must be in writing and filed with the commission before the expiration of the time limit. Any request for an extension may be granted or denied in whole or in part.

(f) Dismissal: The commission may dismiss any petition, upon motion of any participant or on its own motion, if the participant(s) seeking review fails to timely file the exceptions or brief required under subsection (5)(a) of this rule. A motion to dismiss made by a participant must be filed within 45 days after the filing of the Petition. At the time of dismissal, the commission will also enter a final order upholding the proposed order.

(g) Oral Argument: Following the expiration of the time allowed the participants to present exceptions and briefs, the matter will be scheduled for oral argument before the commission.

(6) Additional Evidence: A request to present additional evidence must be submitted by motion and must be accompanied by a statement showing good cause for the failure to present the evidence to the administrative law judge. The motion must accompany the brief filed under subsection (5)(a) or (b) of this rule. If the commission grants the motion or decides on its own motion that additional evidence is necessary, the matter will be remanded to an administrative law judge for further proceedings.

(7) Scope of Review: The commission may substitute its judgment for that of the administrative law judge in making any particular finding of fact, conclusion of law, or order except as limited by OAR 137-003-0655 and 137-003-0665.

(8) Service of documents on other participants: All documents required to be filed with the commission under this rule must also be served upon each participant in the contested case hearing. Service can be completed by personal service, certified mail or regular mail.

Stat. Auth.: ORS 183.341 & 468.020
Stats. Implemented: ORS 183.460, 183,464 & ORS 183.470
Hist.: DEQ 78, f. 9-6-74, ef. 9-25-74; DEQ 115, f. & ef. 7-6-76; DEQ 25-1979, f. & ef. 7-5-79; DEQ 7-1988, f. & cert. ef. 5-6-88; DEQ 1-2000(Temp), f. 2-15-00, cert. ef. 2-15-00 thru 7-31-00; DEQ 9-2000, f. & cert. ef. 7-21-00; Renumbered from 340-011-0132 by DEQ 18-2003, f. & cert. ef. 12-12-03

(e) Extensions: The commission or director may extend any of the time limits contained in section (5) of this rule. Each extension request must be in writing and filed with the commission before the expiration of the time limit. Any request for an extension may be granted or denied in whole or in part.

(f) Dismissal: The commission may dismiss any petition, upon motion of any participant or on its own motion, if the participant(s) seeking review fails to timely file the exceptions or brief required under subsection (5)(a) of this rule. A motion to dismiss made by a participant must be filed within 45 days after the filing of the Petition. At the time of dismissal, the commission will also enter a final order upholding the proposed order.

(g) Oral Argument: Following the expiration of the time allowed the participants to present exceptions and briefs, the matter will be scheduled for oral argument before the commission.

(6) Additional Evidence: A request to present additional evidence must be submitted by motion and must be accompanied by a statement showing good cause for the failure to present the evidence to the administrative law judge. The motion must accompany the brief filed under subsection (5)(a) or (b) of this rule. If the commission grants the motion or decides on its own motion that additional evidence is necessary, the matter will be remanded to an administrative law judge for further proceedings.

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Stat. Auth.: ORS 183.341 & 468.020
Stats. Implemented: ORS 183.460, 183,464 & ORS 183.470
Hist.: DEQ 78, f. 9-6-74, ef. 9-25-74; DEQ 115, f. & ef. 7-6-76; DEQ 25-1979, f. & ef. 7-5-79; DEQ 7-1988, f. & cert. ef. 5-6-88; DEQ 1-2000(Temp), f. 2-15-00, cert. ef. 2-15-00 thru 7-31-00; DEQ 9-2000, f. & cert. ef. 7-21-00; Renumbered from 340-011-0132 by DEQ 18-2003, f. & cert. ef. 12-12-03

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

REPLY TO
ATTENTION OF

January 28, 2005

Office of Counsel

Environmental Quality Commission
c/o Stephanie Hallock, Director, DEQ
811 SW Sixth Avenue
Portland, OR 97204

Subject: U.S. Army Corps of Engineers, OAH Case No. 115312;
Agency Case No. LQ/HW-NWR-03-060

Enclosed for filing is the U.S. Army Corps of Engineers' Petition for Commission Review in the above referenced case.

Sincerely,

Misty M. Latcu
Assistant District Counsel

Enclosure

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: **UNITED STATES ARMY CORPS OF ENGINEERS,** Respondent.	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 RESPONDENT'S PETITION FOR COMMISSION REVIEW

The United States Army Corps of Engineers (USACE), submits this Petition for Commission Review requesting that the Commission review the Proposed Order issued by Judge Andrea H. Sloan of the Office of Administrative Hearings in the above-referenced case on December 29, 2004.

Dated this 28th day of January, 2005

Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR 97208-2946

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

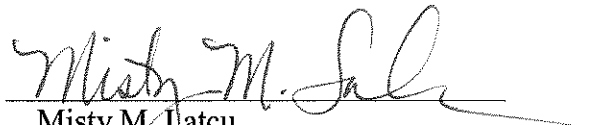
OF THE STATE OF OREGON

IN THE MATTER OF: **UNITED STATES ARMY CORPS OF ENGINEERS,** Respondent.	OAH Case No. 115312 Agency Case No. LQ/HW-NWR-03-060 CERTIFICATE OF SERVICE

I hereby certify that on January 28, 2005, I caused copies of the Respondent's Petition for Commission Review to be served on each of the following named persons at his or her last known addresses in the manner indicated below:

Jeff Bachman, Environmental Law Specialist
Oregon Department of Environmental Quality
811 SW Sixth Ave.
Portland, OR 97204-1390
E-mail: bachman.jeff@deq.state.or.us

[X] Via E-mail
[X] Via First-Class mail, postage pre-paid



Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR 97208-2946

Attachment H

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BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS
STATE OF OREGON
for the
DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:	) **PROPOSED AND FINAL ORDER**
	)
THE UNITED STATES ARMY CORPS OF ENGINEERS,	)
	)
	) OAH Case No. 115312
Respondent.	) Agency Case No. LQ/HW-NWR-03-060

HISTORY OF THE CASE

On November 18, 2003, the Department of Environmental Quality (Department) issued a Notice of Violation and Assessment of Civil Penalty to Respondent United States Army Corps of Engineers (USACE). On December 10, 2003, USACE requested a hearing and admitted violations 1 through 4, but challenged the economic benefit penalty assessed for violation 2.

On May 6, 2004, the Department referred the hearing request to the Office of Administrative Hearings (OAH). Administrative Law Judge (ALJ) Andrea H. Sloan was assigned to preside at hearing.

A prehearing conference was convened on June 24, 2004. The Department was represented by Jeff Bachman, Environmental Law Specialist with the Department's Office of Compliance and Enforcement. Respondent was represented by Misty Lactu, Assistant District Counsel for the USACE, Portland District. During the prehearing conference the parties agreed to stipulate to relevant facts and submit briefs, in lieu of a full hearing.

The parties submitted the stipulated facts on August 10, 2004. On September 1, 2004, Respondent withdrew its initial denial of violation 5 and the penalty assessed for that violation. The only remaining issue is whether the Department can assess economic benefit penalties against Respondent for violation 2.

The Department submitted its opening brief on September 16, 2004. Respondent's brief was submitted on October 18, 2004. The Department's rebuttal brief was submitted on November 15, 2004. The record closed on that date.

ISSUE

Whether Respondent is subject to the economic benefit penalty assessed by the Department.

EVIDENTIARY RULINGS

Exhibits A1 through A3 were admitted without objection.

FINDINGS OF FACT

1. The United States Army Corps of Engineers (USACE), an agency of the United States Government, operates the Bonneville Locks and Dam located in Multnomah County, Oregon. (Stipulated facts.)

2. USACE's Bonneville Locks and Dam facility is a large quantity generator of hazardous wastes, operates under hazardous waste generator identification number OR 0140113218, and generates the following hazardous wastes: paint thinner (Environmental Protection Agency Hazardous Waste Code Numbers D001, D035, F005, and D009); paint waste (D001, F003, and F005); and lead-contaminated sandblast grit (D008). (Stipulated facts.)

3. Representatives of the Oregon Department of Environmental Quality (the Department or DEQ) conducted a compliance inspection at Respondent's facility on November 19, 2002. (Stipulated facts.)

4. As a result of the November 19, 2002 compliance inspection, the Department issued Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060 (Notice) on November 18, 2003. The Notice cited five alleged violations and assessed a total civil penalty of $116,995. (Stipulated facts.)

5. On December 10, 2003, USACE filed an Answer to the Notice and a Request for Hearing. The Answer admitted violations 1, 2, 3 and 4 of the Notice, but denied Violation 5. USACE did not contest the civil penalties for Violations 1, 3 and 4 of the Notice or the gravity-based portion of the penalty for Violation 2. USACE did appeal the penalty for Violation 5 and the economic benefit portion of the penalty assessed for Violation 2. (Stipulated facts.)

6. On July 12, 2004, the Department amended the civil penalty calculation for Violation 2 of the Notice. The Department reduced the economic benefit portion of the penalty from $108,555 to $76,500. (Ex. A2; stipulated facts.)

7. The Department based its the economic benefit calculation on a statement from a February 26, 2003 letter from James R. Mahar, P.E., Operations Manager for the Bonneville Locks and Dam. Mr. Mahar's letter, was in response to a Notice of Noncompliance issued by the Department after its November 19, 2002 inspection of the Bonneville facility. (Ex. A1; stipulated facts.)

8. In the February 26, 2003 letter, Mr. Mahar stated that USACE's violation of the 90-day interim hazardous waste storage limit occurred "partially [as] a result of heavy workload and [we] responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities. In September 2002 we received approval to add a second permanent ECC to our staff." The temporary staff assistance referred to in Mr. Mahar's letter

was obtained in May 2002 and continued until USACE hired a second ECC in April 2003. (Ex. A1; stipulated facts.)

9. The Department determined that USACE received an economic benefit from avoiding the cost of paying for a second ECC at Bonneville for a period of 18 months, from November 2000[1] through April 2002. In determining the monthly salary amount for an ECC, the Department relied on a job announcement for an Environmental Protection Specialist (Environmental Compliance Coordinator) position at the Bonneville facility attached to Mr. Mahar's February 26, 2003 letter to the Department. The announcement does not list a salary but states that that the position is series/grade "GS-0028-11." (Ex. A1; stipulated facts.)

10. DEQ performed an internet search of government job listings and found an announcement for an Environmental Protection Specialist with the United States Environmental Protection Agency (USEPA) in Portland. The announcement lists the Series/Grade as GS-0028-9/11 and states that the salary range for the position is $40,176 to $63,198. (Ex. A3; stipulated facts.)

11. Choosing the mid-range of the salary in the EPA announcement, the Department estimated that USACE would pay an ECC at the Bonneville facility $51,000 a year or $4,250 a month. DEQ estimated that by avoiding the labor cost of $4,250 per month for 18 months, USACE would have allegedly received an economic benefit of $76,500. (Ex. A3; stipulated facts.)

CONCLUSION OF LAW

Respondent is subject to the economic benefit penalty assessed by the Department.

OPINION

The sole issue before me is whether the Department can assess an economic benefit penalty against Respondent, and if so, in what amount. USACE argues that the Department lacks the authority to do so; the Department argues that the assessment of this penalty is within its authority.

"The burden of presenting evidence to support a fact or position in a contested case rests on the proponent of the fact or position." ORS 183.450(2). Here, the Department has the burden of proving its allegation. *See, Harris v. SAIF,* 292 Or 683, 690 (1982) (general rule regarding allocation of burden of proof is that the burden is on the proponent of the fact or position); *Cook v. Employment Div.,* 47 Or App 437 (1980) (in the absence of legislation adopting a different standard, the standard in administrative hearings is preponderance of the evidence). Proof by a preponderance of evidence means that the fact finder is persuaded that the facts asserted are more likely true than false. *Riley Hill General Contractors v. Tandy Corp.,* 303 Or 390 (1989). Following my review of this record and the cited authorities, I conclude that the Department has met its burden.

[1] Storage in Drum #20-7-7 began on July 27, 2000. USACE exceeded the 90-day storage limit for this container on October 26, 2000.

Authority. The legislature has authorized the Environmental Quality Commission (EQC) to "adopt such rules and standards as it considers necessary and proper in performing the functions vested by law in the commission." ORS 468A.020(1). Within this authority, the EQC promulgated rules authorizing the Director of the Department to assess civil penalties for any violations of the Department's rules or statutes. OAR 340-012-0042. This includes economic benefit penalties. An economic benefit is "the monetary benefit that an entity gained by not complying with the law." ORS 468.130(2)(h) authorizes the Department to consider "any relevant rule of the commission" in calculating the economic benefit. The Department is required to include in its penalty assessments an "approximated dollar sum of the economic benefit." OAR 340-012-0045(1)(c)(F). In this case, the Department chose not to utilize the EPA's BEN computer model to make its economic benefit calculation, and instead based its calculation on the cost of employing an ECC for 18 months at the mid-salary range for that position. This was within the Department's discretion.

Specifically, the Department is authorized to impose penalties and fines for violations of its hazardous waste laws. ORS 466.990 provides, in part, as follows:

> In addition to any other penalty provided by law, any person who violates ORS 466.005 to 466.385 and 466.992, a license condition or any Environmental Quality Commission rule or order pertaining to the generation, treatment, storage, disposal or transportation by air or water of hazardous waste, as defined by ORS 466.005, shall incur a civil penalty not to exceed $10,000 for each day of the violation.

Oregon environmental laws are, by their terms, applicable to federal entities, such as the USACE. *See* ORS 466.005(13) ("'Person' means the United States, the state or a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate or any other legal entity.") The applicable statutes do not limit the authority of the Department to impose fines for economic benefit.

Respondent argues that the Department does not have the authority to impose an economic benefit penalty because the federal government, through USACE, has not specifically waived its sovereign immunity. Respondent alleges that economic benefit penalties may be imposed in cases dealing with other federal environmental acts because the term "economic benefit" is specifically mentioned in these statutes.[2] Counsel argues that unless there is a specific reference to economic benefit penalties, the federal government has not waived sovereign immunity and subjected itself to those penalties. I do not agree.

The Solid Waste Disposal Act (SWDA), 42 USC §6001, subjects federal facilities to state solid and hazardous waste disposal and management regulations, including the imposition of administrative penalties and fines. Section 6961 provides, in part, as follows:

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[2] Specifically, counsel cites the Clean Water Act, the Clean Air Act, and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

> Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government * * * engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste *shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural*, * * *, respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements * * * . The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, *all administrative orders and all civil and administrative penalties and fines*, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. *The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).*

(Emphasis added.) The terms of SWDA make it clear that the federal government has waived its sovereign immunity and is subject to administrative penalties or fines based on USACE's violation of Oregon hazardous waste laws. The waiver is broad and does not prohibit economic benefit penalties.

I am persuaded that the Department has the authority to impose economic benefit penalties against Respondent for violation of Oregon environmental laws.

Calculation of penalty. Respondent also argues that the Department erred in concluding that USACE received an economic benefit of $76,500 by not hiring an ECC sooner. Specifically, Respondent asserts that, once an ECC was hired, only a fraction of this person's work time was used to bring USACE into compliance. Respondent argues that the cost of disposing of the twelve drums of waste material was *de minimis*, and that the Department is overreaching by assessing economic benefit penalties equal to 18 months of salary for an ECC.

The Department responds by arguing that USACE hired an additional ECC to ensure compliance with Department regulations, and although only a fraction of this person's time was needed to ensure compliance, USACE realized an economic benefit by not hiring the ECC sooner. The Department argues that the ECC's entire salary over an 18-month period was an avoided cost, and thus, is the amount of economic benefit realized by Respondent by its non-compliance.

As noted above, an economic benefit is "the monetary benefit that an entity gained by not complying with the law." The Department is required to include in its penalty assessments an "approximated dollar sum of the economic benefit." OAR 340-012-0045(1)(c)(F). In this case, there are no facts to support Respondent's argument that only a fraction of the second ECC's time was spent bringing USACE into compliance. There is evidence that the salary range for an ECC (GS-0028-0/11) is between $40,176 and $63,198 per year. Without evidence of the specific pay

rate for the ECC, it was reasonable for the Department to utilize the mid-range salary in making its penalty calculations.

Based on this record, I conclude that the Department's calculation of economic benefit realized by Respondent was reasonable and accurate, based on the information available to the Department. Respondent is subject to $84,900 in civil penalties,[3] $76,500 of which is due to economic benefit realized by non-compliance with Department regulations.

PROPOSED AND FINAL ORDER

I propose the Department issue the following order:

USACE is subject to civil penalties in the amount of $84,900.

Andrea H. Sloan, Administrative Law Judge
Office of Administrative Hearings

MAILING AND ISSUE DATE: December 29, 2004

APPEAL RIGHTS

If you are not satisfied with this decision, you have the right to have the decision reviewed by the Oregon Environmental Quality Commission. To have the decision reviewed, you must file a "Petition for Review" within 30 days of the date this order is served on you as provided in Oregon Administrative Rule (OAR) 340-011-0132(1) and (2). The Petition for Review must be filed with:

Environmental Quality Commission
c/o Stephanie Hallock, Director, DEQ
811 SW Sixth Avenue
Portland, OR 97204.

Within 30 days of filing the Petition for Review, you must also file exceptions and a brief as in provided in OAR 340-011-0132(3). If the petition, exceptions and brief are filed in a timely manner, the Commission will set the matter for oral argument and notify you of the time and place of the Commission's meeting. The requirements for filing a petition, exceptions and briefs are set out in OAR 340-011-0132.

Unless you timely and appropriately file a Petition for Review as set forth above, this Proposed Order becomes the Final Order of the Environmental Quality Commission 30 days from the date of service on you of this Proposed Order. If you wish to appeal the Final Order,

[3] The total penalty assessment includes $8,400 in penalties for the other violations, which Respondent did not contest.

you have 60 days from the date the Proposed Order becomes the Final Order to file a petition for review with the Oregon Court of Appeals. See ORS 183.400 *et. seq*.

LIST OF EXHIBITS CITED

Ex. 1: Letter to DEQ from Department of the Army, dated February 26, 2003

Ex. 2: Letter from DEQ to USACE and ALJ and "Amended Exhibit 2," dated July 12, 2004.

Ex. 3: USEPA vacancy announcement for GS-0028-09/11 position.

CERTIFICATE OF SERVICE

I certify that on December 29, 2004, I served the attached Proposed and Final Order by mailing certified and/or first class mail, in a sealed envelope, with first class postage prepaid, a copy thereof addressed as follows:

MISTY LACTU
ASSISTANT DISTRICT COUNSEL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OR 97208

BY FIRST CLASS MAIL AND CERTIFIED MAIL
BY CERTIFIED MAIL RECEIPT # 7002 2410 0001 7410 4287

JEFF BACHMAN
OREGON DEQ
OFFICE OF COMPLIANCE AND ENFORCEMENT
811 SW 6TH AVE
PORTLAND OR 97204

BY FIRST CLASS MAIL

DEBORAH NESBIT
OREGON DEQ
OFFICE OF COMPLIANCE AND ENFORCEMENT
811 SW 6TH AVE
PORTLAND OR 97204

BY FIRST CLASS MAIL

Ann Redding

Ann Redding, Administrative Specialist
Office of Administrative Hearings
Transportation Hearings Division

PLEASE PLACE IN ORIGINAL FILE

CASE NAME:_____US ARMY CORPS OF ENGINEERS_____

CASE NUMBER: _115312_____

AGENCY: _DEQ_____ DATE: _12/29/04_____

X PROPOSED ORDER OTHER _@_____

Thanks, Ann

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits. 115312

1. Article Addressed to:

MISTY LACTU
ASSISTANT DISTRICT COUNSEL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OR 97208

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jordan Williams ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Jordan Williams DEC 30 2004

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7002 2410 0001 7410 4287

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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DEPARTMENT OF ENVIRONMENTAL QUALITY

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MISTY LACTU
ASSISTANT DISTRICT COUNSEL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OR 97208

PS Form 3800, June 2002 See Reverse for Instructions

SEND ORIGINAL GREEN CARD TO ALJ COPY TO DUMMY FILE

Attachment I

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

November 10, 2004

CERTIFIED MAIL 7002 2410 0002 2228 1328

Andrea Sloan, Administrative Law Judge
Hearing Officer Panel
1905 Lana Avenue, NE
Salem, OR 97314

CERTIFIED MAIL 7002 2410 0002 2228 1335

United States Army Corps of Engineers,
Portland District
Attn. Misty Latcu, Assistant District Counsel
P.O Box 2946
Portland, OR 97208-2946

Re: United States Army Corps of Engineers
Office of Administrative Hearings Case No. 115312
DEQ Case No. LQ/HW-NWR-03-060

Dear ALJ Sloan and Ms. Latcu:

Please find enclosed the Department's Reply brief in the referenced case.

If you have any questions, please call me at (503) 229-5950.

Sincerely,

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement

Enclosure

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent.	)	REPLY BRIEF NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OAH Case No. 115312

The Oregon Department of Environmental Quality (the Department), submits this Reply Brief to Administrative Law Judge (ALJ) Andrea H. Sloan, Oregon Office of Administrative Hearings, for her consideration in the United States Army Corps of Engineers' (USACE's) appeal of Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060.

DISCUSSION

In its Legal Brief, filed October 15, 2004, USACE, makes two arguments against the assessment of an economic benefit penalty in this case. First, USACE contends the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), does not authorize assessment of economic benefit penalties for violations of the Act. Second, USACE asserts even if the Department could assess an economic benefit penalty, avoided labor costs are not an accurate measure of the economic benefit in this particular case.

DEQ Can Assess an Economic Benefit Penalty

USACE's first argument, that the SWDA did authorize assessment of economic benefit is irrelevant and incorrect. Even if the SWDA did not authorize economic benefit to be included in penalties assessed under the Act, which the Department does not concede, such a limitation is irrelevant because § 6001 of the SWDA makes federal facilities subject to administrative civil penalties assessed pursuant to *state* law and does not impose any limitations on how state penalties may be calculated.[1] Oregon law expressly states that economic benefit may be included in an

[1] 42 USC § 6961 states, in pertinent part: "Each department, agency and instrumentality of the executive, legislative and judicial branches of the Federal Government ... engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural, ... respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any other person

administrative civil penalty assessed for a violation of state hazardous waste law. See Oregon Revised Statute (ORS) 468.130(2)(h) and Oregon Administrative Rule 340-012-0045. USACE cites no authority for its position that the state of Oregon may only consider the factors established in SWDA § 3008 for assessment of federal civil penalties, yet would have the ALJ insert language into § 6001 omitted by Congress.

Furthermore, § 6001 must be read to allow assessment of economic benefit because it waives immunity for "all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature." If a penalty did not account for at least the economic benefit of noncompliance, then the penalty might be a lesser value than the economic benefit gained through the violation. In this event, the violator would have gained an economic benefit through the violation and a penalty could be neither punitive or coercive. The statute must be read to allow economic benefit as part of the penalty to make sense

Even were the state limited to the factors in § 3008, there is no authority supporting USACE's contention that economic benefit cannot be included in a penalty assessed pursuant to §3008. On the contrary, there is ample authority for assessment of economic benefit in §3008. The United States Environmental Protection Agency's (USEPA's) RCRA Penalty Policy has included economic benefit as part of the calculation since at least 1984. See RCRA Civil Penalty Policy, June 2003, at 28. http://www.epa.gov/compliance/resources/policies/civil/rcra/rcpp2003-fnl.pdf. Furthermore courts applying § 3008 have expressly found that economic benefit is encompassed by the factors set forth in that section. See U.S. vs. T & S Brass and Bronze Works, Inc., 681 F. Supp. 313 (1988) affirmed in relevant part 865 F.2nd 1261 (4th Circ. 1988); US vs. Ekco Housewares, Inc., 853 F. Supp. 975 (1994). In addition, USEPA's Environmental Appeals Board has consistently upheld § 3008 penalties that include economic benefit. See In re Harmon Electronics, Inc., 7 E.A.D. 1 (1997); In re Titan Wheel Corporation of Iowa, 10 E.A.D 526 (2002); In re M.A.

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is subject to such requirements ... The Federal, State, interstate and local substantive and procedural requirements referred to this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent or continuing violations."

Bruder and Sons, Inc., dba M.A.B. Paints, 10 E.A.D 598 (2002); and In re John A. Capozzo, dba Capozzi Custom Cabinents, 11 E.A.D. ____ (2003), available at http://www.epa.gov/eab/disk11/capozzi.pdf.

Avoided Labor Costs are an Accurate Measure of Economic Benefit

USACE asserts that any economic benefit it received was limited to the costs of physically preparing and transporting for disposal the drums at issue in the violation. According to USACE, the "reason" USACE failed to comply with storage requirements, that it had insufficient personnel to properly manage its hazardous waste, should not be included as economic benefit. USACE's line of reasoning leads to the illogical conclusion that a regulated entity can comply with hazardous waste management requirements without paying someone to actually do the work.

The applicable Oregon Administrative Rule states that economic benefit is "the approximated dollar sum ... gained through noncompliance." See OAR 340-012-0045(1)(c)(F). Accordingly, economic benefit is measured by compliance costs that a regulated entity avoids or delays paying. Compliance costs are not limited to the cost of pollution control equipment or services by outside contractors, such as hazardous waste transporters. Part of the compliance costs incurred by any regulated entity is the cost of a person to operate pollution control equipment or to ensure that hazardous waste is shipped to a disposal facility in accordance with the law. In this instance, USACE admits that it violated hazardous waste management requirements because it did not have sufficient staff resources and that it had to hire a second Environmental Compliance Coordinator to ensure future compliance. See February 26, 2003 letter to the Department from James R. Mahar, P.E., Operations Manager for the Bonneville Lock and Dam, attached to Stipulated Facts.

USACE also argues that its economic benefit is de minimis because even if it had hired a second ECC, the hazardous waste management requirements violated would only have taken up a fraction of that person's time. Regardless, USACE still needed to hire an additional person to ensure compliance with the management requirements violated, as evidenced by its decision to do

so. Therefore, that person's entire salary is a reasonable approximation of the cost avoided, even if that person would have been performing other duties.

CONCLUSION

For the reasons stated herein, the Department requests that the ALJ issue a Proposed Order assessing USACE civil penalties of $84,900, including economic benefit of $76,500, as calculated in the Department's Amended Notice of Violation and Assessment of Civil Penalty

11/10/09
Date

Jeff Bachman
Environmental Law Specialist

CERTIFICATE OF SERVICE

I hereby certify that I served the Brief within on the 12th day of November, 2004 by ELECTRONIC MAIL and PERSONAL SERVICE upon

Andrea Sloan, Administrative Law Judge
Office of Administrative Hearings
1905 Lana Ave., NE
Salem, OR 97314

and upon

United States Army Corps of Engineers – Portland District
c/o Misty Latcu, Assistant District Counsel
P.O. Box 2946
Portland, OR 97208-2946

by electronic mail and by mailing a true copy of the above by placing it in a sealed envelope, with postage prepaid at the U.S. Post Office in Portland, Oregon, on November 12, 2004

Amy Smothers 11-12-04

Attachment J

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

RECEIVED

OCT 18 2004

by Office of Administrative Hearings

IN THE MATTER OF:	No. LQ/HW-NWR-03-060
UNITED STATES ARMY CORPS OF ENGINEERS,	OAH Case No. 115312
Respondent.	RESPONDENT'S LEGAL BRIEF

The United States Army Corps of Engineers (USACE), submits this Brief to the Administrative Law Judge (ALJ) Andrea H. Sloan, Oregon Office of Administrative Hearings, for her consideration in the USACE's appeal of Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060.

INTRODUCTION

On November 18, 2003, the Department of Environmental Quality (the Department) issued Notice of Violation and Assessment of Civil Penalty No. LQ/HQ-NWR-03-060 (Notice) to USACE. The Notice cited five alleged violations and assessed a total civil penalty of $116,955. $108,555 of the penalty was characterized as economic benefit.

USACE filed an answer to the Notice and a Request for Hearing on December 10, 2003. The Answer admitted violations 1, 2, 3, and 4 of the Notice but denied violation 5. USACE did not contest the civil penalties for violations 1, 3, and 4 of the Notice or the gravity-based portion of the penalty for violation 2. USACE did appeal the penalty for violation 5 and economic benefit portion of the penalty assessed for violation 2.

On June 24, 2004, the parties held a pre-hearing conference with ALJ Sloan in which they agreed to stipulate to the relevant facts and limit the issue in the case to whether the Department could legally assess USACE an economic benefit penalty for the violations alleged in the Notice.

On July 12, 2004, the Department amended the Notice by reducing the economic benefit penalty to $76,500. The Department reduced the amount based on information from USACE that it had acquired additional environmental compliance coordinator assistance for six months sooner than previously understood by the Department. Additionally, after discussions with USACE about the applicability of the Environmental Protection Agency (EPA) "BEN" computer model to federal facilities, the Department did not apply the "BEN" computer model but instead went with the "straight" unadjusted (i.e., no discount rate) labor cost allegedly avoided.

The Stipulated Facts were submitted to ALJ Sloan on August 10, 2004. USACE does not contest the civil penalties for Violations 1, 3, 4, or 5 or the gravity-based portion of the penalty for Violation 2. The sole issue before the ALJ is whether the Department can assess economic benefit for the violation alleged in the Notice.

DISCUSSION

I. USACE IS NOT SUBJECT TO THE ECONOMIC BENEFIT PENALTY ASSESSED BY THE DEPARTMENT

In general, the federal government is immune from state requirements under the doctrines of Federal supremacy and sovereign immunity under the United States Constitution. The Department must establish its statutory right under federal law to recover economic benefit penalties against USACE. The Department asserts that its authority is established by federal and state law. A waiver of the federal government's sovereign immunity must be unequivocal. "'Waivers of immunity must be 'construed strictly in favor of the sovereign,' and not 'enlarge[d] ... beyond what the language requires.'" U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 615 (1992) (citations omitted).

The relevant waiver of sovereign immunity that the Department relies upon is found in Section 6001of the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA) of 1976:

> The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).

42 USC § 6961(a).

The criteria for assessing a penalty for SWDA violations is set forth in Section of 3008 of the SWDA, 42 USC § 6928(a)(3), which provides just two factors for any order by the Administrator of the EPA in assessing a penalty: (1) seriousness of the violation and (2) any good faith efforts to comply with applicable requirements. Nowhere in the SWDA is there reference to economic benefit.

USACE does not contest the gravity-based portion of the civil penalties for any of the violations. Under Section 6001 of the SWDA, Congress waived the federal government's sovereign immunity to "administrative penalties and fines[.]" 42 USC § 6961(a). The SWDA provides only two factors in assessing fines and penalties (seriousness of the violation and good faith efforts to comply with applicable requirements). See 42 USC § 6928(a)(3). Both factors were considered in the gravity-based component of the Department's civil penalty determination. The gravity-based portion of the civil penalty that the Department assessed comports with the waiver of sovereign immunity and statutory criteria for assessing a penalty under the SWDA. USACE will pay this part of the penalty, which totals $8,400. The economic benefit portion of

the penalty does not comport with the waiver of sovereign immunity and statutory penalty criteria under the SWDA because the statute does not mention economic benefit.

In 1992, Congress amended the SWDA through the Federal Facility Compliance Act to clarify the application of requirements and sanctions to federal facilities. PL 102-386. The absence of the mention of economic benefit in the SWDA is particularly notable because at the time the SWDA was amended, several other environmental statutes included economic benefit as a factor in assessing penalties:

- **Clean Water Act**, 33 USC 1319(g) (in determining administrative penalty, EPA Administrator "shall take into account the nature, circumstances, extent and gravity of the violation, or violations, and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, *economic benefit or savings (if any) resulting from the violation*, and such other matters as justice may require" (emphasis added)).
- **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**, 42 USC § 9609(a)(3) (in determining administrative penalty, the President "shall take into account the nature, circumstances, extent and gravity of the violation or violations and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, *economic benefit or savings (if any) resulting from the violation*, and such other matters as justice may require" (emphasis added)).
- **Clean Air Act**, 42 USC § 7413(e) (in determining penalty, EPA Administrator or court "shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including

evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, *the economic benefit of noncompliance*, and the seriousness of the violation" (emphasis added))

In its legal brief, the Department cites the well-established rule of statutory construction – "the plain language of the statute is the best evidence of legislative intent. It is an equally well-settled rule that judges are not to insert language in statutes that has been omitted by legislators." Department Legal Brief at 3. USACE agrees. As stated earlier, in order for the Department to assess a fee against the federal government, there must be a clear waiver of sovereign immunity. The relevant waiver in this instance is found in Section 6001 of the SWDA. The waiver does subject the federal government to administrative fines and penalties. However, the SWDA provides only two factors in assessing fines and penalties (seriousness of the violation and good faith efforts to comply with applicable requirements). See 42 USC § 6928(a)(3). Both of these factors were considered in the gravity-based component of the Department's civil penalty determination as noted in Exhibits 1-5 of the Notice. The Department has added an additional factor in determining a civil penalty under the SWDA.[1] Congress could have chosen to add economic benefit as a statutory penalty factor. It did not. This is even more significant considering that Congress amended the SWDA in 1992, when other environmental statutes did include economic benefit as a statutory penalty factor.

This particular legal issue – the applicability of economic benefit penalties to federal facilities – has not been addressed by any federal court decision. However, the United States Environmental Protection Agency Environmental Appeals Board (EAB) did address the issue partially in In re U.S. Army, Fort Wainwright Central Heating and Power Plant, Docket No. CAA-10-99-0121 (June 5, 2003), 2003 WL 21500416. In this case, the EAB determined that as

[1] It is worth noting that under Oregon hazardous waste law, like the SWDA, economic benefit is not listed in the statute as a factor to consider in assessing a penalty. The Department promulgated regulations which provide the civil penalty matrices for "any violation pertaining to the Commission's or Department's statutes, rules or orders[.]" OAR 340-012-0042. The civil penalty determination under the regulations includes economic benefit as a factor.

a matter of law, economic benefit could be considered in a civil penalty imposed against a federal facility for Clean Air Act violations. The case is distinguishable because: (1) it involved Clean Air Act violations and (2) as noted above, under the Clean Air Act, economic benefit is a clearly stated factor in the statute (in assessing penalties under the CAA, the EPA Administrator or court "shall take into consideration... *the economic benefit of noncompliance[.]"* 42 USC § 7413(e) (emphasis added)).

Further, the waiver of sovereign immunity in the SWDA provides that the Federal Government "shall be subject to, and comply with, all Federal, State, interstate, and local requirements...in the same manner, and to the same extent, as any person is subject to such requirements[.]" 42 USC Sec. 6921(a). To the extent that the state does not require other parties to pay "economic benefit" penalties for SWDA violations measured by hypothetical employee salaries (or to the extent they do not require parties to pay "economic benefit" penalties at all), the SWDA does not allow the state to assess these penalties against USACE. Requiring USACE to pay such amounts (measured in this way) would be treating a Federal agency different than other "persons" under the SWDA.

II. USACE DID NOT RECEIVE ANY ECONOMIC BENEFIT

The Department alleges that by storing twelve 55-gallon drums of hazardous waste, consisting of items such as paint rags, waste paint and paint thinner, for greater than 90 days, USACE received an economic benefit of $76,500. In response to the Department's January 30, 2003 Notice of Noncompliance, USACE stated that: "Our internal review process indicated noncompliance during the early part of 2002. We determined that this was partially a result of heavy workload and responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities." The Department then concluded that USACE's *reason* for noncompliance was the measurement of "economic benefit" – namely, that the

avoided costs of the Corps noncompliance in storing twelve 55-gallon drums of hazardous wastes for greater than 90 days is measured by the cost of a salary of an additional ECC between November 2000 and May 2002. The Department argues this resulted in $76,500 in avoided compliance costs.

It is overly simplified to say that USACE's *reason* for noncompliance should also therefore be the measure of its avoided cost. The ECC has a wide range of duties for a project as large as Bonneville. Disposing of twelve drums of hazardous waste would only be one of those duties and would take a fraction of the 18 months that the Department is assessing economic benefit. Further, USACE was in noncompliance for a fraction of the 18 months. The longest delay cited by the state for USACE drum disposal is 89 days for a drum of paint chips. The shortest delay is 12 days for a drum of paint rags. As noted in the Notice, the twelve drums were disposed of on 4 separate days: January 22, 2001; November 13, 2002; November 23, 2002; and November 25, 2002. It is unreasonable and clearly punitive to measure the avoided costs for the failure to dispose of the twelve drums cited by the state in a timely fashion by calculating *eighteen months* of a hypothetical Federal employee's salary.

A more logical assessment of avoided costs would be those costs directly associated with disposing of the twelve drums of hazardous waste. These costs would include any costs in preparing the twelve drums for shipping and any costs USACE may pay to transport and dispose of the drums off the project site. As pointed out in the Notice, each of the twelve drums was disposed of. The costs associated with the disposal of these drums, while delayed, *were incurred* by USACE. Since the disposal costs were in fact incurred by USACE, it did not avoid any costs (and consequently gain an "economic benefit") in delaying the disposal of the drums. The Department's civil penalty regulations allow the Department to forgo calculating economic benefit "when the benefit obtained is de minimis[,]" which is clearly the situation in this case. OAR 340-012-0045(1)(c)(F)(ii).

In Exhibit 2 of the Notice, the Department states that:

> Economic benefit is not designed to punish the Respondent, but to (1) "level the playing field" by taking away any economic advantage the violation gained over its competitors through noncompliance, and (2) deter potential violators from deciding it is cheaper to violate and pay the penalty than to pay the costs of compliance.

As to the first reason ("leveling the playing field"), this is a rationale that is inapplicable to USACE. USACE operates the Bonneville Dam, a large, Federal, interstate hydroelectric project on the Columbia River, by specific congressional authorization. Unlike a private entity, USACE has no "competitor" over which it would gain an "economic advantage" in operating and maintaining this facility. As to the second reason (whether it is "cheaper to violate and pay the penalty than to pay the costs of compliance") in this instance, there is simply no way it was cheaper for USACE to violate and pay the penalty than pay the costs of compliance. USACE *did pay* the costs of compliance at the time it disposed of the twelve drums, so no costs were avoided. USACE takes responsibility for its noncompliance and is liable for the $8,400 portion of the civil penalty, and USACE will pay this amount.

The Department claims that economic benefit is not intended to punish, but the end result is punitive. USACE is appropriated a specific amount of money from Congress annually for operation and maintenance. These funds are used in part by USACE to fund and staff its environmental compliance responsibilities. Any amount of penalty that USACE pays to the state for an "economic benefit" assessment will displace operation and maintenance expenditures elsewhere. Paying an economic benefit penalty does not remove "profit" or "savings" associated with the noncompliance at issue; it removes funds that would otherwise be spent on mission-essential items, such as environmental compliance.

CONCLUSION

For the reasons state herein, USACE request that the ALJ issue an Order removing the "economic benefit" portion of the civil penalty ($76,500).

Dated this 15th day of October, 2004

Misty M. Latcu
Assistant District Counsel
U.S. Army Corps of Engineers
Office of Counsel
P.O. Box 2946
Portland, OR 97208-2946

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

September 16, 2004

CERTIFIED MAIL 7002 3150 004 8588 4920

Andrea Sloan, Administrative Law Judge
Hearing Officer Panel
1905 Lana Avenue, NE
Salem, OR 97314

CERTIFIED MAIL 7002 3150 004 8588 4937

United States Army Corps of Engineers,
Portland District
Attn. Misty Latcu, Assistant District Counsel
P.O Box 2946
Portland, OR 97208-2946

Re: United States Army Corps of Engineers
Office of Administrative Hearings Case No. 115312
DEQ Case No. LQ/HW-NWR-03-060

Dear ALJ Sloan and Ms. Latcu:

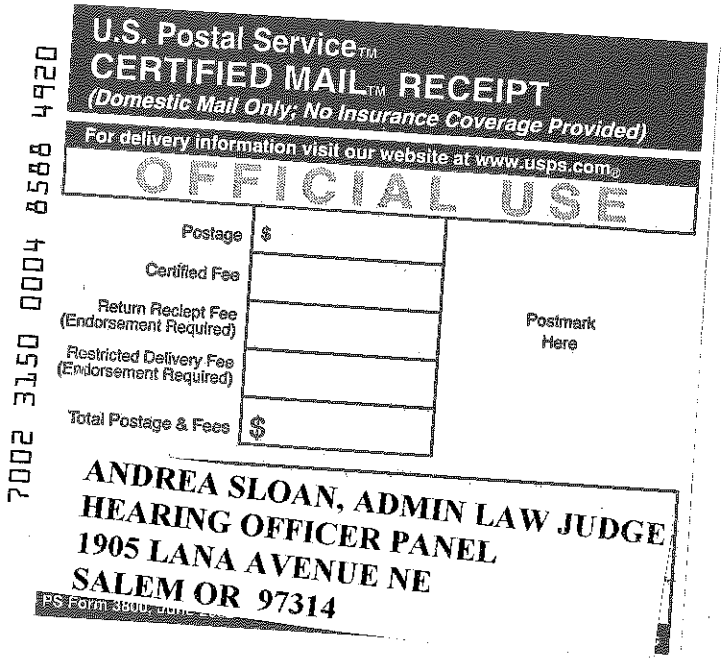
Please find enclosed the Department's Brief in the referenced case, along with a case cited in the brief.

If you have any questions, please call me at (503) 229-5950.

Sincerely,

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement

Enclosure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ANDREA SLOAN, ADMIN LAW JUDGE
HEARING OFFICER PANEL
1905 LANA AVENUE NE
SALEM OR 97314

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PS Form 3800, June 2002 *(Reverse)*

CERTIFICATE OF SERVICE

I hereby certify that I served the Brief within on the 16th day of September, 2004 by ELECTRONIC MAIL and PERSONAL SERVICE upon

Andrea Sloan, Administrative Law Judge
Office of Administrative Hearings
1905 Lana Ave., NE
Salem, OR 97314

and upon

United States Army Corps of Engineers – Portland District
c/o Misty Latcu, Assistant District Counsel
P.O. Box 2946
Portland, OR 97208-2946

by electronic mail and by mailing a true copy of the above by placing it in a sealed envelope, with postage prepaid at the U.S. Post Office in Portland, Oregon, on September 16, 2004

Amy Smothers

CERTIFICATE OF SERVICE

I hereby certify that I served the Brief within on the 16th day of September, 2004 by ELECTRONIC MAIL and PERSONAL SERVICE upon

Andrea Sloan, Administrative Law Judge
Office of Administrative Hearings
1905 Lana Ave., NE
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and upon

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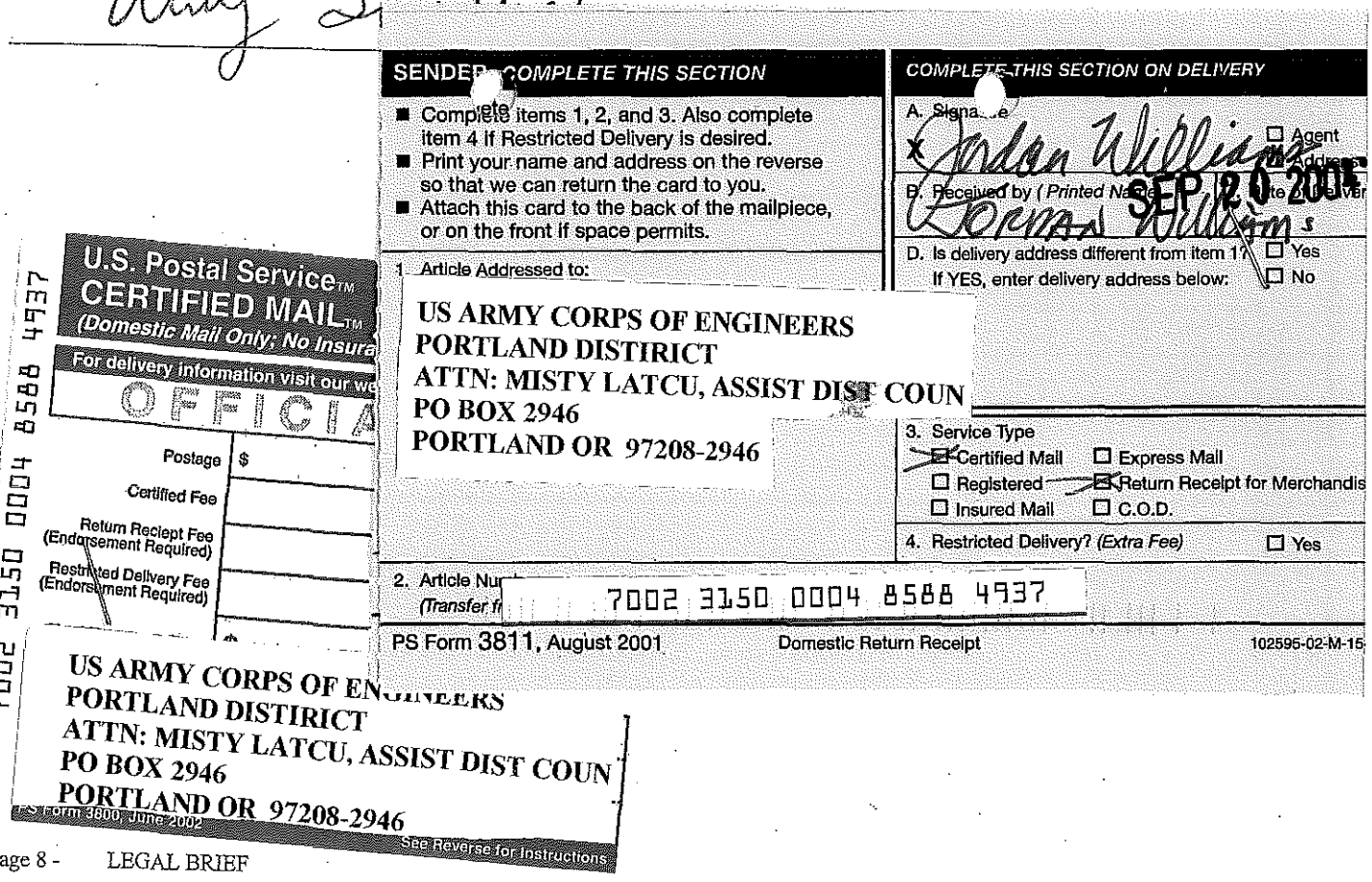
P.O. Box 2946
Portland, OR 97208-2946

by electronic mail and by mailing a true copy of the above by placing it in a sealed envelope, with postage prepaid at the U.S. Post Office in Portland, Oregon, on September 16, 2004

Amy S[illegible]



BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent.	)	LEGAL BRIEF NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OAH Case No. 115312

The Oregon Department of Environmental Quality (the Department), submits this Brief to the Administrative Law Judge (ALJ) Andrea H. Sloan, Oregon Office of Administrative Hearings, for her consideration in the United States Army Corps of Engineer's (USACE's) appeal of Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060.

INTRODUCTION

On November 18, 2003, the Department issued Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060 (Notice) to USACE. The Notice assessed civil penalties totaling $116,995 for five alleged violations of federal hazardous waste regulations adopted by the state.

On December 10, 2003, USACE filed an Answer to the Notice and a Request for Hearing. The Answer admitted violations 1, 2, 3 and 4 of the Notice (pertaining to hazardous waste determinations, storage greater than 90 days, and labeling containers), but denied Violation 5 (pertaining to training). USACE did not contest the civil penalties for Violations 1, 3 and 4 of the Notice or the gravity-based portion of the penalty for Violation 2. USACE did appeal the penalty for Violation 5 and the economic benefit portion of the penalty assessed for Violation 2.

On June 24, 2004, the parties held a pre-hearing conference with ALJ Sloan in which they agreed to stipulate to the relevant facts and limit the issue in the case to whether the Department could legally assess USACE an economic benefit penalty for the violations alleged in the Notice. The parties further agreed to a schedule for submitting the Stipulated Facts and legal briefs to ALJ Sloan. On July 12, 2004, the Department amended the Notice by reducing the economic benefit penalty to $76,500. The bases for the reduction was the Department's use of an

alternative method of calculation to the BEN computer model and by shortening the period that USACE was alleged to have avoided compliance costs.

The Stipulated Facts were submitted to ALJ Sloan on August 10, 2004. On September 1, 2004, the Department informed ALJ Sloan by electronic mail that USACE had verbally withdrawn its denial of Violation 5 and the penalty assessed for that violation. Therefore, the sole issue before the ALJ is whether the Department can assess economic benefit for the violations alleged in the Notice.

DISCUSSION

In its Answer to the Notice, USACE asserts that (1) the Department has no statutory right to assess an economic benefit penalty, and (2) that the Department has not proven that USACE actually received any economic benefit. These defenses are addressed in turn.

1. USACE is Subject to the Economic Benefit Penalty Assessed by the Department

The Department's authority to assess USACE an economic benefit penalty for hazardous waste violations is established by federal and state law and the rules promulgated by the Oregon Environmental Quality Commission (EQC) pursuant to the authority delegated to the EQC by the Oregon legislation.

The first link in the statutory chain establishing the Departments authority is § 6001 of the federal Solid Waste Disposal Act (42 USC § 6961) which provides for, among other things, the application of state hazardous waste law to federal facilities, including state law authorizing the imposition of administrative civil penalties.[1] Section 6001 places no limits on how state or other administrative penalties may be calculated. By claiming the Department has no statutory right to

[1] 42 USC § 6961 states, in pertinent part: "Each department, agency and instrumentality of the executive, legislative and judicial branches of the Federal Government ... engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural, ... respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any other person is subject to such requirements ... The Federal, State, interstate and local substantive and procedural requirements referred to this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent or continuing violations."

assess economic benefit as part of a civil penalty assessed a federal entity, USACE is asking the ALJ to write new language creating such a limitation on state authority into a federal statute.

Section 6001 makes federal entities subject to administrative civil penalties assessed by states for violation of hazardous waste laws and regulations. Oregon's hazardous waste laws expressly apply to federal entities, including those laws providing for the assessment of administrative civil penalties. Oregon Revised Statute 466.005(13) states that for the purposes of hazardous waste regulation, the term "Person" includes federal entities.[2] ORS 466.990 authorizes the assessment of administrative civil penalties against any person that violates state hazardous waste statutes or rules or orders issued by the EQC.[3]

ORS 468.130 directs the EQC to adopt by a rule a schedule for determining the amount of civil penalties. The schedule adopted by the EQC must provide for the consideration of various factors, including factors established by "any relevant rule of the Commission." ORS 468.130(2)(h). In OAR Chapter 340, Division 12, the EQC delegates its authority to assess civil penalties to the Director of the Department and adopts the schedule mandated by ORS 468.130. OAR 340-012-0045 creates the civil penalty determination formula and identifies the factors to be considered in that formula. Among those factors is economic benefit. See OAR 340-012-0045(1)(c)(F).

Nowhere in ORS 466, ORS 468 or OAR Chapter 340, Division 12, is there a federal facilities exemption from the economic benefit penalty provided for in OAR 340-012-0045. It is a well-established rule of statutory construction that the plain language of the statute is the best evidence of legislative intent. It is an equally well-settled rule that judges are not to insert language in statutes that has been omitted by legislators. The plain language of the relevant federal and state statutes is that (1) federal entities, including USACE, are subject to state administrative civil

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[2] ORS 466.005(13) states that: " 'Person' means the United States, the state or a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate, or any other legal entity. "

[3] ORS 466.990 states in pertinent part "(1) ... any person who violates ORS 466.005 to 466.385 and 466.992, a license condition or any Environmental Quality Commission rule or order pertaining to the generation, treatment, storage, disposal or transportation by air or water of hazardous waste, as defined by ORS 466.005, shall incur a civil penalty not to exceed $10,000 for each day of the violation.

penalties for hazardous waste violations, and (2) that the Department is authorized by the legislature to assess civil penalties against federal facilities for hazardous waste violations and that economic benefit must be a factor considered in determining the amount of such penalties. The Department's statutory authority to recover economic benefit in this case cannot reasonably be questioned.

2. USACE Did Receive an Economic Benefit

In its Answer, USACE asserts that it did not receive an economic benefit in failing to comply with state and federal hazardous waste rules. USACE's arguments in support of this assertion are both legal and factual. USACE argues it did not receive an economic benefit because of fiscal law restraints on how it can spend funds, because it is not a profit-making entity, and because it did not avoid any compliance costs in committing the violations.

A. Fiscal Law Restraints

USACE's argument for this defense is a simple conclusory statement that "The U.S. Congress sets the mission and budget for the operation of federal facilities. Numerous federal fiscal law requirements regulate how and when a federal facility can obligate its funds." USACE's Answer at 2. USACE appears to be arguing that even if it wished to spend the money necessary to comply with the hazardous waste regulations, it could not do so because it has no control over how allocated funds are spent.

This argument, however, is invalidated further on in USACE's own Answer. On page 3 of the Answer, USACE states that in May 2002 it was able to temporarily reassign other staff to handle hazardous waste management duties at Bonneville Dam until it was able to hire a permanent staff person in April 2003, and that "the costs to cover the temporary supporting ECC positions were entirely funded by the Bonneville project." In this statement, USACE not only admits that it did not require a specific budget appropriation to address the staffing problem, but that reassigning staff represented an additional expense.

Even were the ALJ to overlook that USACE, by its own admission, has some discretion over how it spends its funds, the fiscal law argument is an affirmative defense, and as such, it is

USACE's burden to prove the relevance of such an argument. USACE has not met that burden because it has cited no specific legal impediment to its spending the funds necessary for it to achieve compliance with the regulations violated.

Such specificity is required for the ALJ to render a decision on this issue, as is made plain in the decision of the United States Environmental Protection Agency's (USEPA's) Environmental Appeals Board (EAB) in the case of In re U.S. Army , Fort Wainwright Central Heating and Power Plant, CAA Appeal No. 02-04, 2003 EPA App. LEXIS 6 (EAB, June 5, 2003). In that case, the Army argued that fiscal law precluded USEPA from recovering economic benefit in a civil penalty assessed for violations of the federal Clean Air Act. The EAB ruled that while a specific fiscal law could theoretically preclude a portion of the economic benefit sought by USEPA, as a matter of law there was nothing in the fiscal law at issue (which dealt with funding for military construction projects) that prevented the Army from receiving an economic benefit as a result of noncompliance. See Fort Wainwright at 38-49. The EAB remanded the case the ALJ to make findings whether the applicable fiscal laws precluded the Army, without a specific budget appropriation from Congress, from making the expenditures necessary to install the monitoring and pollution control equipment needed to achieve compliance at the Fort Wainwright heating plant.

Even were USACE able to demonstrate that a specific budget appropriation was a prerequisite hiring an additional Environmental Compliance Coordinator, that does not mean it could not receive an economic benefit. In the Fort Wainwright case the EAB said that the Army could have reasonably anticipated the need for additional funds to ensure compliance and requested those funds before it violated the law. See Fort Wainwright at 50. Similarly, USACE could have reasonably anticipated the need for more staffing and received authorization to hire for that position before its understaffing resulted in violations.

B. USACE Need not Be a For-Profit Enterprise to Receive Economic Benefit

In its Answer, USACE appears to argue that not for profit entities cannot receive economic benefit under any circumstances. To support this argument, it quotes language in Exhibit 1 of the Department's civil penalty notice, which states the economic benefit is assessed to level the playing

field so that businesses that avoid compliance costs do not gain a competitive advantage over those businesses which do pay those costs. USACE, however, conveniently omits a second rationale for assessing economic benefit that is also expressly stated in Exhibit 1, namely, that economic benefit is also intended to eliminate any economic incentive for regulated entities to violate the law. Specifically, Exhibit 1 states that economic benefit penalty is intended to "deter potential violators from deciding it is cheaper to violate and pay the penalty than to pay the costs of compliance". The Department has estimated that by failing to employ sufficient environmental staff to ensure that its hazardous waste was managed in accordance with the rules, USACE avoided $76,500 in compliance costs. The gravity-based portion of the penalties assessed USACE violations total $8,400. If no economic benefit is assessed, USACE can pay the civil penalties, yet realize savings of $68,100 over what it would have spent to achieve compliance.

USACE asserts that its failure to hire a second Environmental Compliance Coordinator (ECC) prior to November 2000 did not result in any savings. In support of this contention, USACE points to its temporary reassignment of ECCs from other USACE facilities or other compliance responsibilities at Bonneville Locks and Dam to hazardous waste management duties at Bonneville in May 2002. The Department, however, has already acknowledged that USACE did not receive any economic benefit from May 2002 to November 2002 by amending the Notice and reducing the economic benefit penalty accordingly.

The Department currently seeks economic benefit for USACE's avoided labor costs during the period of November 2000 through April 2002. USACE admitted that it began violating hazardous waste management laws in November 2000 because it did not have enough staff to ensure that USACE met its compliance responsibilities. See the February 26, 2003 letter to the Department from James R. Mahar, P.E., Operations Manager for the Bonneville Lock and Dam, attached to the Stipulated Facts. In that letter, Mr. Mahar informs the Department that the understaffing problem that led to the violations has been addressed by the hiring of a second "permanent" ECC. Accordingly, the Department determined the violations that began in

///

November 2000 were the result of USACE's failure to hire enough staff to meet hazardous waste management requirements.

C. USACE Defense Based on Inapplicability of "BEN" Computer Model is Moot

In its Answer, USACE objects to the Department's use of the "BEN" computer model to calculate the economic benefit. The economic benefit currently sought by the Department is not calculated using "BEN". The method of calculation, and the information on which the calculation is based, are described in the Stipulated Facts and the Department's Amended Exhibit 1.

CONCLUSION

For the reasons stated herein, the Department requests that the ALJ issue a Proposed Order assessing USACE civil penalties of $84,900, including economic benefit of $76,500, as calculated in the Department's Amended Notice of Violation and Assessment of Civil Penalty

9/16/09
Date

Jeff Bachman
Environmental Law Specialist

Attachment L

Exhibit A1

DEPARTMENT OF THE ARMY
PORTLAND DISTRICT, CORPS OF ENGINEERS
OFFICE OF THE PROJECT MANAGER
BONNEVILLE LOCK AND DAM PROJECT
CASCADE LOCKS, OREGON 97014-0150

to enforce

February 26, 2003

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987

SUBJECT: Notice of Noncompliance
NRW-HW-02-047
OR0 14011 3218
USACE Bonneville Lock and Dam
Hazardous Waste Violations
Multnomah County

On January 30, 2003, Bonneville Lock and Dam received the subject Notice of Noncompliance from your office. These were based on observations made during your November 19, 2002 hazardous waste inspection of Bonneville Lock and Dam. The following is our response to the individual violations. It is in addition to the supplemental information we provided to you on November 26, 2002 as seen in Attachment-1.

Violation 1-wastes being stored over 90 days since 2000. There have been occasions when wastes have remained on site in excess of 90 days during the last two years. Our internal review process indicated noncompliance during the early part of 2002. We determined that this was partially a result of heavy workload and responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities. In September 2002 we received approval to add a second permanent ECC to our staff. The recruitment for this position is now complete, and the new full-time employee is scheduled to start work in early April 2003. We have also revised our internal operating procedures to help ensure compliance with the 90-day regulation. These Standard Operating Procedures have been added to our updated hazardous waste handling and disposal policy as seen in Attachment-2.

Violation 2 – incomplete hazardous waste determination. The inspection noted three concerns. The first is metal dust from a grinder in the machine shop. Our knowledge of the process indicated that this was not a hazardous material. We have subsequently analyzed the dust for RCRA 8 metals and verified compliance. See test results in Attachment-3. A Standard Operating Procedure is now in place to help ensure all metal products obtained from the shop are placed in a satellite area for recycling.

EXHIBIT A

The second concern referenced "two boxes of chemistry received from the Fisheries Field Unit". This material had been placed on the accumulation pad without proper coordination. ONYX Environmental Services disposed of the material on November 25, 2002. Lab Pack Fingerprint Analysis of the material indicates that the majority of the material is non-hazardous. The exceptions to this are noted in Attachmnet-4. The Fisheries Field Unit has reviewed their procedures to ensure future materials will be disposed of in a proper and timely manner. We have installed a fence and locked gates around the accumulation pad so that materials cannot be placed there without permission.

The third concern is two 5-gallon buckets of an unknown solid dated 8/22/02. These were identified as sandblast grit. The two buckets were packaged into a single drum and disposed of by Spencer Environmental on November 23, 2002.

Violation 3 – Containers stored in storage area longer than 90 days. The policy modifications to help prevent future reoccurrence are listed under Violation-1. Additional information on particular containers is:

1) Reference drum MW 5 #6. "Bilge Development Water" was actually water residue left over from a monitoring well drilled in 2002. Spencer Environmental disposed of this on November 23, 2002 under an existing profile. A TCLP analysis for RCRA metals was performed and the results for the metals are "non-detect".

2) Reference drum 1-11-47, Paint Chips. Disposed of by Spencer on November 23, 2002.

3) Reference drum 2-7-10, dated 6/19/02, Waste Paint Rags. Disposed of by Spencer on November 23, 2002.

4) Reference drum 2-8-13, dated 8/13/02, Waste Paint Rags. Disposed of by Spencer on November 23, 2002.

5) Reference drum 1-8-3, dated 8/20/02, Used Fuel. Removed by Spencer for recycling by fuel blending on November 23, 2002.

6) Reference drum 2-8-20, dated 8/15/02, Five-gallon Black Drum. This was determined to be Hysol. An "unknown fingerprint analysis" was performed on-site by ONYX on November 25, 2002. It was shown to be non-hazardous, and was disposed of by ONYX on January 21, 2003.

7) Reference drum 2-5-25, dated 8/21/02, Five-gallon Black Drum. This was identified as "Ranbar Polyester" and was disposed of by ONYX on November 25, 2002.

8) Reference drum 1-8-3, dated 8/20/02. This is a duplication of (5). Recycled by Spencer Environmental on November 23, 2002 as noted above.

9) Reference drum 2-5-34, dated 6/18/02. Disposed of by ONYX on November 25, 2002.

10) Reference drum 2-7-10, dated 6/19/02. This is a duplication of (3). Disposed of by Spencer on November 23, 2002 as noted above.

Violation 4 – perform and document weekly inspections of storage areas. We have reviewed and revised our Standard Operating Procedures to help ensure weekly inspections are performed and documented, as noted in our response to Violation 1.

Violation 5 – mark hazardous waste containers. We have revised our Standard Operating Procedures to emphasize the requirement to properly label all containers. This has also been emphasized in our weekly inspection checklist.

Violation 6 – determination of accumulation start date. We have reviewed and revised our Standard Operating Procedures to emphasis this policy. This has been emphasized and included in our weekly inspections.

Two of the drums noted in the inspection: "D008 waste sandblast grit" and "chemical stripper waste" were not full and were contained in the Contractor's satellite area. The Standard Operating Procedures have been modified directing the Contractors to use the main accumulation pad for filled containers in the future. This will eliminate the storage of full containers in the powerhouse while they await disposal.

Violation 7 – adequate aisle space in powerhouse satellite area. This area has been expanded to provide sufficient access room. We have also added this as a specific item to be monitored by the satellite area operators and also in the weekly inspections by the ECC.

Violation 8 – annual review of initial training. During 2001, our primary Environmental Compliance Coordinator was on extended medical leave and his training was not kept current. This has since been remedied. As mentioned above, we have hired a second coordinator to provide more complete coverage. This individual will receive all required training within the first six months of assignment.

Violation 9 – release from oil water separator. Bonneville Lock and Dam is working with the Department of Environmental Quality to determine the specifics of the permit required. As noted during the inspection, the application was submitted to DEQ in September 2002. We anticipate that a permit will be issued in the near future.

Violation 10 – Labeling of Universal waste. Labels have been added to the universal waste containers, in accordance with our hazardous waste handling and disposal policy.

Bonneville Lock and Dam is fully committed to complying with all environmental regulations and partnering with Oregon's Department of Environmental Quality to eliminate future noncompliance. We appreciate the information provided and have modified our policy and procedures to assist with ongoing efforts to continuously improve our environmental compliance program.

Sincerely,

James R. Mahar, P.E.
Operations Manager
Bonneville Lock and Dam

Encls

Attachment 1

MEMORANDUM FOR RECORD 26 Nov 2002

SUBJECT: Supplementary Information For Oregon Department of Environmental Quality (DEQ) in response to RCRA Inspection, 19&20 November 2002

1. Susan Shewczyk Of DEQ conducted a Hazardous Waste inspection at Bonneville Project on 19 and 20 November 2002. In the exit interview, she requested additional information to be provided to her by 27 November 2002. The information, and the Project responses, are listed below.
   a. Analytical data from Contractor (Voith Hydro) sandblast grit, for previous three years. Mr. Dave Rubl, representing Voith, sent this via overnight mail on 26 November.
   b. Copies of Spill Reports from Bonneville Project for the last two years. We have conducted a preliminary search through the NRC database. This data is attached. We need to verify that all reports have been identified and confirm the total number of reports with DEQ. OERS numbers are noted on each.
   c. Job Descriptions and Training Plans for Brian McCavitt (Environmental Compliance Coordinator) and Patrick Hunter (Mechanical Engineer). The Job Descriptions and applicable training history are attached. The Training plan requirements from the Project Plans are also attached.

2. The following information is provided as an update to observations made during the inspection.
   a. In the north end of Powerhouse 1, there was a concern expressed over undated drums located in a satellite accumulation area, as well as a need for proper drum spacing to create aisles for access. A contractor, Voith Hydro, and their subcontractors manage this area. Subsequent to the inspection, they have constructed a second drum pad, for use as an accumulation pad. This is a separate, contained, area, and currently has eight drums. Mr. Rubl has told us that these eight drums are dated from October 2002, are properly labeled, and contain mud removed from a turbine head cover. They have been sampled, and are awaiting test results to allow disposal. All of the other drums that were noted in this area are in the satellite area and are still being filled. Subsequent to the inspection, Mr. Rubl checked all of these drums to verify this. The additional area and rearrangement of the drums has allowed establishment of proper aisles spacing.
   b. During the inspection, five drums were noted on the Project's accumulation pad with dates that were longer than 90 days. The Project has disposed of these drums, and this information is attached.

DAVID C. SHANK
Assistant Operations Manager

Environmental Training Summary

NAME	COURSE	HOURS	DATE
Brian McCavitt	Chemistry for Enviro	30	9/02
	HAZMAT Refresher	8	6/02
	Ecological Risk Assess	8	5/02
	AHERA Building Inspect	4	3/02
	HAZWOPR Refresher	8	6/00
	AHERA Building Inspector	24	6/00
	Oregon Asbestos wrkr Refresh	8	4/00
	Wash Asbestos wrkr refresh	8	3/00
	Asbestos Abatement	32	4/99
	Haz Waste Site Op	40	12/98
	HW Manifesting	36	6/98
	HTRW Env Reg Appl	36	3/98
	Spill Res – OPS level	8	10/97
	Incident CDR Refresh	8	10/97
	Incident CDR Refresh	8	10/96
	HAZMAT OPNS 1st Resp	8	9/96
	HAZMAT AWAR 1st resp	8	9/96
	DOT HAZMAT	8	9/96
	Onscene Incident CDR	8	10/95
	Onscene Incident CDR	24	5/95
Pat Hunter	Onscene Incident Cdr Refresh	8	3/02
	Lead Abatement Wkr	16	6/01
	Haz Waste Manifest Refresh	12	9/00
	Onscene Incident Cdr Refresh	8	1/00
	Onscene Incident Cdr	8	10/95
	Onscene Incident Cdr	24	5/95
	Resp Env Mgmt	8	2/95
	Manifesting HTW Refresh	8	1/95
	Lead-based Paint trn	8	10/94
	HTW Environ Laws & R	28	7/94
	HAZWOPR Refresher	8	10/93
	DOT HAZMAT	8	3/93
	Manifesting HAZ/TOXI	16	2/93

Disposition of drums on temporary storage pad.

On 20 November 2002 Susan Shewczyk, Hazardous Waste Inspector for Oregon Department of Environmental Quality, performed an unannounced hazardous waste inspection at Bonneville Lock and Dam. Her findings included a small, unlabeled and undated box containing unlabeled bottles. Based on their appearance I thought they contained ink.

At the temporary hazardous waste accumulation pad, Ms. Shewczyk found 5 – 55 gallon and 5 – 5 gallon drums which had exceeded the 90 day storage deadline. Start dates were determined either by the written start date or the drum number which reflects the year and month the drum was placed on the pad. The cans were labeled as hazardous waste due to unknown constituents. Also found were 2 unlabeled, undated boxes of assorted labeled chemicals.

These items and their disposal information are listed in the table below

Drum #	**Start Date**	**Description**	**Disposal date**	**Profile #**	**Manifest #**	**Disposal Contractor**
MW5#6		Well developing water	11-23-02	50012576	5334	Spencer Environmental
1-11-47		Paint chips, lead, oil, PPE	11-23-02	50012576	5334	Spencer Environmental
1-8-3		Waste fuel	11-23-02	22520	Haz Mat Bill of Lading	Spencer Environmental
2-7-10		Waste paint rags	11-23-02	50012569	5334	Spencer Environmental
2-8-13		Waste paint rags	11-23-02	50012569	5334	Spencer Environmental
2-8-21		Sand –	11-23-02	50012572	5334 Both cans of sand were combined into 1 drum for shipping.	Spencer Environmental
2-8-22		Sand	11-23-02	See above	See above	See above
2-5-25		Ranbar Polyester	11-25-02	450623 - Lab Pack	22987	Onyx Env. Services
2-5-34		Ruscoe Adhesive	11-25-02	450623 – Lab Pack	22987	Onyx Env. Services
2-8-10		Box of assorted chemicals	11-25-02	450623 – Lab Pack	22987	Onyx Env. Services
2-8-11		Box of assorted chamicals	11-25-02	450623 – Lab Pack	22987	Onyx Env. Services
2-8-20		Hysol Filler	11-25-02	Field tested		Onyx Env. Services

Profiles were already existing for these waste streams. The sand was assumed to be lead contaminated.

Onyx inventoried every item and sorted them for shipping. Items that did not have a label were field-tested to identify physical description, quantity of material, physical state, air reactivity, flammability potential, water solubility, water reactivity, pH. In addition, each was put through a radiation, cyanide, sulfide, oxidizer, peroxide, and explosive screen. The small bottles from the satellite area in Powerhouse I contained oil. In addition to the standard field test, they were also screened for PCBs. Results showed less than 50 ppm PCBs.

The can of Hysol was found to be a solidified gray powder. Other than a pH of 7, all test results were negative.

Brian McCavitt

15. PUBLIC INFORMATION. The Public Affairs Office (PAO) representative will determine on a case-by-case basis what services shall be required. For larger events it may be necessary for a public irs representative to go to the scene to assist in handling news media inquiries. For smaller events or prior to the arrival of a PAO representative the Incident Commander may choose to appoint an Information Officer to assist with on-site news media inquiries. All telephone media inquiries should be referred to the District PAO or the on-call public affairs specialist. Discussions with the news media will be limited to Corps of Engineers actions and appropriate project information. POC's for other agency's spokespersons will be provided to the news media. To the extent possible and appropriate, the PAO representative shall coordinate with District Counsel prior to releasing official statements. When the U.S. Coast Guard or the Environmental Protection Agency is involved in the spill their offices will be responsible for handling public information matters unless otherwise delegated. The Corps PAO will either coordinate joint news releases with other involved agencies about the Corps involvement or issue separate news releases as appropriate.

16. TRAINING AND EXERCISE. Training and exercise are key components of a successful program. Each component is discussed.

a. Initial Training. First Responders and Incident Commanders require appropriate training to become compliant with the HAZWOPER standard and competent in their response capability. First Responders are initially trained in an 8-hour "Operations Level-First Responder class." Incident Commanders are also trained in the Operations Level-First Responder class after which they are required to complete a 24-hour (minimum) course in "Incident Command for Spill Emergencies." After completing initial training First Responders and Incident Commanders are authorized by their re tive Operations Managers to take all necessary actions during spill emergencies for the protection of human life, the environment, and property in that order. Familiarity with this plan and with hazardous materials at the workplace is essential for a safe and effective response. Annex 6 provides a list of hazardous materials by location for each project covered under this plan.

b. Refresher Training. First Responders and Incident Commanders are required to complete annual refresher training to maintain their competency. Training shall utilize tabletop exercises, video resources, and hands-on experience to achieve the required competencies. Incident Commanders shall attend an 8-hour off-site course to maintain skills and proficiencies. This course should include implementation of the project's Spill Response Plan. First Responders may be refreshed on-site or off-site. A four-hour (minimum) refresher course is recommended. A formal record indicating the date of the course, hours of training and subject matter covered should be maintained by the project office.

c. Spill Response Exercises. Annual spill response exercises shall be conducted at each project. These should be integrated into annual refresher training. Exercises may use tabletop, video, or field drops to simulate realistic conditions and achieve effective response. At a minimum, exercise elements shall include testing the project's notification procedure; hazard recognition; site security; incident command; safety planning; and defensivemeasures. Since the primary pollutant at most Corps projects is petroleum, oil, or lubricants, exercises shall focus on responses to discharges of these substances.

17. DISTRIBUTION. In accordance with Federal, state and local regulations, a copy of this document is provided to spill response agencies and all other interested parties. Project-specific inn have been removed to protect Privacy Act information. To conserve natural resources, this lan is available via electronic media. A hard copy of the plan may be obtained by written request.

Position Description

PD#: HE94063 **Replaces PD#:**
Sequence#: VARIES

ENVIRONMENTAL PROTECTION SPECIALIST

GS-0028-11

Installation: COE, PORTLAND, OR **Major Command:** VARIES
Region: WEST

Citation 1: OPM PCS ENVIRONMENTAL PROT SPEC, GS-028, MAR 95
Citation 2: OPM PCS SAFETY & OCC HEALTH MGMT SERIES, GS-018, AUG 81

PD Library PD: NO
COREDOC PD: NO

Classified By: HE DCA MANAGER (LS)
Classified Date: 05/06/1994

FLSA: EXEMPT	**Drug Test Required:** VARIES	**DCIPS PD:** NO
Career Program: 18	**Financial Disclosure Required:** NO	**Acquisition Position:** NO
Functional Code: 00	**Requires Access to Firearms:** VARIES	**Interdisciplinary:** NO
Competitive Area: VARIES	**Position Sensitivity:** VARIES	**Target Grade/FPL:** 11
Competitive Level: VARIES	**Emergency Essential:** VARIES	**Career Ladder PD:** NO

PD Status: VERIFIED

Duties:

This position may have a specific leadership training requirement. Prior to use, a training survey(s) must be filled out.

HE94063

DUTIES:

As Project ECC (Environmental Compliance Coordinator), serves as the technical expert on all environmental compliance activities related to hazardous substances and materials, and advisor to the Project Manager. Responsible for planning, training, scheduling, coordination and proper implementation of all related activities.

1. Utilizes an indepth knowledge of all Federal and State regulations, such as RCRA, CERCLA, and Federal Code of Regulations governing the handling of hazardous materials and disposal of hazardous waste. Exercises ability to understand and interpret complex technical terminology. Possesses delegated authority to sign environmental documents obligating government responsibility. Coordinates directly with operations ECC and Federal and State enforcement officials concerning existing rules and interpretation of established national environmental policy. Criminal activity. Abides by the national Fire Code to assure proper storage and use of toxic and flammable substances. Utilizes a variety of highly developed communication skills to plan, advise, motivate, direct, negotiate, resolve conflicts, etc. in dealing with different entities concerning enforcement and substances involved. 15%

2. Utilizes basic general knowledge of organic and inorganic chemistry, as applicable to HTW situations,

to understand and advise on how different organic compounds react with each other, and the effects of various organic compounds and heavy metals on human beings and the environment. Advises and trains appropriate project personnel on safety requirements; procedures; proper personal protective equipment; and specific requirements for the use, storage, disposal, clean up and all aspects regarding the handling of hazardous and toxic chemicals and materials. 20%

3. Serves as Project ERGO Coordinator, (Environmental Review Guide for Operations); receives and provides information, and maintains communication with the District ERGO Coordinator. 10%

4. Responsible for directing/supervising all team or individual response activities on the project. Also assists as team member or team leader for responses at other projects. Activities may include but are not limited to:

DERT Team cleanup and disposal of materials and contaminated sites. Participates in District Planning for DERT activities and assists other projects in those activities. Coordinates with District ECC to prepare Corrective Action Plans and implements these plans on the Project.

Oil and Hazardous Substance Incident (OHSI) Emergency Response and Planning.

Hazardous Substance Spill Planning and Response. Serves as Incident Commander for spills affecting the project. Annually trains "First Responders" to perform safe and effective spill contaminant actions.

Asbestos. Maintains certification for asbestos removal and either supervises asbestos removal contracts or assures proper removal and disposal of asbestos contaminated materials and fibers by the District Team. 15%

5. Provides technical advice about the adequacy and necessity of 'Material Safety Data Sheets (MSDS). Reviews MSDS for new products and insures all necessary information is present. Maintains the project data base of MSDS sheets and distributes appropriate sheets to different crews. Coordinates with District elements about hazardous materials studies such as Preliminary
Assessments and Site Investigations. Prepares periodic EPA, DEQ, and other reports. 10%

6. Responsible for the collection, storage and disposal of hazardous waste. Conducts regular inspections of stored materials and supervises the transportation of accumulated materials as required by EPA and DEQ. Writes requisitions for the disposal of hazardous waste and maintains files of manifest and disposal documents. 15%

7. Responsible for the project water testing program. Provides technical supervision on the collection of water samples and the necessary monitoring of aquifer data. Reviews project drainage collection data for continuity and adequacy. Monitors Project aquifers for the incursion of toxic substances and the withdrawal and capacity information. Works with State water master
concerning water rights. 5%

8. Serves as Quality Assurance representative on various contracts as required. May be designated as Contracting Officer Representative, as needed. 10%

Performs other duties as assigned.

Factor 1. KNOWLEDGE REQUIRED BY THE POSITION Level 1-7 1250 Points

In-depth knowledge and ability to: understand complex technical terminology; use environmental nomenclature and acronyms; interprets all applicable Federal, State, and local laws, regulations and policies; and National Fire Code, Safety, DEQ, OSHA, EPA, DERP, Superfund, etc. associated with handling, testing, storage, transportation, clean-up, disposal, reporting and documentation requirements. Broad experience and expertise to utilize correct methods and procedures to perform and direct associated response team work. Ability to use considerable judgment to make sound determinations and proper decisions for handling or solving situations. Basic knowledge of chemistry as applicable to HTW situations. Thorough knowledge of appropriate protective equipment and gear and ability to train others in correct usage. Appropriate formal training to qualify and maintain certification in the various areas of response. Excellent communication skills and techniques to make presentations and briefings, train, advise, enforce, supervise negotiate with all levels of employees, contractors, publics, and interested or affected entities. Ability to write comprehensive plans, reports, correspondence, -etc. Ability to collect

Position Description

PD#: HEI6003
Sequence#: VARIES

Replaces PD#:

INTERDISCIPLINARY

GS-**-12**

Opt:MECHANICAL ENGINEER - 0830
Opt:ELECTRICAL ENGINEER - 0850

Installation: COE, PORTLAND, OR

Major Command: VARIES
Region: WEST

Citation 1: OPM PCS ELECTRICAL ENGR SERIES, GS-850, FEB 71
Citation 2: OPM PCS MECHANICAL ENGR SERIES, GS-830, JUN 77

PD Library PD: NO
COREDOC PD: NO

Classified By: HE - DCA MANAGER (IFT)
Classified Date: 12/21/1995

FLSA: EXEMPT
Career Program: 18
Functional Code: 21
'ompetitive Area: VARIES
Competitive Level: VARIES

Drug Test Required: VARIES
Financial Disclosure Required: NO
Requires Access to Firearms: VARIES
Position Sensitivity: VARIES
Emergency Essential: VARIES

DCIPS PD: NO
Acquisition Position: NO
Interdisciplinary: YES
Target Grade/FPL: 12
Career Ladder PD: NO

PD Status: VERIFIED

Duties:

This position may have a specific leadership training requirement. Prior to use, a training survey(s) must be filled out.

SUPERVISORY CONTROLS

Works under general, supervision. The supervisor provides assignments, guidance on policy matters, and assures work is coordinated with other staff members. Incumbent is responsible for independently accomplishing the work. Completed work is reviewed for adequacy of results.

MAJOR DUTIES

As Lead engineer, is responsible for the independent accomplishment of lead and technical assignments involving electrical and mechanical engineering projects for the operation and maintenance of the project; and provides coordination of work and day to day assignments to section staff. Is responsible for the more complex and unique features and 'varied functions in connection with the maintenance of 'quipment, structures, and facilities. Performs the following duties:

1. As lead engineer for the section, and as directed by the section chief, coordinates the project's service, construction, and maintenance contracts. Collects input from various project sections and puts specifications and drawings into contract form for submission to the District. Assures uniformity and adequacy of contract requirements. Provides budget and scheduling information on contracts, and monitors their progress from conception to completion. Prepares safety, quality control, and payment

reports; and negotiates and writes change orders. Performs inspections of contracts or coordinates inspections by other project elements. Performs contract liaison with the District and/or Division offices. 25%

2. Furnishes technical assistance and advice concerning difficult and complex electrical and/or mechanical phases of operation and maintenance. Troubleshoots equipment problems that may involve design weakness. Technical assistance is complicated by the fact that technology has changed substantially since the installation of the original equipment and that documentation of original installation and subsequent modifications are not available. Equipment and parts may be obsolete and no longer manufactured, which further complicates decisions as to machine duplicate part, replace equipment, adapt a similar product, cost effectiveness, downtime, etc. Provides assistance in the solution of novel mechanical and structural engineering problems. Designs modifications for updating or improving installed equipment and systems. 25%

3. Conducts various engineering studies involving operational problems with breakers, relays, annunciator systems, and mechanical equipment such as turbines, generators, locks, cranes, and fisheries equipment, which require a check of basic system design and modifications to correct the situation. Gathers technical information by researching existing files or contacting outside sources. After study, presents data and develops reports on recommendations for submission to higher authority, including preparation of preliminary specifications and drawings. Stays abreast of various regulations and codes, and other applicable design, construction, and safety criteria. Reviews designs and reports prepared by design organizations and contractors for large and complex modifications to both electrical and mechanical systems. Independently studies proposal and prepares recommendations which frequently become Project Engineer recommendations. 25%

4. Performs required electrical and mechanical inspections on large and/or difficult project contract work, develops construction reports, and initiates materials tests. Researches and recommends methods of testing for project equipment. Performs and directs testing as required for contract compliance. This frequently includes development of testing procedures and programs. Investigates and reports on equipment regarding safe loads and practices in the usage of installed powered equipment such as cranes, hoists, derricks, beams, bridges, generators, etc. Directs others or performs checks of drawings to keep up to date, and makes drawings of new equipment. 15%

5. Coordinates personal computer services for the project. Responsible for the installation, operation, and repair of the project's personal computer system. Serves as point of contact with IMO and other district offices on computer matters. Provides computer training, repair, and consultation for the projects. Recommends and/or supplies equipment, materials, programs, etc. to meet the project's needs. Assures that only authorized programs are operating on project computers, and maintains computer security. 05%

6. Provides assistance to the Environmental Compliance Coordinator to assure compliance with HTRW regulations. Serves as point of contact for the district Emergency Management Program; coordinates and provides technical assistance as required. 05%

Performs other duties as assigned.

PHYSICAL DEMANDS AND WORKING CONDITIONS

Must have color and depth perception, and at times work in areas with low visibility conditions. Is required, at times, to lift and carry moderate weights, walk long distances, and climb ladders, embankments, etc. While on inspection trips or in performance of other duties. Must have or be able to obtain a driver's license. Most work is performed in an office environment, although is exposed to inclement weather conditions when outside on inspections. Is subject to possible insect bites or stings, and other moderate discomforts such as dampness and high noise levels during regular visits to powerhouses and dams. Required to wear appropriate protective and safety gear.

This is an interdisciplinary position classifiable in the following series:
GS-830 Mechanical Engineer
GS-850 Electrical Engineer

Evaluation:

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

July 12, 2004

CERTIFIED MAIL 7002 3150 004 8588 3978

RECEIVED
JUL 16 2004
by Office of
Administrative Hearings

Andrea Sloan, Administrative Law Judge
Hearing Officer Panel
1905 Lana Avenue, NE
Salem, OR 97314

CERTIFIED MAIL 7002 3150 004 8588 3985

United States Army Corps of Engineers,
Portland District
Attn. Misty Latcu, Assistant District Counsel
P.O Box 2946
Portland, OR 97208-2946

RECEIVED
BVN
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Administrative Hearings

Re: United States Army Corps of Engineers
Office of Administrative Hearings Case No. 115312
DEQ Case No. LQ/HW-NWR-03-060

Dear ALJ Sloan and Ms. Latcu:

Please find enclosed an amended civil penalty calculation exhibit for Violation 2 of the Notice of Violation and Assessment of Civil Penalty in the referenced case. The Amended Exhibit reduces the economic benefit portion of the penalty for Violation 2 from $108,555 to $76,500.

The reduction is based on new information from the Corps of Engineers indicating that they had addressed their staffing deficiency some six months sooner than previously understood by the Department. Furthermore, the Department, after discussions with the Corps of Engineers, did not apply the "BEN" computer model but instead went with the "straight" unadjusted labor cost allegedly avoided.

If you have any questions, please call me at (503) 229-5950.

Sincerely,

Jeff Bachman
Environmental Law Specialist
Office of Compliance and Enforcement

EXHIBIT A 2

AMENDED EXHIBIT 2

AMENDED FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO. 2 — Large-quantity generator storage of hazardous waste in excess of 90 days in violation of 40 Code of Regulations 262.34(d), adopted pursuant to OAR 340-100-0002.

CLASSIFICATION: — This is a Class II violation pursuant to OAR 340-012-0068(2)(m).

MAGNITUDE: — The magnitude of the violation is moderate pursuant to OAR 340-012-0090(3)(c)(B) because the violation involved more than 250 gallons but less than 1,000 gallons of hazardous waste.

CIVIL PENALTY FORMULA: — The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $1,000 for a Class II, moderate magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation involved multiple containers and continued for more than one day.

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government. Respondent knew or should have known of the prohibition against storing hazardous waste for more than 90 days.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $76,500. The economic benefit portion of the civil penalty formula is simply the monetary benefit the Respondent gained by not complying with the law. Economic benefit is not designed to punish the Respondent, but to (1) "level the playing field" by taking away any economic advantage the violator gained over its competitors through

noncompliance, and (2) deter potential violators from deciding it is cheaper to violate and pay the penalty than to pay the costs of compliance.

In a February 26, 2003 letter, Respondent stated that its illegal storage stemmed from the failure to hire an additional environmental manager to handle the workload created by Respondent's compliance requirements. By failing to hire necessary staff required to ensure compliance with the 90-day storage requirement, Respondent avoided a cost of $76,500.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB
= $1,000 + [(0.1 x $1,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $76,500
= $1,000 + [($100 x 2)] + $76,500
= $1,000 + $200 + $76,500
= $77,700

Exhibit A3

U.S. Environmental Protection Agency

Protect the Environment: Work at EPA

Home

Browse the Vacancy Listing

Apply / Login / Register

Getting Started
General Information
How to Apply
Resumé Tips
Frequent Questions
Password Help

Veterans' Information

People with Disabilities

Privacy Act Statement

Security

Vacancy Information

Hiring Organization:	Environmental Protection Agency
Announcement Number:	Reg 10-DE-2003-0102
Position:	Environmental Protection Specialist
Series/Grade:	GS-0028-09/11
Salary Range:	$40,176.00 TO $63,198.00
Promotion Potential:	GS-11
Duty Location:	1 vacancy in Portland, OR
Opening Date:	07/01/2003
Closing Date:	07/15/2003

U.S. Environmental Protection Agency
Delegated Examining Vacancy Announcement

Environmental Protection Specialist, GS-0028-9/11
Full performance level is GS-11

LOCATION US EPA Region 10
Oregon Operations Office
Portland, Oregon

TRAVEL/RELOCATION EXPENSES Travel, transportation, and relocation expenses ar
authorized and will be paid by the Federal Government.

****PLEASE READ ALL INFORMATION CAREFULLY****

WHO MAY APPLY: Applications will be accepted from all U.S. Citizens. No previous Federal experience is required. Applicants eligible under the Career Transition Assistance Program (CTAP) and the Interagency Career Transition Assistance Program (ICTAP) may apply.

(Current and former Federal employees with competitive status should apply unc merit promotion announcement, Reg 10-MP-2003-0107, being advertised concurrently with this announcement). Applicants must apply separately for eac announcement to receive consideration. There is one vacancy only.

Applicants claiming CTAP/ICTAP eligibility must submit proof that they meet th requirements of 5 CFR 330.605(a) for CTAP and 5 CFR 330.704 for ICTAP. This includes providing a copy of the agency notice, their most recent Performance Rating, and their most recent SF-50 noting current position, grade level, and location. (FAX #: 206-553-4672) CTAP and ICTAP eligibles will be considered we qualified if they earn a minimum score of 85 (prior to the assignment of veter preference points). For more information on CTAP/ICTAP eligibility requirement please visit http://www.opm.gov/ctap/index.htm.

HOW TO APPLY FOR THIS VACANCY ANNOUNCEMENT

EXHIBIT A3

Resume and application questions for this vacancy MUST be received on-line via EZHire@EPA web site BEFORE midnight Eastern Time on the closing date of this announcement. If you fail to submit a COMPLETE online resume, you WILL NOT be considered for this position. Paper applications WILL NOT be accepted and requ for extensions WILL NOT be granted. Unless otherwise stated in this announceme all required supplemental application materials MUST be received by the closir date of the announcement (including Saturdays, Sundays, or government holidays This proof must be sent to either the contact address or fax number identifiec below and must include the announcement number for which applying. (FAX Numbe 206-553-4672) If applying online poses a hardship to any applicant, the Servicing Personnel Office listed on the announcement will provide assistance ensure that applications are submitted online by the closing date. Applicants CONTACT the Servicing Personnel Office PRIOR TO THE CLOSING DATE to speak to someone who can provide assistance for online submission. If you have accessec this announcement from an alternate web site please visit www.epa.gov/ezhire t apply for this position.

Questions regarding this announcement should be referred to the Servicing Personnel Office listed on the announcement.

POSITION INFORMATION

Type of Appointment - Permanent, Full Time
Full Performance Level -- GS-11

This position is located in:
Oregon Operations Office
Portland, Oregon

Incumbent serves as a liaison with the State of Oregon for the implementation the Clean Water Act and related programs by the Department of Environmental Quality (DEQ). This position is located in the EPA Oregon Operations Office, Portland, Oregon, reporting directly to the Oregon Operations Office Director

Duties and Responsibilities - Provides advice and assistance to state and loca governments on matters relating to the development, execution, and monitoring adequate environmental protection plans and programs. Specifically provides technical assistance to DEQ's regulated community Clean Water programs. Serves Grant Project Officer on water program grants. Oversees the development and review of related grant proposals. This specifically includes Clean Water Act Section 106 and 104(b)(3) grant and other Special Appropriation grants. Revie analyzes, and recommends modifications of plans developed by the state to implement various provisions of Federal Clean Water Act program. Reviews, analyzes and coordinates preparation of comments on proposals for new or revis environmental protection regulations and determines their impact. Conducts f inspections to identify/evaluate environmental problems on major/minor federally-owned facilities as well as at Tribal facilities. Responds to publi inquiries and presents training courses to build and maintain understanding of Clean Water Act programs. Coordinates Clean Water Act Environmental Partnersh Agreement negotiations, implementation, and evaluation between DEQ and EPA. Promotes effective communication between Region 10 and DEQ offices, including planning and conducting joint staff meetings, field visits, and management reviews.

This position may require 1-5 days travel per month.

QUALIFICATION REQUIREMENTS

SPECIALIZED EXPERIENCE: All applicants must have one year experience in or directly related to the line of work of this position and has equipped them wi

the knowledge, skill and ability to successfully perform the duties of the position. To be creditable, the specialized experience must have be at least equivalent to the next lower grade. Qualifying specialized experience for thi position includes knowledge of and experience in ecosystem management principl understanding the roles and responsibilities of various EPA programs and other Federal/State agency programs, and the ability and willingness to create and maintain effective working relationships with tribes, other government agencie industry and EPA programmatic staff. If claiming education in lieu of experie college transcripts MUST be attached (copies are acceptable).

At the GS-9 level: Master's or equivalent graduate degree or two full years progressively higher level graduate education (e.g., LL.B. or J.D., in a relev field of study) OR
one or more years of specialized experience equivalent to at least the next lo grade level in the Federal government that included evaluating and analyzing environmental protection programs, policies and/or regulations; applying analytical techniques in resolving problems of environmental protection proced or facts; and communicating information orally or in writing to management.

At the GS-11 level: Ph.D. or equivalent doctoral degree or three full years o progressively higher level graduate education in a relevant field of study OR one or more years of specialized experience equivalent to at least the next lo grade level in the Federal government that included evaluating and analyzing environmental protection programs, policies and/or regulations; applying analytical techniques in resolving problems of environmental protection proced or facts; communicating information orally or in writing to management; and providing guidance and assistance to Federal, state, and/or local governments matters of environmental protection.

Transcripts must be submitted to Human Resources by the closing date of the announcement.

In order to be considered qualified, applicants must demonstrate that they pos specialized experience in their resume and responses to questions.

Additional information can be obtained from the Office of Personnel Management web site, www.opm.gov.

Applicants will be rated on the extent and quality of experience, education, a training relevant to the duties of the position. Eligible applicants will rece a numerical rating based on their responses to the application questions for t position submitted on-line via EZHire@EPA. These responses must be substantiat by your online resume. Applicants who do not respond to the application questi may be rated ineligible.

WARNING! Your answers will be verified against information provided in your on-line resume. Be sure that your resume clearly support your responses to all questions by addressing experience and education relevant to this position. If exaggerate or falsify your experience and/or education, you may be removed fro employment consideration. You should make a fair and accurate assessment of yo qualifications.

EDUCATION REQUIREMENTS

Proof of successful completion of required course work MUST be submitted by th closing date of the announcement.

Education completed in foreign colleges or universities may be used to meet th requirements for this position if you can show that the foreign education is comparable to that received in an accredited educational institution in the Un

States. It is the responsibility of the applicant to provide such evidence by closing date of the announcement.

TIME IN GRADE Federal employees must meet time in grade within 30 days of the closing date of the announcement.

HOW TO APPLY FOR THIS VACANCY ANNOUNCEMENT

Resume and application questions for this vacancy MUST be received on-line via EZHire@EPA web site BEFORE midnight Eastern Time on the closing date of this announcement. If you fail to submit a COMPLETE online resume, you WILL NOT be considered for this position. Paper applications WILL NOT be accepted and requ for extensions WILL NOT be granted.

Unless otherwise stated in this announcement, all required supplemental application materials MUST be received by the closing date of the announcement (including Saturdays, Sundays, or government holidays). This proof must be se to either the contact address or fax number identified below and must include announcement number for which applying. (FAX Number: 206-553-4672).

If applying online poses a hardship to any applicant, the Servicing Personnel Office listed on the announcement will provide assistance to ensure that applications are submitted online by the closing date.

Applicants MUST CONTACT the Servicing Personnel Office PRIOR TO THE CLOSING DA to speak to someone who can provide assistance for online submission. If you h accessed this announcement from an alternate web site please visit www.epa.gov/ezhire to apply for this position.

Questions regarding this announcement should be referred to the Human Resource Unit, Region 10 at the address listed below.

WHERE TO SEND YOUR SUPPLEMENTAL APPLICATION MATERIALS:

Unless otherwise stated in this announcement, all required supplemental application materials must be postmarked by the closing date of the announceme This proof must be sent to the Human Resources Unit, Region10 at the address identified below and must include the announcement number for which applying. Supplemental application materials sent in U.S. Government postage paid envelc will not be considered.

MAILING ADDRESS:

US EPA, Region 10
1200 6th Avenue, OMP-162
Seattle, Washington 98101
(FAX Number: 206-553-4672)

NOTICE FOR DISPLACED EMPLOYEES REQUESTING SPECIAL SELECTION PRIORITY CONSIDERA UNDER EPA'S CAREER TRANSITION ASSISTANCE PROGRAM (CTAP) OR THE INTERAGENCY CAR TRANSITION ASSISTANCE PROGRAM (ICTAP).

Applicants claiming CTAP/ICTAP eligibility must submit proof that they meet th requirements of 5 CFR 330.605(a) for CTAP and 5 CFR 330.704 for ICTAP. This includes providing a copy of the agency notice, their most recent Performance Rating, and their most recent SF-50 noting current position, grade level, and location. (FAX #: 206-553-4672) CTAP and ICTAP eligibles will be considered we qualified if they earn a minimum score of 85 (prior to the assignment of veter preference points). For more information on CTAP/ICTAP eligibility requiremer please visit http://www.opm.gov/ctap/index.htm.

GENERAL INFORMATION

EPA is an equal opportunity employer. Selection for this position will be bas solely on merit without regard to race, color, religion, age, gender, national origin, political affiliation, disability, sexual orientation, marital or fami status or other differences.

This agency provides reasonable accommodations to applicants with disabilities you need a reasonable accommodation for any part of the application and hiring process, please notify the agency. The decision on granting reasonable accommodation will be on a case-by-case basis.

If applying under a special appointment authority, it is the applicant's responsibility to respond appropriately in the questionnaire as to the authori under which you wish to receive consideration.

Applicants selected for Federal employment will be required to complete a "Declaration of Federal Employment," (OF-306), prior to being appointed to determine their suitability for Federal employment and to authorize a background investigation.

The application contains information subject to the Privacy Act (P.L. 93-579, USC 552a). The information is used to determine qualifications for employment, is authorized under Title 5, USC, Section 3302 and 3361.

Applicants will not be notified of vacancy outcome, but may view the status of this vacancy at Listing of Closed Announcements:
http://www.epa.gov/r10earth/jobs.html.

For More Information: Contact Jobline, 206-553-4672 or R10.EZHire@epa.gov

Apply to this Vacancy | View Vacancy Questions | Email to a Friend

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF:	)	STIPULATED FACTS
UNITED STATES ARMY CORPS OF ENGINEERS	)	NO. LQ/HW-NWR-03-060

1. The United States Army Corps of Engineers (USACE), an agency of the United States Government, operates the Bonneville Lock and Dam located in Multnomah County, Oregon.

2. USACE's Bonneville Lock and Dam facility is a large quantity generator of hazardous wastes, operates under hazardous waste generator identification number OR 0140113218, and generates the following hazardous wastes: paint thinner (Environmental Protection Agency Hazardous Waste Code Numbers D001, D035, F005, and D009); paint waste (D001, F003, and F005); and lead-contaminated sandblast grit (D008).

3. Representatives of the Oregon Department of Environmental Quality (the Department or DEQ) conducted a compliance inspection at Respondent's facility on November 19, 2002.

4. As a result of November 19, 2002 compliance inspection, the Department issued Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060 (Notice) on November 18, 2003. The Notice cited five alleged violations and assessed a total civil penalty of $116,995.

5. On December 10, 2003, USACE filed an Answer to the Notice and a Request for Hearing. The Answer admitted violations 1, 2, 3 and 4 of the Notice (pertaining to hazardous waste determinations, storage greater than 90 days, and labeling containers), but denied Violation 5 (pertaining to training). USACE did not contest the civil penalties for Violations 1, 3 and 4 of

the Notice or the gravity-based portion of the penalty for Violation 2. USACE did appeal the penalty for Violation 5 and the economic benefit portion of the penalty assessed for Violation 2.

6. On July 12, 2004, the Department amended the civil penalty calculation for Violation 2 of the Notice. The Department reduced the economic benefit portion of the penalty from $108,555 to $76,500.

7. The Department based the economic benefit on a statement from a February 26, 2003 letter from James R. Mahar, P.E., Operations Manager for the Bonneville Lock and Dam. Mr. Mahar's letter, which is attached, was in response to a Notice of Noncompliance issued by the Department after its November 19, 2002 inspection of the Bonneville facility.

In the letter, Mr. Mahar stated that USACE's violation of the 90-day interim hazardous waste storage limit "was partially a result of heavy workload and [we] responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities. In September 2002 we received approval to add a second permanent ECC to our staff." The temporary staff assistance referred to in Mr. Mahar's letter was obtained in May 2002 and continued until USACE hired a second ECC in April 2003.

8. The Department alleges that USACE received an economic benefit from avoiding the cost of paying for a second ECC at Bonneville for a period of 18 months, from November 2000[1] through April 2002. In determining the monthly salary amount for an ECC, the Department relied on a job announcement for an Environmental Protection Specialist (Environmental Compliance Coordinator) position at the Bonneville facility attached to Mr. Mahar's February 26, 2002 letter to the Department. The announcement does not list a salary but states that that the position is series/grade "GS-0028-11".

DEQ performed an internet search of government job listings and found an announcement for an Environmental Protection Specialist with the United States Environmental

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[1] Storage in Drum #20-7-7 began on July 27, 2000. USACE exceeded the 90-day storage limit for this container on October 26, 2000.

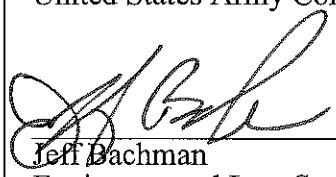
Protection Agency (USEPA) in Portland. The announcement lists the Series/Grade as GS-0028-9/11 and states that the salary range for the position is $40,176 to $63,198. The announcement is attached.

Choosing the mid-range of the salary in the EPA announcement, the Department estimated that USACE would pay an ECC at the Bonneville facility $51,000 a year or $4,250 a month. DEQ estimated that by avoiding the labor cost of $4,250 per month for 18 months, USACE would have allegedly received an economic benefit of $76,500.

DATED this 9th day of August 2004

IT IS SO STIPULATED:

_/s/ Misty M. Latcu_____
Misty M. Latcu
Assistant District Counsel
United States Army Corps of Engineers



Jeff Bachman
Environmental Law Specialist
Oregon Department of Environmental Quality

Oregon
Theodore R. Kulongoski, Governor

Office of Administrative Hearings
Transportation Hearings Division
Employment Department
1905 Lana Avenue NE
Salem, OR 97314
(503) 945-5547
FAX (503) 945-5304
TTY 1-800-735-1232

NOTICE OF HEARING

Date Mailed: June 21, 2004

TO: MISTY LACTU
ASSISTANT DISTRICT COUNSEL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OR 97208

BY FAX TO (503) 808-4526

JEFF BACHMAN
DEPT OF ENVIRONMENTAL QUALITY
811 SW SIXTH
PORTLAND OR 97204

BY FAX TO (503) 229-6762

RE: *In the Matter of US Army Corps of Engineers*
For the Oregon Department of Environmental Quality
Office of Administrative Hearings Case No. 115312
Agency Case No. LQ/HW-NWR-03-060

A prehearing conference has been set in the above-entitled matter before the Office of Administrative Hearings.

Prehearing Date:	**June 24, 2004**	**Prehearing Time:**	**10:00 a.m.**
Location:	**By phone to:**		
	Misty Lactu **US Army Corps of Engineers**	**(503) 808-4527**	
	Jeff Bachman **Department of Environmental Quality**	**(503) 229-5950**	

A prehearing conference has been scheduled in the above-mentioned case. The following issues may be addressed during the prehearing conference: identification of issues, motions, preliminary rulings, documentary and testimonial evidence (if known), exchange of witness lists (if known), procedural conduct of the hearing, date, time and location of the hearing, and any other matter relating to the hearing.

The Office of Administrative Hearings is an impartial tribunal, and is independent of the agency for whom the hearing is held. Your case has been assigned to Administrative Law Judge Andrea Sloan, an employee of the Office of Administrative Hearings. Presiding Administrative Law Judge Steve Tegger will be conducting the prehearing conference for Administrative Law Judge Sloan.

A request for a reset of the hearing must be submitted in writing prior to the hearing. A postponement request will only be granted on a showing of good cause and with the approval of the administrative law judge.

If you are hearing impaired or need a language interpreter at the hearing, immediately notify the Office of Administrative Hearings at (503) 945-5547 or TDD at 1-800-735-1232. The Office of Administrative Hearings can arrange for an interpreter at the hearing. Interpreters must be certified or qualified in order to participate in a contested case hearing and may not have a conflict of interest with the hearing participants.

Please notify the Office of Administrative Hearings at (503) 945-5547 immediately if you change your address or telephone number at any time prior to a final decision in this matter.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

REPLY TO
ATTENTION OF

December 10, 2003

Office of Counsel

Deborah Nesbit
Oregon Department of Environmental Quality
811 SW 6th Ave.
Portland, OR 97204

Re: Notice of Assessment of Civil Penalty
No. LQ/HW-NWR-03-060
Multnomah County

Dear Ms. Nesbit:

On November 20, 2003, the US Army Corps of Engineers (USACE) received the subject Notice of Assessment of Civil Penalty from your office. This assessment was based on observations made during a November 19, 2002 hazardous waste inspection of Bonneville Lock and Dam. Enclosed please find USACE' Request for a Contested Case Hearing, Answer to the Notice, and a Request for Informal Discussion with DEQ. USACE is furnishing this "Request for a Contested Case Hearing" in order to preserve any rights to state processes and hearings that USACE has under applicable statutes and regulations.

Except for the allegations set forth in violation number 5, we do not dispute that the violations cited in the Notice occurred. However, we are concerned about the economic benefit portion of the penalty assessment in violation number 2. Our concerns can be summarized as follows: The notice does not indicate how DEQ arrived at the economic benefit figure; Federal facilities are different than private facilities with respect to obtaining economic benefit from noncompliance; and there are mitigating factors, which DEQ might not have considered in assessing economic benefit.

It is not clear from the notice how USACE obtained an economic benefit of $108,555. The notice states, in Exhibit 2, that "[b]y failing to hire necessary staff required to ensure compliance with the 90-day storage requirement, Respondent avoided a cost of $94,500. This results in an economic benefit of $108,555." It is not clear how DEQ arrived at these figures. USACE requests the specific data DEQ used to calculate these figures.

Federal facilities are not the same as private facilities. Congress sets the missions and budget of federal facilities. Numerous fiscal law requirements regulate how and when a federal facility can obligate its funds. DEQ states in Exhibit 2 that

"[e]conomic benefit is not designed to punish the Respondent, but to (1) "level the playing field" by taking away any economic advantage the violator gained over its competitors through noncompliance[.]" Unlike private entities, which may gain an economic advantage over its competitors through noncompliance, USACE has no such competitors in which it would gain such an economic advantage. Taking away funds from a Federal facility takes away from mission operating funds, effecting a reallocation of mission-related financial resources. Although DEQ states that an "[e]conomic benefit is not designed to punish the Respondent," the end result is a punitive penalty and a loss for the citizens of Oregon. The user's manual for EPA's BEN computer program states, "[f]unds not spent on environmental compliance are available for other profit-making activities..." While it is true for private entities that funds not spent on environmental compliance may be available for other profit-making activities, Federal fiscal law precludes USACE from both borrowing funds and earning income on investments.

DEQ stated in Exhibit 2 of the Notice that it calculates economic benefit using EPA's "BEN" computer model. However, in its BEN computer model, EPA never references Federal governmental entities. 64 Fed. Reg. 32948, 32949 (June 18, 1999) ("[t]he BEN Model can estimate economic benefit for many types of organizations: corporations, partnerships, sole proprietorships, not-for-profit organizations, and municipalities"). Under the Constitution of the United States, the Federal government is distinctly different politically, legally, and economically from the entities listed. While some may compare Federal governmental entities to municipalities, there are distinct legal differences: municipalities can issue bonds, charge fees for services, compete with other municipalities and private industry for business, and can pay economic benefit penalties by borrowing, selling assets, and raising fees. Federal governmental entities may not do any of these things.

Additionally, we believe there are mitigating factors, which DEQ might not have considered in assessing this civil penalty. Specifically, USACE does not believe that it avoided any costs in failing to ensure the 90-day storage requirement. As we mentioned in our February 26, 2003 response to the Notice of Noncompliance, we obtained temporary Environmental Compliance Coordinator (ECC) assistance from other USACE facilities to respond to the then unusual, heavy workload at Bonneville. The costs to cover the temporary supporting ECC positions were entirely funded by the Bonneville Project. You are aware, during this timeframe, the Bonneville project was trying to respond to serious environmental issues stemming from Bradford Island and oil water separator discharges. From May 2002 until we officially filled an additional ECC position at Bonneville in April 2003, there was additional ECC assistance at Bonneville. See Attachment 1.

Bonneville Lock and Dam is fully committed to complying with all environmental laws and partnering with DEQ to eliminate future noncompliance. We believe we can demonstrate that we have taken significant steps to prevent further violations. As we

stated in our February 26, 2003 response to the Notice of Noncompliance, we revised our Standard Operating Procedures to ensure weekly inspections are performed and documented. These are being carried out.

We look forward to engaging in an informal discussion with DEQ about these matters.

Sincerely Yours,

Robert C. Turner
District Counsel

Misty M. Latcu
Assistant District Counsel
License #00300

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent	)))))))	REQUEST FOR CONTESTED CASE HEARING NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OR 0140113218

The U.S. Army Corps of Engineers hereby requests a contested case hearing to respond to the Notice of Violation and Assessment of Civil Penalty. USACE is furnishing this "Request for a Contested Case Hearing" in order to preserve any rights to state processes and hearings that USACE has under applicable statutes and regulations.

12/10/2003
Date

Misty M. Latcu
Misty M. Latcu, Assistant District Counsel
Bar #00300

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent	)	ANSWER NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OR 0140113218

III. VIOLATIONS

1. The allegations contained in the first paragraph of Section III are conclusions of law and require no response.

2. The allegations contained in the first sentence of enumerated paragraph 1 of Section III constitute conclusions of law and require no response. Admit the second sentence. The allegations contained in the third sentence constitute conclusions of law and require no response.

3. The allegations contained in the first sentence of enumerated paragraph 2 of Section III constitute conclusions of law and require no response. Admit the second sentence. The allegations contained in the third sentence constitute conclusions of law and require no response

4. The allegations contained in the first sentence of enumerated paragraph 3 of Section III constitute conclusions of law and require no response. Admit the second, third, and fourth sentences. The allegations contained in the fifth sentence constitute conclusions of law and require no response

5. The allegations contained in the first sentence of enumerated paragraph 4 of Section III constitute conclusions of law and require no response. Admit the second

sentence. The allegations contained in the third sentence constitute conclusions of law and require no response

6. The allegations contained in the first sentence of enumerated paragraph 5 of Section III constitute conclusions of law and require no response. Deny the second and third sentences. The allegations contained in the fourth sentence constitute conclusions of law and require no response.

IV. ASSESSMENT OF CIVIL PENALTY

Deny the economic benefit portion of the civil penalty assessed in Violation 2 of Section IV. Deny the civil penalty assessed in Violation 5 of Section IV.

FIRST DEFENSE

Complainant has failed to establish its statutory right to recover an economic benefit penalty against the U.S. Army Corps of Engineers (USACE). Complainant has inappropriately applied an economic benefit penalty against USACE, an Agency of the United States Government. For purposes of evaluating economic benefit, federal facilities are not the same as private facilities. The U.S. Congress sets the missions and budget for the operation of federal facilities. Numerous federal fiscal law requirements regulate how and when a federal facility can obligate its funds. Unlike private entities, which may gain an economic advantage over its competitors through noncompliance, USACE has no such competitors. Moreover, EPA's BEN computer model makes no mention of its applicability to federal facilities. Taking away funds from a Federal facility takes away mission operating funds, effecting a reallocation of the legislative

mandated mission-related financial resources. Assessing an economic benefit penalty is punitive.

SECOND DEFENSE

Complainant has not alleged facts showing that USACE received any economic benefit, and, in fact USACE did not retain any economic benefit. It did not avoid any costs in failing to ensure the 90-day storage requirement. Additional personnel were assigned to the environmental compliance staff at Bonneville Lock and Dam from May 2002 until April 2003 when an additional Environmental Compliance Coordinator (ECC) was permanently hired. The costs to cover the temporary supporting ECC positions were entirely funded by the Bonneville Project.

THIRD DEFENSE

Complainant has failed in its fifth claim to establish its statutory right to recover penalties against USACE for violation of training requirements in Title 40 of the Code of Federal Regulations (40 CFR 265.16(c)).

FOURTH DEFENSE

Complainant's fifth claim fails to state a claim upon which relief can be granted, because Pat Hunter and Brian McCavitt did undergo training as required by Title 40 of the Code of Federal Regulations (40 CFR 265.16(c)).

12/10/2003
Date

Misty M. Latcu
Misty M. Latcu, Assistant District Counsel
Bar #00300

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent	)))))))	REQUEST FOR INFORMAL DISCUSSION NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OR 0140113218

The U.S. Army Corps of Engineers hereby requests an informal discussion with the Department of Environmental Quality to discuss the Notice of Violation and Assessment of Civil Penalty.

12/10/03
Date

Misty M. Latcu
Misty M. Latcu, Assistant District Counsel
Bar #00300

DECLARATION OF MISTY M. LATCU

I, BRENDA J. JONES, declare and state as follows:

1. I have been employed by the Portland District, U.S. Army Corps of Engineers since June 30, 2003. During this entire time, I have held the position of Legal Assistant.

2. Misty M. Latcu has approved the attached declaration and will sign the declaration upon her return to the office and remit the signed copy to the Department of Environmental Quality.

Pursuant to 28 U.S.C. § 1746, I DECLARE UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT. Executed this December 10, 2003.

Brenda J. Jones

Brenda J. Jones
Legal Assistant
Office of Counsel
Portland District
U.S. Army Corps of Engineers

DECLARATION OF MISTY M. LATCU

I, MISTY M. LATCU, declare and state as follows:

1. I have been employed by the Portland District, U.S. Army Corps of Engineers for approximately 3 years. During this entire time, I have held the position of Assistant District Counsel.

2. From my discussions with personnel at the Portland District, U.S. Army Corps of Engineers, I have discovered that the following individuals were reassigned to the Bonneville Lock and Dam Project to provide additional environmental compliance coordination support from May 2002 until April 2003 (also listed is the position they held at the Project and the timeframe they worked at the Project):

   a. Merina Christoffersen, Environmental Protection Assistant, May 19, 2002 through September 30, 2002;

   b. Jerry Balcom, Environmental Protection Specialist, June 14, 2002 through October 31, 2002; and

   c. Carolyn Markos, Environmental Protection Specialist, December 23, 2002 through April 17, 2003.

Pursuant to 28 U.S.C. § 1746, I DECLARE UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT. Executed this December 10, 2003.

_____/s/
Misty M. Latcu
Assistant District Counsel
Office of Counsel
Portland District
U.S. Army Corps of Engineers

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

November 18, 2003

CERTIFIED MAIL No. 7001 1140 0002 3546 6468

United States Army Corps of Engineers
Portland District
Attn. Col. Richard W. Hobernicht
P.O. 2946
Portland, OR 97208

Re: Notice of Assessment of Civil Penalty
No. LQ/HW-NWR-03-060
Multnomah County

The Bonneville Locks and Dam (Bonneville), near Cascade Locks, Oregon, is operated by the United States Army Corps of Engineers (USACE). On November 19, 2002, Department Hazardous Waste Specialist Susan Shewczyk conducted an inspection at Bonneville to determine the facility's compliance with applicable hazardous waste regulations. Bonneville is a large-quantity generator of hazardous waste.

During her inspection, Ms. Shewczyk documented the following violations of state and federal law regulating hazardous waste generators:

- Failure to perform hazardous waste determinations,
- Storing hazardous waste on site in excess of the 90 days,
- Failing to label hazardous waste containers with the accumulation start date, and
- Failing to ensure that personnel met hazardous waste training requirements.

Improper management of hazardous wastes threatens public health and the environment. To protect public health and the environment, the legislature has enacted statutes and the Department has adopted rules establishing strict requirements governing the accumulation, storage, handling, treatment, and disposal of hazardous wastes. USACE's failure to comply with hazardous waste rules increases the risk that the public or the environment could be harmed by mismanagement of hazardous waste.

USACE is liable for a civil penalty assessment because it violated Oregon hazardous waste law. In the enclosed Notice, I have assessed a civil penalty of $116,955. In determining the amount of the penalty, I used the procedures set forth in Oregon Administrative Rule (OAR) 340-012-0045. The Department's findings and civil penalty determination are attached to the Notice as Exhibit 1 through 5. Of the $116,955, $108,555 stems from the economic benefit USACE received by failing to provide adequate staffing to address hazardous waste management compliance requirements.

The steps USACE must follow to request a review of the Department's allegations and determinations in this matter are set forth in Section V of the enclosed Notice. If USACE wishes to have a hearing on this matter, USACE must specifically request a hearing in writing. Attached to the hearing request must be USACE's Answer in which USACE admits or denies each of the facts alleged in Section III of the Notice.

In USACE's Answer, USACE should also allege all affirmative claims or defenses and provide reasons why they apply in this matter. USACE will not be allowed to raise these issues at a later time, unless USACE can later show good cause for its failure. The applicable rules are enclosed for USACE review. USACE needs to follow the rules to ensure that USACE does not lose the opportunity to dispute the Department's findings (see OAR 340-011-0107 and OAR 137-003-0528). If the Department does not receive USACE's request for a hearing and Answer within 20 calendar days from the date USACE received the Notice, a Default Order will be entered against USACE and the civil penalty will become due at that time. USACE can fax the request for hearing and Answer to the Department at (503) 229-6762.

If USACE wishes to discuss this matter, or if USACE believes there are mitigating factors which the Department might not have considered in assessing the civil penalty, USACE may request an informal discussion by attaching a request to the appeal. USACE's request to discuss this matter with the Department will not waive USACE's right to a contested case hearing.

I look forward to USACE's cooperation in complying with Oregon environmental law in the future. However, if any additional violations occur, USACE may be assessed additional civil penalties.

Copies of referenced rules are enclosed. Also enclosed is a copy of the Department's internal management directive regarding civil penalty mitigation for Supplemental Environmental Projects (SEPs). If USACE is interested in having a portion of the civil penalty fund an SEP, USACE should review the enclosed SEP directive. Exceptional pollution prevention could result in partial penalty mitigation.

If USACE has any questions about this action, please contact Jeff Bachman with the Department's Office of Compliance and Enforcement in Portland at (503) 229-5950 or toll-free at 1-800-452-4011.

Sincerely,

Stephanie Hallock

Stephanie Hallock
Director

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Enclosures

cc: Andree Pollock, Northwest Region, DEQ
Paul Slyman, Northwest Region, DEQ
Mike Llwelyn, WQ Division, HQ, DQ
Land Quality Division, HQ, DEQ
Department of Justice
Environmental Protection Agency
Environmental Quality Commission
Multnomah County District Attorney
Robert Turner, USACE, P.O. 2946, Portland, OR 97208

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF: UNITED STATES ARMY CORPS OF ENGINEERS, Respondent.	)	NOTICE OF VIOLATION AND ASSESSMENT OF CIVIL PENALTY NO. LQ/HW-NWR-03-060 MULTNOMAH COUNTY OR 0140113218

I. AUTHORITY

This Notice of Violation and Assessment of Civil Penalty (Notice) is issued by the Department of Environmental Quality (Department) pursuant to Oregon Revised Statutes (ORS) 468.126 through 468.140, 466.190, 466.880; ORS Chapter 183; and Oregon Administrative Rules (OAR) Chapter 340, Divisions 11 and 12.

II. FINDINGS

1. Respondent operates the Bonneville Locks and Dam located in Multnomah County, Oregon.

2. Respondent is a large quantity generator of hazardous wastes, operates under hazardous waste generator identification number OR 0140113218, and generates the following hazardous wastes: paint thinner (Environmental Protection Agency Hazardous Waste Code Numbers D001, D035, F005, and D009); paint waste (D001, F003, and F005); and lead-contaminated sandblast grit (D008).

3. Representatives of the Department conducted a compliance inspection at Respondent's facility on November 19, 2002.

III. VIOLATIONS

Based upon the above noted inspection, Respondent has violated the following provisions of Oregon's hazardous waste laws and regulations applicable to the facility as set forth in ORS Chapter 466; OAR Chapter 340, Divisions 100 to 110 and 120 including regulations incorporated in OAR 340-100-002 adopted pursuant to ORS Chapter 466:

1. Failure to make a hazardous waste determination in violation of OAR 340-102-0011. Specifically, Respondent failed to make hazardous waste determinations on two boxes of laboratory supply wastes, which included ignitability characteristic hazardous wastes (D001), and two five-gallon buckets of solid later determined to be sandblast grit, a lead toxicity characteristic hazardous waste (D008). These are Class I violations pursuant to OAR 340-012-0068(1)(b).

2. Storing hazardous wastes for greater than 90 days in violation of 40 Code of Federal Regulations (CFR) 262.34(d), adopted pursuant to OAR 340-100-0002. As detailed in the table below, Respondent stored twelve 55-gallon drums of hazardous for a period greater than 90 days, but less than 180 days. These are Class II violations pursuant to OAR 340-012-0068(2)(m).

Drum #	Contents	Volume	Code	Start Date	Disposal Date	Days over 90
2-7-10	Paint Rags	55 gallons	D001	6/19/02	11/23/02	67
2-18-13	Paint Rags	55 gallons	D001	8/13/02	11/23/02	12
2-5-34	Ruscoe Adhesive	Unknown	D001	6/18/02	11/25/02	70
2-6-31	Floor Paint/Epoxy	Unknown	D001	6/26/02	11/13/02	50
2-7-9	Waste Thinner	Unknown	D001	7/9/02	11/13/02	37
20-7-11	Waste Thinner	Unknown	D001	6/18/02	11/13/02	58
Drum #	Contents	Volume	Code	Start Date	Inventory Date	Days over 90
20-7-7	Lead Paint Chips	55 gallons	D008	7/27/00	1/22/01	89
20-8-2	Waste Paint	55 gallons	D001	8/17/00	1/22/01	68
20-9-1	Waste Thinner	55 gallons	D001	9/7/00	1/22/01	47
20-9-2	Waste Thinner	55 gallons	D001	9/7/00	1/22/01	47
20-10-1	Waste Paint	55 gallons	D001	10/3/00	1/22/01	21
20-10-11	Steel Shot	55 gallons	D008	10/3/00	1/22/01	21

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3. Storing hazardous wastes for greater than 90 days in violation of 40 CFR 262.34(d), adopted pursuant to OAR 340-100-0002. Respondent stored drum number 1-11-46, a 55-gallon drum of lead based paint chips, a lead toxicity characteristic hazardous waste, and drum number 20-7-5, a 55-gallon drum of waste paint/thinner, a D001 ignitability characteristic hazardous waste, for more than 180 days. Drum 1-11-46 was dated November 2001, but was not disposed of until November 23, 2002. Drum 20-7-5 was dated July 25, 2000, but was still on site on January 22, 2001. These are Class I violations pursuant to OAR 340-012-0068(1)(e).

4. Failing to label hazardous waste containers with accumulation start dates in violation of 40 CFR 262.34(a)(2), adopted pursuant to OAR 340-100-0002. Specifically, Respondent failed to label the following containers with accumulation start dates: two 55-gallon drums of waste thinner (D001 ignitability characteristic hazardous waste), one 55-gallon drum of sandblast waste (D008 lead toxicity characteristic hazardous waste) and one 55-gallon drum of stripping waste, (D001 ignitability characteristic hazardous wastes), all stored at the +55 elevation of Powerhouse #1; and Drum Nos. 2-10-2 and 2-18-13, which contained waste thinner and paint rags, D001 ignitability characteristic hazardous wastes. These are Class I violations pursuant to OAR 340-012-0068(1)(gg).

5. Failing to ensure that facility personnel underwent annual hazardous waste training in violation of 40 CFR 265.16(c). Specifically, Pat Hunter did not undergo training between September 2000 and the date of the compliance inspection. Brian McCavitt did not undergo training between June 2000 and June 2002. This is a Class II violation pursuant to OAR 340-012-0068(2)(m)

IV. ASSESSMENT OF CIVIL PENALTY

The Director imposes civil penalties for the violations cited in Section III as follows:

Violation	Penalty Amount
1	$ 1,200
2	$109,755
3	$ 1,200

4	$ 3,600
5	$ 1,200

Respondent's total civil penalty is $116,955. The findings and determination of Respondent's civil penalty pursuant to OAR 340-012-0045 are attached and incorporated as Exhibits 1 through 5.

V. OPPORTUNITY FOR CONTESTED CASE HEARING

Respondent has the right to have a contested case hearing before the Environmental Quality Commission (Commission) or its hearings officer regarding the matters contained in this Notice, provided Respondent files a written request for a hearing and an Answer within twenty (20) calendar days from the date of service of this Notice. If Respondent fails to file either a timely request for a hearing, a late filing will not be allowed unless the reason for the late filing was beyond Respondent's reasonable control. If Respondent fails to file a timely Answer, the late filing will not be allowed unless Respondent can show good cause for the late filing. *(See OAR 340-011-0107 and OAR 137-003-0528)*

The request for a hearing must either specifically request a hearing or state that Respondent wishes to appeal this Notice. In the written Answer, Respondent shall admit or deny each allegation of fact contained in this Notice, and shall specifically state all affirmative claims or defenses to the assessment of the civil penalty that Respondent may have and the reasoning in support of any claims or defenses. The contested case hearing will be limited to those issues raised in this Notice and in the Answer. Unless Respondent is able to show good cause:

1. Factual matters not disputed in a timely manner shall be presumed to be admitted;

2. Failure to timely raise a claim or defense will waive the ability to raise that claim or defense at a later time;

3. New matters alleged in the Answer will be presumed to be denied by the Department unless admitted in subsequent pleading or stipulation by the Department or Commission.

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Send the request for hearing and Answer to: Deborah Nesbit, Oregon Department of Environmental Quality, 811 S.W. 6th Avenue, Portland, Oregon 97204 or via fax at (503) 229-6762. Following the Department's receipt of a request for hearing and an Answer, Respondent will be notified of the date, time and place of the hearing.

Failure to file a timely request for hearing or an Answer may result in the entry of a Default Order for the relief sought in this Notice.

Failure to appear at a scheduled hearing may result in an entry of a Default Order.

The Department's case file at the time this Notice was issued may serve as the record for purposes of entering a Default Order.

VI. OPPORTUNITY FOR INFORMAL DISCUSSION

In addition to filing a request for a contested case hearing, Respondent may also request an informal discussion with the Department by attaching a written request to the hearing request and Answer.

VII. PAYMENT OF CIVIL PENALTY

The civil penalty is due and payable ten (10) days after the Order imposing the civil penalty becomes final by operation of law or on appeal. Respondent may pay the penalty before that time. Respondent's check or money order in the amount of $116,955 should be made payable to "State Treasurer, State of Oregon" and sent to the **Business Office, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, Oregon 97204**.

11-18-03
Date

Stephanie Hallock
Stephanie Hallock, Director

EXHIBIT 1

FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY
PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO. 1: Failing to perform a hazardous waste determination in violation of OAR 340-102-0011.

CLASSIFICATION: This is a Class I violation pursuant to OAR 340-012-0068(1)(b).

MAGNITUDE: The magnitude of the violation is minor pursuant to OAR 340-012-0090(3)(a)(C) because Respondent failed to perform a violation on two waste streams.

CIVIL PENALTY FORMULA: The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $1,000 for a Class I, minor magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation continued for more than one day.

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government. Respondent knew or should have known of its responsibility to perform hazardous waste determinations on all wastes it generates.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $0 as the economic benefit for this violation is recovered in the economic benefit portion of the penalty for Violation 2.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB

= $1,000 + [(0.1 x $1,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $0

= $1,000 + [($100 x 2)] + $0

= $1,000 + $200 + $0

= $1,200

EXHIBIT 2

FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY
PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO.2 — Large-quantity generator storage of hazardous waste in excess of 90 days in violation of 40 Code of Regulations 262.34(d), adopted pursuant to OAR 340-100-0002.

CLASSIFICATION: — This is a Class II violation pursuant to OAR 340-012-0068(2)(m).

MAGNITUDE: — The magnitude of the violation is moderate pursuant to OAR 340-012-0090(3)(c)(B) because the violation involved more than 250 gallons but less than 1,000 gallons of hazardous waste.

CIVIL PENALTY FORMULA: — The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $1,000 for a Class II, moderate magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation involved multiple containers and continued for more than one day.

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government. Respondent knew or should have known of the prohibition against storing hazardous waste for more than 90 days.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $108,555. The economic benefit portion of the civil penalty formula is simply the monetary benefit the Respondent gained by not complying with the law. Economic benefit is not designed to punish the Respondent, but to (1) "level the playing field" by taking away any economic advantage the violator gained over its competitors through

noncompliance, and (2) deter potential violators from deciding it is cheaper to violate and pay the penalty than to pay the costs of compliance.

DEQ calculates economic benefit using EPA's "BEN" computer model, which considers interest rates, tax rates and deductions, and other factors in determining an estimated benefit, pursuant to OAR 340-012-0045(1)(c)(F)(iii). In a February 26, 2003 letter, Respondent stated that its illegal storage stemmed from the failure to hire an additional environmental manager to handle the workload created by Respondent's compliance requirements.

By failing to hire necessary staff required to ensure compliance with the 90-day storage requirement, Respondent avoided a cost of $94,500. This results in an economic benefit of $108,555.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB
= $1,000 + [(0.1 x $1,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $108,555
= $1,000 + [($100 x 2)] + $108,555
= $1,000 + $200 + $108,555
= $109,755

EXHIBIT 3

FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY
PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO. 3 — Large-quantity generator storage of hazardous waste in excess of 90 days in violation of 40 Code of Regulations 262.34(d), adopted pursuant to OAR 340-100-0002.

CLASSIFICATION: — This is a Class I violation pursuant to OAR 340-012-0068(1)(e).

MAGNITUDE: — The magnitude of the violation is minor pursuant to OAR 340-012-0090(3)(c)(C) because the violation involved less than 250 gallons of hazardous waste.

CIVIL PENALTY FORMULA: — The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $1,000 for a Class I, minor magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation continued for more than one day.

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government. Respondent knew or should have known of the prohibition against storing hazardous waste for more than 90 days.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $0 as the economic benefit for this violation is recovered in the economic benefit portion of the penalty for Violation 2.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB

= $1,000 + [(0.1 x $1,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $0

= $1,000 + [($100 x 2)] + $0

= $1,000 + $200 + $0

= $1,200

EXHIBIT 4

FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY
PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO. 4 — Failing to label hazardous waste containers with accumulation state dates in violation of 40 CFR 262.34(a)(a), adopted pursuant to OAR 340-100-0002.

CLASSIFICATION: — This is a Class I violation pursuant to OAR 340-012-0068(1)(gg).

MAGNITUDE: — The magnitude of the violation is moderate pursuant to OAR 340-012-0090(3)(c)(B) because the violation involved more than 250 gallons, but less than 1,000 gallons of hazardous waste.

CIVIL PENALTY FORMULA: — The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $3,000 for a Class I, moderate magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation involved multiple containers and continued for more than one day.

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government. Respondent knew of the requirement to label hazardous waste containers with accumulation start dates but failed to do so.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $0 as the economic benefit for this violation is recovered in the economic benefit portion of the penalty for Violation 2.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB

= $3,000 + [(0.1 x $3,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $0

= $3,000 + [($300 x 2)] + $0

= $3,000 + $600 + $0

= $3,600

EXHIBIT 5

FINDINGS AND DETERMINATION OF RESPONDENT'S CIVIL PENALTY
PURSUANT TO OREGON ADMINISTRATIVE RULE (OAR) 340-012-0045

VIOLATION NO. 5 — Failing to ensure facility personnel undergo annual hazardous waste management training in violation of 40 CFR 265.16(c

CLASSIFICATION: This is a Class II violation pursuant to OAR 340-012-0068(2)(g).

MAGNITUDE: The magnitude of the violation is moderate pursuant to OAR 340-012-0045(1)(a)(B) because there is no selected magnitude for the violation in OAR 340-012-0090 and the Department does not have sufficient information to support a finding of minor or major magnitude.

CIVIL PENALTY FORMULA: The formula for determining the amount of penalty of each violation is:

$$BP + [(0.1 \times BP) \times (P + H + O + R + C)] + EB$$

"BP" is the base penalty, which is $1,000 for a Class II, moderate magnitude violation in the matrix listed in OAR 340-012-0042(1).

"P" is Respondent's prior significant action(s) and receives a value of 2, pursuant to OAR 340-012-0045(1)(c)(A)(ii). Respondent's prior significant action, Case No. WPM/HW-NWR-00-196, consists of one Class I equivalent violation.

"H" is the past history of Respondent in taking all feasible steps or procedures necessary to correct any prior significant action(s) and receives a value of -2 pursuant to OAR 340-012-0045(1)(c)(B)(i) as Respondent corrected the violations in its prior significant action

"O" is whether or not the violation was a single occurrence or was repeated or continuous during the period of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(C)(ii) as the violation was repeated

"R" is the cause of the violation and receives a value of 2 pursuant to OAR 340-012-0045(1)(c)(D)(ii) as the cause of the violation was Respondent's negligent conduct. Respondent is a large quantity generator and an agency of the United States government, and knew or should have known of the training requirement.

"C" is Respondent's cooperativeness in correcting the violation and receives a value of -2 as Respondent was cooperative and corrected the violation.

"EB" is the approximate dollar sum of the economic benefit that the Respondent gained through noncompliance, and receives a value of $0 as the economic benefit for this violation is recovered in the economic benefit portion of the penalty for Violation 2.

PENALTY CALCULATION:

Penalty= BP + [(0.1 x BP) x (P + H + O + R + C)] + EB

= $1,000 + [(0.1 x $1,000) x (2 + (-)2 + 2 + 2 + (-)2)] + $0

= $1,000 + [($100 x 2)] + $0

= $1,000 + $200 + $0

= $1,200

State of Oregon
Department of Environmental Quality Memorandum

Date: July 18, 2005

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item C Rule Adoption: Lakeview and La Grande PM10 Maintenance Plan as a revision to the State of Oregon Clean Air Act Implementation Plan (SIP), including supporting rule revisions in Divisions 200, 204, 224, and 225. August 11, 2005, EQC meeting.

Department Recommendation

The Department of Environmental Quality recommends that the Environmental Quality Commission do the following:

1. Revise the State Implementation Plan by approving the proposed Lakeview and La Grande PM10 maintenance plans and supporting appendices.
2. Adopt the associated rules, as presented in Attachments A, B and C.

Background and Need for Rulemaking

Over the last several years, DEQ has worked with the townspeople of Lakeview and La Grande to reduce particulate pollution and protect public health in their respective communities. The designation "PM10" stands for particulate matter measuring 10 micrometers or less in diameter. This type of pollution comes primarily from combustion processes (e.g. wood burning, industrial manufacturing, transportation). It creates a risk to human health because these small particles[1] are not filtered out by the body's natural defense mechanisms and can become trapped deep in the lungs.

During the late 1980s and early 1990s, particulate pollution in Lakeview and La Grande reached significant levels and violated federal air quality health standards. As a result, both communities were designated as nonattainment areas (i.e. areas not in compliance with air quality standards) for particulates under the 1990 Clean Air Act Amendments.

At that time, DEQ worked with Lakeview and La Grande to develop

[1] Fine particulate can become lodged in the respiratory system where it can be an irritant, as well as trigger biochemical and physical changes in the lungs. Children, the elderly and others suffering from respiratory or heart disease are at greatest risk from PM10 exposure. PM10 also includes all particulate matter 2.5 microns and smaller in diameter (PM2.5). PM2.5 remains deep in the lungs and EPA studies show large concentrations of PM2.5 have been linked to premature death.

new strategies for meeting the PM10 standards. The resulting PM10 attainment plans developed for La Grande in 1991 and for Lakeview in 1994 included the following:

- A voluntary woodstove curtailment program.
- Emission limit standards for existing industrial processes.
- Local open burning ordinances.
- Enhanced road cleaning programs.
- Management of prescribed forestry burning.
- A county field burning ordinance for La Grande.
- Strict limits on emissions growth from new and expanding major industry.

These initial plans were designed to bring both communities into compliance with PM10 standards by Clean Air Act deadlines: La Grande by December 31, 1994, and Lakeview by December 31, 1997. Subsequent air quality monitoring showed that both communities met the PM10 standards two years before their respective deadlines. Since then, PM10 levels have remained well below federal standards.

Effect of Rule

The proposed PM10 maintenance plans and supporting rules build on the existing plans and ensure that Lakeview and La Grande will continue to meet federal PM10 standards through the year 2025. Meeting PM10 standards and having an approved maintenance plan in place qualify Lakeview and La Grande for EPA reversal of their nonattainment status. (Under Oregon's program, the areas would then become PM10 maintenance areas.)

Each of the proposed plans continues the PM10 strategies listed above, which have been successful in reducing emissions in Lakeview and La Grande. In addition, the proposed plans do the following:

- Change requirements for managing emission growth under New Source Review. (For the EQC[2], please see page 32 for a complete description in Lakeview's PM10 maintenance plan, Attachment A; and pages 33-34 in La Grande's plan, attachment B.)
- Develop an "emissions budget" capping future motor vehicle PM10 emissions.[3]
- Establish a contingency plan for responding to future violations of PM10 standards.[4]

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[2] For a complete description, see page 32 in the Lakeview PM10 maintenance plan, Attachment A; and pages 33-34 in the La Grande plan, attachment B.

[3] For a full description, see pages 27-28 in the Lakeview maintenance plan and pages 27-28 in the La Grande plan.

[4] For a full description, see pages 33-34 in the Lakeview plan and pages 34-36 in the La Grande plan.

New Source Review

The proposed plans for Lakeview and La Grande change New Source Review (NSR) requirements for managing emissions growth from new and expanding major industry. NSR requires any new or expanding major industrial source to install emission control equipment and conduct an air quality analysis. NSR elements in the proposed Lakeview and La Grande plans include the following:

- Retention of an emission threshold level of 15 tons/year for triggering NSR requirements.
- Replacement of the current requirement to install Lowest Achievable Emission Rate (LAER) pollution control technology with a requirement to install Best Achievable Control Technology (BACT). EPA allows maintenance areas to replace LAER technology with BACT. BACT reduces emissions at a level comparable to LAER, but at lower cost.
- Revision of NSR requirements for emission offset. Under the offset program, any new or expanding industrial facility proposing to increase emissions must first obtain an equivalent emission reduction to offset the proposed emission increase. Based on local advisory committee recommendations, the Lakeview and La Grande plans differ in their approach to the emission offset requirements. Each community's approach is discussed below.

Lakeview—Lakeview's local advisory committee recommended replacing the current emission offset requirement for major new and expanding industry with a limited growth allowance on the basis that the offset requirement can be difficult to meet. Under a limited growth allowance program, a new or growing industry or other source may request from DEQ a "growth allowance" that raises the source's cap on allowed emissions by a specified amount. DEQ grants such allowances on a first-come-first-served basis, until an overall cap on allowable emissions is reached. Providing an allowance for growth in Lakeview accommodates new and expanding industrial facilities that produce particulate pollution while still ensuring compliance with PM10 standards. The committee, which knew of at least one proposed project that would be affected by the rule change, chose the growth allowance to meet the community's economic growth needs while preserving the standard.

La Grande—La Grande's local advisory committee recommended keeping the emission offset requirement for new and expanding major sources, thus maintaining the existing cap on particulate emissions for major new and expanding industrial facilities. The

committee wanted to maintain their current air quality and felt the current 15 ton emission threshold was sufficient for any economic growth opportunities.

Emissions Budget

For both communities, the plans establish a cap on future motor vehicle PM10 emissions. This cap is an "emissions budget" for the future transportation system. The emissions budget is used to ensure that emissions from motor vehicles and transportation projects (now and in the future) do not jeopardize air quality standards.

Contingency Plan

Each community establishes a contingency plan to prevent or correct any future violation of PM10 standards quickly. The contingency plan calls for local committees to meet with DEQ and identify additional strategies to (1) avoid exceeding the standard if PM10 concentrations approach the standard, and (2) return the area to compliance should an unexpected violation occur. If there is a violation, the most stringent equipment standards (LAER) and emission offsets will again be required for new or expanding major sources until the plan is revised and the violation corrected.

Commission Authority

The Commission has authority to take this action under ORS 468.020, ORS 468A.025, and ORS 468A.035.

Stakeholder Involvement

DEQ developed these plans with the help of the Lakeview Air Quality Committee and the La Grande Air Quality Commission. Both committees reflected a cross section of community interests (see Attachment F for committee memberships). The committees, with DEQ's help, actively solicited community involvement during their planning. DEQ worked closely with each committee to evaluate air quality strategies, including the requirements for new and expanding major industry. DEQ's proposal reflects a committee consensus on most issues. Where there was disagreement, DEQ documented and considered the perspectives of all participants.

Most of the committee discussion centered on the requirements for new and expanding major industry. With one exception, the Lakeview Air Quality Committee and the La Grande Air Quality Commission reached consensus on the NSR provisions in the plans described above. The La Grande Commission did not reach consensus on the equipment control standard. One commissioner, who felt, based on a cost/benefit analysis, that BACT level controls were not sufficiently stringent, recommended continuing the more stringent emission control technology requirement (LAER). The remainder of the Commission felt that BACT would be satisfactory

and is restrictive enough for La Grande. The dissenting commissioner accepted this recommendation.

The La Grande Commission also discussed the particulate impact from forest and field burning smoke. Although there was much interest in this topic, the Commission recognized that forest and field burning smoke were a regional phenomenon and, for the most part, occurred outside the period of the highest PM10 concentration (the winter months). Additionally, Union County addresses field burning through a separate committee forum and forest burning is addressed through the Oregon Department of Forestry. The La Grande Commission felt they did not have the authority to implement strategies for particulate problems that originated outside their jurisdiction. The Commission instead called for better coordination among groups that oversee forest and agricultural burning activities occurring outside the urban growth boundary. Union County and Oregon Department of Forestry will continue their programs to minimize smoke impacts on La Grande. DEQ will remain involved with groups implementing forest and agricultural burning near La Grande and encourage better coordination and accountability in their activities.

Public Comment

DEQ held open public meetings after issuing several press releases announcing the meetings in Lakeview and La Grande during the fall of 2004. DEQ's initial plan proposals were released for public review in February and March, 2005.

An information session for the Lakeview Town Council and the Lake County Commissioners was held on March 22, 2005, and the first hearing was held in Lakeview that evening. No oral comments were received, and the Lakeview Town Council passed a resolution concurring with the proposed maintenance plan. A second hearing was held on May 12, 2005, in Lakeview, and again, there were no comments. The public comment period ended on May 18, 2005, without additional comment.

In La Grande, a public information session was held on March 24, 2005, followed by a public hearing later that evening. There were no comments at the La Grande hearing or during the public comment period that ended March 31, 2005. After the comment period closed, the La Grande City Council and the Union County Commissioners concurred with the plan through respective resolutions.

The public comment process and testimony received are discussed further in the Summary of Public Comment and DEQ Response (Attachment E).

This staff report and attachments have been provided to both

communities and are available online at http://www.deq.state.or.us/aq/aqplanning/lakeviewMP.htm for Lakeview or http://www.deq.state.or.us/aq/aqplanning/lagrandeMP.htm for La Grande.

Key Issues

During the committee meetings, requirements for new and expanding major industrial sources were the most frequently discussed issue. The recommendations from each community advisory committee reflect a balance of important environmental and economic priorities within that community, while still meeting requirements under the Clean Air Act.

Next Steps

If adopted by the Environmental Quality Commission, the plans will be submitted to the EPA for approval with a request that the legal status of Lakeview and La Grande be revised from nonattainment to attainment for PM10. EPA has 18 months to approve or disapprove the maintenance plans.

Emission reduction strategies will continue to be implemented by DEQ and the local staff in Lakeview and LaGrande.

Attachments

A. Proposed Lakeview PM10 Maintenance Plan[5]
B. Proposed La Grande PM10 Maintenance Plan[6]
C. Associated Oregon Administrative Rule Revisions
D. Presiding Officer's Report on Public Hearings
E. Summary of Public Comments and Agency Responses
F. Air Quality Committee Memberships
G. Relationship to Federal Requirements Questions
H. Statement of Need and Fiscal and Economic Impact
I. Land Use Evaluation Statement

Available Upon Request

1. Legal Notice of Hearing
2. Cover Memorandum from Public Notice
3. Written Comment Received
4. Rule Implementation Plan

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[5] The Commissioners are receiving a full copy of the maintenance plan which includes an executive summary of the emission inventory. All other copies of the staff report have only an executive summary of the maintenance plan. For a complete copy of the Lakeview Maintenance Plan see DEQ's Web site at http://www.deq.state.or.us/aq/aqplanning/index.htm under current topics.

[6] Same footnote as #5 as it applies to La Grande's Maintenance Plan rather than Lakeview's.

Approved:

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EQC STAFF REPORT – ATTACHMENT A

State Implementation Plan Revision
For Particulate Matter (PM_{10}) in the Lakeview City Limits and Its Urban Growth Boundary

A Plan for Maintaining The National Ambient Air Quality Standards For Particulate Matter (PM_{10}) The Lakeview Urban Growth Boundary Section 4.60 of the State Implementation Plan

DRAFT
March 2005

State of Oregon
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

EQC STAFF REPORT – ATTACHMENT A

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EQC STAFF REPORT – ATTACHMENT A

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4.60.0 ACKNOWLEDGMENT AND SUMMARY

4.60.0.1 Acknowledgments

Without the efforts of numerous individuals in state and local governments and private entities who are dedicated to healthy air, this supplement to the Oregon State Implementation Plan would not have been possible. Special appreciation goes to:

- Lakeview Air Quality Committee;
- Past contributors Fran Banton and Audrey Henry former staff at Town of Lakeview.

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Colleen Phillips, Town of Lakeview, Recorder
Janine Cannon, Chair AQ Committee
Russ Larkin, AQ Committee
Ray Bledsaw, AQ Committee
Mike Patrick, AQ Committee
Jerald Steward, AQ Committee
Marv Crocker, AQ Committee
Angie Forbes, AQ Committee
Bill Duke, AQ Committee

And other interested parties
Arlene Clark, Former Town Mayor
Ray Simms, Lake County Planning Director
Debbie Utley, Lake County Economic Development
Sandy Wenzel

4.60.0.2 Executive Summary: The Lakeview PM_{10} Maintenance Plan

The Lakeview PM_{10} nonattainment area is defined by the Lakeview Urban Growth Boundary (UGB) which is approximately five square miles and includes the city limits. PM_{10} refers to particulate matter with a diameter of ten microns and less. Lakeview has complied with National Ambient Air Quality Standards (NAAQS) for PM_{10} since 1994 as demonstrated through air quality monitoring data. The Department of Environmental Quality (DEQ) is asking the U.S. Environmental Protection Agency (EPA) to redesignate Lakeview to attainment with standards by submitting the maintenance plan and redesignation request. EPA requires a maintenance plan to demonstrate continued compliance for at least ten years following EPA approval (approval is assumed to be 2007). Although DEQ is only required to demonstrate compliance to 2017, 2025 was selected as the last maintenance demonstration year. DEQ forecasted PM_{10} levels to 2025 and determined that these levels still continue to meet the standards ensuring an added margin of safety in the planning process. EPA requires a second ten year maintenance planning period to begin eight years after this plan is approved. This Redesignation Request/Maintenance Plan has been adopted by the Oregon Environmental Quality Commission (EQC) and submitted to EPA as an amendment to the State Implementation Plan (SIP).

The maintenance plan accommodates future growth and provides for the protection of public health by ensuring continued compliance with the PM_{10} standards. The plan continues emission reduction strategies needed to maintain compliance and provides a PM_{10} emissions allocation (budget) for the future transportation system. Finally, the plan removes the most stringent industrial emission control requirements for new or expanding major industry in nonattainment areas, and replaces them with somewhat less stringent requirements as allowed by the Clean Air Act. To approve the maintenance plan, EPA requires permanent and enforceable reductions in emissions to remain in effect throughout the maintenance period.

4.60.0.2.1 Background

What is PM_{10}?

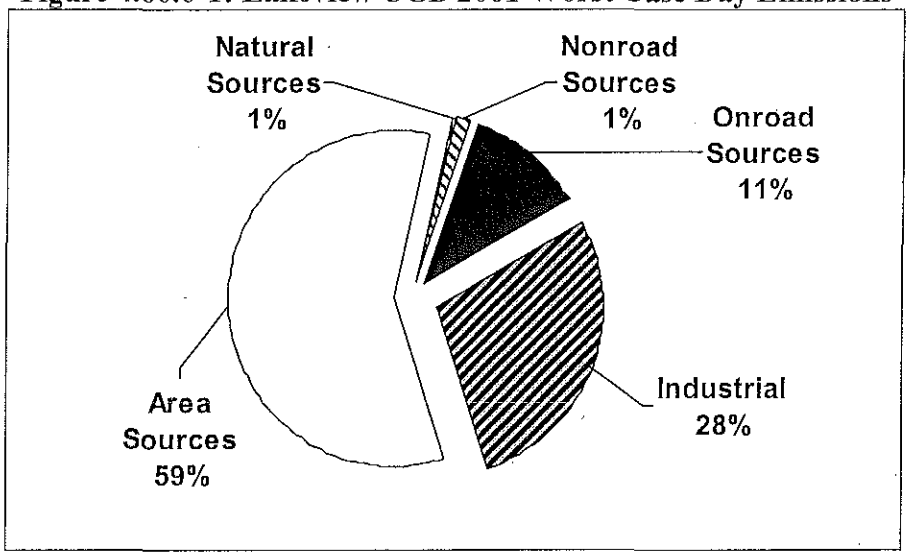
PM_{10} is particulate matter ten microns and less in size measuring less than one quarter the diameter of a human hair. It includes a fine fraction of solid particles or liquid droplets. Particulate in this size range can be inhaled deeply into the lungs where they can remain for weeks to years and aggravate respiratory conditions, such as bronchitis, asthma, emphysema, and similar diseases. Health effects caused by particulate matter vary based upon the size, concentration, and chemical composition of the particles. In addition, there may be several potential carcinogens present on particulate matter. Of particular concern are the condensed organic compounds released from low temperature combustion processes such as wood stoves. Sensitive groups that appear to be at greatest

risk to these effects include the elderly, individuals with cardiopulmonary disease, and children.

EPA has established health based National Ambient Air Quality Standards (NAAQS) for PM_{10} at 150 micrograms per cubic meter ($\mu g/m^3$) for the 24-hour average and 50 $\mu g/m^3$ for the annual average. Any PM_{10} concentration monitored above these levels is considered an exceedance[1] of the air quality standard. The 24-hour standard is also considered a violation if it is exceeded more than once per year, averaged over a consecutive three year period. If an area is in violation of the standard, EPA designates it as a nonattainment area. State and federal restrictions are placed on nonattainment areas as needed to improve air quality and meet standards. Experience has demonstrated that the 24-hour average is more likely to be exceeded than the annual average.

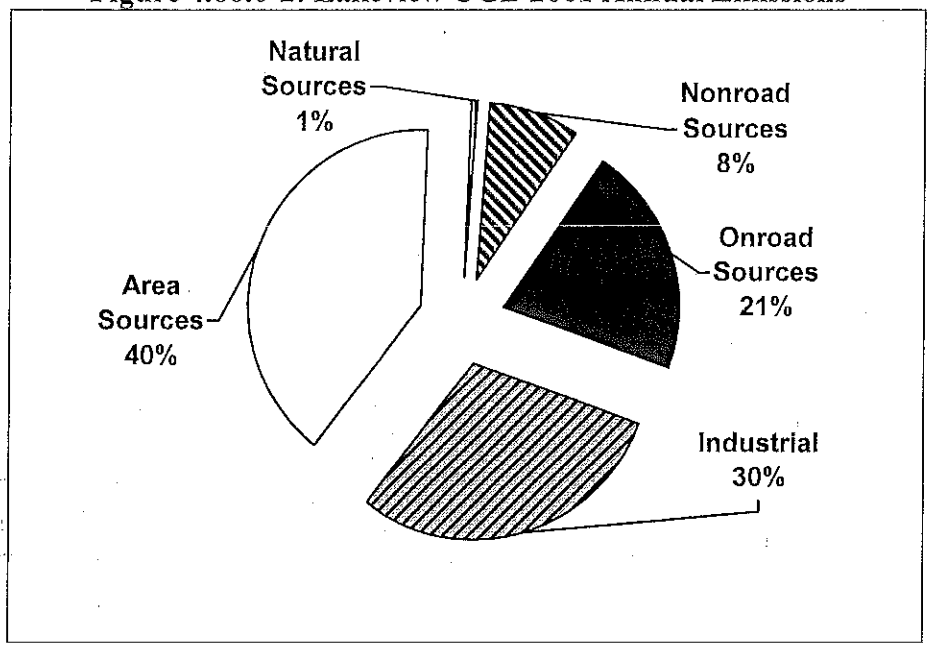
Unhealthy levels of PM_{10} are typically a wintertime problem in Lakeview due to cold air inversions in the Lakeview basin. Due to these wintertime inversions, the worst case day for emissions of PM_{10} occurs between November 1 and February 28 of each year. A main component of the maintenance plan is the emission inventory, or an accounting of PM_{10} emissions on a worst case day as well as an annual average. Five emission source categories are described in Figures 4.60.0-1 and 4.60.0-2. Major industrial sources include sources like Fremont Sawmill. Area sources include wood stoves/fireplace emissions and fugitive dust which are the dominant sources of PM_{10} in Oregon. Other area sources include fuel oil use, road sanding, forest and agricultural burning, open burning and other fuel combustion sources. Nonroad sources include sources such as construction equipment and lawnmowers. Onroad sources include motor vehicle emissions, from tailpipe exhaust and road dust. Natural sources include dust from the nearby Goose Lake bed that may enter the UGB.

Figure 4.60.0-1: Lakeview UGB 2001 Worst Case Day Emissions



[1] Concentrations at or below 154.4 $\mu g/m^3$ round down to 150 $\mu g/m^3$ or less and are considered in compliance. The 24-hour standard is defined as an average 24-hour period beginning at midnight and ending at midnight of each day. A violation of the standard is one expected exceedance per year, using an average in three years.

Figure 4.60.0-2: Lakeview UGB 2001 Annual Emissions



Past PM_{10} Problems and Current Attainment of Standards

The Lakeview area violated the federal 24-hour PM_{10} standard of 150 $\mu g/m^3$ in the early 1990s. The highest recorded 24-hour average PM_{10} concentration was 256 $\mu g/m^3$ recorded on January 27, 1993 at Center and M Street in the central part of the Town. Significant PM_{10} emissions occurred during this period of time due to wintertime inversions, cold weather and more wood combusted in woodstoves for seasonal home heating.

There were two recorded daily exceedances in 1991; one exceedance in 1992; and two recorded exceedances in 1993 and 1994. The last recorded exceedance of the standard was 184 µg/m3 on January 19, 1994. Since 1994, peak PM_{10} concentrations have remained below the standards.

The highest annual average PM_{10} concentration was 31.7 µg/m3 in 1992 based on 225 sampling days. Since then, the annual average has continued in a downward trend remaining below the annual standard. The annual average has been less than half the standard from 1995 to 2003. The ten-year trend in ambient PM_{10} concentrations as measured at the reference monitor (Center and M Street) is shown below in Figures 4.60.0-3, and 4.60.0-4.

Figure 4.60.0-3: Lakeview PM_{10} Trend in Micrograms per Cubic Meter Maximum 24-Hr, 1991-2002

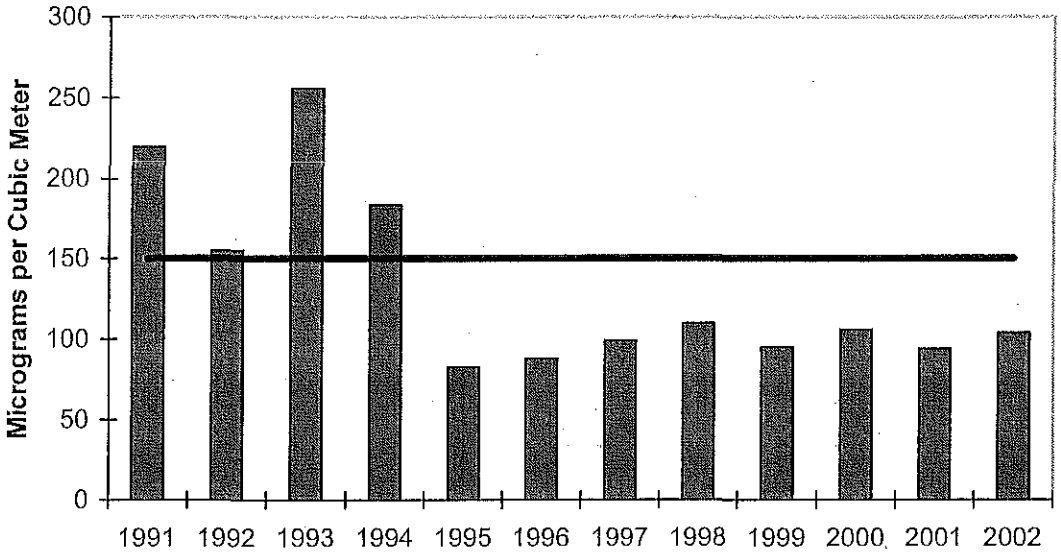
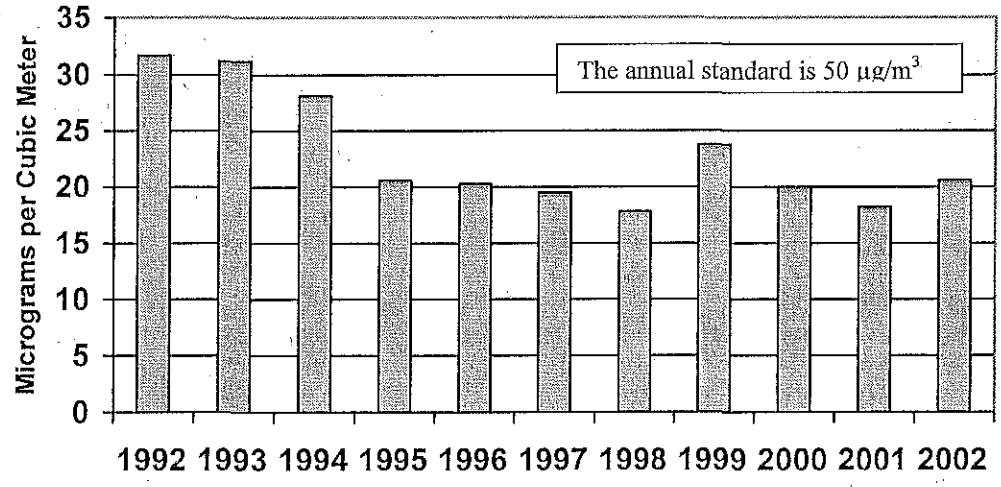


Figure 4.60.0-4: Annual Average 1992-2002 in Micrograms Per Cubic Meter



Success in Reducing PM_{10}

Particulate matter (PM_{10}) control strategies have been successful in bringing Lakeview into attainment with the 24-hour PM_{10} standard and further decreasing the annual average. Emission reduction strategies primarily responsible for compliance include:

- A statewide woodstove certification program;
- A woodstove removal and heating source replacement program, called "Clearing Lakeview's Environment, Air Resources" (CLEAR) program, for low income people;

- A town of Lakeview woodstove and open burning curtailment ordinance that reduced burning on poor air quality days;
- Winter road sanding controls;
- Public education programs;
- Industrial restrictions - Significant Emission Rate requirement and wood products requirements to manage future growth; and
- Forestry slash burning emission reduction and restrictions.

4.60.0.2.2 Need for Maintenance Plan

The Lakeview PM_{10} maintenance plan is designed to ensure continued compliance with the PM_{10} standards through at least 2017 with added assurances to 2025. Lakeview violated the 24-hour standard in 1991 but did not violate the annual standard. For this reason, this plan focuses on the 24-hour standard. DEQ's forecast of future emissions and expected emission reduction strategies are reflected in future 2025 PM_{10} levels.

Benefits of a Maintenance Plan

For EPA to redesignate the Lakeview UGB from nonattainnment to attainment an enforceable plan must be approved by EPA that demonstrates how the area will continue to meet the PM_{10} standard for a minimum of ten years. Once EPA approves this Maintenance Plan and publishes the approval in the Federal Register, EPA changes Lakeview's legal status to attainment (in compliance with the standards). Lakeview will then become a federal attainment area and an Oregon maintenance area for PM_{10}. The primary benefits of an EPA-approved PM_{10} maintenance plan and redesignation are:

- Assurance that future public health will be protected from adverse impacts of PM_{10};
- Assurance that regulatory limits, expectations and conditions will be known for at least the next ten years; and
- The ability to ease the restrictions for new and expanding industry while still ensuring compliance with the PM_{10} standards.

Projections of Future PM_{10} Levels

Future growth in Lakeview is expected to be moderate over the next twenty years. Growth estimates are from Lakeview's comprehensive plan and are also consistent with forecasts developed by the Oregon Office of Economic Analysis. The Lakeview UGB was estimated to have a population of 3,656 in 2000. Based on the long-range forecast, the Lakeview UGB population is expected to grow to approximately 4,579 by 2025 (1.03 percent per year compounded average growth). Population, housing, and employment forecasts were used in the Oregon Department of Transportation's latest travel demand model to predict growth in motor vehicle travel in the Lakeview area. A buffer was added to the predicted transportation growth for future unanticipated transportation projects. Growth rates used to forecast future PM_{10} emissions are shown in Table 4.60.0-1

Table 4.60.0-1: Annual Average Growth Rates (2001-2025)
Lakeview Urban Growth Boundary

Population Growth	1.0%/yr
Household Growth	1.1%/yr
Industrial Employment	1.0%/yr
Vehicle Miles Traveled	1.7%/yr

Estimated linear rates

The maintenance plan analysis used these growth rates to estimate future PM_{10} air quality conditions in Lakeview through 2025. PM_{10} emissions projected through 2025 remain steady with a slight decrease in emissions from woodstoves and open burning, but with an overall increase in growth. The predicted ambient concentrations of PM_{10} will remain well below the 24-hour and annual national health-based standards. DEQ began our analysis in 2001 as this is the design year for ambient emissions, which are compared to the attainment emission inventory levels. Figures 4.60.0-5 and 4.60.0-6 show the 2001 attainment emission inventory level and projected emissions through 2025 for the Lakeview UGB.

Figure 4.60.0-5: Lakeview PM_{10} Emissions Forecast (lbs/day)

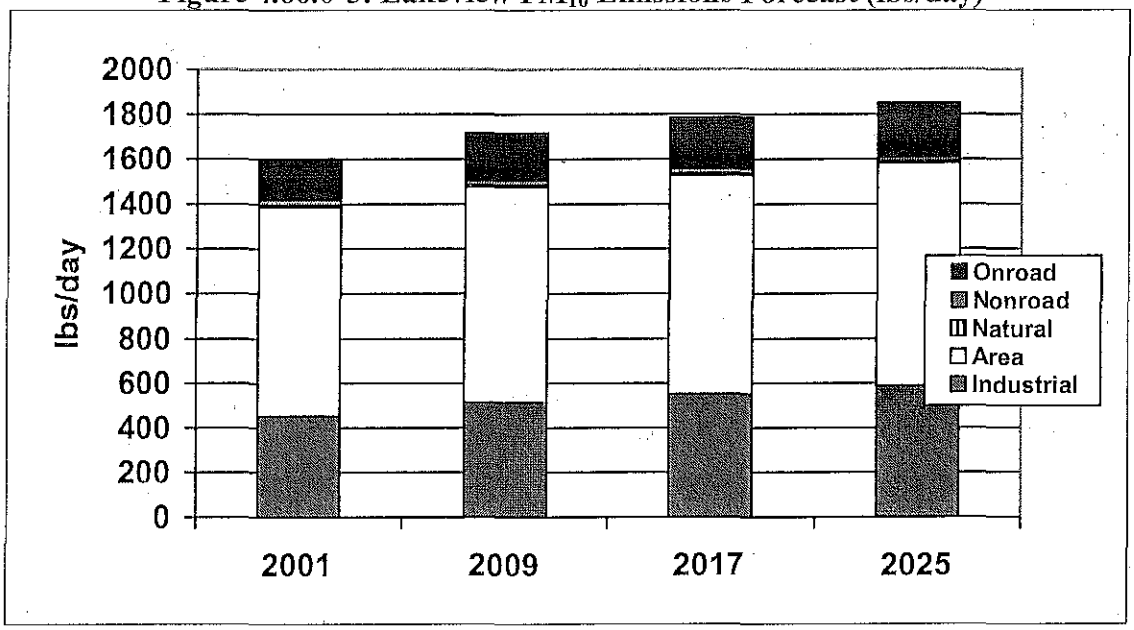
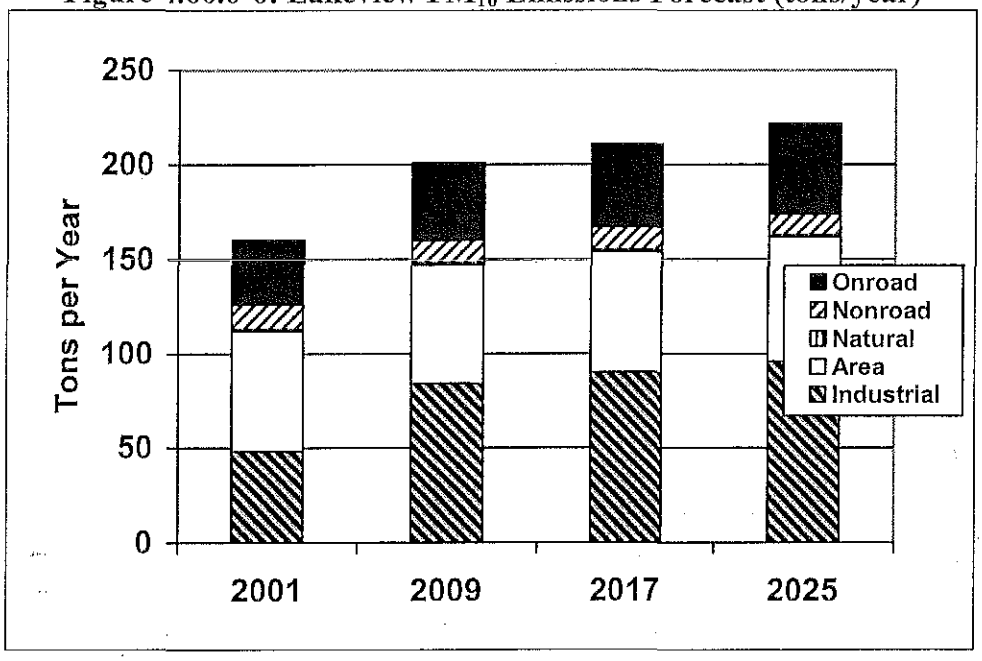


Figure 4.60.0-6: Lakeview PM_{10} Emissions Forecast (tons/year)



EPA has approved a simplified analysis for areas like Lakeview that has limited population and has reduced PM_{10} levels substantially. In this simple analysis procedure, future ambient PM_{10} levels or concentrations are expected to increase or decrease in proportion to future changes in the areas overall emission levels (the emission forecast). The resulting future ambient PM_{10} concentrations are compared to the PM_{10} standards for compliance determination. The analysis shown in Table 2 shows the emission forecast and estimated proportional change in future ambient PM_{10} concentrations and demonstrates Lakeview continues to meet the standards through 2025. Growth is essentially linear and there should not be an unexpected emission increase between 2001 and 2025. The table below shows a couple intermediate years in the forecast to 2025.

Table 4.60.0-2: PM_{10} Attainment Demonstration

Worst Case Day	2001 Worst Case Day	2009 Worst Case Day	2017 Worst Case Day	2025 Worst Case Day
Total Emissions from Inventory – Worst Case Day (lbs/day)	1,598 lbs/day	1,717 lbs/day	1,783 lbs/day	1,850 lbs/day
24-hr. Estimated Ambient Concentration (micrograms/cubic meter)	111 $\mu g/m^3$	118 $\mu g/m^3$	122 $\mu g/m^3$	126 $\mu g/m^3$
Annual	2001 Annual	2009 Annual	2017 Annual	2025 Annual
Total Emissions from Inventory – Annual (tons/yr)	160 tons/yr	201 tons/yr	211 tons/yr	222 tons/yr
Annual Estimated Ambient Concentration (micrograms/cubic meter)	21 $\mu g/m^3$	25 $\mu g/m^3$	26 $\mu g/m^3$	27 $\mu g/m^3$

4.60.0.2.3 Maintenance Plan Development Process

DEQ relied primarily on the involvement of the Lakeview Air Quality Committee and the Oregon Department of Transportation (ODOT) to develop the draft PM_{10} maintenance plan provisions. The Air Quality Committee is a town-appointed committee, who also invited other participants from the town to their meeting. The Air Quality Committee reviewed a draft of the maintenance plan and emission inventory and provided final guidance and recommendations.

The Lakeview Air Quality Committee recommended (and DEQ included) the following key provisions as part of the PM_{10} Maintenance Plan:

- Continue implementing the Town of Lakeview's strategy outlined in the woodstove and open burning program and ordinance with a heavy emphasis on public education;
- Continue to replace uncertified woodstoves from homes in the maintenance area by continuing the CLEAR project to the extent funding is available. Each year a couple of stoves with an emphasis on low income households may be replaced through this revolving fund;
- Add a buffer (an extra emissions allowance) for unanticipated transportation projects to address DEQ's conformity rules;
- Allow for more flexibility for industrial growth while continuing to ensure that PM_{10} standards are met; and
- Adopt a contingency plan that will both prevent and correct any future violation of the standards.

4.60.0.2.4 Maintenance Summary: Strategies, Conformity, and Contingency Plan

Wood Smoke Emission Control

The wood stove emission control program in Lakeview is the most effective strategy for the Lakeview UGB to reduce particulate emissions. These strategies include certification standards for new stoves, changeout programs to encourage removal of noncertified stoves and local ordinances to curtail burning during stagnant weather periods. The certification of new stoves and the uncertified wood stove and replacement program conducted in the early 1990s contributed to the largest reduction in emissions. The continued attrition of older wood stoves coupled with a general trend away from significant woodheating is expected to continue to reduce emissions through 2025 even with a moderate growth in households. DEQ conducted household surveys on wood stove use in 1993 and in 2002, which quantified older uncertified stove attrition. In addition, the voluntary wood stove curtailment program has been an effective tool in keeping emissions low in Lakeview. When implementing the curtailment program, the town's staff determines a woodstove and open burning advisory based on PM_{10} and the

more stringent $PM_{2.5}$ standards.

Industrial Requirements for New and Expanding Industry

Current rules require all new or expanding major industrial sources within the UGB to install emission control equipment and conduct an air quality analysis. These requirements are called New Source Review. In Lakeview, any source that proposes to emit 15 tons or more of PM_{10} per year must install emission control technology called the Lowest Achievable Emission Rate (LAER) control technology. LAER is an industrial emission control equipment requirement to control emissions to the lowest level regardless of cost. Upon federal redesignation to attainment, the requirement for major new and expanding industry will be the Best Available Control Technology (BACT) for PM_{10} emissions. This could be a less stringent requirement because it allows a source to consider a cost/benefit in designing and evaluating industrial emission controls.

In addition to the emission control equipment requirement, NSR requires new and expanding major industry to conduct an analysis through modeling. The analysis must show that the industry's emissions will not exceed or contribute to an exceedance of the standards. In addition, the analysis must show the industry will not exceed or contribute to safety PM_{10} levels of more than 140 micrograms per cubic meter for a 24-hour period or 45 micrograms per cubic meter for an annual average. No single new or expanding major source shall be allowed to use more than five micrograms per cubic meter of airshed capacity. Industry must consider all sources of PM_{10} to 2025 when conducting the analysis. NSR requirements are described in Section 4.60.3.2 of the Maintenance Plan.

Other Strategies

Open burning has been recognized as a significant contributor to PM_{10} emissions. Lakeview's open burning ordinance includes a requirement only to burn on days with good ventilation.

Conformity and PM_{10} Emissions Budget

Transportation conformity regulations, required by the 1990 Federal Clean Air Act Amendments, require a motor vehicle emissions budget to be included in the State Implementation Plan (SIP). Regionally significant transportation project proposals must be evaluated for impacts on future PM_{10} emissions.

This plan establishes the emissions budget that will serve as a cap on emissions from motor vehicles in Lakeview. The Oregon Department of Transportation (ODOT) periodically forecasts motor vehicle emissions as part of updating the long-range transportation plan for the Lakeview area. Future motor vehicle emissions resulting from regionally significant projects must remain within the emissions allocation (budget) established in this maintenance plan through 2017. An additional ten percent for vehicle miles traveled has been added to the emissions budget in the event that currently

unfunded or unanticipated projects can be built as a buffer for the plan. Conformity is described in Section 4.60.3.2 of the Maintenance Plan.

Contingency Plan Elements

The maintenance plan must contain contingency measures that would be implemented either to prevent or correct a violation of the PM_{10} standard after the area has been redesignated to attainment status. The Clean Air Act requires that any measures removed from the original attainment plan be reinstated if a violation occurs. The strategy adopted by the Lakeview Air Quality Committee involves a two-phase contingency plan to prevent and quickly correct any significant deterioration in air quality. If measured PM_{10} concentrations exceed 93% of the 24-hour PM_{10} standard (140 $\mu g/m^3$), the contingency plan states that DEQ and the Lakeview Air Quality Committee should review the cause of the high PM_{10} event and assess strategies to determine if additional action is needed to prevent a violation. This committee could also be convened if a measured annual average rises above 90% of the standard. Should a violation occur, the contingency plan requires that the most stringent requirements for major new or expanding industry sources be automatically reinstated and that the local committee develop additional strategies to bring the area into compliance. The Lakeview PM_{10} Contingency Plan is described in Section 4.60.3.3 of the Maintenance Plan.

###

4.60.1 INTRODUCTION

4.60.1.1 Purpose of Redesignation Request and Maintenance Plan Document

The purpose of this document is to ensure continued protection of public health and to request redesignation of the Lakeview area from nonattainment to attainment for particulate matter ten microns and less in aerodynamic size (PM_{10}). The document is also a maintenance plan that ensures continued compliance with National Ambient Air Quality Standards (NAAQS) for PM_{10} in Lakeview. This request and plan complies with applicable 1990 Federal Clean Air Act (CAA) requirements and Environmental Protection Agency (EPA) guidance and policies.

The maintenance plan demonstrates compliance with the PM_{10} standards through 2025. The demonstration allows DEQ to reassess the most stringent emission control technology requirement and offset requirement applicable to major new or major modifications of industrial sources in this area. These requirements will be replaced by a maintenance area requirement for emission control technology and an air quality analysis requirement. All other controls implemented to return Lakeview back to attainment will remain in effect and additional strategies shall be employed to ensure maintenance of the PM_{10} standard.

4.60.1.2 National Ambient Air Quality Standards for PM_{10}

This Maintenance Plan addresses the ambient air quality standards for PM_{10} as defined in the federal Clean Air Act. PM_{10} is the fraction of solid particles or liquid droplets that are less than ten microns in diameter. Particulate in a PM_{10} size range are of concern because they can be inhaled deeply into the lungs where they can remain for weeks to years. Relationships have been shown between exposure to high concentrations of particulate matter and increased hospital admissions for respiratory infections, heart disease, bronchitis, asthma, emphysema, and similar diseases. In addition, there may be several potential carcinogens present on particulate matter. Of particular concern are the condensed organic compounds released from low temperature combustion processes such as wood stoves. Significant sources of PM_{10} are woodstoves, open burning and fugitive dust. Most serious PM_{10} problems occur during the winter in urban areas when cooler temperatures encourage incomplete combustion and the resulting PM_{10} emissions are trapped near the ground by atmospheric inversions.

EPA has established National Ambient Air Quality Standards (NAAQS) for PM_{10} at 150 micrograms per cubic meter ($\mu g/m^3$) for a 24-hour average and 50 $\mu g/m^3$ as an annual average. Any value monitored above these levels is considered an exceedance. The 24-hour standard is not to be exceeded more than once per year when averaged over a consecutive three year period.[2] An exceedance of the annual standard is determined by

[2] Currently, monitoring for PM_{10} occurs one day in six days. One exceedance could represent six days. The definition of an exceedance of the national 24-hour standard and the annual standard is as follows: (a) 150

averaging all 24-hour periods in a year. A violation of the annual standard occurs when this average is above the standard. If an area is in violation of either standard, EPA designates it as a nonattainment area. Experience has demonstrated that the 24-hour average for PM_{10} is more likely to be exceeded than the annual average.

In general, demonstrating "attainment" requires the collection of representative monitoring data using approved measuring instruments and procedures, with adequate quality assurance and quality control. No monitor in an area may exceed the 150 $\mu g/m^3$ 24-hour standard for more than one expected exceedance per year during any of the three calendar years preceding the attainment year. Air quality measurements in Lakeview satisfy this requirement, as shown in Section 4.60.2, "Attainment Demonstration", of this plan.

4.60.1.3 Lakeview Area Description

Lakeview is located in southern Oregon about 96 miles east of Klamath Falls at an elevation of about 4,800 feet. The area is typified by semi-arid climate where annual rainfall is 13 inches. The Lakeview UGB population is estimated at 3,656 in 2000. Based on the long-range forecast, the Lakeview UGB population is expected to grow to approximately 4,579 by 2025 (1.03 percent per year linear average growth). The town of Lakeview serves as an important commercial center for Lake County.

Lakeview can experience very strong nighttime inversions that break up with daytime solar heating. In the wintertime, arctic air masses frequently move over the Goose Lake Basin. Temperatures can remain well below freezing for several weeks at a time. Winter nights are commonly clear and cool in the basin. Under these conditions, inversions can occur over Lakeview.

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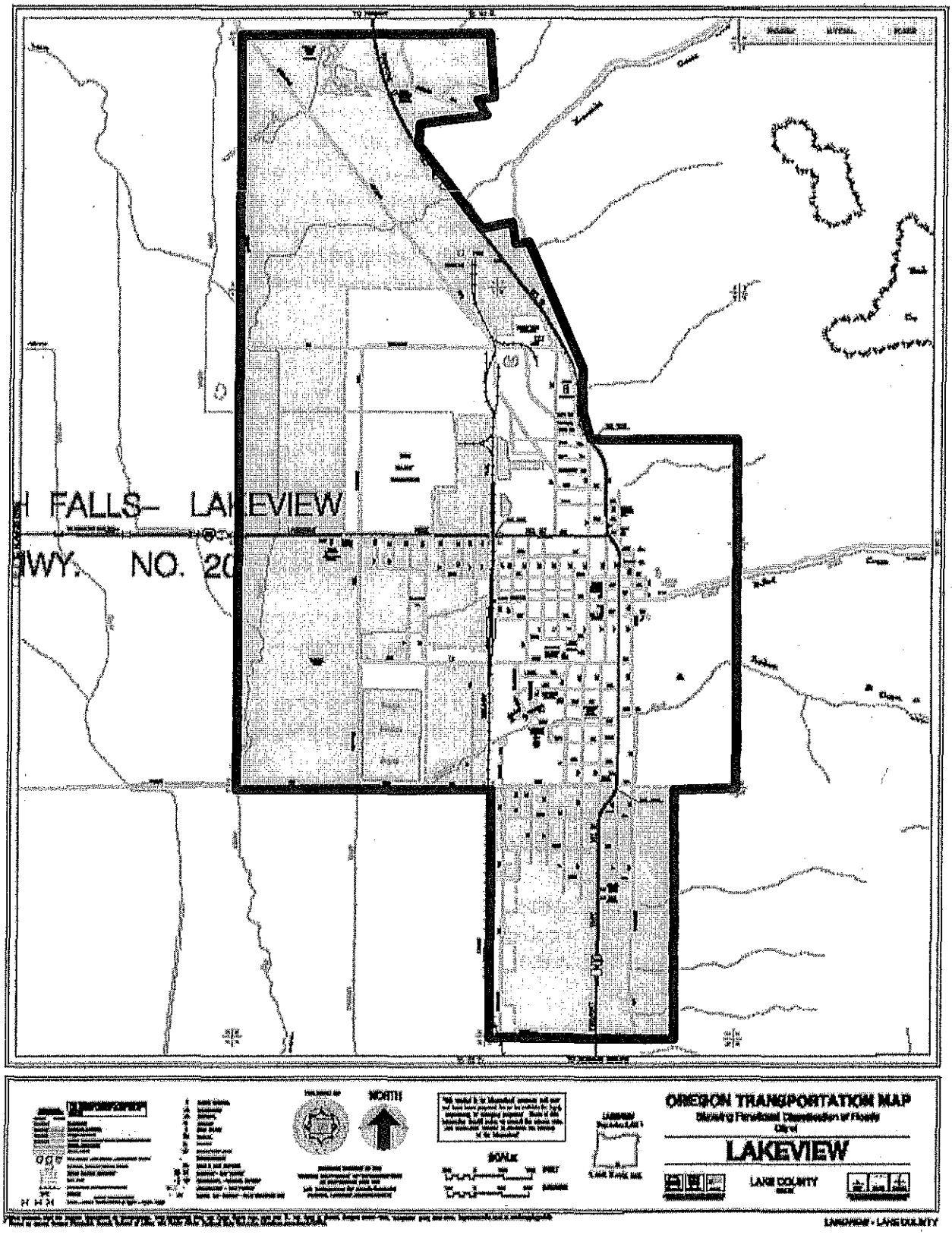
micrograms per cubic meter ($\mu g/m^3$), 24-hour average concentration. This standard is attained when the expected number of days per calendar year above 150 $\mu g/m^3$ is equal to or less than one. (b) 50 micrograms per cubic meter ($\mu g/m^3$), annual arithmetic mean. The standard is attained when the expected annual arithmetic mean concentration is less than or equal to 50 $\mu g/m^3$.

Figure 4.60.1-1: Lakeview UGB - PM_{10} Nonattainment Area



4.60.1.4 History of PM_{10} Problem in Lakeview Area

The Lakeview Urban Growth Boundary (UGB) (see Figure 4.60-1) was designated under the 1990 Clean Air Act amendments as a moderate nonattainment area for the PM_{10} standard on January 20, 1994. A PM_{10} attainment plan was developed for the Lakeview UGB and submitted to the Environmental Quality Commission for approval in April, 1995. EPA approved the attainment plan on September 21, 1999. The initial nonattainment design concentration was 217 $\mu g/m^3$ for the 24-hour maximum and there was no design value for the annual average. The plan was submitted to EPA, which included strategies such as a woodstove curtailment program, woodstove certification program, woodstove removal program and road sanding program. These strategies have proven effective in reducing PM_{10} emissions in the Lakeview UGB since 1994.

PM_{10} concentrations have been measured at the same location in the Lakeview UGB (Center and "M" Street) since 1991. The last exceedance of the 24-hour average PM_{10} standard occurred in 1994 with a measured high concentration above the 150 $\mu g/m^3$ standard (184 $\mu g/m^3$ on 01/19/94). Since January 19, 1994 there have not been any exceedances of the 24-hour standard for PM_{10}. The 24-hour average PM_{10} standard was attained in 1998 when Lakeview met the deadline for compliance with the standard. There had not been an exceedance of the standard for three consecutive years. (1995 through 1997). Since 1997, maximum PM_{10} values have remained below the standard. Lakeview did not violate the annual standard for PM_{10}.

Based on this compliance, Lakeview may apply for redesignation to attainment in accordance with the 1990 Clean Air Act amendments. This maintenance plan submittal is required for redesignation. It will continue the strategies identified in the 1995 attainment plan. Upon redesignation by EPA, Lakeview will become a PM_{10} maintenance area.

4.60.1.5 Redesignation Criteria/Organization of Document

Section 107(d)(3)(E) and related subsections of the Clean Air Act establish five key criteria that must be satisfied in order for a nonattainment area to be redesignated to attainment status. Below is a summary of the redesignation criteria and a reference to the discussion of each criterion in this document.

Attainment Verification

The nonattainment area seeking redesignation must have attained the applicable NAAQS. Attainment of the NAAQS for PM_{10} in the Lakeview area is discussed in Section 4.60.2, "Attainment Demonstration."

SIP Approval

EPA must have fully approved the applicable state implementation plan (SIP) for the area under Section 110(k) of the Federal Clean Air Act (FCAA). The Lakeview PM_{10} attainment plan was originally approved by the Environmental Quality Commission on April 14, 1995. EPA published the approval in the Federal Register on September 21, 1999. These SIP revisions and compliance with Section 110(k) of the FCAA, are discussed in Section 4.60.4.1, "SIP Requirements/ Nonattainment Area Requirements."

Permanent and Enforceable Improvements in Air Quality

Improvement in air quality must be due to permanent and enforceable reductions in emissions resulting from the implementation of the applicable SIP, federal air pollution control regulations, and other permanent and enforceable reductions. The permanent and enforceable emission reductions that are responsible for improvements in ambient PM_{10} concentrations in Lakeview are discussed in Section 4.60.2.3, "Permanent and Enforceable Improvements in Air Quality."

Nonattainment Area Requirements

The State must have met all requirements applicable to the nonattainment area under Section 110 and Part D of the Clean Air Act. Compliance with Section 110 and Part D of the Act is discussed in Section 4.60.4.1, "SIP Requirements/Nonattainment Area Requirements."

Maintenance Plan Elements

EPA must have fully approved a maintenance plan for the area meeting the requirements of Section 175A of the Clean Air Act. Concurrent approval of the maintenance plan and redesignation request is allowed. There are five parts to a Maintenance Plan: an attainment inventory, a maintenance demonstration, a commitment to the continuation of operating the monitoring network, a commitment to continue to verify attainment, and a contingency plan. These sections are outlined below in Table 4.60.1.1 along with the rest of the redesignation requirements.

EQC STAFF REPORT – ATTACHMENT A

Table 4.60.1-1: Summary of Redesignation Requirements

Required Element	Section of Plan	
Attainment Verification	Section 4.60.2:	ATTAINMENT DEMONSTRATION
SIP Approval	Section 4.60.4:	ADMINISTRATIVE REQUIREMENTS
Permanent and Enforceable Improvements in Air Quality	Section 4.60.2:	ATTAINMENT DEMONSTRATION
Nonattainment Area Requirements	Section 4.60.4:	ADMINISTRATIVE REQUIREMENTS
Attainment Inventory	Section 4.60.3:	MAINTENANCE DEMONSTRATION
Maintenance Demonstration	Section 4.60.3:	MAINTENANCE DEMONSTRATION
Monitoring Network	Section 4.60.4:	ADMINISTRATIVE REQUIREMENTS
Verification of Continued Attainment	Section 4.60.4:	ADMINISTRATIVE REQUIREMENTS
Contingency Plan	Section 4.60.3:	MAINTENANCE DEMONSTRATION

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4.60.2 ATTAINMENT DEMONSTRATION

4.60.2.1 Ambient Air Quality Monitoring Data

The Lakeview area has two particulate (PM_{10}) monitoring sites (see Appendix[3] D8-5) with the primary sampler located at Center and M Street. The other sampler is a background sampler located to the north and west of Lakeview near the junction of Five Corners Road and Johnson Road, originally named as "The New Idaho Grange Hall" in our annual report. A previous background sampler was located at Vernon School and was discontinued November 1995 and another sampler was at the Fremont School and was discontinued June 1994. The Center and M Street-monitoring site, which has been in use since 1991, has been operating year-round for PM_{10}. Daily sampling occurs in the winter months of the PM_{10} season and once every 6th day in the summer. Recently, with the establishment of the $PM_{2.5}$ network, less frequent sampling occurs at this site. After rigorous quality assurance, these data are transferred into the Aerometric Information Retrieval System (AIRS) which provides EPA with DEQ's air quality monitoring data. These data are used as the basis for this maintenance plan.

4.60.2.2 Air Quality Summary

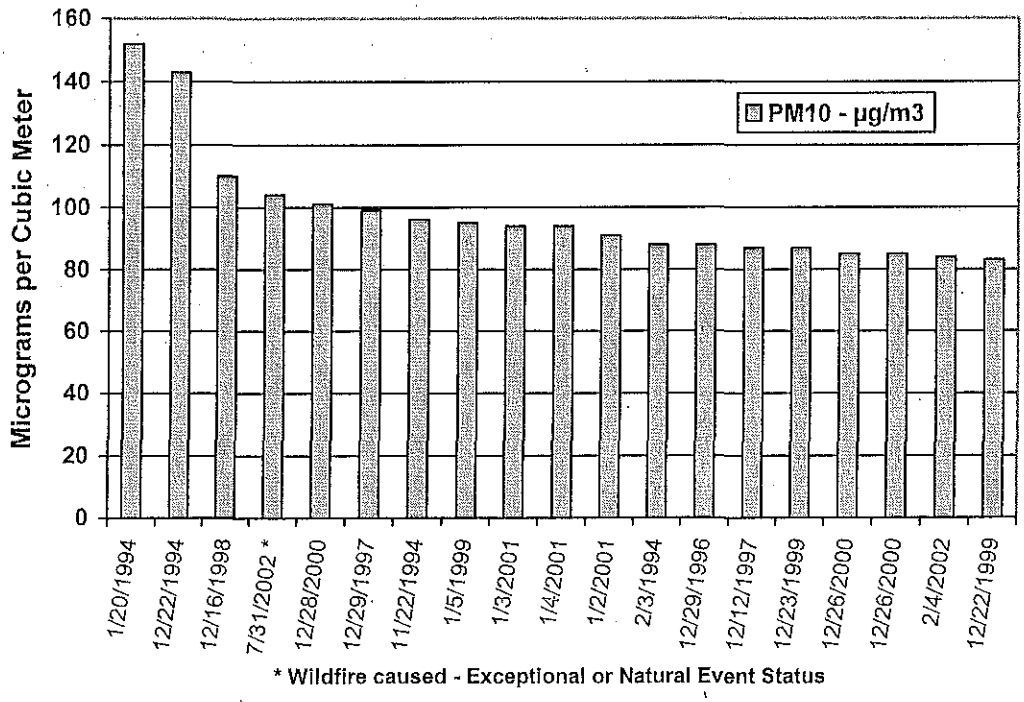
Lakeview has not had an exceedance of the PM_{10} standards for over ten consecutive years. The last recorded wintertime exceedance of the PM_{10} National Ambient Air Quality Standard (NAAQS) in Lakeview occurred on January 19, 1994 (184 $\mu g/m^3$) the only exceedance in 1994. The maximum 24-hour average PM_{10} concentrations for the twelve-year period (1991 to 2003) are shown in Table 4.60.2-1 and Figure 4.60.2-1. The PM_{10} concentration in 1994 was the last exceedance that caused a violation recorded at Center and "M" Street.

[3]Note: All appendix references in this Maintenance Plan refer to Volume 3 of the Oregon State Implementation Plan, unless otherwise noted.

Table 4.60.2-1:
Lakeview PM_{10} Concentrations
Annual and Maximum 24-hour Average Since 1991

Annual Average Concentration	Year	Highest Annual 24-hour Concentration	Date
- $\mu g/m^3$	1991	220 $\mu g/m^3$	December 14, 1991
31.7 $\mu g/m^3$	1992	155 $\mu g/m^3$	January 9, 1992
31.2 $\mu g/m^3$	1993	256 $\mu g/m^3$	January 27, 1993
28.1 $\mu g/m^3$	1994	184 $\mu g/m^3$	January 19, 1994
20.6 $\mu g/m^3$	1995	83 $\mu g/m^3$	December 27, 1995
20.3 $\mu g/m^3$	1996	88 $\mu g/m^3$	December 19, 1996
19.5 $\mu g/m^3$	1997	99 $\mu g/m^3$	December 29, 1997
17.8 $\mu g/m^3$	1998	110 $\mu g/m^3$	December 16, 1998
20.2 $\mu g/m^3$	1999	95 $\mu g/m^3$	January 5, 1999
16.5 $\mu g/m^3$	2000	106 $\mu g/m^3$	December 29, 2000
- $\mu g/m^3$	2001[4]	94 $\mu g/m^3$	January 3, 2001
22.3 $\mu g/m^3$	2002	104 $\mu g/m^3$	July 31, 2002[5]
17.4 $\mu g/m^3$	2003	49 $\mu g/m^3$	February 11, 2003

Figure 4.60.2-1:
Highest PM_{10} 24-Hour Concentrations Since Last Exceedance on January 19, 1994



[4] The fourth quarter data of 2001 was not properly quality assured and therefore was discarded. An annual average could not be determined.

[5] The wildfire, known as the Biscuit Fire, in SE Oregon impacted Lakeview causing a high concentration. These data were flagged as an exceptional event.

Figures 4.60.2-2 and 4.60.2-3 show that the trend in PM_{10} concentration since 1994 is clearly downward. Even with a leveling out in recent years, PM_{10} concentrations remain significantly below the NAAQS. The effect of emission reduction strategies and meteorology on PM_{10} concentrations is discussed in the following sections.

Figure 4.60.2-2: Lakeview Annual PM_{10} Trend

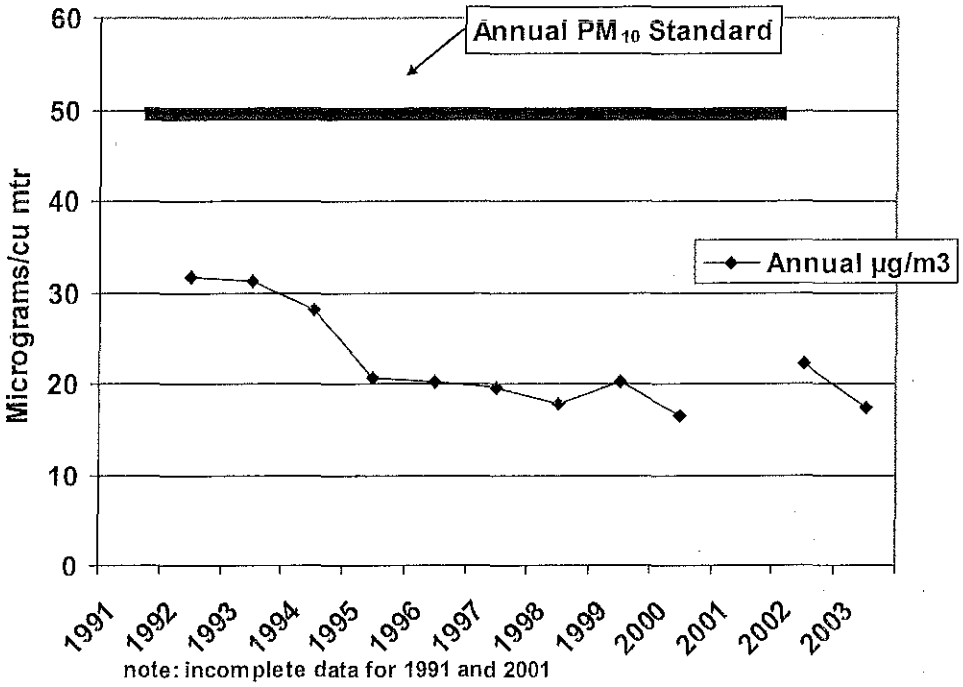
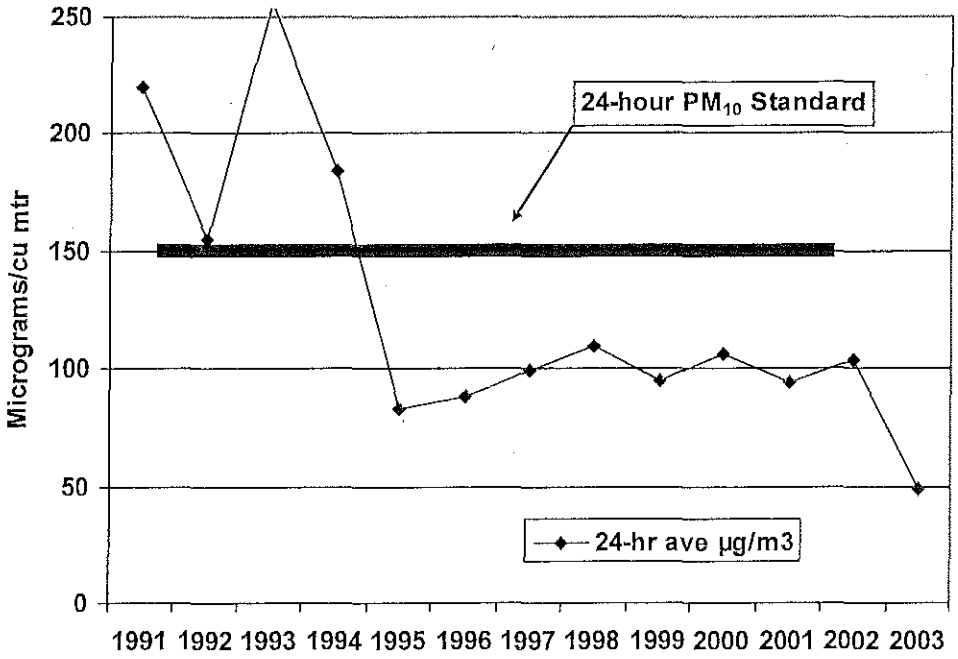


Figure 4.60.2-3: Lakeview 24-Hour PM_{10} Trend



4.60.2.3 Permanent and Enforceable Improvement in Air Quality

In order to redesignate to attainment, the EPA's guidance specifies that a state must be able to reasonably attribute improvements in air quality to emission reductions that are permanent and enforceable. DEQ demonstrates in the following analysis that attainment is not attributable to either a temporary economic downturn or to especially favorable meteorology. Lakeview substantially reduced emissions prior to the implementation of the attainment plan developed in 1995. Control measures identified in this plan have contributed to the steady decline of PM_{10} concentrations and finally brought about attainment which DEQ believes are permanent as well as enforceable. This section addresses the control measures and economic and meteorological factors in Lakeview.

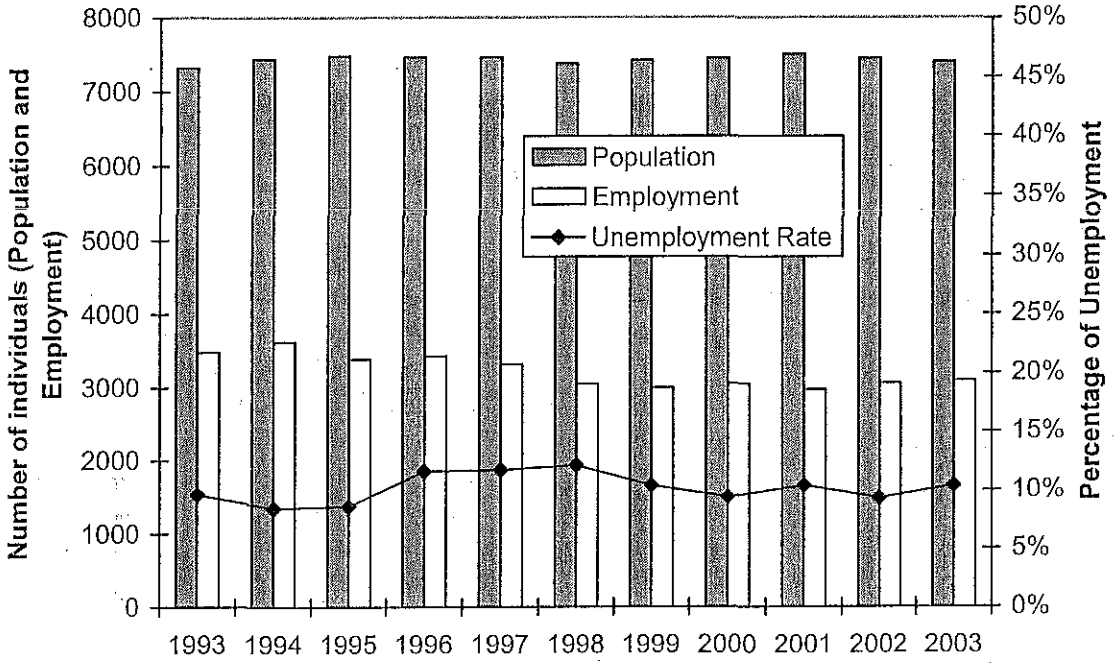
Economic Factors

DEQ determined that the success in achieving attainment is not due to an economic downturn in Lakeview. Population and employment are key indices of the overall level of economic activity and growth, reflecting changes in industrial activity and vehicle miles traveled. Lakeview is the largest town within the Oregon portion of the Goose Lake Basin and statistics from this town will be used to characterize the effects in the basin. Population trends, unemployment trends and employment trends are displayed in Figure 4.60.2-4. (Also, see Appendix D8-7).

Lakeview was a timber production center and suffered under the recessions of the 1980s and into the 1990s. However, population levels have remained consistent and Lakeview expects new employment resulting in an average growth rate of approximately 1.0 percent per year. The addition of a proposed prison is expected to boost employment in the coming years.

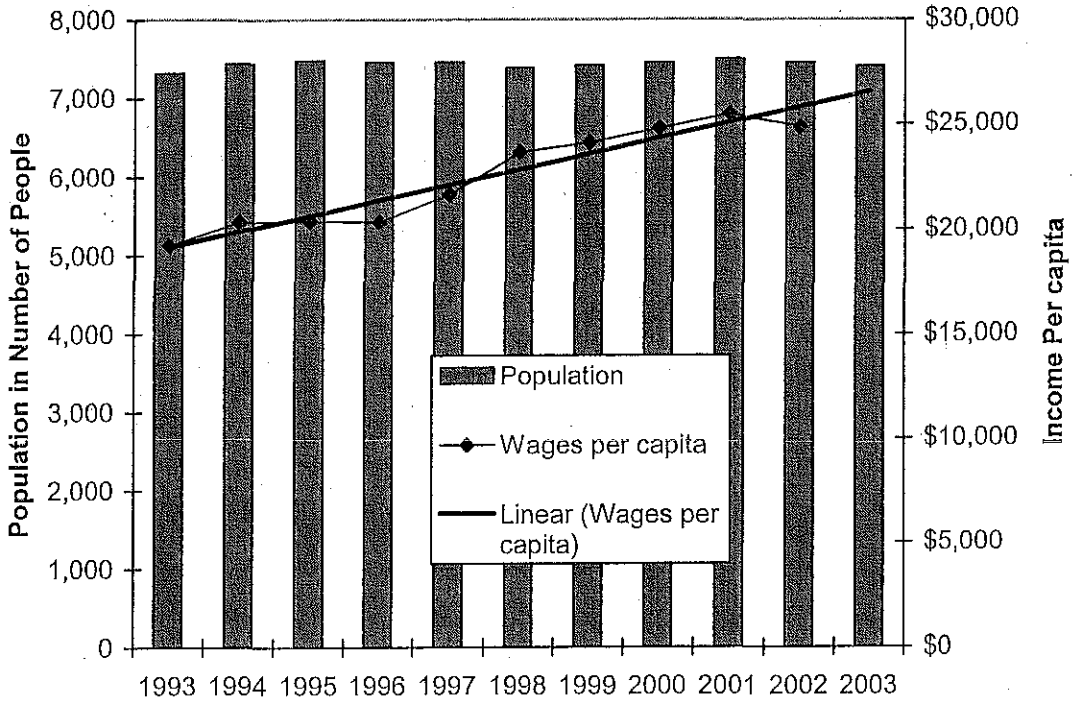
Lakeview reached attainment in 1998 and has continued to meet standards throughout the remainder of the 1990s and early 2000s. PM_{10} levels declined significantly throughout the late 1990s despite a relatively steady population and unemployment rate. Unemployment has remained steady around 10%. There was a slight decline in employment between 1994 and 1998. Since 1998, employment has remained steady.

Figure 4.60.2-4: Lake County Economic Indicators



Income has increased on a per capita basis each year since 1993. Figure 4.60.2-5 shows a steady population between 1993 and 2003 with a steady annual increase in per capita income over the same time period.

Figure 4.60.2-5: Lake County Per Capita Income



Meteorological Effects

High PM_{10} concentration periods generally correspond to periods of low sustained wind speeds. On a year to year basis, this is generally true in Lakeview. Lakeview seasonal wind speed conditions are evaluated below for the six-month winter period from October through March from 1991 through 2004. This is a broader time frame than the typical PM_{10} season of November through February and captures any unusually poor ventilation conditions during the winter.

The purpose of the analysis is to verify that lower PM_{10} concentrations in recent years are not the direct result of a significant decrease in the occurrence of calm wind conditions. The distribution of seasonal wind speeds (1991-2004) is evaluated based on data from the DEQ meteorological station at Center and M Street, and is provided in Table 4.60.2-2. In this analysis average wind speeds of 3 miles per hour or less are used as an indicator of generally poor ventilation and the potential for exceedance conditions. DEQ compared the significant 1991-92 through 1993-94 exceedance period to more recent years. This evaluation reflects continuous winter season ventilation (i.e. October 1991 through March 1992), not ventilation within a calendar year.

The 1991-92, 1992-93, and 1993-94 winter seasons were used to designate the Lakeview area as nonattainment for PM_{10} based on the frequency and magnitude of exceedances. Several of the PM_{10} seasons since 1994 have demonstrated low wind speed conditions similar to those occurring during the 1991-1994 exceedance events. Table 4.60.2-2 shows the distribution of seasonal winds in various speed categories from the 1991-92 to 2003-04 winter seasons (October-March). During this thirteen-year period, the most stagnant PM_{10} season is 1991-92 and ambient concentrations of PM_{10} are higher than the standard of 150 $\mu g/m^3$. The least stagnant PM_{10} season was in 2002-03 and the PM_{10} concentrations were very low. Although it appears the PM_{10} concentrations seem to follow weather patterns and that weather patterns show less poor ventilation recently, PM_{10} concentration trends have declined at a greater rate than the better ventilation patterns and there are no exceedances in recent years even during those years where there is poor ventilation. The 2000-2001 season is a good example of a year where there was poor ventilation but maximum daily concentrations of PM_{10} were well below the standard of 150 $\mu g/m^3$.

Table 4.60.2-2: Distribution of Seasonal Low Wind Speed Conditions October through March

Recorded at Center and "M" Street

Winter Season	Wind Speed: Percent Hourly wind speeds 0 – 3.0 mph	Rank – Most (1) to Least (12) Stagnant	3.1 – 4.0 MPH	4.1 – 5.0 MPH	5.0+ MPH	Highest Max. 24-hr avg. PM_{10} Oct –March	2nd Highest Max. 24-hr avg. PM_{10}
1991-92	51.5%	1	11.4%	10.2%	26.9%	220	217
1992-93	47.6%	3	8.7%	7.4%	36.3%	256	218
1993-94	45.7%	4	10.5%	9.4%	34.4%	184	168
1994-95	37.5%	8	8.1%	9.6%	44.8%	143	138
1995-96	39.0%	7	9.3%	9.1%	42.6%	83	81
1996-97	40.6%	5	10.2%	9.8%	39.4%	88	69
1997-98	32.4%	11	13.4%	11.8%	42.4%	99	87
1998-99	36.6%	9	12.0%	10.4%	41.0%	110	95
1999-2000	31.3%	12	13.9%	10.6%	44.2%	87	83
2000-01	47.8%	2	14.3%	9.6%	28.3%	107	101
2001-02	39.4%	6	12.2%	10.7%	37.7%	84	76
2002-03	28.1%	13	11.7%	11.4%	48.8%	49	49
2003-04	35.3%	10	15.5%	11.0%	38.2%	71	71
Avg.	39.5%						
Std Dev	7.1%						
+1 Std Dev	46.5%						
- 1 Std Dev	32.4%						

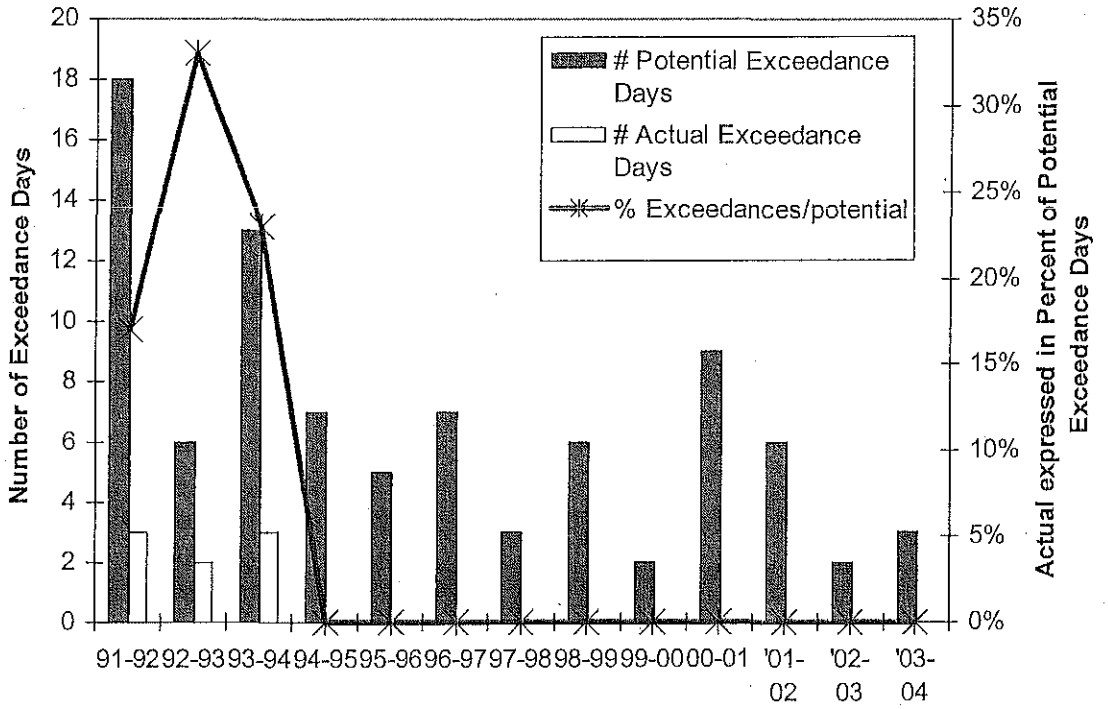
Variation in low wind speed from season to season is modest.

Exceedance Events

In addition to evaluating overall seasonal ventilation, an additional analysis was performed looking specifically at wind speed characteristics associated with exceedance events. An evaluation of historic exceedances shows that the maximum 24-hour average PM_{10} concentration typically occurs during the December to February timeframe. In 1991-92, 1992-93 and 1993-94 seasons, individual PM_{10} exceedances occurred when there were 23 to 24 hours with wind speed conditions less than 3.0 mph. DEQ considered these days to be potential exceedance days.

Figure 4.60.2-6 shows the trends in exceedance potential compared to the actual number of PM_{10} values exceeding the standard by season as monitored at Center and M Street. The 1991-92 and the 1993-94 winter heating seasons had the highest number of exceedances recorded, yet the 1992-93 PM_{10} season had the highest percentage of actual exceedances when compared to the potential number of exceedance days. Although the number of potential exceedance days for the 2000-01 season had a similar amount of potential exceedance days to the 1992-93 season, there were no exceedances. There have been no PM_{10} exceedances since 1994 in spite of this potential, indicating that the attainment of PM_{10} standards in Lakeview is due to permanent and enforceable emission reductions and is not a function of atypical meteorology.

Figure 4.60.2-6: Potential Exceedance Days and Actual Exceedances per Potential



Emission Reduction and Growth Management Strategies

Several factors may have contributed to decreasing PM_{10} concentrations over time. A significant drop in peak PM_{10} concentrations occurred in the same year as implementation of the voluntary woodstove curtailment program in 1994. While the program contributed to decreased PM_{10} concentrations, other factors influenced the downward trend including a woodstove change out program in 1994-95. Community education and awareness campaigns resulted in reduced the levels of PM_{10} concentrations in the 1990s. In recent years, PM_{10} concentrations have remained low in spite of a constant population.

Permanent and enforceable control strategies that were in place during the attainment period are listed below.

1. A mandatory woodstove certification program, requiring all new woodstoves sold in the State to be laboratory tested for emissions and efficiency prior to sale (mandatory since 1986);

2. A town of Lakeview voluntary woodstove curtailment program (since 1994);

3. A ban on the sale and installation of uncertified woodstoves (since 1991); and

4. Major New Source Review Program for industry as a growth management strategy (since 1988).

The economic, meteorological, and other factors noted in the sections above indicated that the attainment with PM_{10} standards in 1994 and subsequent compliance can be attributed to permanent and enforceable measures.

4.60.2.4 Verification of Monitor Siting (area of highest PM_{10} concentration)

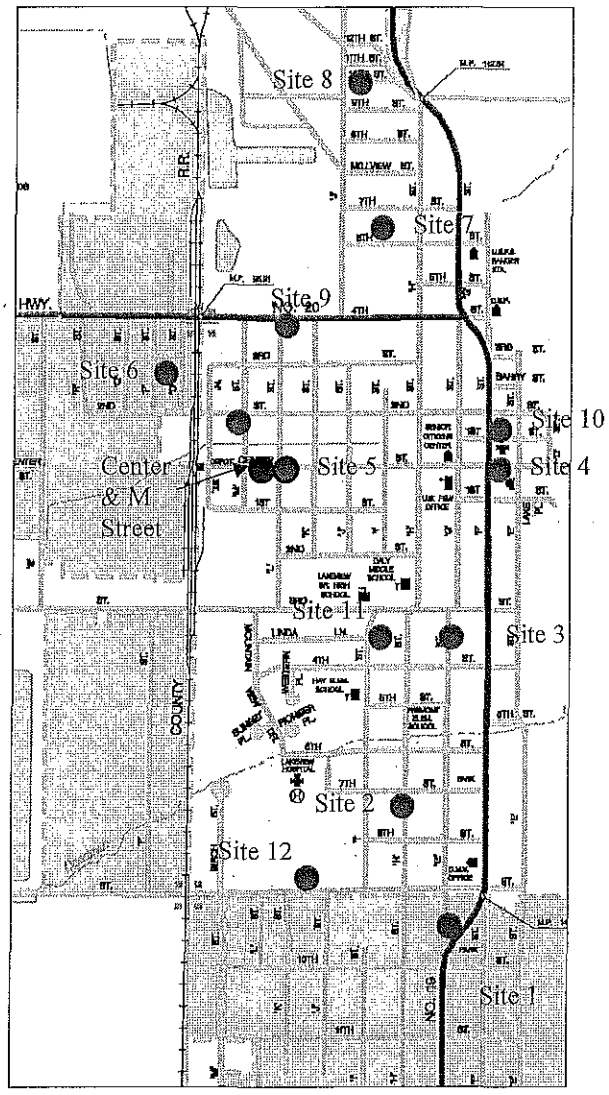
A field study in the winter of 1990-91 was conducted to verify that the appropriate location of the PM_{10} monitor to represent the "worst case" or peak level PM_{10} concentrations within the Lakeview area. The monitoring site at Center and M Street was selected. All PM_{10} levels measured during the study were below the NAAQS except for three samples. The Center and M Street site was determined to best represent the highest particulate levels in Lakeview and is appropriately located for ongoing PM_{10} sampling.

Of eight sites sampled on 17 sample days in the Lakeview area study, two sites, 996 S. G Street and 1035 Center Street had high particulate levels. Midway through the study four of the eight sites were relocated to create 12 total sites. One site is in close proximity to the current Center and M Street Site in a residential neighborhood. The Center Street site maintained consistently high concentrations, but did not have the highest concentration, nor did it average the highest. Yet, it triggered an exceedance and a near exceedance during the study period. (See Table 4.60.2-3) The study concluded that Lakeview has a potential to violate the standard. The Center Street site best represents neighborhood streets and residential areas where residential wood combustion occurs and represents potential impacts to schoolchildren. The Center Street site is also near another site on P Street that averaged the second highest. The G Street site identified in Table 4.60.2-3 may have been influenced by highway roadsanding activities or other localized phenomena. The study recommended a sampling site be established in the northwest quadrant of the town where Center and M Street is located. The 1990-91 PM_{10} field study is included as Appendix D8-5.

Table 4.60.2-3: Saturation Survey for PM_{10} - Listing of sites

Site Number	Location	Highest PM_{10} recorded Value
1	996 S. G Street (Residential/Commercial)	164 $\mu g/m^3$
2	713 S H Street (Residential/Commercial)	126 $\mu g/m^3$
3	353 S G Street (Residential/Commercial)	122 $\mu g/m^3$
4	513 Center Street (Commercial)	66 $\mu g/m^3$
5	1035 Center Street (Residential)	155 $\mu g/m^3$
6	236 N. P Street (Residential)	128 $\mu g/m^3$
7	840 N. 6th Street (Residential/Industrial)	128 $\mu g/m^3$
8	949 N. 10th Street (Residential/Industrial)	136 $\mu g/m^3$
9	336 N. L Street (Residential/Industrial)	90 $\mu g/m^3$
10	525 N. 1st Street (Town Hall) (Residential)	75 $\mu g/m^3$
11	358 S. I Street (Residential)	67 $\mu g/m^3$
12	1000 S. 9th Street (Residential/Commercial)	86 $\mu g/m^3$

Figure 4.60.2-7: Saturation Survey for PM_{10} - Location of sites



4.60.2.5 Conclusions Regarding Demonstration of Attainment

Monitoring data show that Lakeview is in attainment with the national ambient air quality standards for particulate matter ten microns and less in size (PM_{10}). Economic data show that attainment is not attributable to a "down turn" in the economy. An evaluation of meteorological conditions shows that attainment can not be attributed to especially favorable meteorology. The 1990-91 field study demonstrates that the Center and M Street site monitoring location does represent the general area of maximum PM_{10} exposure within the Lakeview UGB.

Based on the evidence above, the attainment of PM_{10} standards in Lakeview has been due to permanent and enforceable measures.

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4.60.3 MAINTENANCE DEMONSTRATION

This section shows compliance with standards and that this compliance will be maintained for at least ten years after the date of EPA redesignation[6]. The maintenance analysis shows that the Lakeview UGB will remain in attainment with air quality standards for PM_{10} through at least the year 2025. The analysis includes an emission inventory conducted for the calendar year 1999, a year in the attainment period. The emission inventory is grown based on growth factors determined by the Oregon Office of Economic Analysis to the year 2025. A design value is calculated for 2001 based upon five years worth of ambient air quality data. The design value is proportioned based on the emission inventory to 2025. If the proportioned value continues to be below the standard, then Lakeview is predicted to remain in attainment.

4.60.3.1 Attainment Period Inventory

An emission inventory representing emissions in a contemporary, representative year of the attainment period was developed. The emission inventory year was chosen as 1999 and extrapolated to the 2001 attainment year based on selected growth factors. Future year emission forecasts were also developed for every year until 2025. In order to demonstrate continued attainment, future year anticipated ambient concentrations must be lower than the National Ambient Air Quality Standards (NAAQS) based on a proportional analysis of ambient concentrations compared to attainment year (2001) emissions projected to future years.

An emission inventory consists of emission estimates from all sources that emit PM_{10}. These sources include major industry, area sources, non-road sources and on-road mobile sources. The inventory for these sources includes both annual (tons of PM_{10} emitted per year), and daily (pounds of PM_{10} emitted during a worst case winter day) emission estimates. Because compliance with the max. 24-hr average PM_{10} standard is linked to daily emissions, emission estimates reflecting a worst case winter season day (pounds of PM_{10} per day) will be used for the maintenance analysis and demonstration. In addition, compliance with the annual standard is linked to annual average emissions. The average annual emissions (tons per year) will be used for the maintenance analysis and demonstration.

Major Industry

Emissions from large industry are estimated from operating permits and annual reporting of actual emissions. The emission inventory includes three large point sources (greater than 5 tons of PM_{10} emissions per year). Fremont Sawmill, Woodgrain Millwork, and Cornerstone Industrial Minerals are located within the current nonattainment area boundary (UGB).

[6] Federal Clean Air Act Section 175A(a)

Area Sources

Area source emissions include sources like woodstoves, other forms of home heating, open burning, industrial and commercial heating. It also includes sources of fugitive dust and burning activities not categorized elsewhere. Woodstove emissions are the largest proportion of area source emissions in the inventory. Worst case day is considered during the November through February time frame addressing the winter woodheating season.

Non-Road Mobile

Non-road mobile emissions reflect emissions from activities such as the use of landscape maintenance equipment, agricultural operations, construction, light commercial and industrial equipment use. Emissions are primarily from 2-cycle, 4-cycle, and diesel engines. The seasonal PM_{10} emission inventory is adjusted to reflect those activities occurring during the November through February time frame. Most non-road activity occurs at other times than winter months. Annual non-road emissions reflect year-round activity and are therefore a greater percentage of total airshed emissions on an annual basis.

Mobile Source Emissions

Motor vehicle emissions are directly related to the amount of travel within a community. A "best practices" travel demand model was developed by the Oregon Department of Transportation to evaluate motor vehicle travel within the Lakeview UGB. The best practices model uses local travel survey information to simulate the choices made by Lakeview residents as to when, where, and how they will reach their destinations. The model reproduced motor vehicle travel behavior on the existing transportation network in a base year period (2000) and extrapolated to 2001. The result of the modeling process is an estimation of traffic volumes, vehicle speeds, and vehicle miles traveled on the community road system.

The largest contribution to PM_{10} emissions from motor vehicle travel is re-entrained road dust from travel. Emission factors for re-entrained road dust are calculated based on EPA guidance for determining emission factors (AP-42) and produces results that appear to be reasonable in determining actual emissions. See Figure 4.60.3-1.

The Mobile 6.2 emission factor model produces tailpipe and vehicle brake wear and tire wear emission rate estimates for different vehicle types (such as light duty gas vehicles and heavy duty diesel trucks), and then provides a composite "fleet average" emission rate for a selected speed. Figure 4.60.3-2 is an example of emissions for different vehicle types. These fleet average emission rates (in grams of PM_{10}/mile driven) are combined with travel model data (vehicle miles traveled-VMT and average speeds) to produce total emission estimates (including tailpipe and re-entrained road dust) for motor vehicle travel in the UGB.

Figure 4.60.3-1: Emission Factors for Vehicle Emissions

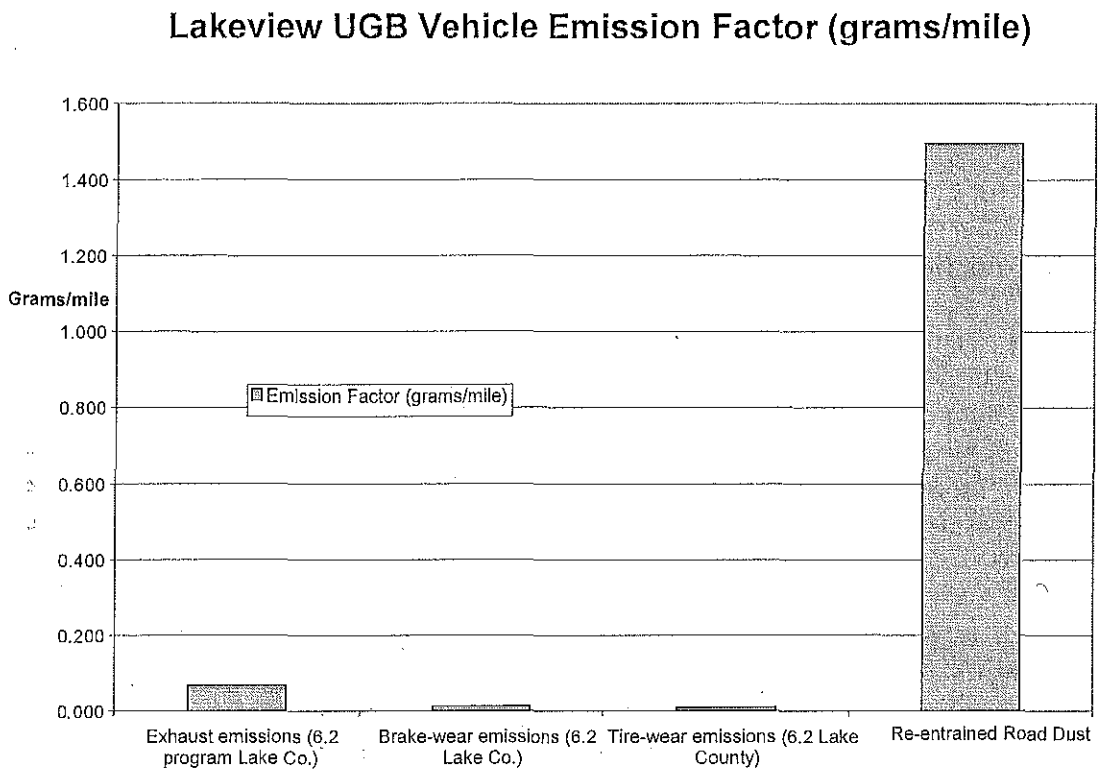
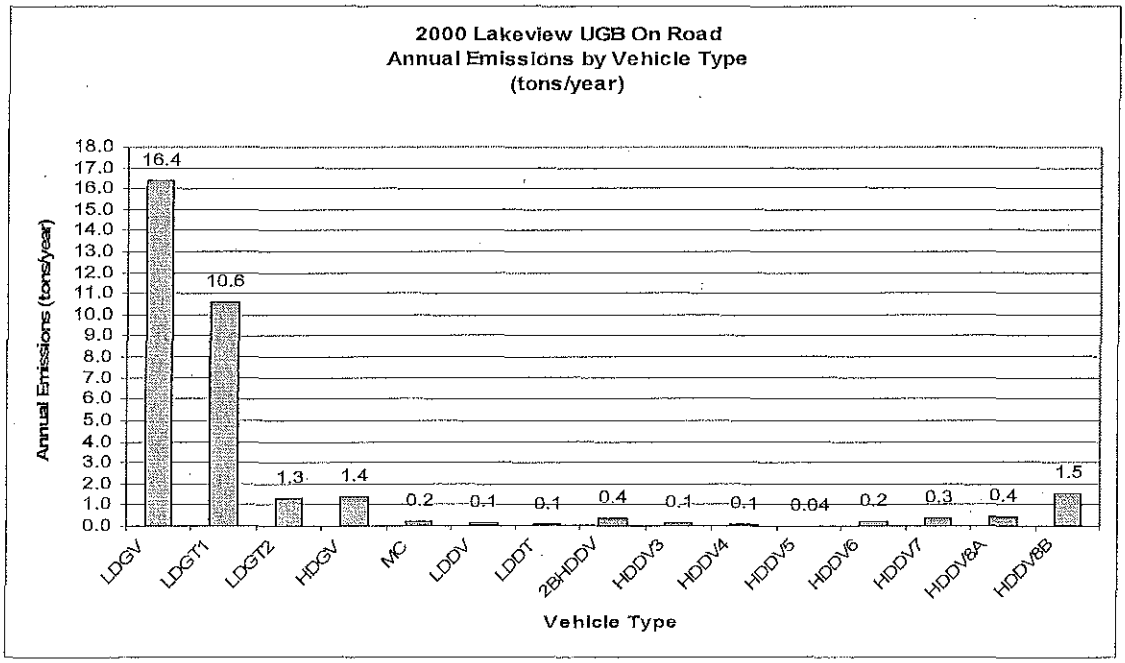


Figure 4.60.3-2: Annual emissions by vehicle type in Tons per Year



LDGV = Light duty gas vehicle (passenger vehicles); MC= Motorcycle; LDGT1 and LDGT2 = Light duty gas trucks in different weight classes; LDDV = Light duty diesel vehicle; LDDT = Light duty diesel truck; and HDDV = Heavy-duty diesel vehicle.

Natural Sources

Natural source emissions include naturally occurring dust such as windblown dust off of Goose Lake. Estimates of dust entering Lakeview were made from Goose Lake were based on weather data and estimates of wind driven dust generated from a particular area.

Emission Inventory Summary

The 2001 PM_{10} emission inventory is summarized in Tables 4.60.3-1 and 4.60.3-2. Emissions from motor vehicles were calculated by applying emission factors developed by EPA's Mobile 6.2 computer program to estimates of motor vehicle travel developed by the Oregon Department of Transportation's travel demand model. The procedures for calculating the attainment emission inventories and detailed results of mobile emission estimates are presented in the emission inventory in Appendix D8-4. Per EPA guidance, future forecast emissions from Major Industrial Sources beyond 2004 are maximum permitted emissions as projected to 2025.

Table 4.60.3-1: 2001 Attainment Emission Inventory (Typical PM_{10} Worst Case Day)

Source Category	PM_{10} Emissions (lbs/day)	Percent Contribution
Industrial	452	28%
Area Sources	935	59%
Non-Road Mobile	23	1%
Mobile	180	11%
Natural	8	1%
Total Emissions	1,598	**100%**

Table 4.60.3-2: 2001 Attainment Emission Inventory (Annual Average PM_{10})

Source Category	PM_{10} Emissions (Tons/year)	Percent Contribution
Industrial	48	30%
Area Sources	64	40%
Non-Road Mobile	13	8%
Mobile	34	21%
Natural	1	1%
Total Emissions	160	**100%**

4.60.3.2 Maintenance Analysis

The maintenance demonstration must show that emissions growth will not result in PM_{10} levels exceeding the National Ambient Air Quality Standard (NAAQS). DEQ is using a simple analysis technique called a "roll forward" or proportional analysis to predict future impacts on the NAAQS. It is based on the premise that ambient PM_{10} concentrations at Center and "M" Street will change in proportion to changes in emissions calculated in the emissions inventory. The roll forward approach involves adjusting the ambient PM_{10} design concentration (up or down) in proportion to increases (or decreases) in future year emissions in the emissions inventory. The design concentration is calculated using base year concentration, subtracting background, then in the future year analysis after growth occurs adding background back. If emissions are projected to exceed the NAAQS, additional strategies must be adopted to reduce emissions.

The maintenance demonstration is detailed in section 4.60.3.4 and shows that the projected 2025 ambient concentration is approximately 85% of the PM_{10} federal health daily standard (150 $\mu g/m^3$) and 55% of the annual standard (50 $\mu g/m^3$).

4.60.3.2.1 Forecast of Future Emissions

Future emission estimates are derived from official forecasts of future population, housing, economic activity and land use. Each source category increases or decreases based on growth assumptions identified in this plan. Although DEQ is only required to forecast emissions to 2017 (a ten year plan, after approval by EPA), 2025 was selected as the last forecast year to ensure an added margin of safety in the planning process. Additionally, a subsequent maintenance planning process will be required eight years after approval of this plan and this analysis may also satisfy that maintenance period, assuming similar emission strategies, reductions and growth estimates continue.

Growth Rates for Lakeview (2025)

Executive Order 97-22 directs key state agencies such as DEQ and ODOT to use population and employment forecasts developed or approved by the Oregon Office of Economic Analysis (OEA). OEA forecasts are made at the county level, not the town level. DEQ developed a future population and employment forecast for the Lakeview nonattainment area (UGB) based on the town's comprehensive plan that is both consistent with OEA projections. Future travel in the Lakeview UGB is based on the following growth assumptions (2001-2025), resulting in a VMT linear growth rate of 1.7%.

Category	Growth Rate (linear): Percent per Year
Population	1.0%
Housing	1.1%
Employment	1.0%
VMT Growth Rate	1.7%

Estimated Linear Annual Rates

Major Industry

From 1999 to 2003, actual emissions are used. Beginning in 2004, permit limits are used, which means there is an apparent increase in emissions, particularly in the annual emissions. Fremont Lumber has operated significantly below their permitted limits. In addition, emissions from major industry are predicted to increase at the rate equal to that of anticipated industrial employment growth. It is unlikely future emissions will grow to the potential identified in the emission inventory unless a major industrial PM_{10} source locates in Lakeview. The projected increase should easily accommodate some industrial expansion.

Area Sources

Area source emissions generally increase with population and employment, although some sources like woodstoves have unique growth rates. A significant reduction in woodstove emissions has been seen between 1999 and 2002. In 1993 and then again in 2002, household surveys were conducted under contract with Oregon Institute of Technology in Klamath Falls to determine how many households were burning in wood stoves and the amount of wood stove use. This information was used to determine 1999 and 2002 emissions and also is reflected in the emission inventory projection to 2025. In the case of home wood heating, the net emissions "change" reflects the small annual increase anticipated for cleaner certified stoves, balanced against a significant decline over time in older noncertified stoves.

Non-Road Mobile

In general, non-road mobile emissions are expected to increase with area-wide population and employment. However, new fuel standards improve emissions and show overall reductions in emissions over time.

Mobile Source Emissions

A travel demand model for 2020 was also developed by the Oregon Department of Transportation to evaluate future motor vehicle travel within the UGB. The model interpolated the emissions between the two years (2000 and 2020) and extrapolated emissions beyond 2020. The result of the modeling process is an estimation of traffic volumes and emissions were estimated directly from the traffic volume estimates. Similar PM_{10} emission factors were used. In addition, to the travel demand model, the local air quality committee decided to add 10% VMT in 2025 to address future unanticipated transportation projects.

Natural Sources

Natural source emissions generally remain steady year to year and the quantity will depend on natural phenomena such as the amount of wind and its direction.

Emissions Forecast

Figure 4.60.3-3 and Table 4.60.3-3 show daily PM_{10} emissions projected to the year 2025. Figure 4.60.3-4 and 4.60.3-4 show annual emissions projected to the year 2025. More specific information on emissions from individual sources and the procedures used for projecting emissions are presented in Appendix D8-4.

Figure 4.60.3-3: PM_{10} Maintenance Analysis (Emissions Forecast)
Worst Case Winter PM_{10} Day (Lbs PM_{10}/Day)

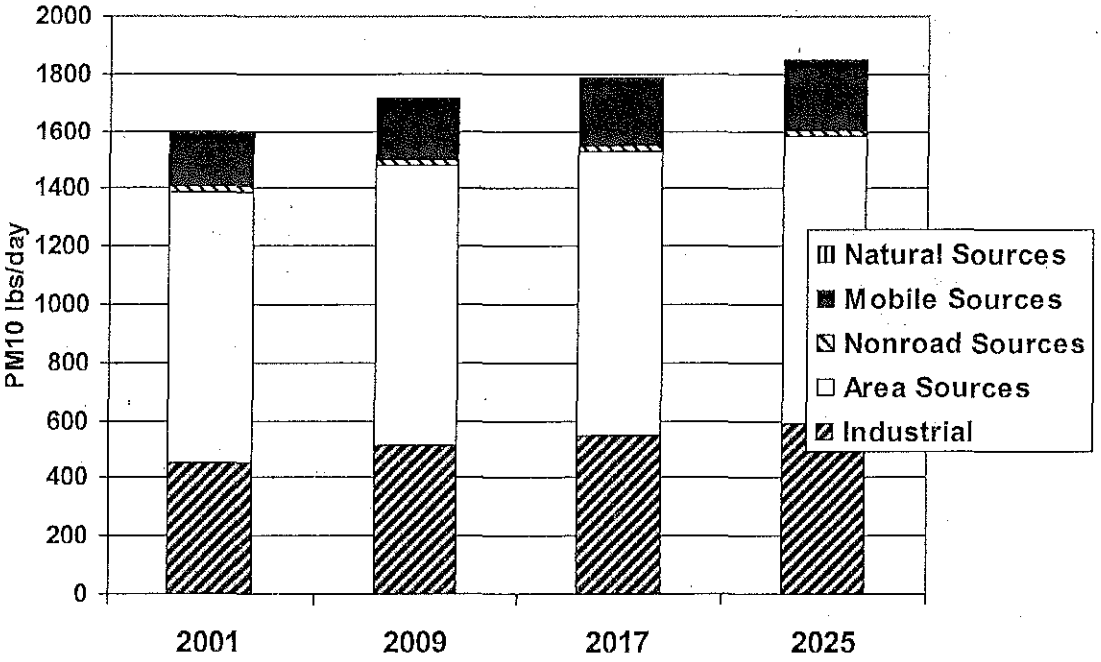


Table 4.60.3-3: PM_{10} Emissions Forecast
PM_{10} Nonattainment Area = Lakeview Urban Growth Boundary
(Pounds PM_{10}/Worst Case Winter Day)

Year	2001	2009	2017	2025
Industrial Sources	452	513	551	589
Area Sources	935	963	978	994
Non-road mobile Sources	23	21	20	18
On-road mobile Sources	180	212	226	241
Natural Sources	8	8	8	8
Total	1,598	1,717	1,783	1,850

Net increase in 2025 from 2001 attainment levels = 252 lbs/day PM_{10}.

Figure 4.60.3-4: PM_{10} Maintenance Analysis (Emissions Forecast)
Annual PM_{10} Day (Tons PM_{10}/Year)

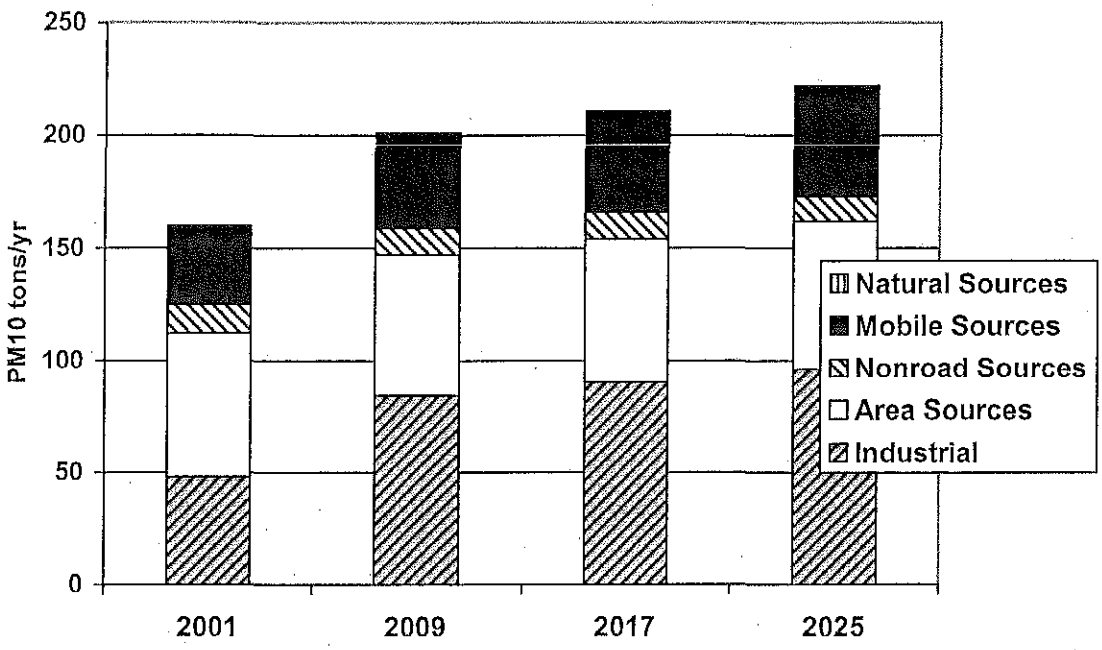


Table 4.60.3-4: PM_{10} Emissions Forecast
PM_{10} Nonattainment Area = Lakeview Urban Growth Boundary
(Tons PM_{10}/Annual)

Year	2001	2009	2017	2025
Industrial Sources	48	84	90	96
Area Sources	64	63	64	66
Non-road mobile Sources	13	12	12	11
On-road mobile Sources	34	41	44	48
Natural Sources	1	1	1	1
Total	160	201	211	222

Net increase in 2025 from 2001 attainment levels = 62 tons/year PM_{10}.

4.60.3.2.2 Future Ambient Analysis (Proportional Analysis)

The 2025 ambient concentration was estimated by applying a ratio of 2025 emissions and base year emissions, to the base year and design year ambient concentration. The following formula was used to predict the 2025 PM_{10} ambient concentration for the Lakeview UGB.

2025 PM_{10} Ambient Concentration = [(2001 DV - BKGD) * (2025 forecasted EI/2001 EI)] + BKGD

where:

- 2025 PM_{10} Ambient Concentration is in micrograms per cubic meter and is a prediction to compare with the National Ambient Air Quality Standard.
- 2001 DV is the 2001 Design Value or Design Concentration in micrograms per cubic meter is compared to the National Ambient Air Quality Standard and equals 111 micrograms per cubic meter ($\mu g/m^3$) for a 24 hour average or 21 $\mu g/m^3$ for the expected annual average between 1999 and 2003. The design value was calculated based upon actual data between 1999 and 2003. A linear analysis of the top 10% of these data were used to calculate the design value.
- BKGD is the background monitoring site concentration for the Johnson Road/Five Corners Road monitor average design concentration and is seasonal (December through February) at 14 $\mu g/m^3$ for the 24 hour average and 5 $\mu g/m^3$ for a seasonal (December through February) expected annual average between 1999 and 2002.
- 2025 EI is the 2025 calculated emission inventory based on growth factors and actual emissions in 2001 and in 2025 is calculated to be 1,850 pounds per day for a worst case day and 222 tons per year.
- An example calculation for 2017 is as follows: 122 $\mu g/m^3$ = (111 $\mu g/m^3$ – 14 $\mu g/m^3$) * (1783 lbs/day / 1598 lbs/day) + 14 $\mu g/m^3$

The Lakeview committee requested we add 10% VMT to the on-road mobile PM_{10} emission calculation to determine if the 2025 predicted ambient concentration could demonstrate maintenance. It did, and the predicted 2025 ambient concentration is 126 $\mu g/m^3$ for the worst-case winter day and 27 $\mu g/m^3$ per year for the expected annual average. The results of the analysis displayed in Table 4.60.3-5 and Figures 4.60.3-4 and 4.60.3-5 include the 10% additional VMT. The ambient concentration levels are below the NAAQS of 150 $\mu g/m^3$ for a 24-hour average and 50$\mu g/m^3$ on an annual average and maintenance of both standards is demonstrated. Table 4.60.3-5 demonstrates that for selected years from 2001 through 2025 the predicted ambient concentrations are below the NAAQS of 50 $\mu g/m^3$ for an annual average standard and 150 $\mu g/m^3$ for the 24-hour standard.

Table 4.60.3-5: PM_{10} Attainment Demonstration for Selected Years

Worst Case Day	2001 Worst Case Day	2009 Worst Case Day	2017 Worst Case Day	2025 Worst Case Day
Total Emissions from Inventory – Worst Case Day (lbs/day)	1,598 (lbs/day)	1,717 (lbs/day)	1,783 (lbs/day)	1,850 (lbs/day)
Estimated Ambient Concentration – Micrograms/cubic meter	111 $\mu g/m^3$	118 $\mu g/m^3$	122 $\mu g/m^3$	126 $\mu g/m^3$
Annual	2001 Annual	2009 Annual	2017 Annual	2025 Annual
Total Emissions from Inventory - Annual Average (tons/year)	160 (tons/yr)	201 (tons/yr)	211 (tons/yr)	222 (tons/yr)
Estimated Ambient Concentration– Micrograms/cubic meter	21 $\mu g/m^3$	25 $\mu g/m^3$	26 $\mu g/m^3$	27 $\mu g/m^3$

Figures 4.60.3-5 and 4.60.3-6 show the same predicted ambient concentrations, but for each year in relationship to the NAAQS.

Figure 4.60.3-5: Daily Demonstration

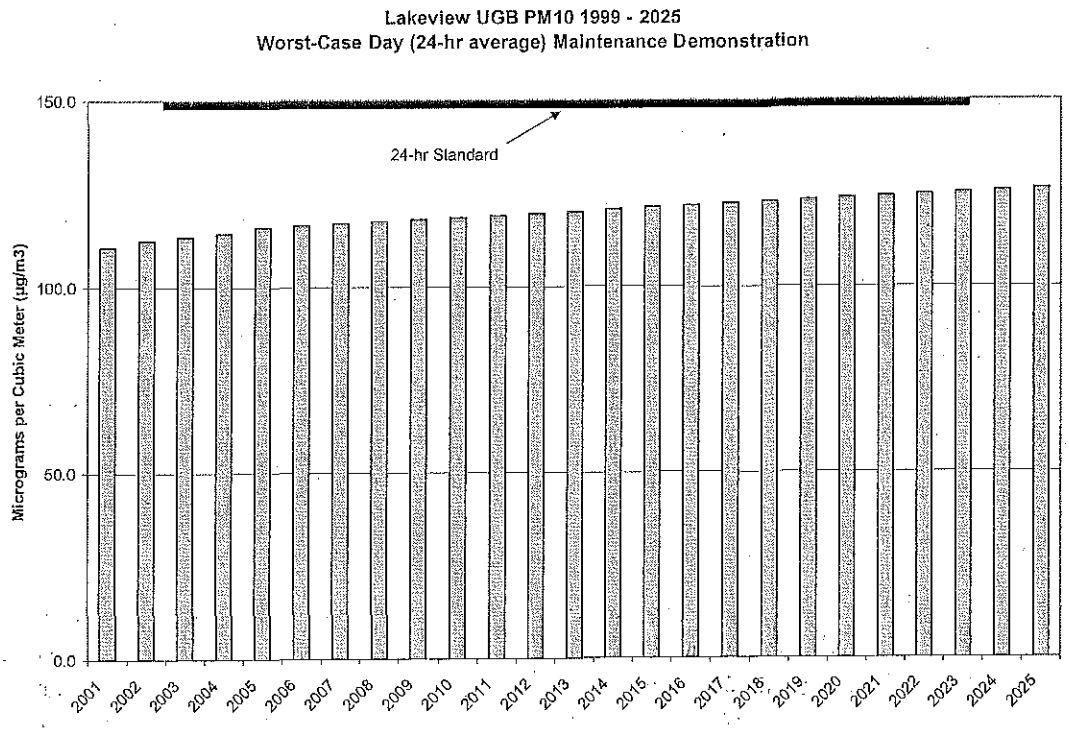
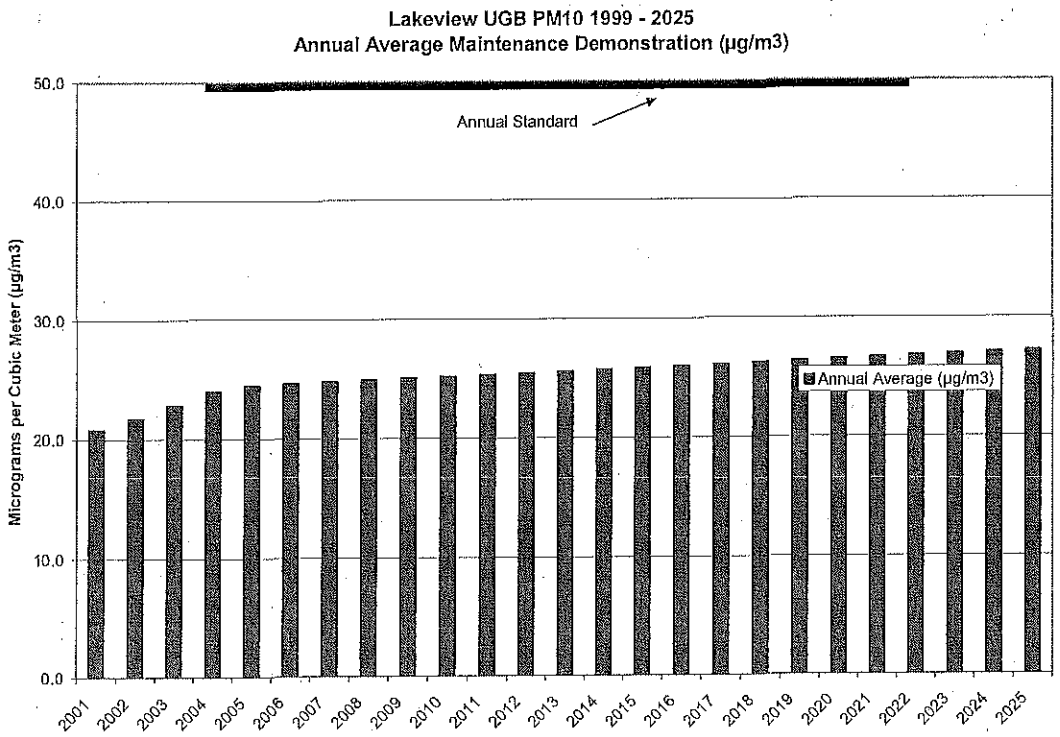


Figure 4.60.3-6: Annual Demonstration



4.60.3.2.3 Transportation Emissions Budget for Conformity

Federal, state and local transportation plans or projects must address mobile source emissions in a process known as "a conformity determination" for nonattainment and maintenance areas to ensure compliance with the Clean Air Act. Most transportation programs and projects affecting travel in the Lakeview UGB are contained in the Lakeview Urban Area Transportation Systems Plan (TSP). All proposed significant transportation projects planned to be built through 2017 have been accounted for in the TSP, travel model analysis, and emissions inventory. In keeping with federal conformity requirements, only projects with an expected funding source are included in the emissions inventory.

The budget is the amount allocated to motor vehicles of PM_{10} emissions allowed in Lakeview's UGB. DEQ is required to conduct an analysis for at least ten years after maintenance plan approval or at least to 2017. The emission budget is initially derived from the emission inventory. In addition to the emission inventory, the conformity determinations must be planned for an additional 20 years into the future beyond the 2017 transportation project planning period based on the federal transportation planning rules. Therefore, the emission budget and maximum vehicle miles traveled (VMT) are greater than the 2017 emission inventory amounts. The Lakeview committee also requested DEQ add 10% VMT buffer to include unanticipated projects that may be considered in the future. DEQ accommodated the request. For conformity purposes only, the last year of this plan is 2017.

All regionally significant projects that lie within the UGB are analyzed by the Oregon Department of Transportation (ODOT). The TSP is updated when needed and new projects are added. Regionally significant projects identified in the State Transportation Improvement Program (STIP) are analyzed prior to approval of the STIP. The STIP is a short range planning document that is updated every two years by ODOT. The analysis must show that PM_{10} emissions for the entire transportation network plus the emissions generated by a new project is below the budgeted amount. DEQ determined that the 24-hour daily average (mean) conformity analysis is the most constraining and will be used to determine conformity. There is not a need to determine conformity with the annual standard at this time. It is assumed that meeting the 24-hour daily average conformity budget test, will also meet the annual test. In Lakeview, there are no new regionally significant projects identified at this time. All current projects are accounted for in the TSP. However, an unanticipated project may occur resulting in the need to conduct a conformity analysis. The motor vehicle emissions budget through 2017 is outlined in Table 4.60.3-6 and has been established for transportation conformity purposes within the Lakeview Urban Growth Boundary. This budget applies as a cap or ceiling on emissions for all years prior and subsequent to 2017 or until there is an EPA approved revision to the budget in this maintenance plan.

Table 4.60.3-6: 2017 Motor Vehicle Emissions Budget
Lakeview Motor Vehicle PM_{10} Emissions Budget
Worst Case Winter PM_{10} Season (lbs/day)

Motor Vehicle Emission Budget for 2017 with 10% VMT Increase	311 lbs/day
➢ Tailpipe emission factor based on Mobile 6.2	0.09 grams/mile
➢ Re-entrained road dust – Paved road emission factor	1.55 grams/mile
➢ Re-entrained road dust – Unpaved road emission factor	313.2 grams/mile

For planning and analysis purposes only, the daily projected emission inventory increasing VMT by 10% and allowing for future ODOT planning years is as follows:

Table 4.60.3-7: 2017 Estimated Motor Vehicle VMT
Lakeview Motor Vehicle VMT
(Vehicle Miles Traveled)

Max. Daily VMT	78,209

Motor vehicle emission rates and travel model data used in this plan can be found in Appendix D6-4.

4.60.3.2.4 Continuous Control Measures

The maintenance analysis in Section 4.60.3.2.2 shows that compliance with particulate matter standards can be maintained through 2025 without additional strategies. The increase in emissions projections to 2025 is primarily due to the difference between actual emissions in 2001 for industrial sources and permitted emission limits in years after 2004 plus a modest emission increase in all categories. The Lakeview area will continue to rely on the following control strategies for long-term maintenance:

Table 4.60.3-8: 1995 Attainment Strategies & 2004 Maintenance Plan Strategies Comparison and Changes in Strategies

1995 Attainment Plan Strategy	Oregon's Effective Date	EPA Approval Date	2004 Maintenance Plan Strategy
Wood stove Curtailment	April 1995	Sept 2001	Same
Green Day only Open Burning; Voluntary Curtailment on Yellow and Red Days	April 1995	Sept 2001	Same
PM_{10} Advisory Call for Wood stoves & Open Burning	April 1995	Sept 2001	Same
Wood stove Certification	Mar 1990	Mar 1990	Same
Wood stove Removal	April 1995	Sept 2001	Same, attempt to continue program
Winter Road Sanding	April 1995	Sept 2001	Same
Added protection for Forest Burning near Lakeview	April 1995	Sept 2001	Same and includes a Voluntary Smoke Management Program
Fremont Lumber Company Permit Limit Revision	April 1995	Sept 2001	Same
Nonattainment Area Offset Requirements and LAER for new industrial sources	April 1995	Sept 2001	Offsets if over 5 µg/m3 for an individual source and not to exceed a safety cap of 140 µg/m3 for 24-hour average and 45 µg/m3 for an annual average. Use BACT instead of LAER.

Wood Stove and Open Burning Ordinance

On February 28, 1995, the Town Council for Lakeview and Lake County established a voluntary woodstove and open burning program which has been effective in significantly reducing emissions from woodstoves and open burning in the Lakeview UGB. The town of Lakeview adopted an ordinance on February 28, 1995, that was followed by the county in March 1995. The ordinances implemented the town's air quality program within the town's UGB boundaries. The following are elements of the program.

- Wood stove Curtailment - On days with high pollution (red days) that could damage an individual's health, all wood stove activity is requested to be curtailed. On days with moderate pollution (yellow days) that may have an impact on an individual's health, uncertified wood stove activity is requested to be curtailed. Advisory calls are made on a daily basis in the winter to alert the public as to the level of pollution and the outlook for pollution levels and stagnant conditions that day. In addition to a PM_{10} woodstove advisory, Lakeview voluntarily reviews the airshed weather and air quality data for a $PM_{2.5}$ advisory. Community surveys are conducted in the mornings to determine general compliance with the advisory.
- Certification of Wood stoves - All new installations of wood stoves must be certified stoves. This requirement parallels state rule.
- Open burning on poor ventilation days - Open burning is prohibited on yellow and red days by ordinance within the urban growth boundary.

- Prohibited materials - Materials such as tires, plastics, and wet garbage are prohibited from open burning. This rule parallels state rule.

Since the 1995 program began, emissions from wood stoves have steadily declined and open burning has been limited. A woodstove ordinance and an open burning ordinance in both the town and county were developed to assure success of the program. The open burning ordinances are mandatory, but the woodstove ordinances were a contingency measure should the town fail to meet the NAAQS.

Statewide Certification of Wood Stoves

The 1991 legislature enacted a ban on the sale of uncertified used wood stoves. Additionally, the State Building Code Agency prohibits the installation of uncertified used wood stoves. The mandatory woodstove certification program requires all new woodstoves sold in Oregon to emit 70% less smoke than conventional woodstoves. The effect of this ban and prohibition has been to reduce the emissions from heavy polluting stoves and allowing only the installation of certified wood stoves, effectively reducing the amount of pollution from individual certified stoves to more than half the pollution of the uncertified stoves. Wood has been more and more difficult to obtain and residents must travel farther to cut the same volume of wood. Consequently, there is an incentive not to cut wood. Additionally, the hearth products industry has promoted natural gas fired stoves and more diesel/kerosene-fired stoves are being installed, thus reducing particulate pollution. The net benefit to the airshed has been a significant reduction in emissions from wood stoves.

DEQ estimates that PM_{10} emissions from uncertified wood stoves have been substantively reduced as identified in a recent 2002 survey to determine attitudes and wood burning behavior. This emission reduction is expected to level out in subsequent years because there are fewer uncertified wood stoves to be removed and the remaining uncertified wood stoves are likely only used on an infrequent basis. The conclusion from these data indicate that more people are using wood stoves as a backup source of heat in the town of Lakeview and that the statewide certification program has been effective in significantly reducing emissions from wood stoves.

Wood Stove Replacement Program

The wood stove replacement program for low-income households, the CLEAR program, was effective in significantly reducing emissions in the early 1990's. In a major one-time effort, several funding sources were combined to remove uncertified wood stoves from homes and replace them with a satisfactory heat source. The project upgraded 57 heating systems. The project replaced conventional woodstoves with kerosene/diesel stoves, heat pumps, certified woodstoves, electric furnaces or pellet stoves. This project spawned other uncertified stove removals inside the UGB by revolving the return payback funds when houses sold. Continuation of the CLEAR program should result in one to three stoves replaced per year depending upon the payback rate for a particular year. Certified wood stove installations have increased along with use, hence the resulting emission increase is estimated to be slight in Lakeview over the next 20 years.

Highway Road Sanding

Emissions resulting from wintertime road sanding can be significant. The Oregon Department of Transportation, the County Public Works Department and the Town's Public Works Department have made significant strides to reduce the amount of winter roadsanding material placed on the roadway. By 2001, the Oregon Department of Transportation (ODOT) on state highways has substantially reduced roadway sanding and has gone to crushed aggregate, a less friable material than cinders. In recent years, ODOT has utilized magnesium chloride as an anti-icing agent on roadways replacing sanding material nearly all together. The town of Lakeview uses magnesium chloride and a less friable rock in difficult wintertime conditions.

Forest Burning

Smoke from prescribed burning, slash burning and underburning (burning under large trees) has not significantly impacted the nonattainment area, however this activity has had safeguards established to prevent unintended smoke impacts to the Lakeview nonattainment area.

By statute, the Oregon Department of Forestry (ODF) is responsible for administration of forest smoke management rules. Daily burn instructions are issued by ODF for burning near Lakeview. ODF recognizes Lakeview as a nonattainment area and requires additional precautions when conducting prescribed burning during the winter months. The purpose is to further protect the nonattainment area. One provision allows burning only during green days in the winter when wood smoke has less impact on the airshed.

In addition, the USFS has entered into a voluntary smoke management agreement. It includes the Fremont-Winema Forests near Lakeview. Lakeview is identified as a nonattainment area and is protected area under this agreement. The ODF daily smoke management forecasts and advisories are issued for the town of Lakeview. The purpose is to avoid smoke intrusions into Lakeview and other smoke sensitive areas. The program has been effective.

Although it is effective, this strategy is considered an emission growth strategy. The smoke impacts from prescribed burning have not caused an exceedance of the standard and usually occur outside of the peak woodheating season.

Dust from Goose Lake

Periodically, dust from the Goose Lake dry lakebed blows during high wind speed events. Lakeview can be impacted from this dust. No recorded dust event has caused the town of Lakeview to exceed the standard. Should a dust event cause a documented exceedance of the National Ambient Air Quality Standard, DEQ will prepare a Natural Events Action Plan for Lakeview to address the events.

Wood Products Industry

Fremont Sawmill agreed to relinquish 34.2 pounds per hour and 15 tons per year of PM_{10} emissions permanently from their permit in 1994 due to a shutdown of a Wigwam Burner. In addition, DEQ plans to continue specific requirements for industrial sources unique to the Lakeview UGB (Oregon Administrative Rules Chapter 340, Division 240, Rules 0400 through 0440).

New Source Review

Currently, any new major industrial source or a major modification to an existing source is subject to the New Source Review (NSR) requirements for nonattainment areas. The requirements include Lowest Achievable Emission Rate (LAER) control technology and emission offsets.

Once EPA redesignates the Lakeview UGB to an attainment status, the LAER requirement will be replaced by Best Available Control Technology (BACT) requirements. Unlike LAER, BACT allows cost to be considered in evaluating the feasibility of emission controls. In addition, a major new or modified source must demonstrate that its contribution to the airshed is five $\mu g/m^3$ or less and that it is within the PM_{10} standard plus a safety margin (140 $\mu g/m^3$ or 93% of the daily standard; and 45 $\mu g/m^3$ or 90% of the annual standard) otherwise offsets will be required. Specific rules addressing industrial sources in former nonattainment areas are addressed in Oregon Administrative Rules, Chapter 340, Divisions 222, 224, and 225.

Once redesignated to attainment for PM_{10}, the Lakeview UGB will be both an Oregon PM_{10} maintenance area and a federal PM_{10} attainment area. In addition to Oregon requirements for New Source Review, federal requirements for the Prevention of Significant Deterioration (PSD) must also apply to federal major sources. Federal major sources are those facilities with emissions of 250 ton/year or more, or specific industry types (listed in OAR 340-200-0020(25)) with emissions of 100 tons/year or more. The PSD program includes emission control technology requirements for new and expanding industrial facilities; as well as two different air quality analysis requirements designed prevent a violation of federal PM_{10} standards, and limit the amount of air quality degradation that can occur from industrial emission increases. Any new or expanding federal major source will have to meet the more stringent of the Oregon NSR or federal PSD requirements. It is expected that the Oregon NSR requirements will be the more stringent.

Other Statewide Rules such as Fugitive Emissions

Although not typically referenced, several Oregon rules control emissions on a routine basis in all or portions of the nonattainment area. State rules require facilities and individuals to control dust, emissions and nuisance conditions. Most uncontrolled emissions in Oregon are more nuisance rather than substantive PM_{10} sources. Nevertheless, state rules require control of visual emissions, fugitive emissions and nuisance conditions. These rules can be applied when other measures fail to adequately control particulate emissions. These rules are more

restrictive than federal requirements for sources and can apply to individual emission sources.

Visible emissions restrict opacity to 20% within special control areas such as Lakeview UGB to periods aggregating no more than three minutes in any one-hour. This has been a long-standing requirement for any source in larger cities in Oregon and is more restrictive than the federal requirement of six minutes in any one-hour.

Another long-standing rule states that fugitive emissions in special control areas such as the Lakeview UGB must be controlled. No individual can allow particulate matter to become airborne without taking reasonable precautions such as using water or chemicals, or creating enclosures to control the fugitive emissions.

A more recently revised rule states nuisance from air contaminants is not allowed within the State. The department determines the nuisance by a specific process and may require applicable work practices to address nuisance conditions. These rules have been recently enhanced to better define process and consequences.

Typical Available Control Technology (TACT) can be required for any source of emissions where further control is necessary. TACT has better defined our older "Highest and Best" usage rules to address situations that may not be regulated elsewhere.

Open burning of commercial, demolition, construction, industrial and land clearing waste or debris is prohibited within open burning control areas such as the Lakeview UGB. Exceptions can be made if the department issues a letter permit. If a permit is issued, smoke management restrictions and other requirements can be added to prevent impacts to neighbors or the airshed.

4.60.3.3 Contingency Plan

The Maintenance Plan must contain contingency measures that would be implemented in the event of: 1) a violation of the PM_{10} standard after the area has been redesignated to maintenance, or 2) other appropriate triggering protocol contained in the plan. Lakeview's contingency plan is outlined below.

The Clean Air Act Section 175A(d) requires that all control measures previously removed from the original attainment plan in the State Implementation Plan (SIP) prior to redesignation be reinstated as a contingency measure in the Maintenance Plan. Therefore, Lowest Achievable Emission Rate (LAER) technology and emission offsets for major industrial sources must be contingency measures in the PM_{10} Maintenance Plan.

Lakeview's PM_{10} contingency plan is designed in phases in order to both prevent a violation of PM_{10} standards, and to promptly correct any violation that may occur.

Phase One: Risk of Violation

If estimated ambient concentrations exceed 93% (140 μg/m3) of the 24 hour NAAQS concentration of PM_{10} at Center and M Street at any time, the town through its air quality committee and DEQ plan to convene. The air quality committee and DEQ will evaluate the cause of the exceedance and recommend strategies to be considered for implementation. The committee will also convene if the annual average concentrations at Center and M Street is predicted to equal or exceed 45 $\mu g/m^3$ (90% of the standard). Within six months of triggering phase one of this contingency plan, the committee will evaluate the cause of the near exceedance and if necessary, identify and recommend an action plan with a schedule for implementation of additional strategies as necessary to prevent an exceedance or violation of the PM_{10} standards. The schedule will include automatic implementation of more stringent requirements should phase two need to be implemented.

If the high PM_{10} concentration were determined to be based on a natural event per EPA's policy or an exceptional event, no further action may be needed other than a discussion of the elements of a Natural Events Action Plan.

Phase Two: Actual Violation

If a violation of the PM_{10} standard occurs and is validated by DEQ, the following contingency measures will automatically be implemented:

(1) Any new major industrial source or a major modification to an existing source subject to the New Source Review (NSR) requirements will revert back to Lowest Achievable Emission Rate (LAER) control technology and emission offset requirements. All other New Source Review requirements for nonattainment areas will be reinstated.
(2) The strategies developed under phase one or re-evaluated under phase two will be implemented upon the time schedule detailed in an action plan with all actions permanent and enforceable.

The contingency strategies to be considered or reviewed include, but are not limited to:

- Review alternative heating systems, including solar and geothermal;
- Review industrial strategies;
- Consider a mandatory woodstove curtailment program;
- Review forest slash burning strategies;
- Consider an ordinance removing uncertified woodstoves upon sale of a home;
- Consider banning outdoor burning, or developing further open burning restrictions; and
- Evaluate all sources of particulate pollution in the Lakeview – Goose Lake Basin, developing additional strategies to address the most significant sources of particulate.

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4.60.4 ADMINISTRATIVE REQUIREMENTS

The criteria that must be satisfied for a nonattainment area to be redesignated to attainment include several administrative requirements related to compliance with various Clean Air Act provisions. Each of these elements is described below.

4.60.4.1 SIP Requirements/Nonattainment Area Requirements

Lakeview has met all State Implementation Plan (SIP) requirements specified in Section 110 and Part D of the Clean Air Act.

In summary, Section 110 says that a state shall submit a plan that becomes part of the SIP, providing for the implementation, maintenance, and enforcement of an air quality standard. Part D outlines specific plan requirements for nonattainment areas.

4.60.4.2 Summary of Previous Planning Requirements

On January 20, 1994, EPA designated the Lakeview UGB as a nonattainment area for PM_{10} based on 1991 and 1992 PM_{10} levels. A PM_{10} attainment plan was adopted for the Lakeview UGB on April 14, 1995 by the Environmental Quality Commission (EQC), and it was submitted to EPA. EPA approved the attainment plan on September 21, 1999.

4.60.4.3 1990 Clean Air Act Requirements and Status

The Lakeview UGB has met the additional requirements for PM_{10} nonattainment areas included in the 1990 Clean Air Act Amendments. The required attainment date of December 31, 1999 was met in 1999. The 1990 Clean Air Act Amendments place additional requirements on moderate PM_{10} nonattainment areas. The following are DEQ submittal dates and EPA approval dates of submissions required by section 110 and Part D of the 1990 Clean Air Act Amendments:

a. *1992 Emissions inventory, to be revised every three years thereafter until attainment.* In April 1995, DEQ submitted to EPA a comprehensive 1992 base year PM_{10} emission inventory along with the Attainment Plan for the Lakeview nonattainment area. Subsequently, DEQ has provided EPA with a 1999 emission inventory for Town of Lakeview with this document.

b. *Transportation and General Conformity Requirements.* Section 176(c) of the Clean Air Act requires states to revise the SIPs to establish criteria and procedures for demonstrating that federal actions conform to the goals established in the SIP. On April 14, 1995, DEQ submitted to EPA a revision to the Oregon SIP establishing transportation conformity requirements for Oregon (OAR 340-020-0710 through 340-020-1080), and General Conformity requirements (OAR 340-020-1500 through 340-020-1600) were

submitted on September 27, 1995. EPA approved the transportation conformity rules as a SIP revision on May 16, 1996. EPA modified the transportation conformity rules in 1997 to allow more flexibility; DEQ adopted these changes on October 13, 1998.

c. *New Source Review Rules (NSR) for "major sources".* On November 16, 1992, DEQ submitted revisions to the New Source Review permit program. These revisions included a requirement that offsets come from contemporaneous, actual emission reductions.

d. *Contingency Measures.* Contingency measures in the original Attainment Plan were required for the Lakeview Nonattainment Area. Lakeview met the December 31, 1999 deadline for compliance with the PM_{10} National Ambient Air Quality Standards. Subsequent to that deadline, contingency measures were not required. This maintenance plan provides for additional contingency measures to promptly correct any violation.

4.60.4.4 Monitoring Network, Verification and Commitments

The DEQ is responsible for the operation of the permanent ambient PM_{10} monitor in the Lakeview UGB. The DEQ oversees the quality control and quality assurance program for the PM_{10} data.

The DEQ will continue to comply with the air monitoring requirements of Title III, Section 319, of the Clean Air Act. The monitoring site will also continue to be operated in compliance with EPA monitoring guidelines set forth in 40 CFR Part 50 and appendices J and K; and 40 CFR Part 58 and associated Appendices A through G. In addition, DEQ will continue to comply with the "Ambient Air Quality Monitoring Program" specified in Volume 2, Section 6 of the SIP. Further, DEQ will continue to operate and maintain the network of State and Local Air Monitoring Stations (SLAMS) and National Air Monitoring Stations (NAMS) in accordance with the terms of the Performance Partnership Agreement (PPA).

The DEQ also periodically conducts special studies to verify that existing monitors are recording the highest PM_{10} concentrations in the area. DEQ may conduct a five-year periodic survey, pending EPA review. Based on PM_{10} monitoring data and funding availability, DEQ in consultation with EPA may reach agreement that the periodic survey is unnecessary, or should be delayed.

The DEQ will analyze on an annual basis the PM_{10} air quality monitoring data to verify continued attainment of the PM_{10} standard, in accordance with 40 CFR Part 50 and EPA's redesignation guidance. These data, along with the previous year data, will provide the necessary information for determining whether the Lakeview UGB continues to comply with standards.

DEQ will commit to an evaluation of growth and other planning assumptions if PM_{10} concentrations significantly increase over current levels.

4.60.4.5 Public Consultation Procedures

DEQ involved the public during the development of the Lakeview PM_{10} emission reduction and growth management strategies for the maintenance plan through the local air quality committee. The committee held public meetings, and DEQ published notices in the paper and prepared press releases for other media sources in the area. A public hearing was held and public comment was accepted for the adoption of the maintenance plan and associated rulemaking.

4.60.4.6 PM_{10} Impacts to Other States

The majority of sources of PM_{10} emissions identified in the emissions inventory are locally generated sources and the highest emission levels are typically low wind speed wintertime events. The transport of these emissions is unlikely. Additionally, Lakeview is approximately 15 miles north of the California boarder and approximately 25 miles and across a small mountain range from the Nevada boarder. Prevailing winds are from the southwest. The nearest community of any size in an adjacent state is Alturas which is approximately 53 miles south of Lakeview. Under rare circumstances where transport winds may carry emissions toward other states, emissions would likely disperse and not reach a populated area in another state.

4.60.4.7 Assurance of Funding

Adequate funding to meet the requirements of Section 110(a)(2)(E) of the Clean Air Act Amendments is available for the emission reduction and growth management strategies identified in this plan.

Residential woodburning and public awareness programs are implemented by the Town of Lakeview through an intergovernmental agreement each year. DEQ plans to continue funding this agreement based upon need and availability of funding. The community plans to continue looking for sources of funding to improve air quality locally.

Industrial source compliance assurance programs are implemented by DEQ as part of the statewide base program. Resources are identified in the annual Performance Partnership Agreement (PPA) prepared between DEQ and EPA. DEQ provides regional permit writers and inspectors for industrial sources located in Lakeview.

The forest slash burning program is administered by the Oregon Department of Forestry, in cooperation with the US Forest Service and the Bureau of Land Management, and funded by a fee-based program.

4.60.4.8 Enforceability

As described in this plan, control measures are enforced by the state or local governments. Area source compliance is the responsibility of the local government with technical assistance from DEQ. Industrial source compliance is the responsibility of DEQ.

4.60.4.9 Federal Major Source PM_{10} Precursors

Currently, there are no federal major sources located within the urban growth boundary of Lakeview, and hence none that contribute to PM_{10} precursors in accordance with the Clean Air Act Amendments of 1990 Section 189(E). Oregon's New Source Review procedures will address PM_{10} precursor pollutants should a federal major source propose to locate in Lakeview.

4.60.4.10 Plan Revision

DEQ plans to begin revising this maintenance plan eight years after EPA approval for a second ten year period as required by the Clean Air Act Amendments Section 175A.(b). At that time, emission sources, growth assumptions and strategies will be re-evaluated. DEQ plans to submit the newly revised maintenance plan to EPA for approval at that time. The revision will provide for continued maintenance of standards.

For the interim period between EPA approval of this plan and the next plan revision, the department will rely on ambient monitoring data to track progress of the maintenance plan. Growth projections for Lakeview are modest. As long as ambient PM_{10} concentrations show no significant upward trend, a mid-term emission inventory update or emissions tracking program will not be necessary. If PM_{10} concentrations significantly increase over current levels, then an evaluation of growth and other planning assumptions will be necessary.

If a fourth-high PM_{10} concentration in any year is measured above eighty percent (80%) of the standard, the department will prepare an analysis of growth factors to determine if other planning assumptions have changed. The analysis will include a review of emission factors, growth rate assumptions, traffic data, and other significant assumptions used to develop the maintenance plan. If there are significant changes, the department will consult with EPA to determine if a more extensive periodic emission inventory update, or other action, is warranted.

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EQC Staff Report Attachment A – Appendix D8-1

State of Oregon
Department of
Environmental
Quality

Particulate Matter Ten Microns and less (PM_{10})

Glossary

Including AQ Acronyms and Definitions

ACRONYMS and DEFINITIONS

Air monitoring: The proof of any strategy is ultimately gauged on what is monitored. Sampling devices are placed in each community to determine if there is a pollution problem and then, if one is identified, the actual impact on an area. The data collected from the samples is also placed into the PM_{10} control plan to complete the pollution picture for a given community.

Beta Scatter, B-scat: B-scat is the unit measurement from the Nephelometer. B-scat is an acronym for Beta Scatter that is the light scattering measurement value. B-scat is a relative measure that most closely reflects or scatters light from very fine or ultra fine particulate matter. The larger particulate matter typically does not scatter light as well as the very fine particulate matter.

Clean Air Act and Amendments (CAA): A federal rule promulgated by the Congress of the United States that identifies all the clean air standards for the nation.

Clean Air Act Deadline: The Clean Air Act Deadline in the 1990 amendment was December 31, 1994. This deadline was for those cities that were identified by the State of Oregon when the 1990 amendment was passed as nonattainment. Oregon had to develop plans identifying strategies and had roughly three years to bring each of these areas back into attainment prior to that deadline. Then, a maintenance plan would need to be developed to assure that these areas would remain in attainment for the next ten years. For new nonattainment areas identified, a new deadline is developed for each of these areas allowing about three years for attainment strategies to work.

Cubic Meter: A measurement of air volume. A cubic meter is about 35 cubic feet.

Curtailment: A community-based program designed to insure wood stove owners are not burning their wood stoves on specific days. It can be a voluntary curtailment program, or it can be a mandatory curtailment program. Generally, a community will issue an advisory forecast that predicts when air pollution will be bad in an area. The committee or local government will request of the community members not to burn their wood stove on that day.

Curtailment Compliance: Visual observations of community members homes to determine the effectiveness of the curtailment strategy. A baseline is established for those homes that burn on cold green days. When residents are requested not to burn in their wood stoves, a curtailment compliance survey will be conducted to compare against a baseline value. Once this comparison is made, committee members or a local air quality coordinator can determine the effectiveness of the curtailment program.

Degrees Centigrade or Celsius: A scientific measurement of temperature. Zero degrees Celsius is the temperature that water freezes. To change from Fahrenheit to Celsius the formula is C = 5/9 times (F - 32).

Emission Controls: Strategies developed for each source of pollution. These controls are synonymous with strategies identified above.

Emission Inventory, E.I.: A tally of all sources of pollution for a given area and represents their relative impact on an airshed. Each source of pollution has a production of emissions and these emissions are all added together to determine the total amount of pollution in an area. These emission inventories are then placed into models to determine how the emissions will be reduced for an area.

Emission Reduction Strategies: Ideas or strategies to reduce pollution in a certain area. A local government at the recommendation of an air quality committee usually formalizes these ideas. If an area becomes nonattainment, these ideas are formalized in a PM_{10} Control Plan or an "Attainment Plan" or a "Maintenance Plan" to present to EPA as the strategy to bring the city or area back into compliance with the standards.

Growth Management Strategies: Important strategies to prevent unbridled growth of emissions in a specific category. These strategies may or may not result in a reduction in emissions from its implementation. The strategies can be identified in an "Attainment Plan" or a "Maintenance Plan".

Maintenance Plan: Once a nonattainment area meets the National Ambient Air Quality Standard and meets the Clean Air Act deadline, DEQ is required to develop a Maintenance Plan to show EPA that the former nonattainment area can continue to maintain air quality below the National Ambient Air Quality Standard. This plan is very similar to an Attainment Plan, in that it must use an analysis of data to show that the prior years were not an anomaly.

Meteorology: The science of weather measurements. DEQ collects temperature and windspeed data. This data to correlate pollution levels and assist in the understanding of the weather influences on pollution.

Microgram: A very small scientific measurement of weight. A microgram is one millionth of a gram. One ounce is about 28 grams.

Modeling: Used to quantify worst case situations to determine the impact of pollution on an area. Mathematical models have been developed to take actual or estimated data and analyze the impacts of various sources of pollution in an area. It has been described as putting information into a black box and out the other end comes the estimated amount of pollution a given area will have. These estimates are then used to determine the effectiveness of strategies and are used to show EPA how pollution will be reduced in an area.

NAAQS (National Ambient Air Quality Standards): Ambient (outdoor) standards for particulate matter. The 24-hour standard for PM_{10} is 150 micrograms per cubic meter (ug/m3) from midnight to midnight. The annual average standard for PM_{10} is 50 ug/m3. The 24-hour standard for

$PM_{2.5}$ is 65 $\mu g/m^3$ from midnight to midnight. And the annual average standard for $PM_{2.5}$ is 15 $\mu g/m^3$. All must be met to be in compliance and avoid nonattainment area status.

Nephelometer, Neph: An instrument that determines light scattering. This instrument provides hour by hour light scattering data and can be accessed by a computer modem. Light scattering is useful because it roughly correlates to the amount of fine particulate matter in the air. Once sufficient data is collected, a correlation can be made between light scattering and $PM_{2.5}$ and PM_{10} concentrations. The hourly light scattering data can then be used to immediately identify an estimated amount of pollution in the air over the last 24-hour period. It is also used in conjunction with weather information to predict what the pollution will be for the following evening. The advisory forecasts are based in part on this information. A person doesn't need to wait for two months for the results of a PM_{10} or $PM_{2.5}$ sampler to suspect if they are in violation of a standard. One caution, however, it does not necessarily give the same result as the $PM_{2.5}$ or PM_{10} samplers. EPA does not approve a nephelometer as a sampler to determine violations of the NAAQS.

New Source Review: Rules that spell out requirements for new and expanding industrial sources of pollution. Sources affected by these rules normally emit more that 15 tons of PM_{10} per year, and are required to have emission control equipment and model their emissions to demonstrate compliance with standards or and other thresholds established by rule.

Nonattainment: A label applied to cities or areas that do not meet the National Ambient Air Quality Standard (NAAQS). It is a formal designation, which means that EPA must identify the city as not meeting the standard and they must formally publish the results in the Federal Register. Once a city is designated nonattainment there is a similar formal process to reclassify the city back into attainment.

Public "Education", Public Awareness: An effective strategy in controlling pollution in a given area. When the public becomes aware of pollution they often respond by taking proactive steps to minimizing their sources of the pollution.

$PM_{2.5}$: The fine particulate matter that is 2.5 microns or less in diameter. EPA established a new standard similar to the PM_{10} standard but at a lower level (see NAAQS).

PM_{10}: An acronym for fine particulate matter that is in the air. This particulate matter is ten microns and less in diameter. Cannot be seen with the naked eye. For reference the period at the end of this sentence is about 500 microns in diameter.

PM_{10} or $PM_{2.5}$ Control Plan: Referred to as an "Attainment Plan". When a city or area has data that shows it has violated the NAAQS, DEQ prepares a PM_{10} or $PM_{2.5}$ Control Plan. This plan is a formal document that identifies the strategies a particular city or area will use to bring it back into compliance with the standards. The strategies are formalized, and must be measurable. Each strategy is detailed and must be followed completely. The effectiveness of each strategy must be

measured. EPA holds the State and the local community responsible for implementing the strategy. DEQ must prove to EPA that the strategy is working.

PM_{10} samplers: Air samplers that measure the amount of PM_{10} concentration in the air. PM_{10} samplers are normally "reference method" samplers that have specific requirements set by EPA for manufacturing and operation. Air sampling needs to be consistent nation-wide to compare one sample to another and the reference method sampler allows this comparison. It is different than a nephelometer because it measures the weight of the particulate matter by a volume of air mass over a period of time. The nephelometer only measures light scattering.

Redesignation: When a nonattainment area is formally designated as returning to attainment. It is a formal declaration by EPA that the former nonattainment area is now back into attainment. It recognizes that the strategies have been working and will continue to work to maintain clean air in a community. It does not mean that communities can go back to the old ways of doing things.

State Implementation Plan (SIP): A document which details how the state is going to implement federal requirements. EPA and DEQ reviews each element of the Plan to determine the effectiveness of DEQ's air quality programs. The SIP is detailed and specific in its plans to keep Oregon's air clean. Each PM_{10} or $PM_{2.5}$ Control Plan becomes part of the overall SIP.

Temperature Inversion: When a warm air mass traps a cold air mass next to the ground. When these situations arise, fine particulate matter pollution (particularly from woodstove smoke) increases. Typically more wood when it is cold outside; the cold air mass collects the wood smoke; and the warm air mass traps the cold air and the wood smoke and keeps the pollution next to the ground where people breath. The strength of the inversion depends upon weather conditions. During high pressure, clear skies, and typically in valleys or low lying areas, inversions can become strong and trap the pollution very close to the ground.

Wind Speed: An important measurement to make when predicting air pollution events. Typically, wood smoke pollution occurs when wind speeds are less than 3miles per hour. Any wind speed greater than 3 miles per hour usually removes pollution from an area.

Technical Analysis Protocol

Lakeview PM_{10} Maintenance Plan
March 2004

I. Background Information

The Lakeview PM_{10} nonattainment area is defined as the urban growth boundary. The Lakeview UGB is classified as nonattainment for the 24-hour PM_{10} NAAQS. A map delineating the urban growth boundary is provided as Figure 1.

A. Design Values

A medium-volume PM_{10} monitor was located at each of two locations in Lakeview. The primary PM_{10} monitor was located at Center and "M" Street from 1991 to 2004. Another was located at 336 N "L" Street from 1993 to 1999. A $PM_{2.5}$ monitor was established in 1999 and was co-located with the PM_{10} monitor at Center and "M" street and a meteorological station. The PM_{10} monitor is a Federal Reference Method monitor or an EPA approved surrogate Federal Reference Method monitor. Design values will be calculated for only the Center and "M" Street site. [1]

The selected base year for the maintenance plan emission inventory is 1999. The emission inventory will be rolled forward to include 2003. The validated, maximum 24-hour PM_{10} concentration for the five-year period 1999-2003 is 106 micrograms per cubic meter (ug/m^3) at the Center and "M" Street site. For the five-year period 1999-2003[2], the design value for the 24-hour daily concentration based on the top 10 percent of the validated data is statistically derived at 112.5 $\mu g/m^3$. The daily PM_{10} standard is 150 $\mu g/m^3$. The annual PM_{10} standard is 50 $\mu g/m^3$. There have been no violations of the annual standard in Lakeview and the highest 3 year annual average of the validated data for 1999 through 2003 is 20.9 $\mu g/m^3$.

B. Attainment Year and Concentrations

The Lakeview area attained the standard for PM_{10} in 1997. The area has remained in compliance with the standard since 1995. The last exceedance of the 24-hour PM_{10} standard in the Lakeview UGB occurred in 1994, as did the last violation of the PM_{10} 24-hour standard. The Lakeview UGB has not exceeded the PM_{10} annual standard. The maximum monitored PM_{10} 24-hour average in

[1] Total suspended particulate matter (TSP) monitor has not been monitored in Lakeview.
[2] The November and December 2003 is not yet available because it has not yet been quality assured.

the 1999 base year was 95 ug/m^3 recorded on January 5, 1999; the second highest monitored value was 94 ug/m3 recorded on January 4, 1999. The annual average for the 1999 base year was 20.2 µg/m^3.

C. Control Strategies

The Lakeview UGB attained the standard for PM_{10} prior to full implementation of the 1995 attainment plan control strategies. These strategies targeted residential wood burning and the wood products industry. Open burning controls, slash burning restrictions, fugitive dust controls, and a ban on the sale of uncertified wood stoves were also added to the mix of strategies.

II. Potential Risk for Renewed Nonattainment

Table 1 shows the five highest monitored values for PM_{10} since the last exceedance in 1994. The standard is 150 ug/m3, rounded to the nearest 10 ug/m3.

Table 1
Five Highest PM_{10} 24-Hour Values Since Last Exceedance

Concentration	Date
110 ug/m3	December 16, 1998
107 ug/m3	December 29, 2000
101 ug/m3	December 28, 2000
99 ug/m3	December 29, 1997
95 ug/m3	January 5, 1999

Figure 2 shows that the concentration trend since 1993 is generally downward. Meteorological trends through the same time period will be addressed in the maintenance plan to demonstrate that attainment of the standard was not due to favorable meteorological conditions. Figure 3 shows the annual average at Center and M street. The annual averages for current years are less than half the standard.

Figure 2
Lakeview PM_{10} Trend
24-Hour Highest Concentrations

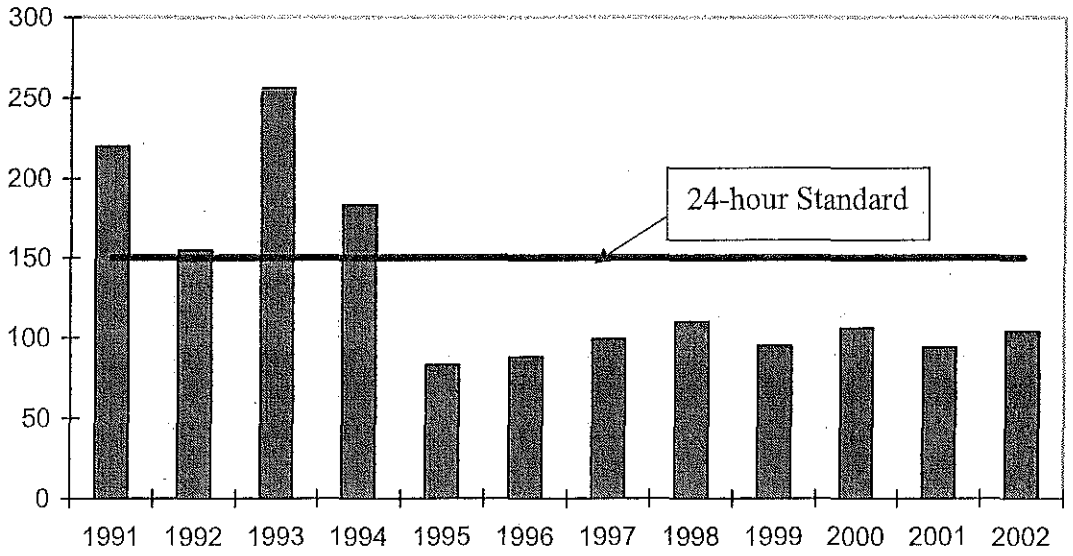
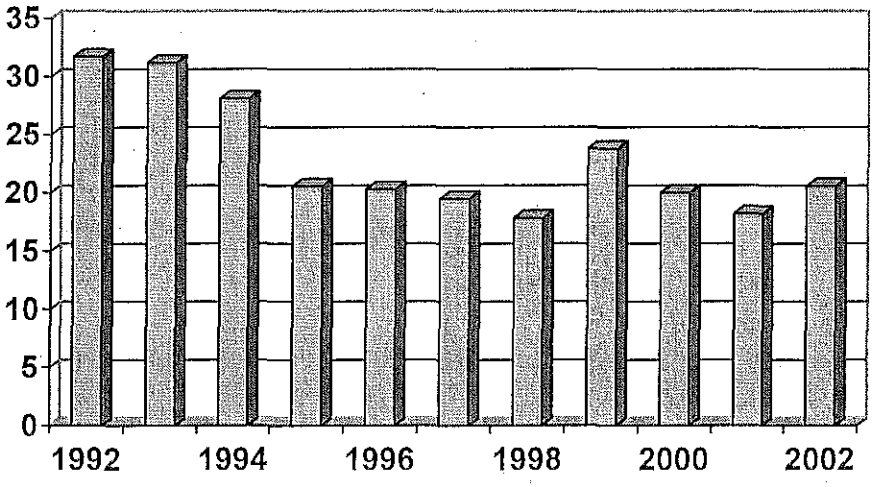


Figure 3
Lakeview PM_{10} Trend
Annual Average Concentrations[3]



A saturation study was conducted in 1990/91 by DEQ to evaluate the monitoring site selection. The results of the study showed that the highest particulate concentrations are represented best in the northwest quadrant of the town where the Center and "M"

[3] The annual standard is 50 µg/m^3. The 2002 data does not include wildfire smoke data in the summer of 2002.

Street site is located (the current PM_{10} site). The PM_{10} monitoring site at Center and "M" Street has not changed since1991.

The attainment year emissions level and 2025 projection of motor vehicle emissions will be based on EPA's MOBILE 6.2 model for tailpipe, brake-wear and tire-wear and AP-42 for fugitive emissions. The final maintenance plan document will include a complete attainment year emission inventory and a 2025 emission inventory projection, with the overall source mix for the maintenance period.

Growth projections for the Lakeview urban growth boundary are shown in Table 2. The growth rates will be recommended by the Lakeview Air Quality Committee for the PM_{10} maintenance plan in accordance with state requirements. This committee will also advise the Department on the development of the PM_{10} maintenance plan. The commission includes representatives from the local jurisdictions, the Town Council, industry, environmental groups, health groups and local business. The growth rates are consistent with the most recent local comprehensive plan and Portland State University's Center for Population Research and Census projections.

Table 2
Lakeview UGB Projected Average Annual Growth

Population growth	1.02%
Household growth	1.07%
Employment	0.98%
Regional VMT	0.79%

III. Demonstration of Attainment of National Ambient Air Quality Standard for PM_{10}

A. Monitored Data

Monitored data from 1999 through 2003 will be used to show that the area is in attainment. Data through 2004 will demonstrate that the area continues to show attainment with the PM_{10} daily and annual standards.

B. Other Attainment Documentation

The saturation study referenced above provides further evidence that the area is in attainment. The findings of this study will be submitted as an appendix to the maintenance plan.

A meteorological analysis will be performed to demonstrate that the PM_{10} levels of recent years are not attributable to favorable meteorological conditions. This analysis will be summarized in the maintenance plan.

IV. Summary of Approved SIP Revision

A. Summary of Air Quality Attainment Plan/Dates of Approval

- EPA designated Lakeview as a moderate PM_{10} nonattainment area effective on January 20, 1994 as an operation of law (see 58 FR 67334).

- A PM_{10} attainment plan for Lakeview was adopted and submitted to EPA in March, 1995. EPA approved and placed the attainment plan into the Federal Register as a final rule on September 21, 1999 (see 64 FR 51051).

B. Description of Permanent and Enforceable Emission Reductions

The attainment strategies were implemented after attainment was achieved. Nonetheless, these are permanent and enforceable strategies that will carry over to the maintenance plan. The basis for any new strategies included in the maintenance plan will be documented through an emission inventory.

C. Clean Air Act Sections 110 and Part D Requirements

The portions of Section 110 and Part D that apply to the Lakeview nonattainment area are sections 172(c), 176(c)(4) and 187(a).

1977 Clean Air Act Amendments -- New Source Review and Plant Site Emission Limit rules were submitted to EPA on September 9, 1981 and approved on August 13, 1982.

Conformity rules were adopted in 1995 and approved by EPA on May 16, 1996.

The 1999 and 2002 periodic emission inventory requirement will be addressed concurrently through the maintenance plan emission inventory.

V. Air Quality Maintenance Plan

A. Attainment Year Emissions Inventory

A baseline, attainment period emission inventory will be developed for 1999. Annual and worst case daily PM_{10} emissions will be calculated. EPA's MOBILE 6.2 model and AP-42 will be used to estimate mobile source emissions. VMT will be supplied by the Oregon Department of Transportation (ODOT) travel demand model. The Lakeview travel model provides a localized tool for estimating the area's travel, potential travel changes under various policy options

and land use, and demographic changes. The travel model output will be used with MOBILE 6.2 and AP-42 emission factors to estimate mobile source emissions. A summary of the travel model validation will be submitted to EPA with the Lakeview PM_{10} maintenance plan.

B. Maintenance Demonstration

The maintenance demonstration will rely on a proportional rollforward approach, relying on the attainment period ambient concentration, background concentration, the 2025 daily emissions projection, and the 1999 daily emission inventory. Annual emission projections will be calculated in a similar manner using annual emissions. The following formula will be used to calculate the 2025 projected ambient concentration:

2025 PM_{10} ambient concentration =

[(1997-2001 PM_{10} ambient concentration – background) * (2025 EI/1999 EI)]

+ background

The resulting ambient concentration will be below the PM_{10} 24-hour and annual NAAQS. A 2017 projected demonstration will also be made using a similar methodology.

It is anticipated that additional control measures will not be required to keep the area in attainment throughout the maintenance period. An emissions budget that will govern future transportation conformity determinations for PM_{10} will be established.

C. Monitoring Network and Commitments

DEQ will also commit to a five-year periodic survey, pending EPA review. Based on monitoring data, relevant traffic data and other considerations such as special project funding availability, DEQ air monitoring, modeling and planning staff, in consultation with EPA air monitoring, modeling and planning staff may reach agreement that the periodic survey is unnecessary, or should be delayed.

D. Verification of Continued Attainment

DEQ will continue to operate the PM_{10} monitor in the nonattainment area. A tracking method, such as periodic emission inventories, will be evaluated and addressed in the final redesignation document.

E. Contingency Measures

Contingency measures and triggering events will be discussed with the local advisory commission and addressed in the final plan.

VI. Schedule for Completion

• SIP Development Plan to EPA	January 2004
• Technical Analysis Protocol to EPA	March 2004
• Technical Work Completed (draft emission inventory and projection)	September 2004
• Advisory Committee Review	October 2004
• Topic Review Meeting	November 2004
• Authorization for public hearing	January 2005
• Submit Legal Notice for Bulletin	February 2005
• Conduct Public Hearing (maintenance plan with proposed emission inventory)	March 2005
• EQC Adoption (maintenance plan with final emission inventory)	May 2005
• Submit redesignation request and adopted maintenance plan to EPA	June 2005
• EPA Approval (18 months)	December 2006

Department of Environmental Quality

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Annette Liebe, Manager, Airshed Planning Section Date

Region 10 Environmental Protection Agency

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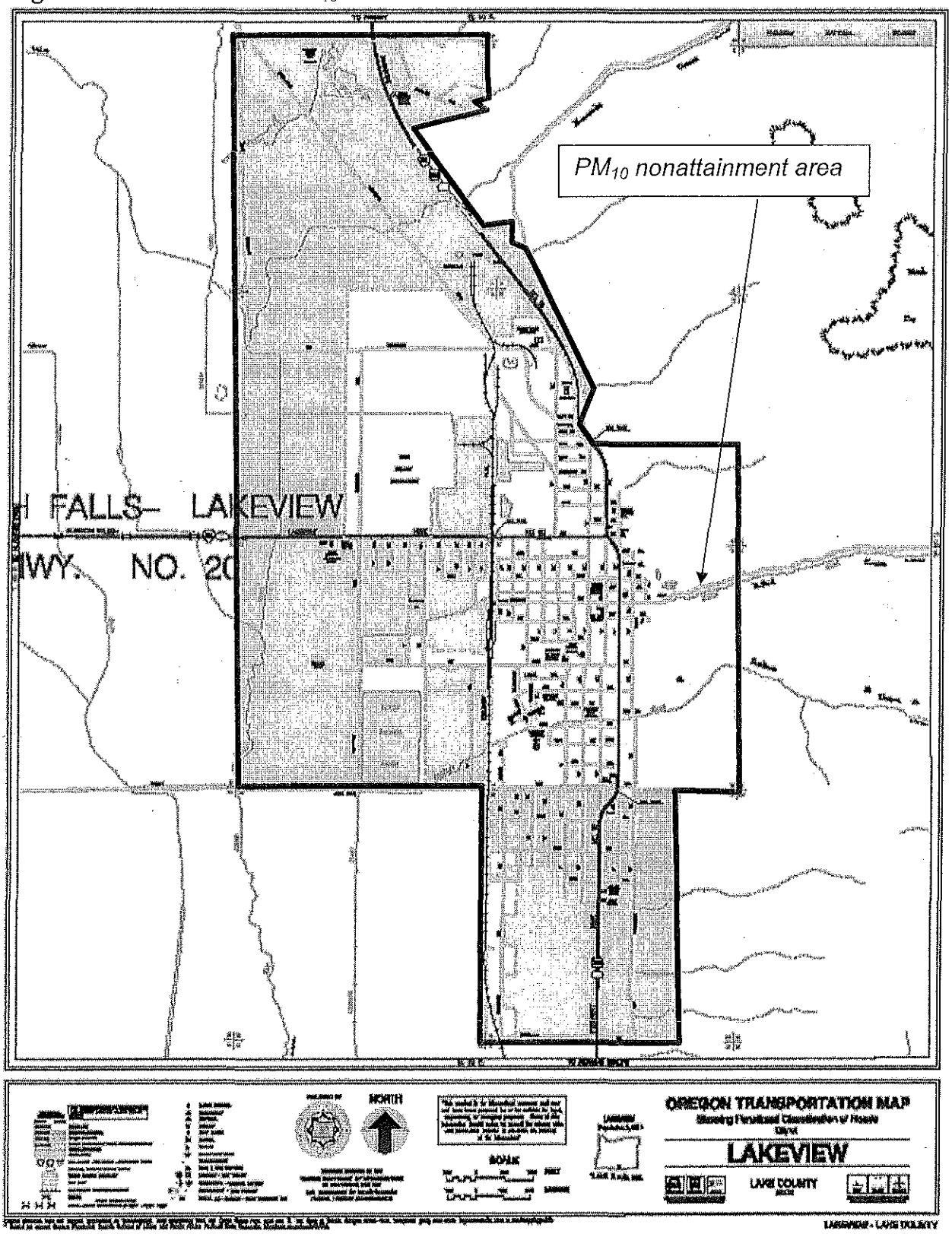
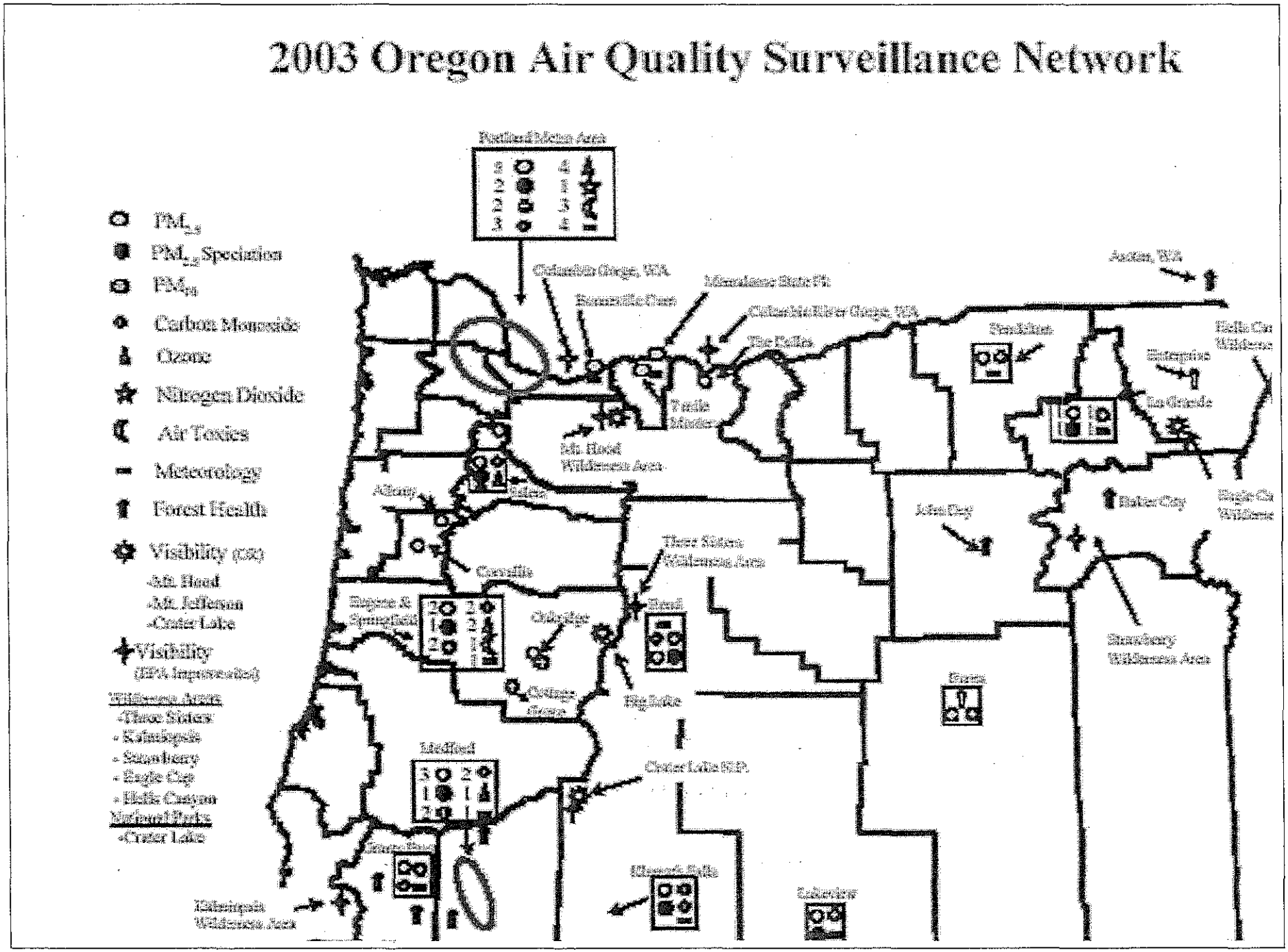
Bonnie Thie, Manager, State & Tribal Programs Unit Date

Figure 1 Lakeview PM_{10} Nonattainment Area




2003 Oregon Air Quality Surveillance Network
PM2.5
PM2.5 Speciation
PM10
Carbon Monoxide
Ozone
Nitrogen Dioxide
Air Toxics
Meteorology
Forest Health
Visibility (CSN)
-Mt. Hood
-Mt. Jefferson
-Crater Lake
Visibility
(EPA Improve-like)
Wilderness Areas
-Three Sisters
- Kalmiopsis
- Strawberry
- Eagle Cap
- Hells Canyon
National Parks
-Crater Lake
Portland Metro Area
Columbia Gorge, WA
Milwaukie Bluff Pk
Forest Grove
Cleveland High, Portland
The Dalles
Madras
Mt. Hood Wilderness Area
Albany
Corvallis
Eugene & Springfield
Oakridge
Three Sisters Wilderness Area
Bend
Cottage Grove
Big Lake
Medford
Crater Lake N.P.
Kalmiopsis Wilderness Area
Klamath Falls
Lakeview
Alsea, WA
Hells Canyon Wilderness
Enterprise
La Grande
Baker City
John Day
Eagle Cap Wilderness
Strawberry Wilderness Area
Burns

STATE OF OREGON AIR QUALITY CONTROL PROGRAM, VOLUME 3: STATE IMPLEMENTATION PLAN APPENDICES

SECTION 4.60: Lakeview Urban Growth Boundary

Appendix D8: Lakeview PM_{10}

D8-4: Emission Inventory and Forecast Executive Summary

State of Oregon

1999 Attainment Year

&

2025 Maintenance Year

SIP Emission Inventory

For Particulate Matter 10 Microns and Smaller

(PM_{10})

LAKEVIEW URBAN GROWTH BOUNDARY

15 DECEMBER 2004

Oregon Department of Environmental Quality
Air Quality Division
811 SW 6th Avenue
Portland, Oregon 97204

DEQ

State of Oregon
Department of
Environmental
Quality

Executive Summary

The Lakeview Urban Growth Boundary (UGB)[1] has met the National Ambient Air Quality Standards (NAAQS) for PM_{10}. In accordance with the 1990 Federal Clean Air Act Amendments (CAAA), the area can now be redesignated from nonattainment to maintenance status through the process of developing a Redesignation Request and Maintenance Plan. This attainment year emission inventory (1999) and emission forecast (2025) inventory is provided as part of the maintenance plan package to show compliance with published EPA requirements. The principal components for development and documentation have been addressed in this inventory, which includes stationary point, stationary area, nonroad mobile, on road mobile, and natural sources. Quality assurance implementation, and emissions summaries are also provided. The geographic focus for the emissions inventory and forecast is the Lakeview PM_{10} Nonattainment Area, otherwise known as the Lakeview Urban Growth Boundary (UGB).

In this document the terms "annual", "typical day", and "worst case season day" emissions are used to categorize the estimated emissions for a particular time period. The annual emissions, in tons per year, are a total amount of emissions for the source category that occurred throughout the year. The typical day is intended to represent daily seasonal emission values during this four month time period under ordinary activity. The worst case season daily emissions, in pounds per day, are based on the definition of the yearly period from November 1st through the end of February as one in which, historically, the daily PM_{10} standard would most likely be exceeded and are scaled up from typical day emissions.

Not all of the source categories inventoried require adjustment. For example, the 1999 worst case season day emissions for the large industrial point sources are based on the annual emissions value reported to the Oregon DEQ in the annual reports submitted by the sources. Typically, industrial production and emissions are fairly constant throughout the year; therefore a seasonal adjustment for a worst case day would not be needed. Many area sources, such as residential wood combustion, that are influenced by factors such as temperature and home heating demand during this season were adjusted to reflect the higher daily emissions that occur. Residential heating is adjusted based on the weather during this season of interest. On road mobile worst case season day emissions are based on motor vehicle travel during the worst case period of time: weekdays, Monday through Friday. In Oregon, the highest on road mobile emissions typically occur during the summer months resulting from tourism traffic. The influence of the summer emissions are captured in the annual emissions estimate. Complete descriptions of the procedure taken to estimate these "worst case season day" emissions can be found on the individual source calculation pages in Part 2 of this document.

Worst case day emissions represent the maximum contributions to the 24-hour (daily) PM_{10} standard within the Lakeview UGB. Estimated contribution on a worst case 1999 PM_{10} season day are as follows: (1) stationary point sources contribute 28%, (2) stationary area sources contribute 59%, (3) nonroad mobile sources contribute 1% (4) on road mobile sources contribute 12%, and natural sources contribute 1% of the total PM_{10} air emissions. Details of the Oregon 1999 Lakeview UGB PM_{10} Attainment Year and 2025 Maintenance Year SIP Emission Inventories from stationary point, stationary area, nonroad mobile, and on road mobile sources are presented in this document. The following tables and graphs summarize the results of the emission inventory.

Executive Summary Table 1: Summary of 1999 Emissions Data

Executive Summary Table 1. Lakeview UGB 1999 Estimated Annual & Seasonal PM_{10}: Summary Emissions by Source Type

Source Description	PM_{10} Annual Emissions (tons/yr)	PM_{10} Season Worst Case Day Emissions (lbs/day)
STATIONARY POINT SOURCES	26.1	428
STATIONARY AREA SOURCES	66.9	906
NONROAD MOBILE SOURCES	13.0	22
ON ROAD MOBILE SOURCES	33.2	178
NATURAL SOURCES	1.2	8
Total within Lakeview UGB	140.5	1,542

[1] For particulate matter smaller than 10 microns (PM_{10})

To demonstrate continued maintenance of the annual and daily PM10 NAAQS, the 1999 emissions inventory was projected to a 2025 future year. Since levels of growth are varied depending upon the type of PM_{10} source category, a variety of applicable growth factors were developed for factoring up the 1999 emission inventory. Based on recommendations by the Lakeview Air Quality Advisory Committee, ODEQ used the appropriate population, household, employment, VMT, and employment growth rates. The growth rates are summarized in Part 2.8 of the document.

Generally, for each source category, the 1999 emissions were grown based on a linear non-compounding formula utilizing the growth rates approved by the local Air Quality Committee. When forecasting emissions for major point sources, future emissions are based on estimated actual emissions for 1999 through 2003. After 2003 PSELs (including credits and unassigned PSELs) were used and projected with applicable economic indicators until 2007. PSELs were adjusted after 2007 to remove unassigned emissions which will be lost according to OR DEQ Rule (OAR340-222-0045(5)). Stationary area source emissions were projected using the linear growth formula and the appropriate source specific growth rate. Nonroad mobile 2-cycle, 4-cycle,and diesel equipment was projected using the EPA NONROAD Model. The emissions from railroad activity were grown based on industrial employment figures. Geogenic emissions were not projected to future years. Projected emissions for on road mobile source VMT were estimated through the EMME/2 model and the mobile source emissions are calculated from this VMT. The growth rate applied to each area source category can be found in Appendix F.

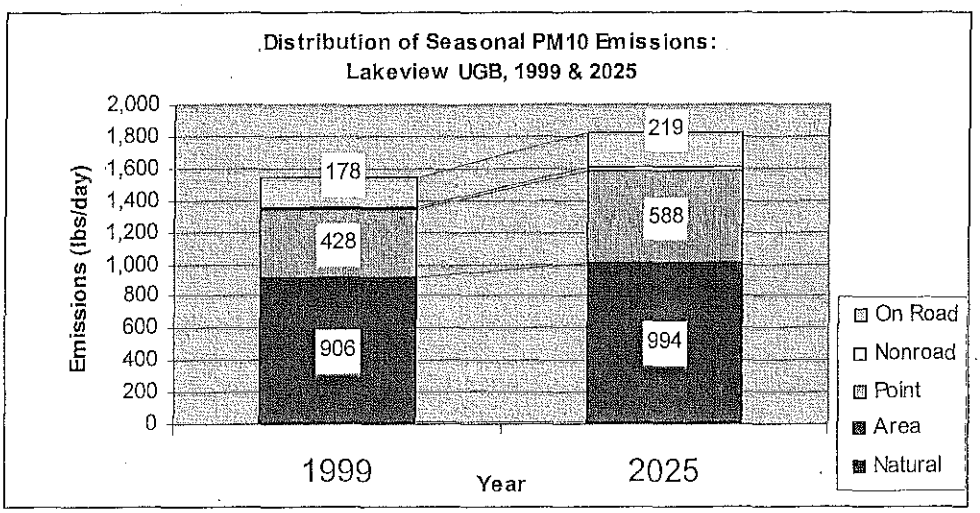
A discussion of this projection formula can be found in Section 2.8 of this document. The emissions for 2025 are summarized the tables and figures below. Complete future year forecasted emission values (through 2025) can be found in Appendix F.

Executive Summary Table 2: Summary of 2025 Emissions Data

Executive Summary Table 2. Lakeview UGB 2025 Estimated Annual & Seasonal PM_{10}:

Summary Emissions by Source Type		
Source Description	PM_{10} Annual Emissions (tons/yr)	PM_{10} Season Worst Case Day Emissions (lbs/day)
STATIONARY POINT SOURCES	96.1	588
STATIONARY AREA SOURCES	65.7	994
NONROAD MOBILE SOURCES	10.9	18
ON ROAD MOBILE SOURCES	43.6	219
NATURAL SOURCES	1.2	8
Total within Lakeview UGB	217.5	1,828

Figure 1: Executive Summary Lakeview PM10 1999 & 2025 Seasonal Emissions



EQC STAFF REPORT

Attachment A

Appendix D8-5
Special Study Report

Special Study Report

Lakeview PM10

Winter 1990/91

Oregon Department of Environmental Quality
Air Quality Division
April 1991

Technical Services Section
Report No. 91-1

Approved: _____

Date: 4/24/91

Introduction

Because the Department of Environmental Quality is aware that there are some areas of the state which are not currently being monitored, but which may not be in compliance with the PM_{10} standard, several studies have been proposed to investigate these areas. The Lakeview study is part of the Department's effort to systematically investigate areas not currently being monitored for PM_{10}. In addition complaints have been received from Lakeview that high levels of smoke have been observed in winter, even to the point of setting off smoke alarms in public buildings. This survey was designed and conducted to help identify and characterize the spatial extent and magnitude of problems which may exist in Lakeview.

Lakeview is located in south-central Oregon near the Oregon California border and has a population of approximately 2755 people. Lakeview is the highest incorporated town in Oregon with an elevation of 4900 feet above sea level. The climate is arid and cool with temperatures in the winter averaging in the low 30's. The primary industries are agriculture, lumber, wood products, government services, and tourism.

Procedure

Site selection: City planning maps and the emissions inventory were reviewed for zoning and point source locations. Lakeview's terrain is flat, and the city is bordered by a north-south mountain ridge while it is topographically "open" on the other sides. Because it is a small city, the industrial/commercial/residential areas of the city are not distinctly defined; although many of the commercial operations are located along Highway 395 and there are several log ponds on the north end of town. A preliminary site search was conducted and 8 sites were selected for initial sampling. Toward the end of the study, 4 sites were discontinued and 4 new sites established to further characterize the spatial extent of PM_{10} levels recorded. A total of twelve sites were sampled during this study. The sites included a site representative of the commercial zone near Highway 395 as well as three sites in the residential areas near the north-end log ponds. Site locations are listed in Table 1 and identified on the map listed as Attachment 1.

Sampling: Samplers used consisted of a pump, a filter holder, and a PM_{10} size specific inlet. All samplers use quartz micro fiber filters. The Lake County Courthouse site (#4) and later the City Equipment Yard site (#10) had three samplers at the site. Two survey samplers and a reference method high volume sampler were collocated at these sites to provide a measure of calibration for the survey method with respect to the reference method and a precision measure for the survey samplers. In addition a nephelometer was located with the samplers at the courthouse and operated continuously from the start of the survey until the equipment was relocated at the City Equipment Yard. When the

samplers were relocated, the nephelometer was not reestablished at the new site.

This study was conducted during January/February when weather conditions would be conducive to both air stagnation and high wood stove use. Wood stoves are thought to be a primary contributor to PM_{10} concentrations in ambient air. Sampling began on January 17 and continued through February 25 for a total of 17 sampling days.

Sampling did not occur on consecutive days unless weather conditions remained stable. Efforts were made to avoid days with good ventilation. When storm systems developed, sampling was suspended until more favorable sampling conditions occurred. No formal sampling criteria was developed but a sampling forecast of weather related conditions was done by the Air Quality staff meteorologist and communicated to the field through the laboratory. All samples were collected midday to midday.

TABLE 1

Lakeview PM_{10} Study Winter 1990/91
List of Sites

Site #	Location	Type
1	996 S G Street	Res/Commercial
2	713 S H Street*	Res/Commercial
3	353 S G Street*	Res/Commercial
4	513 Center Street*	Commercial
4a	Duplicate Sampler	Commercial
4b	Reference Method HV	Commercial
5	1035 Center Street	Residential
6	236 N P Street	Residential
7	840 N 6th Street	Res/Industrial
8	949 N 10th Street*	Res/Industrial
9	336 N L Street	Res/Industrial
10	525 N 1st Street	Residential
11	358 S I Street	Residential
12	1000 S 9th Street	Res/Commercial

*These sites were discontinued and equipment relocated to sites #'s 9, 10, 11, & 12.

Sample analysis: Mass loading of low volume particulate samples was determined by gravimetric measurement using an electronic microbalance according to Standard Operating Procedures on file at the DEQ lab. Samples were not desiccated, instead tare weights were adjusted for humidity corrections using control filters for each batch.

Quality assurance: Since no standard quality assurance procedures have been developed for the survey samplers, independent tests were conducted on the samplers prior to the Lakeview study to ensure the precision of their operation. These samplers were used in another study designed to test sampler performance with respect to inlet configuration and face velocity. The performance was also compared to a reference method medium volume sampler. Samplers were tested during the summer and fall of 1990 and modified to produce similar results to those produced by the reference method. (Ref: "Survey Sampler Testing, DEQ Laboratory 1990) The three collocated samplers at the courthouse and later in the city yard provided a measure of calibration for the survey method with respect to the reference method and a precision measure for the survey samplers.

Results and Discussion

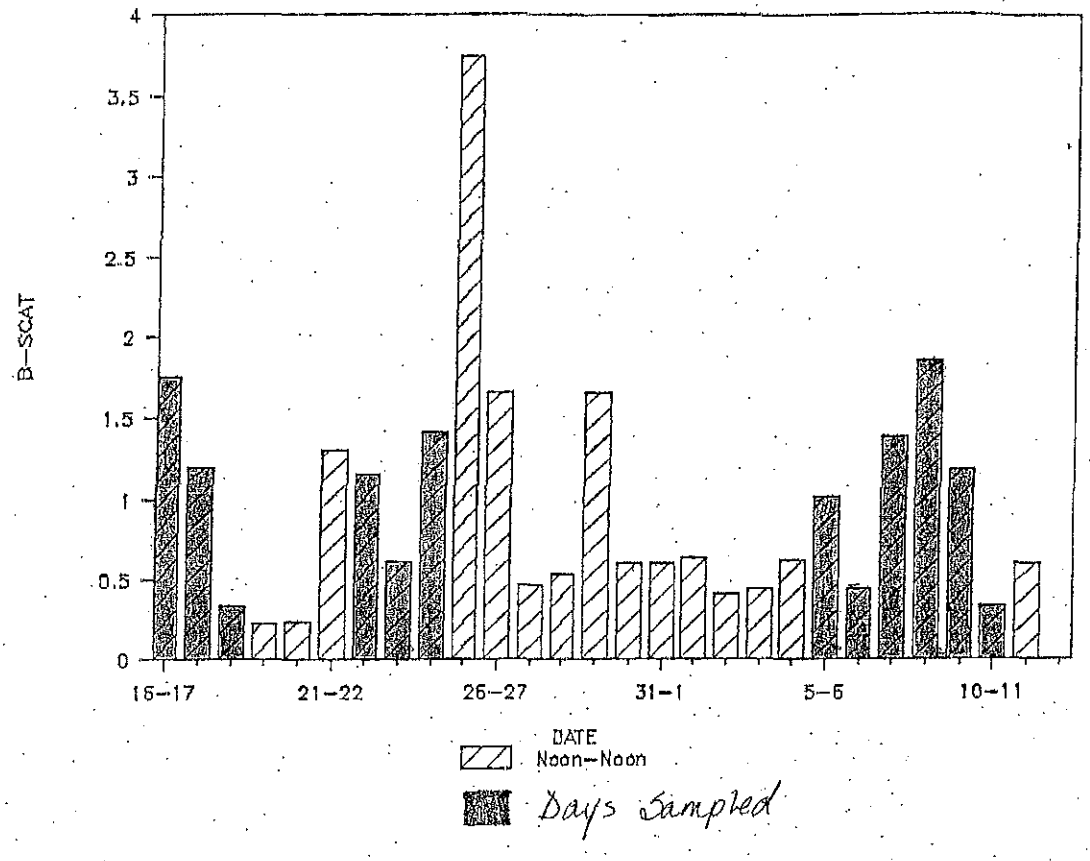
Inter-method comparison:
In terms of obtaining PM_{10} data from the survey samplers which was comparable to the reference method sampler, the survey samplers performed very much like the reference method sampler. A linear regression performed for inter-method comparison produced an r^2=.96 for sampler 4 and the reference method sampler and an r^2=.94 for sampler 4a and the reference method sampler.

The survey samplers recorded higher PM_{10} levels than did the reference method sampler 83% of the time when they were located at the Lake County Courthouse and 80% of the time when they were located at the City Equipment Yard. The difference in values however was not large; the standard deviation averaged 9% of the mean.

Intra-method comparison:
The intra-method results were equally good; a linear regression performed on the data sets for the collocated samplers yielded an r^2=.97. When these samplers were relocated to site #10 the linear regressions produced similar values although there were only 5 data points for these comparisons.

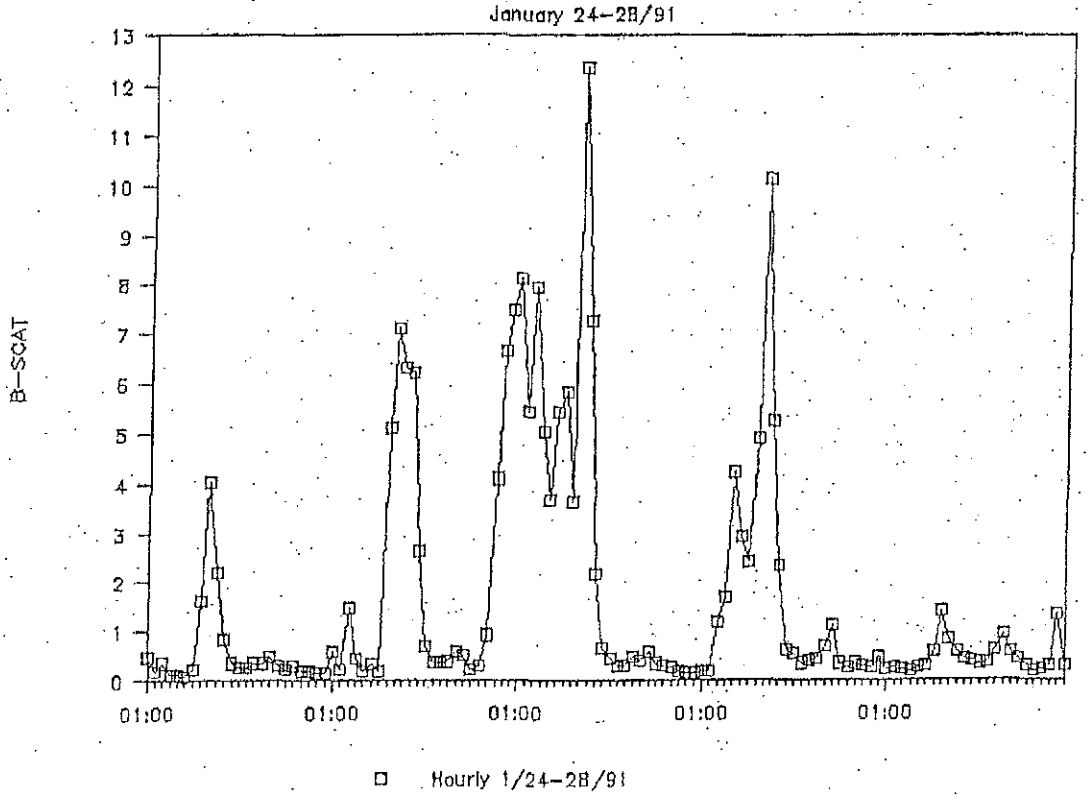
Nephelometer:
The nephelometer was operated continuously from January 17 through February 11 until the samplers were relocated. A bar graph of the 24 hour average nephelometer readings appears on the next page. The highlighted bars indicate days when samples were taken. In general the sampling forecast was successful and most of the sampling days were days when the nephelometer indicated fairly hazy conditions. Excluding Christmas, only three days indicated by the nephelometer as being hazy were missed. A linear regression performed on the nephelometer data and data from the reference method high volume sampler did not show close correlation, r^2=.85 (see Attachment 2). This data is not especially accurate in predicting PM_{10} levels from nephelometer data. Also on the next page is a graph of the hourly nephelometer reading from January 24 through January 28. These dates included days indicated to be especially hazy by the nephelometer.

Nephelometer 24 Hour Average



Hourly Nephelometer

January 24-28/91



The peak hours of haze in Lakeview are the mid-morning hours between 8 am and 10 am.

On January 24, 1991 a mobile nephelometer survey was conducted in Lakeview. The results of that survey were digitized and isopleths of relative smoke concentrations were generated and are shown on Attachment 3. The isopleths of highest concentration correspond to the areas from the saturation survey which showed highest concentrations during the study period.

Survey results:

The data obtained from this study is summarized on the table listed as Attachment 3. The two sites which indicated highest PM_{10} levels were sites #1, and #6 and both indicated the highest daily levels six times each. Although Lakeview is a relatively small city, these two sites were not especially close to each other. Site #6 is in a residential area in the northwest quadrant of town and site #1 in the southeast. Site #5 recorded the next highest levels with three of the daily highs. Site #5 is also located in the northwest quadrant of town.

Three PM_{10} levels greater than or equal to 150 $\mu g/m^3$ were also recorded, two at site #1 and one at site #5. Of the total data points, 13 of them, or 7% indicated PM_{10} levels greater than or equal to 120 $\mu g/m^3$ which is 80% of the NAAQS.

The site recording the lowest PM_{10} levels was site #4b, the high volume reference sampler located at the Lake County Courthouse. Because their performance is so similar to the reference method, the collocated survey samplers also recorded the lowest levels of the study. Sites #2 and #3 recorded the next lowest levels of all the samplers. All three of these sites are in the residential/commercial area within one block of Highway 395. Topographically these sites are closest to the base of the north-south mountain ridge which borders the city. These were also the sites discontinued and relocated for the last five days of the study.

Summary and Conclusions

Survey samplers are not reference method samplers and so cannot be equivalently compared to the reference method samplers; however in this study the survey samplers performed very much like the reference method sampler. Because of the close correlation in performance we can express confidence that the survey samplers are measuring levels close to "actual" PM_{10} levels throughout the city. The bias of the survey samplers is to measure slightly higher levels than the reference method. The difference becomes smaller as the PM_{10} levels increase and greater when PM_{10} levels are lower. The collocated survey samplers measured PM_{10} levels which averaged between 7-22% difference from the reference method. The levels at this site (#4) were, unfortunately, the lowest recorded during the study, and so the indicated bias tends to be even higher.

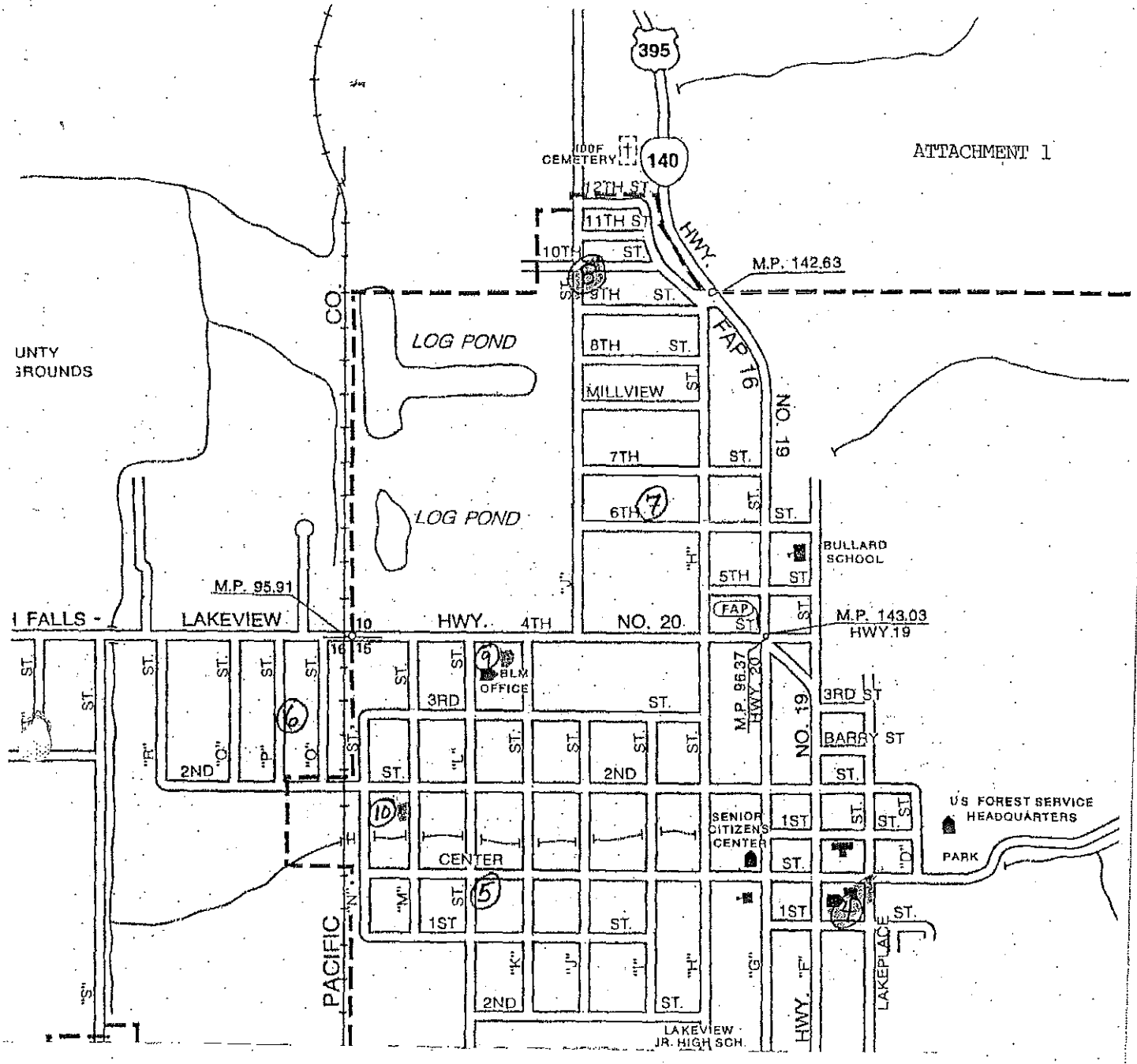
In this study there were three indicated PM_{10} levels greater than or equal to the 150 $\mu g/m^3$ NAAQS. Even assuming the survey samplers are recording higher levels than the reference method samplers, it appears that Lakeview has the potential to exceed the standard. The highest level recorded was 164 $\mu g/m^3$. If we assume the actual value falls somewhere within the 7-22% difference which was exhibited by the collocated samplers, then actual PM_{10} levels could range from 127 $\mu g/m^3$ to 153$\mu g/m^3$.

Although the correlation between the nephelometer data and the sampler data was not good enough to predict potential PM_{10} levels with a great deal of confidence, we can get a gross indication of what they might be. The maximum PM_{10} level would have occurred on December 24-25 and, using the data regression values, the predicted levels within the 95% confidence interval would be between 76 $\mu g/m^3$ and 122 $\mu g/m^3$ at the Lakeview Courthouse.

Lakeview's potential to exceed the PM_{10} standard does not seem extreme, but rather a borderline case. Although the city is homogenous in terrain, the highest PM_{10} levels occurred in the northwest quadrant of the city: however, site #1 which is located in the southeast quadrant recorded the highest levels overall. Because of Lakeview's terrain, one might expect the distribution of PM_{10} levels to be more uniform. The fact that site #1 recorded the overall highest levels of the study makes spatial characterization of the problem more difficult. Unlike many other PM_{10} surveys, there was no single day when all samplers recorded high PM_{10} levels. Because high PM_{10} levels were recorded only at one site (#1) in the southwest section of town, even though other sites were in the same neighborhood, this result suggests a localized phenomenon affecting either the source or the distribution of PM_{10}. The sampler could have been located in such a way that air movement was restricted or that the smoke from one source directly impacted it. The two areas which exhibit a potential to exceed the standard are separated by the residential area which includes the schools and hospital. The commercial district shows low potential for exceeding the standard.

It is recommended that a sampling site be established in Lakeview in the northwest quadrant of the city. The magnitude of the PM_{10} problem indicated by this study is not great. Because of the size of Lakeview, control strategies emphasizing public education and weatherization programs could prove highly successful in reducing the wintertime PM_10 levels.

ATTACHMENT 1



LAKEVIEW PM10 SURVEY JANUARY-MARCH 1991

SITE NUMBER DATE	1	2	3	4	4a	4b	5	6	7	8	9	10	10a	10b	11	12	Max	Min	Avg
Jan 17	109	77	75	57	62	55	111	128	100	103							128	55	88
Jan 18	108	91	82	47	51	44	113	128	112	99							128	44	88
Jan 19	66	46	58	30	36	31	74	112	65	79							112	30	60
Jan 23	150	116	122	40	47	40	155	125	125	129							155	40	105
Jan 24	117	73	82	27	29	27	95	121	128	104							128	27	80
Jan 25	164	126	70	46	49	48	152	104	120	136							164	46	102
Feb 6	77	53	67	30	34	27	93	68	61	68							93	27	58
Feb 7	73	40	34	23	30	20	60	90	66	83							90	20	52
Feb 8	97	77	74	46	54	44	115	92	107	106							115	44	81
Feb 9*	126	84	86	63	66	57	112	127	118	129							129	57	97
Feb 10	100	84	81	39	42	33	95	96	98	94							100	33	76
Feb 11	73	50	42	21	26	16	44	58	59	59							73	16	45
Feb 15	89						72	69	78		87		67	55	67	66	89	55	72
Feb 22	110						80	69	85		90	69	75	65	67	86	110	65	80
Feb 23	36						30	57	22		34	27	29	25	19		57	19	31
Feb 24	43						40	65	44		48	43	52	46	37	28	65	28	45
Feb 25	58						44	48	29		32	26	30	24	33	37	58	24	36
Maximum	164	126	122	63	66	57	155	128	128	136	90	69	75	65	67	86	164	57	100
Minimum	36	40	34	21	26	16	30	48	22	59	32	26	29	24	19	28	59	16	31
Average	94	76	73	39	44	37	87	92	83	99	58	41	51	43	45	54	99	37	64

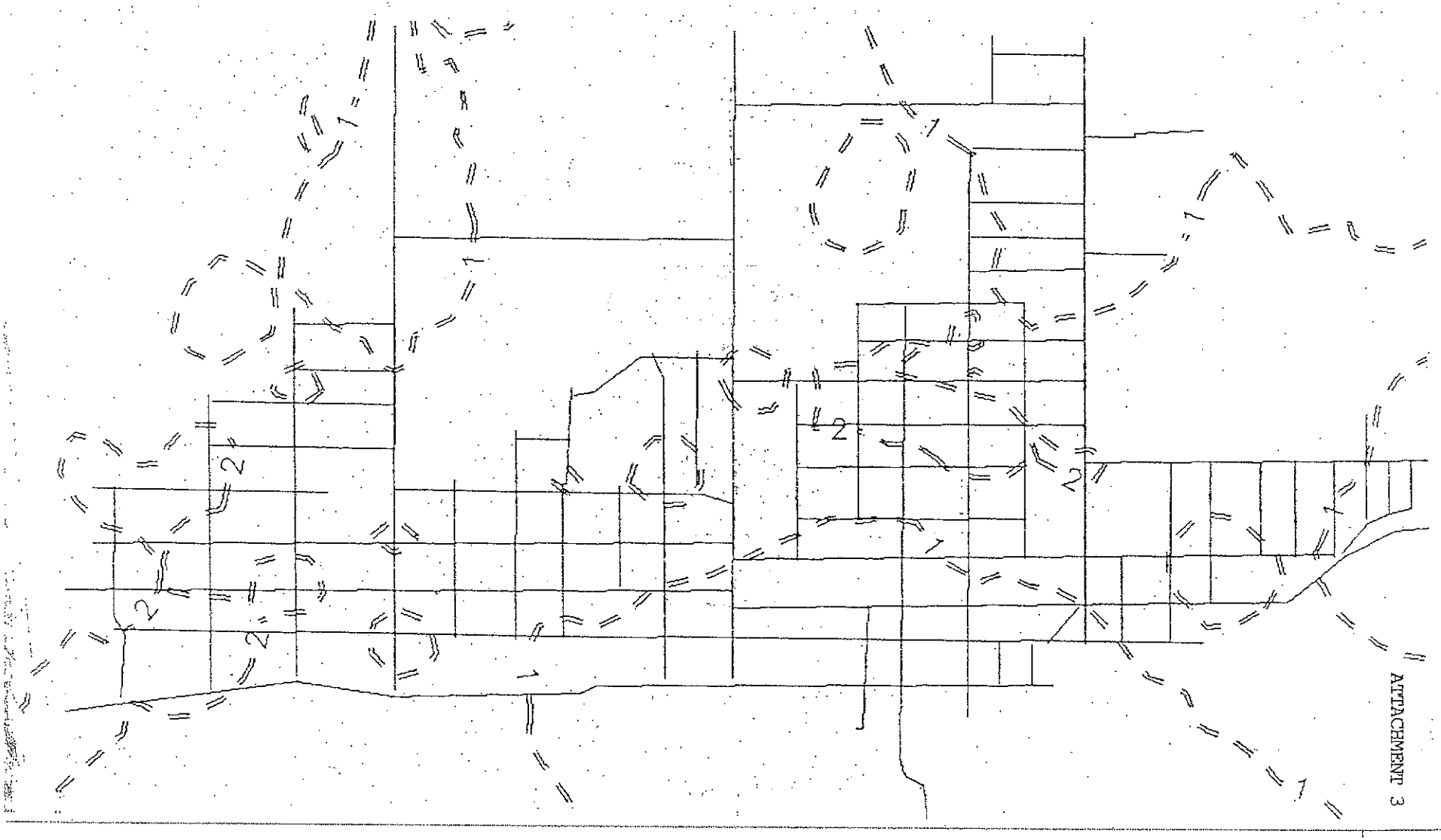
Site Name/Address
1 Tsarnas/996 S. G St
2 Start/713 S H St
3 Cary/353 S. G St
4 Lake CC/513 Center St
4a Lake CC/Duplicate
4b Lake CC/HV reference
5 Hanan/1035 Center St
6 Clauson/236 N. P St
7 Arellano/840 N. 6th St
8 Thomas/949 N. 10th St
9 Padget/336 N. L
10 City Yard/N. 2nd & N
10a City Yard/Duplicate
10b City Hard/HV Reference
11 Wilson/358 S. I
12 BLM Office/1000 S. 9th

*February 9 note: Haystack fire south of town for about 2 hours, smoke was heavy in air

*February 15 sites #2,3,4,8 were discontinued and relocated

ATTACHMENT 2

Lakeview Mobile Neph Survey January 1991



ATTACHMENT 3

Appendix D8-6
(Volume 3)
CONFORMITY PROCESS

The transportation conformity process for Oregon is contained in OAR 340-252-0010 through 340-252-0290. The transportation conformity rules were adopted by the Environmental Quality Commission on March 3, 1995 and became effective on March 23, 1995. EPA approved the transportation conformity rules as a SIP revision on May 15, 1996. The state rules are more effective, more efficient and more equitable than the federal regulations because:

1. they require all transportation control measures to be implemented in a timely manner regardless of their eligibility for federal funding;
2. they require consistency with emissions budgets while EPA reviews maintenance plans for approval;
3. they require analysis of localized air quality impacts for some state and locally funded projects.

The conformity rules also establish interagency consultation procedures for making conformity determinations for Regional Transportation Plans and Transportation Improvement Programs, and for developing transportation related provisions of the maintenance plan.

EQC STAFF REPORT

Attachment A

Appendix D8-7a
Excerpts from the Lakeview Comprehensive Plan

Appendix D8-7a

Historical and Projected Population, Households, Employment and Weather Data

Comprehensive Plan Excerpt
Technical Data Report of 1980
Revised 1988
Portions Revised 2000, 2001, 2002, 2003

TECHNICAL DATA REPORT OF 1980
Revised 1988
Portions Revised 2000, 2001, 2002, 2003

A SUPPLEMENTAL DOCUMENT TO THE LAKEVIEW COMPREHENSIVE PLAN

INTRODUCTION

The technical data information contained in this report is more detailed and supplements that contained in the Lake County Atlas Other documents containing inventory information pertaining to Lakeview are found in the Lakeview Industrial Site Master Plan, the Lakeview Airport Master Plan, Planning Recommendations for Lakeview's Future Industrial Parks, the Lakeview Area Public Facilities Plan, and other documents

EXISTING LAND USE

Lakeview was created in 1876 on a 20-acre townsite donated by M Bullard. Incorporation came in 1889 The Lakeview developing area has since expanded to include some 3,000 acres Lakeview serves as the county seat of Lake County and accounts for half of the County's total population and the majority of the industrial base of the County's economy

The developed acreage within and adjacent to the Town constitutes most of the urban developed acreage in the County. Various uses within the developed acreage are summarized in Table 1 (See the associated map in the County Planning Office)

Table 1
LAKEVIEW URBAN GROWTH AREA: EXISTING LAND USE

Type of Use	Acreage Incorporated	Unincorporated	Total	Percent
Residential	281	495	776	23.0%
Commercial	57 5	95	152 5	4 5
Industrial	48 5	285	333 5	9 9
Public	92	100	192	5 7
Irrigated Cropland	--	118	118	3 5
Improved Pasture or Dry Cropland	--	1357	1357	40 1
Grazing	333	66	399	11.8
Timber	20	--	20	0 6
Vacant	12	--	12	0 3
Aggregate	--	20	20	0 6
TOTALS:	844	2536	3380	100 0%

Source: Lynn Steiger & Associates, 1980

The areas west and south of Town are part of the Oregon Valley Land Company's subdivision of the early 1900's, platted in lots as small as 25' x 100+'. Some of this area has been combined under common ownership and is presently in agricultural use

The areas adjacent to Town have been or are being developed by purchasing two or more OVL lots to meet current zoning standards

Residential development consumes the majority of acreage within the Town limits and the surrounding area Most of the residential development is single-family dwellings with a limited number of duplexes, four-plexes and apartment buildings With few available building sites in the Town, residential development is occurring south and west of Town The benches on the east hills in Town are zoned for potential residential uses About 150 acres are suitable for residential development on these benches

There were approximately 964 homes within the Town limits in 1982 and a total of 1,244 in the developing area. This did not include the housing that stretches along Highway 395 north of the old uranium plant. These totals included 24 mobile homes within the Town and 60 in the immediately surrounding area. Based on building permit records maintained by the County Planning and Building Office, the number of homes within the Town limits had increased to approximately 980 by 1987 within the Town and a total of approximately 1,320 in the developing area

Commercial uses are predominately confined to the downtown core area and extending along Highway 140 to the west There are, however, some commercial uses on Highway 395 extending both to the north and the south with the northern area comprising the most recent developments In recent years there have generally been a number of available retail and warehousing or light manufacturing spaces both in the Town and in the surrounding vicinities

Industrial development within the Town limits is dominated by sawmills, molding and bulk plants Immediately north of Town between Highway 395 and the railroad are industries also dominated by wood products manufacturing The planned industrial park sites south of Town provide adequate acreage for expansion and development of new industries. About 200 acres are available for heavy industrial development north of Town and about 60 acres are available for light/heavy industrial development south of Town

Publicly developed uses in and around the Lakeview area include schools, Town and County administration, parks, sewage treatment, the County Fairgrounds, the hospital complex, and office/maintenance facilities for B L.M , U S F.S , State Forestry, State Highway Division, and the County Road Department. The recent relocation of the County Road Department facilities resulted in the availability of approximately four acres for residential development.

[See also Town of Lakeview Buildable Lands Inventory and Needs Analysis 1999]

CLIMATE

The Town of Lakeview and the surrounding urban areas are located in Oregon's high plateau climatic region which has continental characteristics. This climate is recognized by high summer temperatures and low winter temperatures, as well as much less precipitation than those areas of the State west of the Cascades. The Town is located in the Goose Lake Drainage Basin at an elevation of 4,774 feet. The following table presents the monthly averages for temperature and precipitation at the Lakeview weather station between the years 1951 and 1974.

Table 2
AVERAGE TEMPERATURE AND PRECIPITATION RECORDS
LAKEVIEW WEATHER STATION: 1951-1974

Month	Average Temperature (°F)	Average Precipitation (Inches)
January	28.6	2.52
February	32 8	1 49
March	36 0	1 44
April	43 1	1 11
May	51 4	1.67
June	58.9	1 43
July	67 0	20
August	64 8	40
September	57 7	65
October	47 9	1.32
November	37.5	1 98
December	30 8	2 33
	Total:	16 54

Source: US Dept of Commerce
National Oceanic & Atmospheric Adm
Climate of Lakeview, Oregon, 1951-1974.

GEOLOGY

A knowledge of the geology of the Lakeview area is useful as it influences many physical features which should be taken into consideration before development occurs. Landforms and drainage are influenced by the shape of the bedrock surface and nature of the geologic material at or near the surface. The permeability and mineral composition of a rock layer has a direct bearing on the quality and quantity of groundwater. The composition of surface material is an important determinant of soil capabilities. Geologic characteristics can also be indicators of possible hazards

to development A county-wide geology map and description are available for review in the Lake County Atlas on file at the Lake County Planning Department

A brief geologic survey has been conducted by a BLM geologist, Dennis Simontacchi, for the purpose of determining the feasibility of residential development on the foothills adjacent to the east side of the Town. This report is set forth in its entirety as Appendix "A" of this Report A work map of related geological formations is also available for review and is on file at Town Hall A second geology map, based on large scale reconnaissance mapping by a Mr George W Walker in cooperation with the State Department of Geology & Mineral Industries (DOGAMI), is also available for review and is on file at Town Hall.

Much of the Lakeview area lies within an alluvium basin. That is to say recent glaciation of the high peaks have left significant lacustrine deposits in the valley bottom. To the east of Lakeview, sedimentary deposits are apparent on the hills which divide the tuff and basaltic flows of the hills from the agriculturally oriented alluvium bottom lands

Several small strike/dip areas are apparent from geologic mapping of the Bullard Canyon area east of Lakeview, creating the problem of slope stability for development in that area

TOPOGRAPHY

Topography is a significant determinant of development suitability Flat lands (0-3% slope) are usually the easiest and least expensive to develop, but may be prone to flooding and/or agricultural classification Such areas are generally the best suited for commercial and industrial uses which require large flat surfaces for buildings and parking Land with slight slopes (4-9%) is desirable for residential uses as it offers view qualities not obtained on flat land As steepness increases from ten to twenty percent, suitability for urban uses decreases, reaching a cutoff at about 30% as the maximum for low density (1-3 dwellings per acre) residential use.

Although steepness is a valuable index to general development suitability (as cost and feasibility factors increase according to degree of steepness), site-specific suitability should also be evaluated according to access, soil characteristics, slope stability, availability of services, and other pertinent factors.

In cases where it may be desirable to develop some relatively gentle slopes for residential purposes, it may be advisable to grant variances for a less than usual road surface width Usually, a measure such as this is taken to insure that excessive cuts are not required in hillsides If a variance for this purpose is to be granted, then adequate provisions should be taken for pedestrian vehicular safety through the use of speed controls, parking limitations or other measures Slope easements may likely be necessary to provide further safety from landslide hazards in areas where relatively steep slopes are being developed

Topography has had a major influence on past development in the Lakeview area and will have the same, if not more, significant effect in the future Steep slopes bound the Town on the east

EQC STAFF REPORT

Attachment A

Appendix D8-7b
Excerpts from the W & H Document

Appendix D8-7b

Historical and Projected Population, Households, Employment and Weather Data

Excerpt from Buildable Lands Inventory
and Needs Analysis
W&H Pacific, Inc.
June 30, 1999

market demand. Furthermore, manufactured homes and an ample supply of vacant lots provide home ownership opportunities for moderate incomes

Senior Housing

There have been two studies in Lakeview that recognize the growing senior population in Lakeview and address the need for more affordable senior housing. These studies are the *Lake County Senior Housing Needs Analysis and Strategic Plan* (1995) and the *Housing, Infrastructure and Special Needs Assessment for Lake County, Oregon* (1996). According to these studies, senior citizens account for 22% of total population of Lake County. Almost three fourths of Lake County's senior population reside in Lakeview. Between 1980 and 1990 the over 65 portion of the population increased from 14% to 17% in Lakeview, and is anticipated to continue to increase in the next 20 years. This is a national trend caused primarily by the aging of the baby boomers in the next two decades.

Typically, at some point after age 65, senior households tend "trade down" to smaller housing products. In Lakeview, this might be slightly less common as many retirees are moving to rural Eastern and Central Oregon communities and purchasing single-family homes Nonetheless, survey and interview respondents in the 1995 Senior Housing Needs Analysis cited the lack of senior apartment projects and support services as the two major issues in Lake County

This study also identified a total of 44% of senior households in the County as having very low and low incomes More than 60% of the senior renter households are paying more than they can afford for housing (more than 30% of their monthly income on housing), and a high percentage of seniors are living in substandard housing Therefore, the recommendations of the study call for increased affordable, quality senior housing including apartments and a licensed assisted living facility

As of 1995, there was one existing senior apartment development, the Aspen Court Apartments, which has 16 units and is located directly behind the Lakeview Senior Center. One additional assisted living project is planned that will contribute to the supply of senior housing. This project is the redevelopment of the Forest Service building in Lakeview. This assisted living facility will have 32 units and has been counted towards meeting the Town's 20-year housing need (see calculations below). Another proposed assisted living facility project, which is currently on hold, is Quail Court. Quail Court, which will have 32 senior units, will be located just south of Town limits on 9th Street South Because this project is currently on hold, the new units have not been counted towards the Town's capacity when estimating 20-year housing needs.

Population Projections

Lake County Population Projections

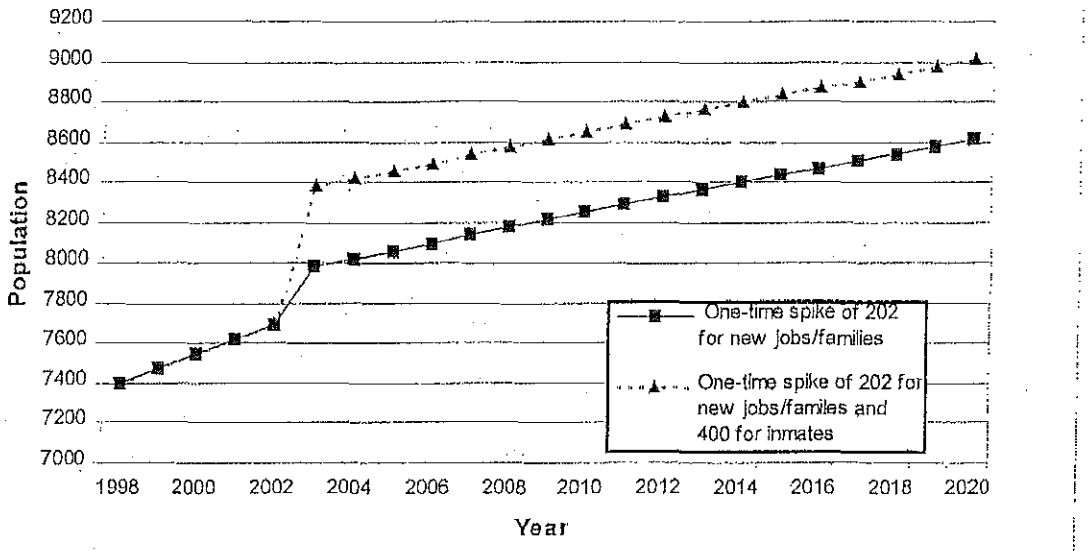
The following population projections for Lake County are based on the State Economist's projections for the County, with the addition of growth that will occur as a result of the proposed 400-bed DOC facility near Lakeview that is anticipated for construction in 2001 The State's original population projection of 8,530 for the year 2020 in Lake County did not anticipate the addition of this facility.

The graph below shows two sets of population projections for Lake County derived and accepted by the Department of Land Conservation and Development from 1998 to 2020:

1) The dashed line represents the County's overall population increase based two one-time population adjustments in 2003 for the DOC work camp The facility is scheduled to begin operation in 2003.

The first population adjustment accounts for the anticipated 400 inmates of the work camp. The second population adjustment of 202 people reflects the in-migration of new families for jobs at the work camp. It is anticipated that 75 out of the approximate 150 new jobs at the prison will be filled by people currently residing outside the County. Based on a recent study of household size by the Lake County Planning Department, 2.7 people are assumed per family, resulting in the addition of 202 new people to the County to work at the DOC facility. This projection results in a population of 9,015 in 2020.

2) The solid line represents the County's population increase based only on the one-time population adjustment that accounts for growth associated with new jobs at the prison. A spike of 202 people is expected in 2003, as described above. This projection of 8,615 is used to estimate Lakeview's future housing needs Because 400 work camp inmates do not require housing, they are not included in the County's population projections when assessing the projected housing needs of Lakeview and the UGB



Lakeview and UGB Population Projections

The Lakeview population projection is based on the County's projection of 8,615 in 2020 as described above. Lakeview and its unincorporated area are assumed to be 51% of the County's population The population of Lakeview and the urban growth boundary area is expected to increase by 812 people from 1998 to the year 2020. Table 8 shows the current and projected population of Lake County and Lakeview (incorporated plus unincorporated area within the UGB)

Table 8 – Lake County and Lakeview Population

Jurisdiction	1998 Population	2020 Population	Percent Increase
Lake County	7,400	8,615	16%
Lakeview +UGB area	3,582	4,394	23%

Source: Lake County Planning Department, Department of Land Conservation and Development

The above population projection of 4,394 is used to forecast the number of new housing units needed in the next 20 years. Based on an average household size of 2.7 persons per household (Lake County Planning), 1,627 households are projected in Lakeview's UGB by 2020. For information on past population trends, see Chapter II of the *Department of Corrections Facility Impact Assessment*, March 1999

Note: The annual percent growth rate for the population projections shown above ranges from 1% to .42%. Lake County Planning is currently requesting a revision of the State's projections based on an annual growth rate of 1% from 1998 to 2020. This would affect the need for additional housing units by approximately 100 units

Summary of Projected Housing Needs and Residential Land Availability

The following tables summarize the projected housing needs in 2020 and housing capacity based on available buildable land within the existing UGB. Table 10 shows projected housing need and acreage need by housing type.

Table 9 – Projected Housing Needs 1999-2020

Housing Needs	Number of Units
Projected households in 2020	1,627
Vacant units in 2020 at 7%	+114
Total housing units in 2020	**1,741**
Less existing units in 1999	-1,422
Less planned units (64 senior housing units)	-32
Total housing units needed 1999-2020 (shortfall)	***287***

Table 10 - Projected Housing Needs by Type 1999-2020

Type of Housing Needed	Number of Units Needed	Number of Acres Needed
Single-family units @ 75%	215	37.0
Multi-family units @ 10%	29	2.4
Manufactured homes in parks @ 15%	43	3.6
Total	**287**	**43**

Table 11 – Housing Unit Capacity Available on Residential Buildable Land (information from Table 4, BLI)

Capacity on Residential Buildable Land	Number of Units
Total housing unit capacity on buildable R-1 land	121
Total housing unit capacity on buildable R-2 land (with 75% of the land building out at single-family density of 5 8 units per acre)	1,711
Infill potential	28
Capacity for SFDU's on steep slopes to east	15
Total dwelling unit capacity	**1,875**
Total housing units needed	-287
Surplus of housing units in UGB	***1,588***

Conclusions about the Housing Needs Analysis

- There is sufficient available buildable land in the UGB to accommodate future housing needs to 2020 if sewer and water services are extended to provide for 7,500 square foot lots in the UGB (or if land is annexed into Town)

- There is sufficient available buildable land zoned for multi-family residential units and manufactured home parks (R-2).

- There is a shortage of available buildable land zoned for single-family residential uses (R-1). While single-family dwellings are permitted in the R-2 zone, the Town may want to consider rezoning some R-2 land to R-1 to better accommodate the projected housing mix.

- There is limited residential buildable land available within Town limits (10 acres of R-1 and 34 acres of R-2).

IV. Commercial and Industrial Land Needs Assessment

Purpose

The purpose of the Commercial and Industrial Land Needs Analysis is to estimate the amount of commercial and industrial land needed for employment in the UGB for the next 20 years There is limited employment data available for Lakeview and its UGB area, therefore, the projected employment and employee per acre information is estimated based on Lake County data available at this time This analysis forecasts commercial and industrial land needs based on estimated non-farm employment projections to the year 2020 since land within the UGB is planned for non-farm uses. Recent trends and projected shifts in employment are considered in the needs analysis.

Existing Employment Conditions

Livestock, lumber, and agriculture are the principal industries of the County Agriculture, forest products and tourism have been targeted as key industries to focus on for diversifying the economy. The five largest local manufacturers in the private sector are mills manufacturing wood products, predominantly housing materials. The top three largest gross farm sales are cattle and calves, hays and silage, and specialty products There are three commercial banks, one savings and loan and one credit union in Lakeview

Unemployment in Lake County is higher than the state - and has been for a long time due to dependence on seasonal work (Agricultural and Forestry) The current unemployment rate in Lake Co is 14.7% (as of February 1999), compared to 5 5% for state, 4.3% for the United States as a whole According to Oregon Employment Department Regional Economic report (1998), which is the source of all these economic data, the total number of employed persons in Lake County has declined from 3,920 in 1988 to 3,250 in 1998 -- a 21% decline.

Unemployment rates rose during the 1990s as area mills closed and timber harvests in the Fremont National Forest declined. In 1996 the Paisley Mill closed and Hart Mountain Millwork laid off staff combining in job losses of approximately 60-70 jobs This had an impact on the economy and the unemployment rate, which rose from 12.3 in January of 1996 to 13.4 in February. Only a single mill in Lakeview remains in operation, although some of the losses experienced in the wood products industry by closure of sawmills were off set by millwork operations. Remanufacturing operations have also increased.

Target Industry Analysis

An initial target industry analysis completed in January, 1999, resulted in the identification of 14 target industries that have potential for expansion or location in Lake County The target industries identified are as follows:

- Dairy farms (SIC 0241)
- Natural, processed, and imitation cheese; dry, condensed, and evaporated dairy products (SIC 2022 & 2023)
- Sausages and other prepared meat products (SIC 2013)
- Canned fruits, vegetables, etc. (SIC 2032 & 2033)
- Hardwood dimensions (gun stocks, etc.) (SIC 2426)
- Wood products, NEC (saddlery, parachute hardware, etc.) (SIC 3429)
- Small arms (guns and parts) (SIC 3484)

- Printed circuit boards (SIC 3672)
- Jewelry, precious metal (SIC 3911)
- Games and toys (SIC 3944)
- Costume jewelry (SIC 3961)
- Sporting and athletic goods (SIC 3949)
- Telecommunications (SIC unknown)

These industries are moving towards manufacturing rather than natural resource industries, such as lumber mills, which require large land areas for storage of raw materials The targeted manufacturing industries use land more efficiently than natural resource and heavy industries, resulting in more employees per acre of land Therefore, the amount of industrial land needed in Lakeview to accommodate jobs will be decreasing as the Town and County shift employment sectors

Due to this shift, the industrial employee per acre figure used in this study is higher than the figure of 1.7 employees per acre in the Town's 1988 Comprehensive Plan. The following employee per acre ratios are used to calculate future land needs:

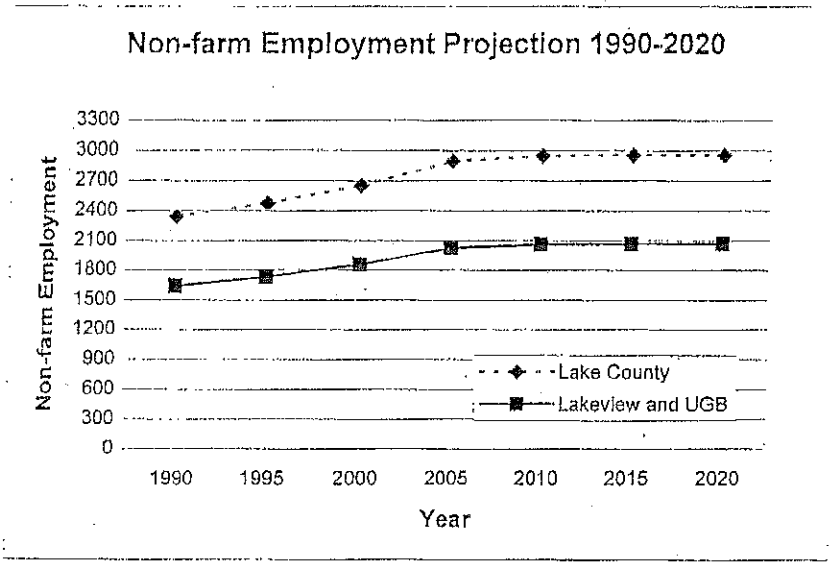
- Commercial: 7.3 employees per acre *(same as Comprehensive Plan)*
- Industrial: 5.0 employees per acre *(increase from Comprehensive Plan)*

Projected Employment

The following employment projections are based on Lake County non-farm employment forecasts for 1990 to 2020 from the Office of Economic Analysis (August 1997), with a one-time employment adjustment of 150 jobs in 2005 for the proposed Department of Corrections work camp near Lakeview. The employment projections for incorporated and unincorporated Lakeview were determined based on the percentage of jobs in Lake County that are in Lakeview's UGB. According to the Town's Comprehensive Plan, approximately 70% of the County's jobs are located within the Lakeview UGB area. This percentage is assumed to be reasonably accurate today and was applied to Lake County's employment figures to arrive at employment estimates for the Lakeview UGB. As shown in Table 12, non-farm employment in the Lakeview UGB in the year 2020 is estimated to be 2,069 jobs.

Table 12 – Non-farm Employment Projections

Year	1990	1995	2000	2005	2010	2015	2020
Lake County	2,346	2,475	2,654	2,896	2,949	2,955	2,956
Lakeview and UGB	1,642	1,733	1,858	2,027	2,064	2,069	2,069



Although the DOC work camp will be outside of the Town's UGB, a spike in employment will occur in Lakeview as well the County due to backfilling of jobs in the Town as existing employees take new positions at the DOC Additionally, it is anticipated that more commercial services will be needed in Lakeview to support the population growth driven by the DOC work camp. This is discussed in more detail in Chapter IV of the *DOC Facility Impact Assessment*, March 1999.

Currently, manufacturing accounts for approximately 14% of the non-farm payroll in Lake County, while nonmanufacturing jobs account for 86% (*Central Oregon Labor Trends*, Oregon Economic Department, February 1999). This employment distribution is used to estimate future jobs capacity in Table 13 below

Table 13 – Projected Employment by Distribution in 2020
Lakeview and UGB Area

Type of Employment	Number of Jobs
Commercial @ 86%	1,779
Industrial @14%	290
Total Jobs in 2020	**2,069**
Less Existing Jobs (1995)	-1,733
Total Jobs Increase 1995-2020	***336***

Summary of Projected Commercial and Industrial Land Needs

The following tables summarize the projected commercial and industrial land needs in 2020 and job capacity based on available buildable land within the existing UGB Employment capacity is calculated by multiplying buildable commercial and industrial acres by the employee density figures listed above. Table 14 shows projected need by employment type

Table 14 –Employment Capacity on Buildable Commercial and Industrial Lands 1995 to 2020
(Information on total available acres from Table 5, BLI)

New Job Capacity on Buildable Lands	Number of Jobs
Capacity on 149 acres of commercial land (7.3 employees/acre)	1,088
Capacity on 212 acres of industrial land (5.0 employees/acre)	1,060
Total Employment Capacity on Buildable Lands	**2,148**

Conclusions about the Commercial and Industrial Analysis

- There is the capacity for 2,148 new jobs within the existing buildable land zoned for commercial and industrial uses in the UGB.
- The projected employment in 2020 is only 336 jobs above 1995 employment levels.
- There is sufficient commercial and industrial buildable land available in the UGB to accommodate future employment needs to 2020.
- There is limited buildable commercially zoned land in Town. Commercial capacity in the traditional downtown is mostly dependent on redevelopment/business turnover Other commercial zoned land is located at the edge of the UGB

V. Buildable Lands Summary

The Town of Lakeview conducted this Buildable Lands Inventory and needs analysis as part of its Periodic Review of its Comprehensive Plan. The Town is planning to the year 2020 – a "planning period" of 20 years One of the main reasons to conduct a detailed analysis is to determine the existing capacity of the Town's UGB. This buildable lands study shows that there is capacity within the current UGB for future residential, commercial and industrial land needs to the year 2020 This conclusion is based on population and employment projections explained within this study. The analysis also accounts for the population and employment impact of the DOC work camp facility, which is studied in more detailed in a companion report that is also part of the Town's Periodic Review. The next phase of the Periodic Review project is to discuss and define the Town's growth objectives That discussion will allow the Town to address questions such as:

1. Should there be more Commercial (C-1) and low density residential (R-1) in Town since the BLI shows a small amount available for development?

2. Will the Commercial and Multiple Family zoning at the outer edge of the UGB produce efficient development patterns?

3. Are there any adjustments to the location of the UGB needed to better address smart development patterns?

4. What is the best location for future commercial services to locate?

APPENDIX 8-7C

The Western Regional Climate Center Data For
Lakeview – General Climate Summary

LAKEVIEW 2 NNW, OREGON

Period of Record General Climate Summary - Temperature

Station:(354670) LAKEVIEW 2 NNW
From Year=1928 To Year=2004

	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Days
January	37.7	19.0	28.3	62	29/1931	-22	07/1937	39.0	103	12.4	***	0.0	7.4	28.1	2.2
February	41.5	22.4	32.0	69	26/1986	-22	07/1933	41.2	63	16.2	***	0.0	3.2	24.8	1.1
March	48.0	26.7	37.3	79	18/1928	-4	01/1971	47.2	34	30.5	***	0.0	0.9	24.9	0.1
April	56.2	31.1	43.6	87	27/1980	2	01/1936	50.8	34	35.5	***	0.0	0.1	17.7	0.0
May	65.1	37.8	51.4	96	29/1986	17	01/1988	58.5	28	44.2	53	0.1	0.0	7.7	0.0
June	73.5	44.0	58.7	101	18/1985	20	06/1932	66.0	77	52.5	53	1.3	0.0	1.6	0.0
July	84.2	49.9	67.0	106	20/1931	30	01/1976	71.6	31	59.8	93	7.3	0.0	0.1	0.0
August	83.1	47.4	65.3	102	11/1992	26	31/1999	70.7	96	57.0	76	5.8	0.0	0.2	0.0
September	75.3	40.9	58.1	99	02/1950	12	25/1934	64.0	43	50.9	86	1.3	0.0	3.6	0.0
October	63.2	33.2	48.2	89	08/1996	0	30/1935	55.8	88	41.5	46	0.0	0.0	14.7	0.0
November	47.7	25.9	36.8	79	03/1929	-7	29/1931	44.4	49	27.2	94	0.0	1.2	23.6	0.2
December	39.7	21.4	30.6	67	04/1939	-20	09/1972	38.2	58	22.0	90	0.0	5.3	27.7	1.2

LAKEVIEW 2 NNW, OREGON

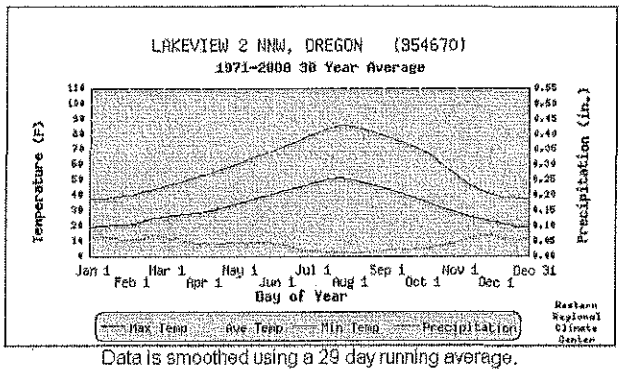
Period of Record General Climate Summary - Precipitation

Station:(354670) LAKEVIEW 2 NNW
From Year=1928 To Year=2004

	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	1.98	5.81	70	0.20	84	1.78	20/1964	12	6	1	0	14.0	49.2	64
February	1.58	4.71	86	0.11	64	1.53	09/1999	10	5	0	0	10.9	50.0	99
March	1.49	3.84	71	0.26	65	1.22	12/1971	11	5	0	0	7.7	25.7	35
April	1.23	3.38	88	0.17	39	1.15	14/1988	9	4	0	0	4.1	20.0	99
May	1.42	4.36	98	0.02	29	1.35	06/1951	8	4	1	0	1.2	11.3	50
June	1.17	5.47	44	0.00	51	1.82	06/1993	6	3	1	0	0.1	1.4	29
July	0.30	1.39	76	0.00	28	0.79	18/1976	2	1	0	0	0.0	0.0	28
August	0.29	3.04	76	0.00	31	1.00	30/1984	2	1	0	0	0.0	0.0	28
September	0.60	2.73	86	0.00	32	1.81	01/2000	4	2	0	0	0.2	5.5	71
October	1.12	6.62	62	0.00	36	2.10	10/1962	6	3	0	0	1.0	15.0	71
November	1.71	4.59	70	0.00	29	2.02	28/1985	10	5	1	0	6.1	34.0	98
December	1.98	8.96	64	0.01	76	2.39	10/1937	11	6	1	0	11.7	36.4	103

LAKEVIEW 2 NNW, OREGON

1971 - 2000 Temperature and Precipitation



Data is smoothed using a 29 day running average.

- Max. Temp. is the average of all daily maximum temperatures recorded for the day of the year between the years 1971 and 2000.
- Ave. Temp. is the average of all daily average temperatures recorded for the day of the year between the years 1971 and 2000.
- Min. Temp. is the average of all daily minimum temperatures recorded for the day of the year between the years 1971 and 2000.
- Precipitation is the average of all daily total precipitation recorded for the day of the year between the years 1971 and 2000.

LAKEVIEW 2 NNW, OREGON (354670)

1971-2000 Monthly Climate Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	38.5	42.3	48.8	56.0	64.6	73.9	83.5	83.0	75.0	62.7	44.6	38.7	59.5
Average Min. Temperature (F)	20.3	23.5	27.4	31.1	37.3	43.9	49.8	48.1	41.4	33.2	25.1	20.5	33.6
Average Total Precipitation (in.)	1.91	1.80	1.66	1.33	1.44	0.97	0.51	0.47	0.69	1.05	1.86	1.94	15.63

Unofficial values based on averages/sums of smoothed daily data. Information is computed from available daily data during the 1971-2000 period. Smoothing, missing data and observation-time changes may cause these 1971-2000 values to differ from official NCDC values. This table is presented for use at locations that don't have official NCDC data. No adjustments are made for missing data or time of observation. Check NCDC normals table for official data.

Western Regional Climate Center, wrcc@dri.edu

2001 Design Value for Center & M Streets (using 199-2003 data)	
Design Value = 90th Percentile Value + 3.61 times (Average of Top 10% - 90th Percentile value)	
24 Hour Design Value (1)	
DV = 48.2 + 3.61 * (66.0-48.2)	DV = 48.0 + 3.61 * (65.4-48.0)
Data through October 2003	Data through December 2003
DV = 110.4	DV = 110.9

Using Complete data

Using 1999 thru 2003 EPA Data that excludes 1/4 quarter of 2001

(1) See Center & M Data By Date Spreadsheet
The formula is: DV = X90 + 3.61(U90 - X90)

110.9	Design Value
106.5	Max 5 year 99-03
48.0	90th percentile
65.39	Mean of top 10%
595	values
20.8	Design Value Annual - 99-01

QC Staff Report Attachment A – Appendix D8-8b

Lakeview UGB 1999 Annual and Season PM10:

Lakeview UGB 1999 PM10 Season: Summary of Annual and Seasonal Emissions Growth and Design Values from 1999 to 2025 including 10% more VMT

Category	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
	Tons per Year																										
E.I. TOTAL ALL SOURCES	140	149	160	168	179	191	195	197	198	199	201	202	203	205	206	207	209	210	211	213	214	215	217	218	219	221	2
Annual NAAQS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Annual Predicted Ambient Concentration			20.8	21.6	22.8	23.9	24.4	24.5	24.6	24.8	24.9	25.0	25.2	25.3	25.4	25.6	25.7	25.8	26.0	26.1	26.2	26.4	26.5	26.6	26.8	26.9	2
Background DV Annual			5																								
Difference			16																								
DV-bkgd*cur EI/1999 EI			16.00	16.83	17.96	19.10	19.58	19.71	19.84	19.98	20.11	20.24	20.37	20.51	20.64	20.77	20.91	21.04	21.17	21.30	21.44	21.57	21.70	21.84	21.97	22.10	2
Bkgd added back			20.80	21.63	22.76	23.90	24.38	24.51	24.64	24.78	24.91	25.04	25.17	25.31	25.44	25.57	25.71	25.84	25.97	26.10	26.24	26.37	26.50	26.64	26.77	26.90	2
DV w/o Background			21	21.88	23.35	24.82	25.45	25.62	25.80	25.97	26.14	26.31	26.49	26.66	26.83	27.00	27.18	27.35	27.52	27.70	27.87	28.04	28.21	28.39	28.56	28.73	2

Category	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
	Lbs per Day																										
E.I. TOTAL ALL SOURCES	1,541	1,569	1,598	1,626	1,641	1,657	1,684	1,692	1,701	1,709	1,717	1,725	1,734	1,742	1,750	1,759	1,767	1,775	1,783	1,792	1,800	1,808	1,817	1,825	1,833	1,842	1,
Daily NAAQS	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
Daily Predicted Ambient Concentration			110.9	112.5	113.5	114.5	116.1	116.6	117.1	117.6	118.1	118.6	119.1	119.6	120.1	120.6	121.1	121.6	122.1	122.6	123.1	123.7	124.2	124.7	125.2	125.7	1
Background DV Annual			14																								
Difference			97																								
DV-bkgd*cur EI/1999 EI			97.10	98.75	99.71	100.67	102.30	102.80	103.31	103.81	104.31	104.82	105.32	105.82	106.33	106.83	107.33	107.84	108.34	108.85	109.35	109.85	110.36	110.86	111.36	111.87	11
Bkgd added back			110.90	112.55	113.51	114.47	116.10	116.60	117.11	117.61	118.11	118.62	119.12	119.62	120.13	120.63	121.13	121.64	122.14	122.65	123.15	123.65	124.16	124.66	125.16	125.67	12
DV w/o Background			110.9	112.78	113.88	114.98	116.84	117.41	117.99	118.56	119.14	119.71	120.29	120.86	121.44	122.01	122.59	123.16	123.74	124.31	124.89	125.46	126.04	126.62	127.19	127.77	12

EQC Staff Report – Attachment B

State Implementation Plan Revision
For Particulate Matter (PM_{10}) in the La Grande City Limits and Its Urban Growth Boundary

A Plan for Maintaining The National Ambient Air Quality Standards For Particulate Matter (PM_{10}) The La Grande Urban Growth Boundary Section 4.59 of the State Implementation Plan

DRAFT
March 2005

State of Oregon
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

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4.59.0 ACKNOWLEDGMENT AND SUMMARY

4.59.0.1 Acknowledgments

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4.59.0.2 Executive Summary: The La Grande PM_{10} Maintenance Plan

The La Grande PM_{10} nonattainment area is defined by the La Grande Urban Growth Boundary (UGB) which is approximately six square miles and includes the city limits. PM_{10} refers to particulate matter with a diameter of ten microns and less. La Grande has complied with National Ambient Air Quality Standards (NAAQS) for PM_{10} since 1991 as demonstrated through air quality monitoring data. The Department of Environmental Quality (DEQ) is asking the U.S. Environmental Protection Agency (EPA) to redesignate La Grande to attainment with standards by submitting the maintenance plan and redesignation request. EPA requires this maintenance plan to demonstrate continued compliance for at least ten years following EPA approval (approval is assumed to be 2007). Although DEQ is only required to demonstrate compliance to 2017, 2025 was selected as the last maintenance demonstration year. DEQ forecasted PM_{10} levels to 2025 and determined that these levels still continue to meet the standards ensuring an added margin of safety in the planning process. EPA requires a second ten year maintenance planning period to begin eight years after this plan is approved. This Redesignation Request/Maintenance Plan has been adopted by the Oregon Environmental Quality Commission (EQC) and submitted to EPA as an amendment to the State Implementation Plan (SIP).

The maintenance plan accommodates future growth and provides for the protection of public health by ensuring continued compliance with the PM_{10} standards. The plan continues emission reduction strategies needed to maintain compliance and provides a PM_{10} emissions allocation (budget) for the future transportation system. Finally, the plan removes the most stringent industrial emission control equipment requirement for new or expanding major industry in nonattainment areas, and replaces them with a somewhat less stringent equipment requirement as allowed by the Clean Air Act. To approve the maintenance plan, EPA requires permanent and enforceable reductions in emissions to remain in effect throughout the maintenance period.

4.59.0.2.1 Background

What is PM_{10}?

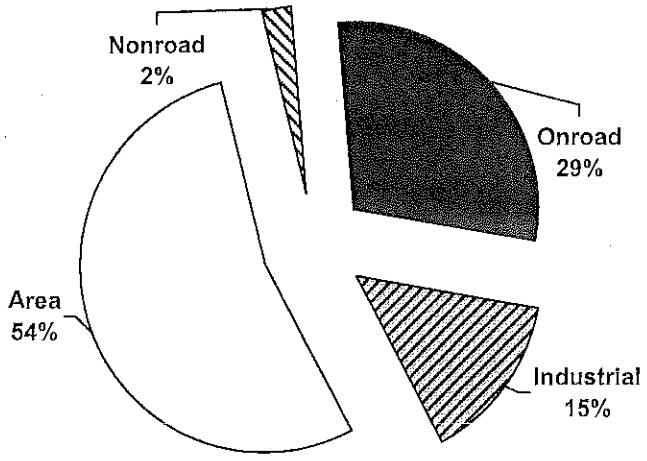
PM_{10} is particulate matter ten microns and less in size measuring less than one quarter the diameter of a human hair. It includes a fine fraction of solid particles or liquid droplets. Particulates in this size range can be inhaled deeply into the lungs where they can remain for weeks to years and aggravate respiratory conditions, such as bronchitis, asthma, emphysema, and similar diseases. Health effects caused by particulate matter vary based upon the size, concentration and chemical composition of the particles. In addition, there may be several potential carcinogens present on particulate matter. Of particular concern are the condensed organic compounds released from low temperature combustion

processes such as wood stoves. Sensitive groups that appear to be at greatest risk to these effects include the elderly, individuals with cardiopulmonary disease, and children.

EPA has established health based National Ambient Air Quality Standards (NAAQS) for PM_{10} at 150 micrograms per cubic meter ($\mu g/m^3$) for the 24-hour mean and 50 $\mu g/m^3$ for the annual mean. Any PM_{10} concentration monitored above these levels is considered an exceedance[1] of the air quality standard. The 24-hour standard is also considered a violation if it is exceeded more than once per year, averaged over a consecutive three year period. If an area is in violation of the standard, EPA designates it as a nonattainment area. State and federal restrictions are placed on nonattainment areas as needed to improve air quality and meet standards. Experience has demonstrated that the 24-hour mean is more likely to be exceeded than the annual mean.

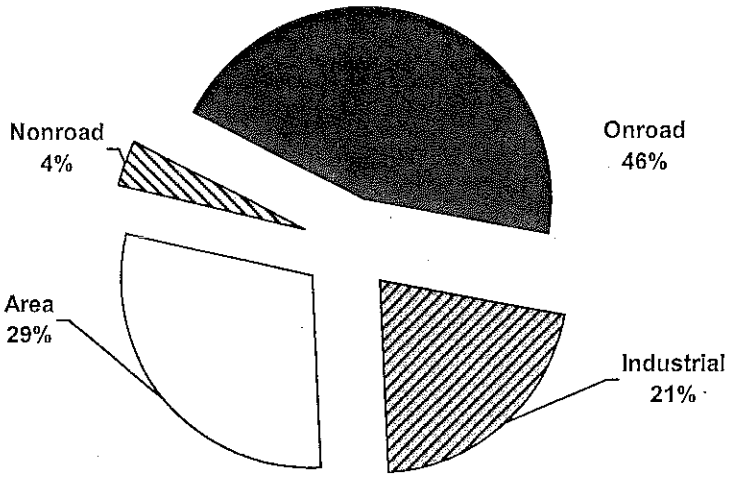
Unhealthy levels of PM_{10} are typically a wintertime problem in La Grande due to cold air inversions in the Grande Ronde valley. Due to these wintertime inversions, the worst case day for emissions of PM_{10} occurs between November 1 and February 28 of each year. A main component of the maintenance plan is the emission inventory, or an accounting of PM_{10} emissions on a worst case day as well as an annual average. Four emission source categories are described in Figures 4.59.0-1 and 4.59.0-2. Major industrial sources include sources like Boise Building Solutions' sawmill. Area sources include wood stoves/fireplace emissions and fugitive dust which are the dominant sources of PM_{10}. Other area sources include fuel oil use, road sanding, forest and agricultural burning, open burning and other fuel combustion sources. Nonroad sources include sources such as construction equipment or lawnmowers. Onroad sources include motor vehicle emissions from tailpipe exhaust and road dust.

Figure 4.59.0-1: La Grande UGB 2001 Worst Case Day Emissions



[1] Concentrations at or below 154.4 $\mu g/m^3$ round down to 150 $\mu g/m^3$ or less and are considered in compliance. The 24-hour standard is defined as an average 24-hour period beginning at midnight and ending at midnight of each day. A violation of the standard is described as one expected exceedance per year, using a mean in three years.

Figure 4.59.0-2: La Grande UGB 2001 Annual Emissions



Past PM_{10} Problems and Current Attainment of Standards

The La Grande area violated the federal 24-hour PM_{10} standard of 150 $\mu g/m^3$ in the late 1980s. The highest recorded 24-hour mean PM_{10} concentration was 223 $\mu g/m^3$ recorded on December 20, 1989 at 1601 N Willow in the northeast part of the city. Significant PM_{10} pollution occurred during this period of time due to a combination of wintertime inversions, cold weather, and more wood combustion in woodstoves for seasonal home heating.

There was one recorded daily exceedance in 1987; two exceedances in 1988; and two recorded exceedances in 1989. In 1990 and 1991 the number of daily exceedances dropped to one each year. The last recorded exceedance of the standard was 173 $\mu g/m^3$ on January 28, 1991. Since 1991, peak PM_{10} concentrations have remained below the standards.

The highest annual mean PM_{10} concentration was 54.4 µg/m3 in 1986 based on 52 sampling days. The annual mean dropped until 1988 where it was below the standard at 46.4 $\mu g/m^3$ and has remained below the annual standard. The annual mean has been at less than half the standard from 1998 to 2003. The sixteen-year trend in ambient PM_{10} concentrations as measured at the reference monitor (Willow street) is shown below in Figures 4.59.0-3, and 4.59.0-4.

Figure 4.59.0-3: La Grande PM_{10} Trend in Micrograms per Cubic Meter Maximum 24-Hr, 1987-2002

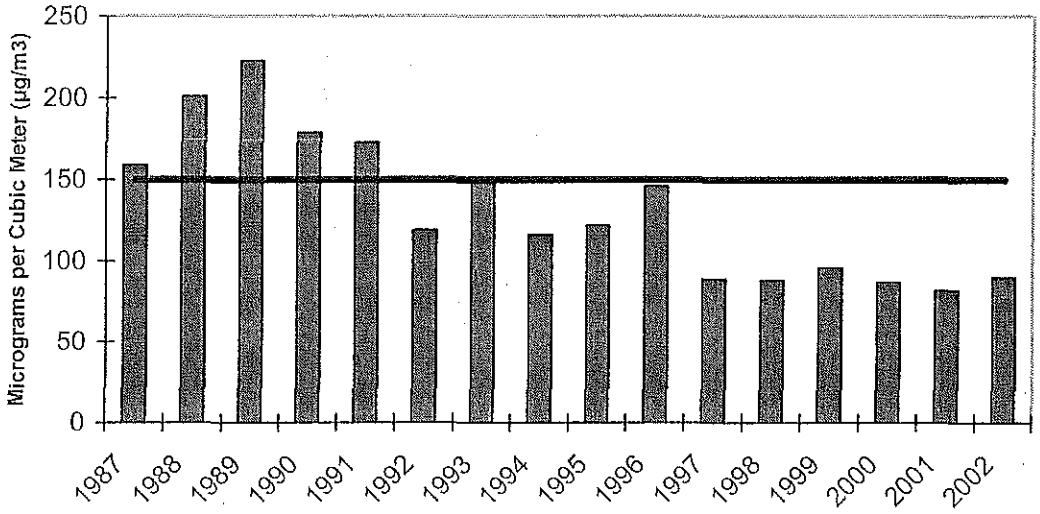
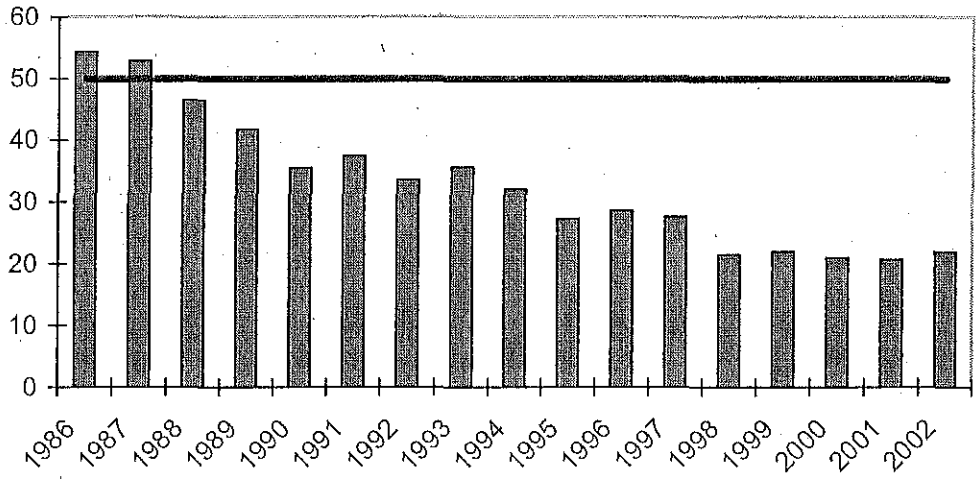


Figure 4.59.0-4: Annual Mean 1987-2002 in Micrograms Per Cubic Meter



Success in Reducing PM_{10}

Particulate matter (PM_{10}) control strategies have been successful in bringing La Grande into attainment with the 24-hour PM_{10} standard and further decreasing the annual mean. Emission reduction strategies primarily responsible for compliance include:

- A statewide Woodstove Certification Program;

- A Woodstove Removal and Heating source replacement program for low income people;
- A City of La Grande woodstove program and open burning ordinance that reduced burning on poor air quality days;
- Winter Road Sanding Controls;
- Public Education Programs;
- Industrial restrictions – Offsets and Emission Control Equipment requirements to manage future growth; and
- Forestry and agricultural burning growth management strategies.

4.59.0.2.2 Need for Maintenance Plan

The La Grande PM_{10} maintenance plan is designed to insure continued compliance with the PM_{10} standards through at least 2017 with added assurances to 2025. La Grande violated the 24-hour standard but did not exceed the annual standard since 1987[2]. For this reason, this plan focuses on the 24-hour standard. DEQ's forecast of future emissions and expected emission reduction strategies are reflected in future 2025 PM_{10} levels.

Benefits of a Maintenance Plan

For EPA to redesignate the La Grande UGB from nonattainnment to attainment, an enforceable plan must be approved by EPA that demonstrates how the area will continue to meet the PM_{10} standard for a minimum of ten years. Once EPA approves this maintenance plan and publishes the approval in the Federal Register, it will change La Grande's legal status to attainment (in compliance with the standards). La Grande will then become a federal attainment area and an Oregon maintenance area for PM_{10}. The primary benefits of an EPA-approved PM_{10} maintenance plan and redesignation are:

- Assurance that future public health will be protected from adverse impacts of PM_{10};
- Assurance that regulatory limits, expectations and conditions will be known for at least the next ten years; and
- The ability to ease the equipment restrictions for new and expanding industry without compromising the integrity of the airshed.

Projections of Future PM_{10} Levels

Future growth in La Grande is expected to be low to moderate over the next twenty years. Growth estimates are from La Grande's comprehensive plan and are also consistent with forecasts developed by the Oregon Office of Economic Analysis. The La Grande UGB was estimated to have a population of 13,809 in 2000. Based on the long-range forecast, the La Grande UGB population is expected to grow to approximately 16,391 by 2025

[2] In 1986, DEQ sampled 52 days in 1986 resulting in a 54.4 $\mu g/m^3$ annual mean and in 1987 sampled 58 days resulting in a 52.9 $\mu g/m^3$ annual mean. Between 1988 and 1991, DEQ sampled for 334 to 361 days per year, resulting in a maximum annual mean of 46.4 $\mu g/m^3$ during 1988. Annual means are averaged over a three year period to determine whether a violation of the NAAQS occurred.

(0.8 percent per year mean growth). Population, housing and employment forecasts were used in the Oregon Department of Transportation's latest travel demand model to predict growth in motor vehicle travel in the La Grande area. A buffer was added to the predicted growth for future unanticipated transportation projects. Growth rates used to forecast future PM_{10} emissions are shown in Table 4.59.0-1.

Table 4.59.0-1: Annual Mean Growth Rates (2001-2025)
La Grande Urban Growth Boundary

Population Growth	0.8%/yr
Household Growth	0.7%/yr
Industrial Employment	0.3%/yr
Vehicle Miles Traveled	1.9%/yr

Estimated linear rates

The maintenance plan analysis used these growth rates to estimate future PM_{10} air quality conditions in La Grande through 2025. PM_{10} emissions projected through 2025 remain steady with a slight decrease in emissions from woodstoves and open burning, but with an increase in other growth. A significant increase is projected in vehicular traffic. Still, the predicted ambient concentration of PM_{10} will remain below the National health-based standard. DEQ began our analysis in 2001 as this is the design year for ambient emissions, which are compared to the attainment emission inventory levels. Figures 4.59.0-5 and 4.59.0-6 show the 2001 attainment emission inventory level and selected future year projected emissions through 2025 for the La Grande UGB.

Figure 4.59.0-5: La Grande PM_{10} Emissions Forecast (lbs/day)

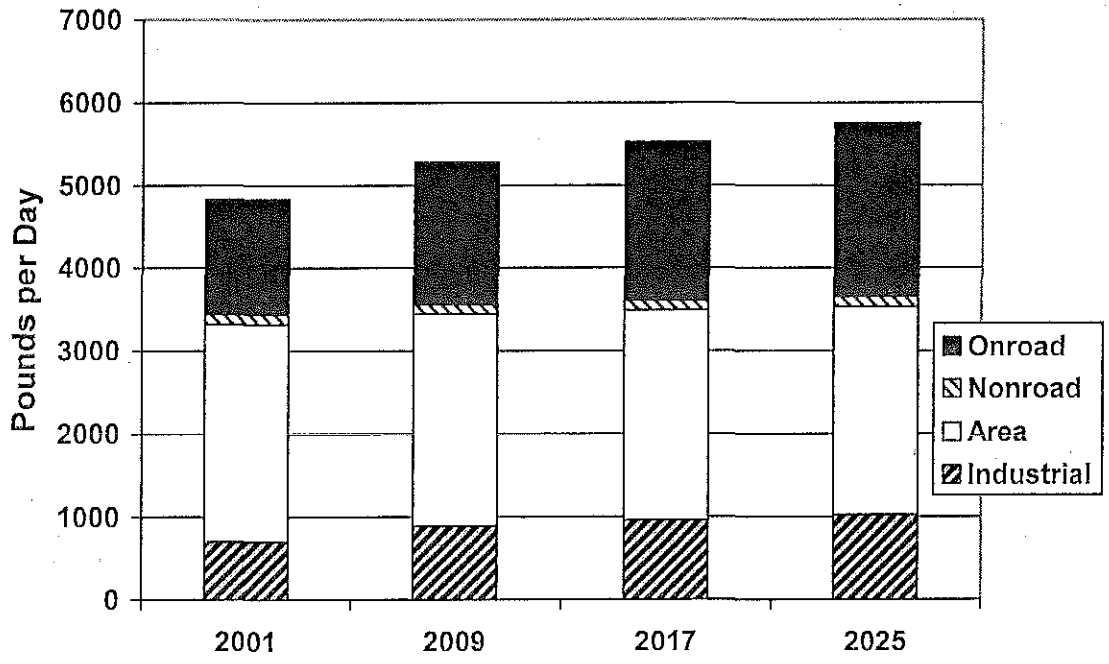
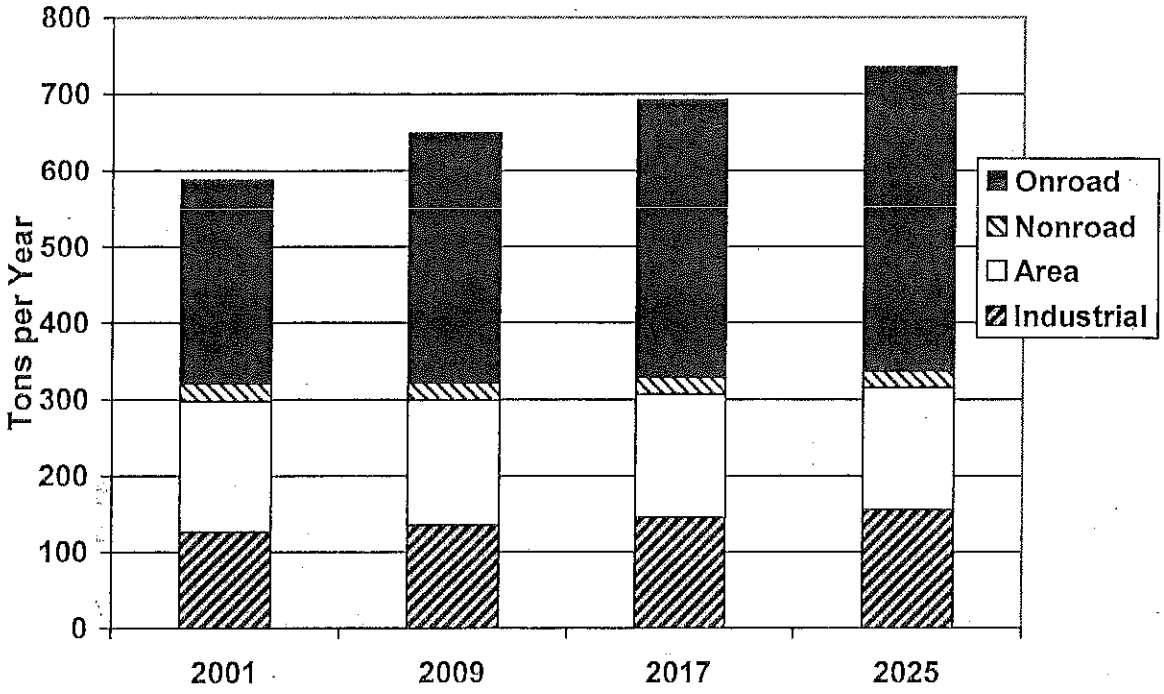


Figure 4.59.0-6: La Grande PM_{10} Emissions Forecast (tons/year)



EPA has approved a simple analysis for areas like La Grande that has limited population and has reduced PM_{10} levels substantially. In this simple analysis procedure, future ambient PM_{10} levels or concentrations are expected to increase or decrease in proportion to future changes in the areas overall emission levels (the emission inventory). The resulting future ambient PM_{10} concentrations are compared to the PM_{10} standards for compliance determination. The analysis shown in Table 2 shows the emission forecast and estimated proportional change in future ambient PM_{10} concentrations and demonstrates La Grande continues to meet the standards through 2025. Growth is essentially linear and there should not be an unexpected emission increase between 2001 and 2025. The table below shows a couple intermediate years in the forecast to 2025.

Table 4.59.0-2: PM_{10} Attainment Demonstration

Worst Case Day	2001 Worst Case Day	2009 Worst Case Day	2017 Worst Case Day	2025 Worst Case Day
Total Emissions from Inventory – Worst Case Day (lbs per day)	4,830 lb/day	5,283 lb/day	5,518 lb/day	5,753 lb/day
24-hr Estimated Ambient Concentration (micrograms/cubic meter)	93 $\mu g/m^3$	99 $\mu g/m^3$	103 $\mu g/m^3$	106 $\mu g/m^3$
Annual	2001 Annual	2009 Annual	2017 Annual	2025 Annual
Total Emissions from Inventory – Annual (tons per year)	587 tons/yr	649 tons/yr	692 tons/yr	735 tons/yr
Annual Estimated Ambient Concentration (micrograms/cubic meter)	22 $\mu g/m^3$	24 $\mu g/m^3$	25 $\mu g/m^3$	26 $\mu g/m^3$

4.59.0.2.3 Maintenance Plan Development Process

DEQ relied primarily on the involvement of the La Grande Air Quality Commission and the Oregon Department of Transportation (ODOT) to develop the draft PM_{10} maintenance plan provisions. The Air Quality Commission is a city-appointed group who also invited others from the community to participate in their meetings. The Air Quality Commission reviewed a draft of the maintenance plan and emission inventory, and then provided final guidance and recommendations.

The La Grande Air Quality Commission recommended (and DEQ included) the following key provisions as part of the PM_{10} Maintenance Plan:

- Continue implementing the woodstove program and open burning ordinance used in the attainment plan;
- Add a buffer (an extra emissions allowance) for unanticipated transportation projects to address DEQ conformity rules;
- Continue similar industrial strategies used in the attainment plan except allow less stringent requirements for industrial control equipment for new or expanding sources; and
- Adopt a contingency plan that will both prevent and correct any future violation of the standards.

4.59.0.2.4 Maintenance Summary: Strategies, Conformity, and Contingency Plan

Wood Smoke Emission Control

Because woodstoves are a major source of PM_{10} emissions, the Air Quality Commission considers the wood stove emission control program to be the most effective particulate reduction strategy for La Grande. This program includes certification standards for new stoves, changeout programs to encourage removal of noncertified stoves and local

ordinances and programs to curtail burning during stagnant weather periods. The certification of new stoves and the uncertified wood stove and replacement program conducted in the early 1990s contributed to the largest reduction in particulate emissions. The commission will continue to look for ways to replace or remove uncertified woodstoves in La Grande. The continued attrition of older wood stoves coupled with a general trend away from significant woodheating is expected to continue to reduce emissions through 2025 even with a moderate growth in households. DEQ conducted household surveys on wood stove use in 1993 and in 2002 which quantified older uncertified stove attrition. In addition, the voluntary wood stove curtailment program has been and will continue to be an effective tool in keeping emissions low in La Grande. When implementing the curtailment program, the city staff determines a woodstove and open burning advisory based on PM_{10} and the more stringent $PM_{2.5}$ standards.

Public Awareness

The La Grande Air Quality Commission has an ongoing public education and awareness program with a continuing emphasis in the local schools. The voluntary wood stove curtailment program is promoted heavily throughout the community. General education and awareness on air quality issues is emphasized through press releases, radio spots, talks to civic organizations and other methods. Commission members work directly with classroom teachers to provide an air quality curriculum tailored to La Grande.

Industrial Requirements

Currently, all new or expanding major industrial sources within the UGB that propose to increase emissions by 15 tons or more of PM_{10} per year are required to model emission increases and offsets to show no degradation to the airshed. The La Grande Air Quality Commission suggested this requirement remain. Thus, the industrial maintenance rule requirements will require offsets for any modeled significant increase in emissions.

The New Source Review (NSR) requirement for a major new industry or a major modification to an existing industrial source is the Lowest Achievable Emission Rate (LAER) control technology. LAER is an industrial equipment requirement to control emissions to the lowest level regardless of cost. Upon federal redesignation to attainment, the requirement for major new and expanding industry will be the Best Available Control Technology (BACT) for PM_{10} emissions. This could be a less stringent requirement because it allows a source to consider cost in designing and evaluating industrial emission controls. NSR requirements are described in Section 4.59.3.2 of the Maintenance Plan.

Other Strategies

Open burning has been recognized as a significant contributor to PM_{10} emissions. The La Grande open burning ordinance currently includes a fee for open burning permits. In addition, convenient options for disposal of yard debris have significantly reduced the

number of open burning permits issued. The open burning ordinance restricts all open burning except for two months in the fall and two months in the spring.

Unpaved roads have been oil matted or paved by the City of La Grande further reducing dust related emissions. The city has land-use rules and the Oregon Department of Transportation (ODOT) regulates vehicles tracking dirt onto highways.

Forest smoke is managed by a smoke management program conducted by Oregon Department of Forestry. Agricultural smoke is regulated by Union County through a smoke management ordinance and implemented by the Imbler Fire Department. Both programs attempt to avoid smoke impacts to La Grande.

Conformity and PM_{10} Emissions Budget

Transportation conformity regulations, required by the 1990 Federal Clean Air Act Amendments, require a motor vehicle emissions budget to be included in the State Implementation Plan (SIP). Regionally significant transportation project proposals must be evaluated for impacts on future PM_{10} emissions.

This plan establishes the emissions budget that will serve as a cap on emissions from motor vehicles in La Grande. ODOT periodically forecasts motor vehicle emissions as part of updating the long-range transportation plan for the La Grande area. Future motor vehicle emissions resulting from regionally significant projects must remain within the emissions allocation (budget) established in this maintenance plan through 2017. An additional ten percent for vehicle miles traveled has been added to the emissions budget in the event that currently unfunded projects can be funded as a buffer for the plan. Conformity is described in Section 4.59.3.2 of the Maintenance Plan.

Contingency Plan Elements

The maintenance plan must contain contingency measures that would be implemented either to prevent or correct a violation of the PM_{10} standard after the area has been redesignated to attainment status. The Clean Air Act requires that any measures removed from the original attainment plan be reinstated if a violation occurs. The strategy adopted by the La Grande Air Quality Commission involves a two-phase contingency plan to prevent and quickly correct any significant deterioration in air quality. If measured PM_{10} concentrations based on near real-time data suggest La Grande is exceeding 90% of the 24-hour PM_{10} standard, the contingency plan states DEQ and the Commission to reconvene within 30 days to assess the cause of the PM_{10} high levels. If the situation appears significant, the Commission shall issue an alert and shall identify more specific requirements if additional action is needed to prevent a violation. Should a violation occur, the contingency plan requires that LAER be automatically reinstated as a DEQ requirement and that the Commission in conjunction with DEQ review all options and develop further strategies and implement a schedule to bring the area into compliance. The La Grande PM_{10} Contingency Plan is described in Section 4.59.3.3 of the Maintenance Plan.

4.59.1 INTRODUCTION

4.59.1.1 Purpose of Redesignation Request and Maintenance Plan Document

The purpose of this document is to ensure continued protection of public health and to request redesignation of the La Grande area from nonattainment to attainment for particulate matter ten microns and less in aerodynamic size (PM_{10}). The document is also a maintenance plan that ensures continued compliance with National Ambient Air Quality Standards (NAAQS) for PM_{10} in La Grande. This request and plan complies with applicable 1990 Federal Clean Air Act (CAA) requirements and Environmental Protection Agency (EPA) guidance and policies.

The maintenance plan demonstrates compliance with the PM_{10} standards through 2025. The demonstration allows the department to reassess the most stringent emission control equipment requirement applicable to major (more than 15 tons of PM_{10} emissions per year) new or major modifications of industrial sources in this area. This requirement will be replaced by a maintenance area requirement for emission control equipment technology. All other controls implemented to return La Grande back to attainment will remain in effect and additional strategies shall be employed to ensure maintenance of the PM_{10} standard.

4.59.1.2 National Ambient Air Quality Standards for PM_{10}

This Maintenance Plan addresses the ambient air quality standards for PM_{10} as defined in the federal Clean Air Act. PM_{10} is the fraction of solid particles or liquid droplets that are less than ten microns in diameter. Particulate in a PM_{10} size range are of concern because they can be inhaled deeply into the lungs where they can remain for weeks to years. Relationships have been shown between exposure to high concentrations of particulate matter and increased hospital admissions for respiratory infections, heart disease, bronchitis, asthma, emphysema, and similar diseases. In addition, there may be several potential carcinogens present on particulate matter. Of particular concern are the condensed organic compounds released from low temperature combustion processes such as wood stoves. Significant sources of PM_{10} are woodstoves, open burning and fugitive dust. Most serious PM_{10} problems occur during the winter in urban areas when cooler temperatures encourage incomplete combustion and the resulting PM_{10} emissions are trapped near the ground by atmospheric inversions.

EPA has established National Ambient Air Quality Standards (NAAQS) for PM_{10} at 150 micrograms per cubic meter ($\mu g/m^3$) for a 24-hour mean and 50 $\mu g/m^3$ as an annual mean. Any value monitored above these levels is considered an exceedance. The 24-hour standard is not to be exceeded more than once per year when averaged over a consecutive three year period.[3] An exceedance of the annual standard is determined by averaging all 24-hour

[3] Currently, monitoring for PM_{10} occurs one day in six days. One exceedance could represent six days. The definition of an exceedance of the national 24-hour standard and the annual standard is as follows: (a) 150

periods in a year. A violation of the annual standard occurs when this mean is above the standard. If an area is in violation of either standard, EPA designates it as a nonattainment area. Experience has demonstrated that the 24-hour mean for PM_{10} is more likely to be exceeded than the annual mean.

In general, demonstrating "attainment" requires the collection of representative monitoring data using approved measuring instruments and procedures, with adequate quality assurance and quality control. No monitor in an area may exceed the 150 $\mu g/m^3$ 24-hour standard for more than one expected exceedance per year during any of the three calendar years preceding the attainment year. Air quality measurements in La Grande satisfy this requirement, as shown in Section 4.59.2, "Attainment Demonstration", of this plan.

4.59.1.3 La Grande Area Description

La Grande is located in northeast Oregon at an elevation of 2,785 feet (852 m). The area is typified by semi-arid climate where mean annual rainfall is 17.2 inches (43.7 cm). The La Grande UGB was estimated to have a population of 13,809 in 2000. Based on the long-range forecast, the La Grande UGB population is expected to grow to approximately 16,391 by 2025 (0.8 percent per year compounded mean growth). The city of La Grande serves as an important commercial center for northeast Oregon.

The Grande Ronde Valley is a relatively flat area nestled in a mountainous area drained by the Grande Ronde River. The Grande Ronde Valley is a kidney shaped valley with La Grande area on the west side of the kidney shape. The Eagle Cap wilderness area is a mountainous region to the east of La Grande and Mount Emily is to the north. Most of the La Grande residential area is located on the south side of the Grande Ronde River and gradually increases in elevation to the foothills of the Blue Mountains to the south and west of the city.

Because of these features, La Grande can experience strong nighttime inversions that break with daytime solar heating. In the wintertime, arctic air masses frequently move into the Grande Ronde Valley. Temperatures can remain well below freezing for several weeks at a time. Winter nights are commonly clear and cool in the valley. Under these conditions, inversion can occur in La Grande.

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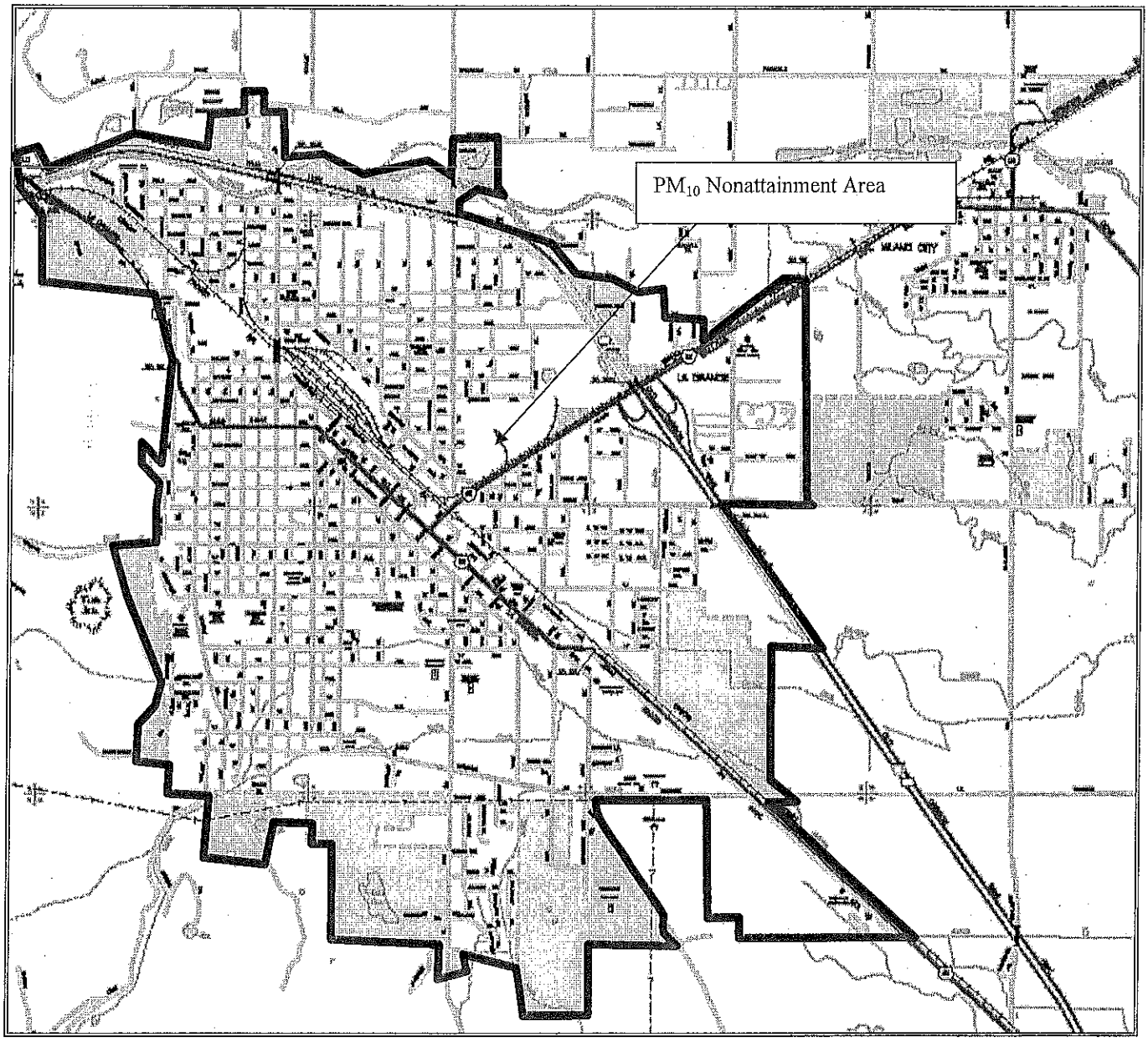
micrograms per cubic meter ($\mu g/m^3$), 24-hour mean concentration. This standard is attained when the expected number of days per calendar year above 150 $\mu g/m^3$ is equal to or less than one. (b) 50 micrograms per cubic meter ($\mu g/m^3$), annual arithmetic mean. The standard is attained when the expected annual arithmetic mean concentration is less than or equal to 50 $\mu g/m^3$.

Figure 4.59.1-1: La Grande UGB - PM_{10} Nonattainment Area



4.59.1.4 History of PM_{10} Problem in La Grande Area

The La Grande Urban Growth Boundary (UGB) (see Figure 4.59.1-1) was designated under the 1990 Clean Air Act amendments as a nonattainment area for the PM_{10} standard on February 8, 1989. Upon enactment of the 1990 Clean Air Amendments, EPA classified La Grande UGB as a moderate PM_{10} nonattainment area. A PM_{10} attainment plan was developed for the La Grande UGB and submitted to the Environmental Quality Commission for approval on November 15, 1991. EPA approved the attainment plan on February 15, 1995. The initial nonattainment design concentration was 219 $\mu g/m^3$ for the 24-hour

maximum[4]. The plan was submitted to EPA, which included strategies such as a woodstove curtailment program, woodstove certification program, woodstove removal program, industrial requirements and road sanding program. These strategies have proven effective in reducing PM_{10} emissions in the La Grande UGB since 1991.

PM_{10} concentrations have been measured at the same location in the La Grande UGB (Willow Street) since 1986. The last exceedance of the 24-hour mean PM_{10} standard occurred in 1991 with a measured high concentration above the 150 $\mu g/m^3$ standard (173 $\mu g/m^3$ on 01/28/91). Since January 28, 1991 there have not been any exceedances of the 24-hour standard for PM_{10}.[5] The 24-hour mean PM_{10} standard was attained in 1994 when La Grande met the Clean Air Act deadline for compliance with the standard (three exceedance free years; 1992 through 1994). Since 1994, maximum PM_{10} values have remained below the standard. La Grande did not violate the annual standard for PM_{10}.

Based on this compliance, La Grande may apply for redesignation to attainment in accordance with the 1990 Clean Air Act amendments. This maintenance plan submittal is required for redesignation. It will continue the strategies set in the original attainment plan. Upon redesignation by EPA, La Grande will become a PM_{10} maintenance area.

4.59.1.5 Redesignation Criteria/Organization of Document

Section 107(d)(3)(E) and related subsections of the Clean Air Act establish five key criteria that must be satisfied in order for a nonattainment area to be redesignated to attainment status. Below is a summary of the redesignation criteria and a reference to the discussion of each criterion in this document.

Attainment Verification

The nonattainment area seeking redesignation must have attained the applicable NAAQS. Attainment of the NAAQS for PM_{10} in the La Grande area is discussed in Section 4.59.2, "Attainment Demonstration."

SIP Approval

EPA must have fully approved the applicable state implementation plan (SIP) for the area under Section 110(k) of the Federal Clean Air Act (FCAA). The La Grande PM_{10} attainment plan was adopted by the Environmental Quality Commission on November 8, 1991. EPA published the approval of the plan in the Federal Register effective on March

[4] EPA requires a design value to be calculated by statistical methods. The plan did not have a design value for the annual mean.

[5] One of the background sites exceeded the standard twice, once on November 22, 1994 at 197 $\mu g/m^3$, and once on December 10, 1994 at 177 $\mu g/m^3$. The exceedances are exceptional events believed to be caused by windblown dust from an adjacent plowed field and DEQ received a special events status for these events.

17, 1995. These SIP revisions and compliance with Section 110(k) of the FCAA, are discussed in Section 4.59.4.1, "SIP Requirements/ Nonattainment Area Requirements."

Permanent and Enforceable Improvements in Air Quality

Improvement in air quality must be due to permanent and enforceable reductions in emissions resulting from the implementation of the applicable SIP, federal air pollution control regulations, and other permanent and enforceable reductions. The permanent and enforceable emission reductions that are responsible for improvements in ambient PM_{10} concentrations in La Grande are discussed in Section 4.59.2.3, "Permanent and Enforceable Improvements in Air Quality."

Nonattainment Area Requirements

The State must have met all requirements applicable to the nonattainment area under Section 110 and Part D of the Clean Air Act. Compliance with Section 110 and Part D of the Act is discussed in Section 4.59.4.1, "SIP Requirements/Nonattainment Area Requirements."

Maintenance Plan Elements

EPA must have fully approved a maintenance plan for the area meeting the requirements of Section 175A of the Clean Air Act. Concurrent approval of the maintenance plan and redesignation request is allowed. There are five parts to a Maintenance Plan: an attainment inventory, a maintenance demonstration, a commitment to the continuation of operating the monitoring network, a commitment to continue to verify attainment, and a contingency plan. These sections are outlined below in Table 4.59.1-1 along with the rest of the redesignation requirements.

Table 4.59.1-1: Summary of Redesignation Requirements

Required Element	Section of Plan	
Attainment Verification	Section 4.59.2:	ATTAINMENT DEMONSTRATION
SIP Approval	Section 4.59.4:	ADMINISTRATIVE REQUIREMENTS
Permanent and Enforceable Improvements in Air Quality	Section 4.59.2:	ATTAINMENT DEMONSTRATION
Nonattainment Area Requirements	Section 4.59.4:	ADMINISTRATIVE REQUIREMENTS
Attainment Inventory	Section 4.59.3:	MAINTENANCE DEMONSTRATION
Maintenance Demonstration	Section 4.59.3:	MAINTENANCE DEMONSTRATION
Monitoring Network	Section 4.59.4:	ADMINISTRATIVE REQUIREMENTS
Verification of Continued Attainment	Section 4.59.4:	ADMINISTRATIVE REQUIREMENTS
Contingency Plan	Section 4.59.3:	MAINTENANCE DEMONSTRATION

4.59.2 ATTAINMENT DEMONSTRATION

4.59.2.1 Ambient Air Quality Monitoring Data

The La Grande area has one particulate (PM_{10}) monitoring site (see Appendix[6] D9-3) with the sampler located at 1601 N. Willow Street, also known as Dockwiler Residence. Another $PM_{2.5}$, meteorology and toxics monitoring site is located at 2806 N. Ash Street. This monitoring location includes a semi-realtime monitor called a nephelometer. The Third and "I" street monitoring site for $PM_{2.5}$ that also included meteorological equipment and a nephelometer was discontinued in December 2003. Another PM_{10} sampler was a background sampler located on Foothills Road in Ladd Marsh. The Ladd Marsh sampler was discontinued due to budget cuts at the end of December 1999. A previous background sampler was located at 63902 Bond Lane and was discontinued in November 1995. The Willow Street-monitoring site, which has been in use since 1986, has been operating year-round for PM_{10}. Daily sampling occurred in the winter months of the PM_{10} season and once every 6th day in the summer. Recently, with the establishment of the $PM_{2.5}$ network, less frequent sampling occurs at this site. After rigorous quality assurance, the data are transferred into the Aerometric Information Retrieval System (AIRS) which provides EPA with DEQ's air quality monitoring data. These data are used as the basis for this maintenance plan.

4.59.2.2 Air Quality Summary

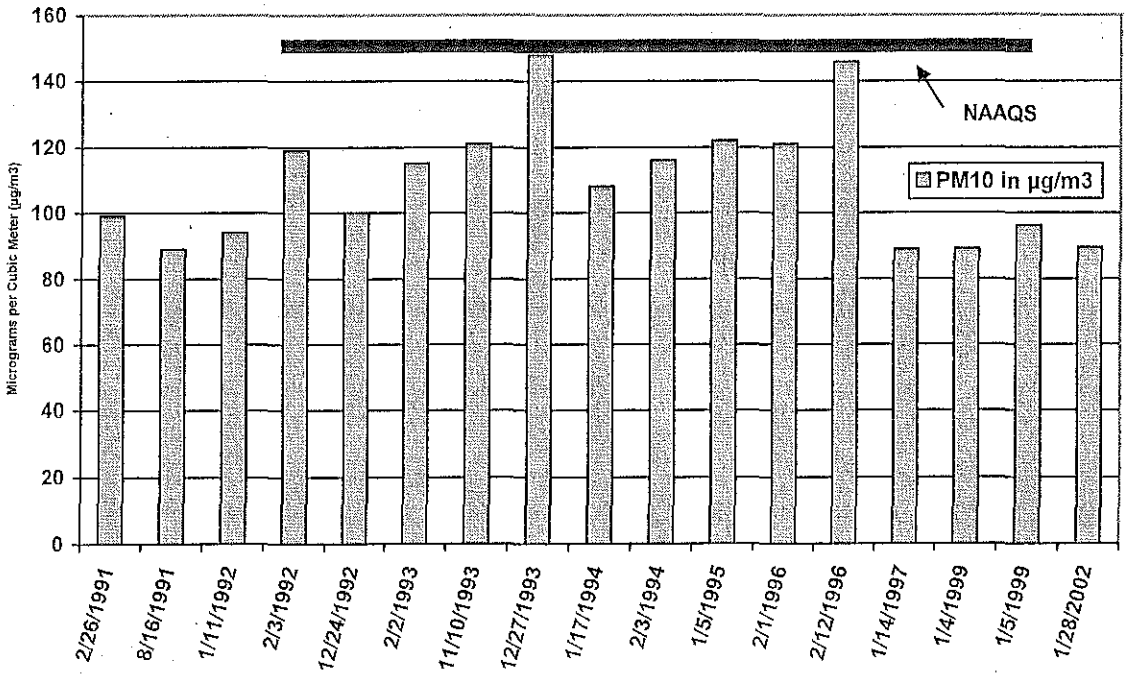
La Grande has not had an exceedance of the PM_{10} standards for over fourteen consecutive years. The last recorded wintertime exceedance of the PM_{10} National Ambient Air Quality Standard (NAAQS) in La Grande occurred on January 28, 1991 (173 $\mu g/m^3$) the only exceedance in 1991. The maximum 24-hour mean PM_{10} concentrations for the eighteen-year period (1986 to 2003) are shown in Table 4.59.2-1 and depicted in Figure 4.59.2-1. The PM_{10} value in 1991 was the last exceedance that caused a violation recorded at Willow Street:

[6]Note: All appendix references in this Maintenance Plan refer to Volume 3 of the Oregon State Implementation Plan, unless otherwise noted.

Table 4.59.2-1:
La Grande PM_{10} Concentrations
Annual and Maximum 24-hour Mean Since 1986

Annual Mean Concentration	Year		Highest Annual 24-hour Concentration	Date
54.4 µg/m3	1986		109 µg/m^3	October 21, 1986
52.9 µg/m^3	1987		159 µg/m^3	December 31, 1987
46.4 µg/m^3	1988		201 µg/m^3	December 16, 1988
41.7 µg/m^3	1989		223 µg/m^3	December 20, 1989
35.5 µg/m^3	1990		179 µg/m^3	March 31, 1990
37.5 µg/m^3	1991		173 µg/m^3	January 28, 1991
33.6 µg/m^3	1992		119 µg/m^3	February 3, 1992
35.7 µg/m^3	1993		148 µg/m^3	December 27, 1993
32.1 µg/m^3	1994		116 µg/m^3	February 3, 1994
27.3 µg/m^3	1995		122 µg/m^3	January 5, 1995
28.6 µg/m^3	1996		146 µg/m^3	February 12, 1996
27.6 µg/m^3	1997		89 µg/m^3	January 14, 1997
21.5 µg/m^3	1998		88 µg/m^3	April 29, 1998
22.0 µg/m^3	1999		96 µg/m^3	January 5, 1999
21.0 µg/m^3	2000		87 µg/m^3	Janauary 18, 2000
20.7 µg/m^3	2001		82 µg/m^3	January 6, 2001
22.0 µg/m^3	2002		90 µg/m^3	January 28, 2002
20.5 µg/m^3	2003		57 µg/m^3	February 11, 2003

Figure 4.59.2-1:
Maximum PM_{10} 24-Hour Concentrations Since Last Exceedance since January 28, 1991



Figures 4.59.2-2 and 4.59.2-3 show that the trend in PM_{10} concentration since 1988 is clearly downward. Even with a leveling out in recent years, PM_{10} concentrations remain significantly below the NAAQS. The effect of emission reduction strategies and meteorology on PM_{10} concentrations is discussed in the following sections.

Figure 4.59.2-2:
La Grande Annual PM_{10} Trend

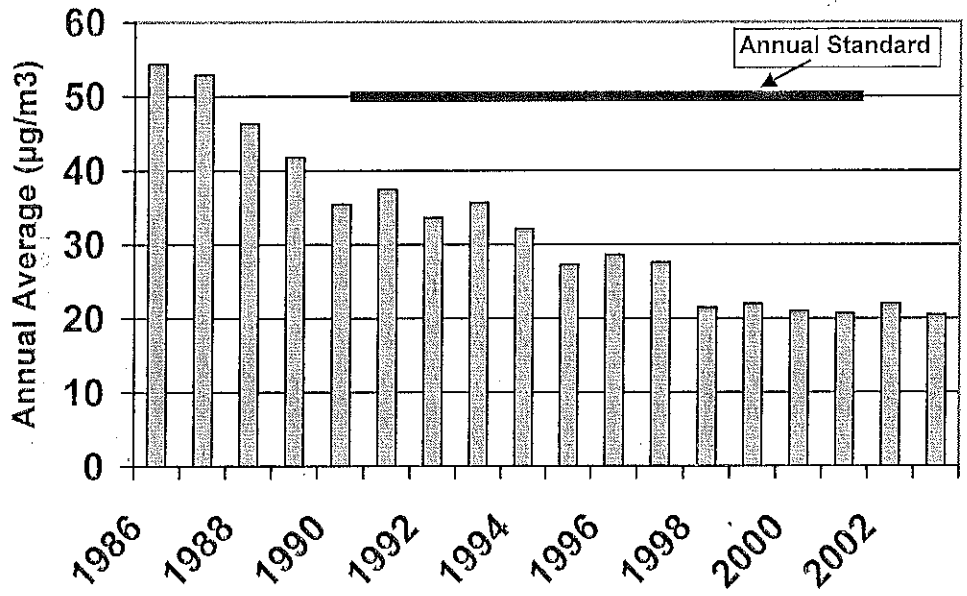
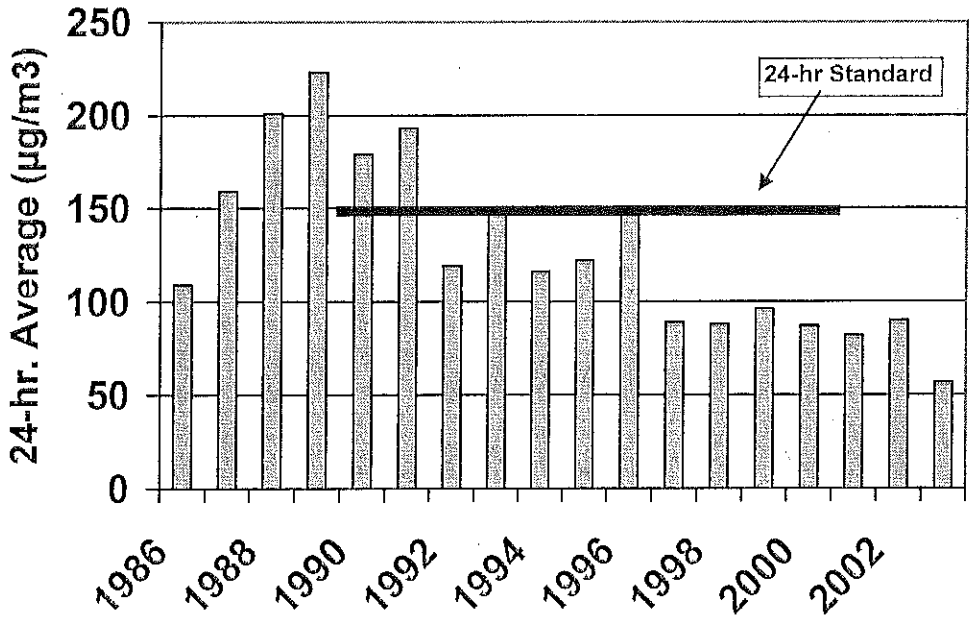


Figure 4.59.2-3: La Grande 24-Hour PM_{10} Trend



4.59.2.3 Permanent and Enforceable Improvement in Air Quality

In order to request redesignation to attainment, the EPA's guidance specifies that a state must be able to reasonably attribute improvements in air quality to emission reductions that are permanent and enforceable. DEQ demonstrates in the following analysis that attainment is not attributable to either a temporary economic downturn or to especially favorable meteorology. La Grande substantially reduced emissions prior to the implementation of the attainment plan developed in 1991. Control measures identified in this plan have contributed to the steady decline of PM_{10} concentrations and finally brought about attainment which DEQ believes are permanent as well as enforceable. This section addresses the control measures and economic and meteorological factors in La Grande.

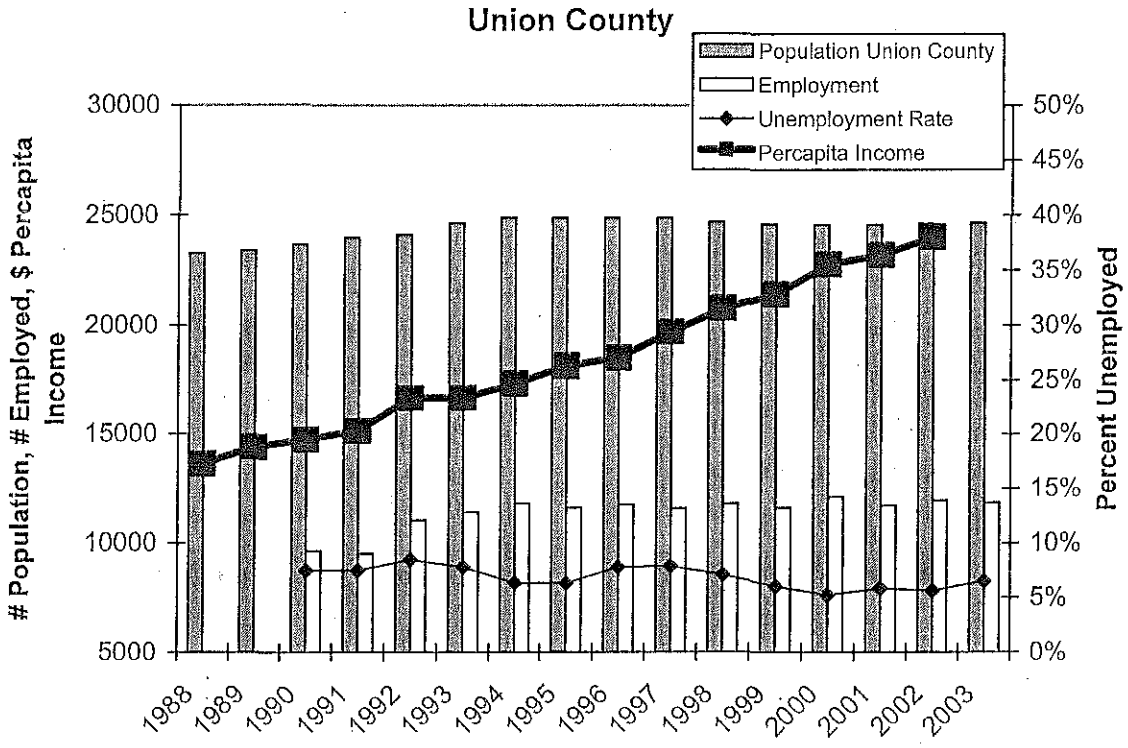
Economic Factors

DEQ determined that the success in achieving attainment is not due to an economic downturn in La Grande. Population and employment are key indices of the overall level of economic activity and growth, reflecting changes in industrial activity and vehicle miles traveled. La Grande is the largest city within the Grande Ronde valley and statistics from this city will be used to characterize the effects in the valley. Population trends, unemployment trends and business trends are displayed in Figure 4.59.2-4. Population in Union County has remained relatively stable from 1988 through 2003. Per capita income in Union County has increased from $13,000 to $24,000 from 1988 to 2002. Employment has generally increased slightly and unemployment generally decreased slightly from 1990 to 2003. Information on the population and household projection figures used in developing this maintenance plan is presented in Appendix D9-7.

La Grande has one major lumber mill and there are other smaller mills in the region that suffered under the recessions of the 1980s. In the 1990's, the timber industry appears to have stabilized in the region and the economy over the last decade has remained the same or gradually improved. Union County grew slightly in population between 1988 and 1994 but then stabilized and has remained steady in Union County at about 23,300 to 24,900 people. From 1993 to 2003, total employment countywide has ranged between 11,400 to 12,100 jobs, the highest being in 2000. A major change in infrastructure occurred in the last five years when a fiber optic cable was installed and new industrial park development occurred. Population, employment and other economic indicators are expected to continue at a modest increasing trend into the next decade.

La Grande reached attainment in 1994 and has continued to meet standards throughout the remainder of the 1990s. PM_{10} levels declined significantly throughout the late 1990s despite growth in population, employment, and a decrease in unemployment between 1992 and 1995.

Figure 4.59.2-4: Economic Indicators



Meteorological Effects

The purpose of a meteorological analysis is to verify that lower PM_{10} concentrations in recent years are not the result of favorable meteorological conditions. DEQ determined that 1999 and 2001 are representative years to begin an analysis of this maintenance plan. DEQ also determined that there are enough days with poor ventilation each year that each had the potential for an exceedance of the standard, but didn't. Therefore, attainment cannot be attributed to favorable meteorology.

High PM_{10} concentration periods generally correspond to periods of low sustained wind speeds. La Grande's seasonal wind speed conditions were evaluated for 1989 through 2003 winter heating seasons. There has been an improvement in air quality even during the worst ventilation periods. DEQ evaluated seasonal wind speeds and associated pollution based on data from the DEQ meteorological stations at Willow Street and Third and I Street.

Table 4.59.2-2[7] displays nine selected winter seasons. Two seasons were selected during exceedance periods and seven seasons are more recent. In this analysis mean wind speeds of three miles per hour or less are used as an indicator of generally poor ventilation and the

[7] Timothy L. Hoffnagle Ph.D., a researcher with Oregon Department of Fish and Wildlife and a La Grande Air Quality Commissioner, helped DEQ with this analysis. Although the data set was incomplete, statistically significant beta scatter trends were noted.

potential for exceedance conditions. While there were differences between winters, there were no annual linear trends found with either the minimum or average (mean) wind speeds. Yet, there was a significant decrease in particulate pollution levels over time.

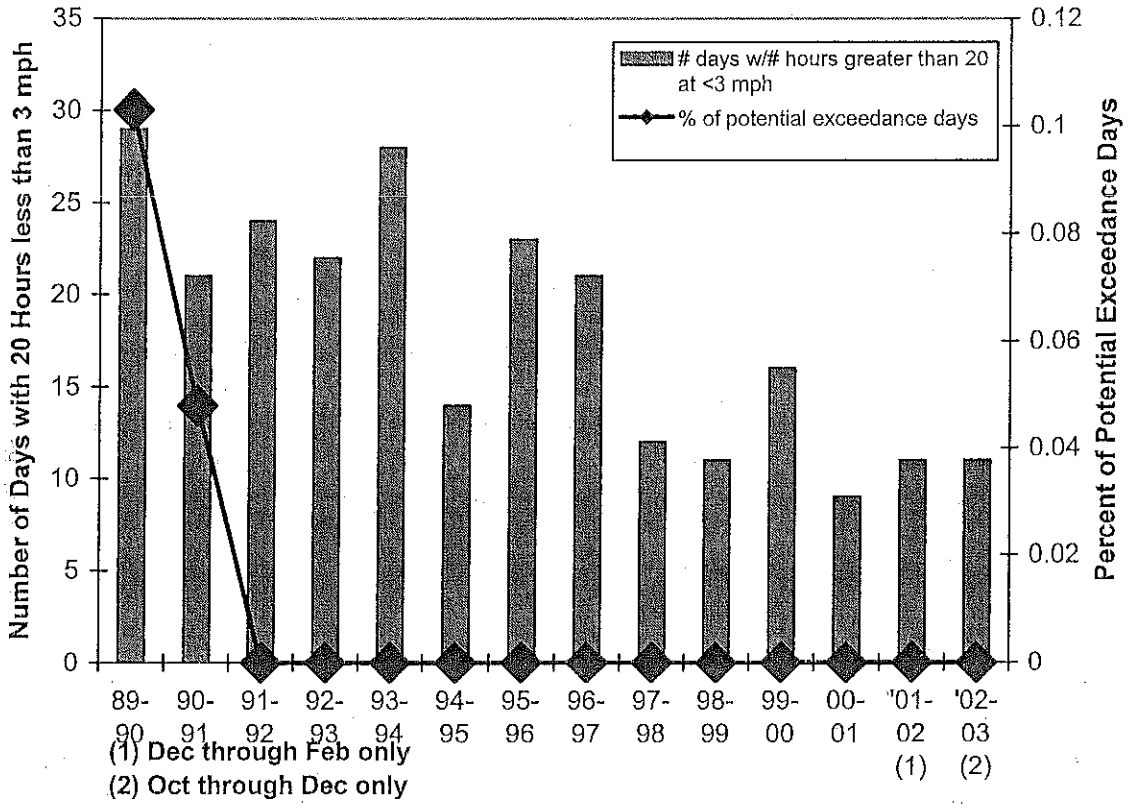
DEQ has determined there is a correlation between hourly wind speeds and the amount of measured pollution in an airshed. Historically in La Grande, wind speeds of three or less miles per hour show elevated pollution levels during October through March (the winter heating season). Hourly pollution levels are measured by a device called a nephelometer. The nephelometer measures light scattering and the units of measure are commonly called beta scatter. Light scattering can be correlated to PM_{10} and estimates of PM_{10} can be made. Generally speaking 7.0 beta scatter correlates to about 150 $\mu g/m^3$ PM_{10}. Over the last fourteen years, beta scatter has trended downward. When light scatter is analyzed for those hours of wind speeds equal to or less than 3.0 mph, DEQ found a decreasing trend between the mean and maximum beta scatter levels between the 89-90 and 02-03 winter heating seasons. Since light scatter correlates to PM_{10}, it can be presumed that PM_{10} concentration levels have decreased over time substantially during periods of poor ventilation as well.

Table 4.59.2-2: Light Scatter and Seasonal Wind Speed Conditions
October through March – Selected Seasons
Recorded at Willow Street and Third and I streets

Winter Season	Mean Daily Wind Speeds (mph)	Minimum Daily Average Wind Speeds (mph)	Mean Number of Hours per Day with Wind Speed Less than 3.0 mph	Mean Daily Light Scatter (Beta Scatter)	Maximum Daily Light Scatter (Beta Scatter)
1989-90	4.8	1.4	15.8	3.4	10.3
1990-91	5.5	1.6	14.1	1.6	4. 9
1995-96	4.5	1.2	16.1	1.3	4.0
1996-97	4.9	1.8	14.3	1.1	2.8
1997-98	5.4	1.6	14.1	1.0	2.9
1999-00	5.1	1.8	13.2	0.5	1.1
2000-01	4.9	1.8	13.0	0.8	1.6
2002-03	5.2	2.0	12.0	0.6	1.3
2003-04	5.2	1.7	14.9	0.7	1.4

In addition to evaluating daily light scatter during seasonal low wind speed periods, an additional analysis was performed looking at wind speed characteristics associated with specific exceedance events. (See Figure 4.59.2-5). During actual exceedance days, typically twenty hours of each day contained mean hourly wind speeds less than 3 mph. DEQ counted all days in each season where there were 20 hours or more with wind speeds of less than 3.0 mph. These days are considered potential exceedance days. The number of potential exceedance days by year is displayed on the chart below. Then, DEQ counted the number of actual exceedances by season and determined the percent of exceedances per potential exceedance by year. About 11% of the potential exceedance days actually became exceedances in the 89-90 season, and about 5% in 90-91. Since 90-91, none of the potential days became exceedances. The number of exceedances in La Grande after the 91-92 winter heating season is zero even though the number of potential exceedance days remains fairly high.

Figure 4.59.2-5: Potential Exceedance Days verses percentage of PM_{10} Exceedances



Emission Reduction / Growth Strategies

Several factors may have contributed to decreasing PM_{10} concentrations over time. A significant drop in peak PM_{10} concentrations occurred in the same year as implementation of the voluntary woodstove curtailment program in 1991. While the program contributed to decreased PM_{10} concentrations, other factors influenced the downward trend including a woodstove change out program in 1989-91. The La Grande Air Quality Commission believes community education and awareness campaigns reduced the number of PM_{10} values in the late 1980s and early 1990s. In recent years, PM_{10} concentrations have remained low in spite of an increase in population.

Permanent and enforceable control strategies that were in place during the attainment period are listed below.

1. A mandatory woodstove certification program, requiring all new woodstoves sold in the State to be laboratory tested for emissions and efficiency prior to sale (mandatory since 1988);
2. A City of La Grande voluntary woodstove curtailment program (since 1991);
3. A ban on the sale and installation of uncertified woodstoves (since 1991);

4. A ban on burn barrels and other open burning restrictions;
5. A major road improvement project that oil matted or paved residential streets; and
6. Major New Source Review Program for industry (since 1988).

The economic, meteorological, and other factors noted in the sections above indicate that the attainment with PM_{10} standards in 1992 and subsequent compliance can be attributed to permanent and enforceable measures.

4.59.2.4 Verification of Monitor Site

Field studies are conducted to verify that the location of the PM_{10} monitor generally represents "worst case" or peak level PM_{10} concentrations within the nonattainment area. The PM_{10} monitor is a filter based sampling monitor that is not real-time. A second semi-realtime monitor called a nephelometer has been moved and relocated at several monitoring sites in La Grande. Two special reports were prepared by DEQ to evaluate the monitoring locations and sources of contributions to particulate matter on the filters. The PM_{10} monitoring site at Willow Street has not changed since1987 although other monitoring sites for $PM_{2.5}$ and other pollutants have been established.

The results of a study finalized in June 1993 showed that the highest particulate concentrations occurred at the current PM_{10} site at Willow Street. The focus of the 1993 study was to determine if the Willow Street site was "unduly influenced" by dust from the Boise Cascade Mill nearby. Prior sampling based on total suspended particulate sampling (TSP) indicated that the Willow Street site was in the worst case location compared to the sampler located at the local newspaper (the Observer) site in the central business district. In this study the two sites once again were sampled in La Grande. The sampling indicated that the Willow street site had higher PM_{10} emissions than the Observer site. However, the data between the two sites was comparable tracking closely with each other. (See Table 4.59.2-3).

Table 4.59.2-3: 1993 Survey for PM_{10} – Site Results

Date	Willow Street Highest PM_{10} recorded Values	Observer Bldg. Highest PM_{10} recorded Values
Jan. 03, 1991	106 $\mu g/m^3$	110 $\mu g/m^3$
Jan. 22, 1991	122	142
Jan. 28, 1991	173	159
Jan. 29, 1991	139	130

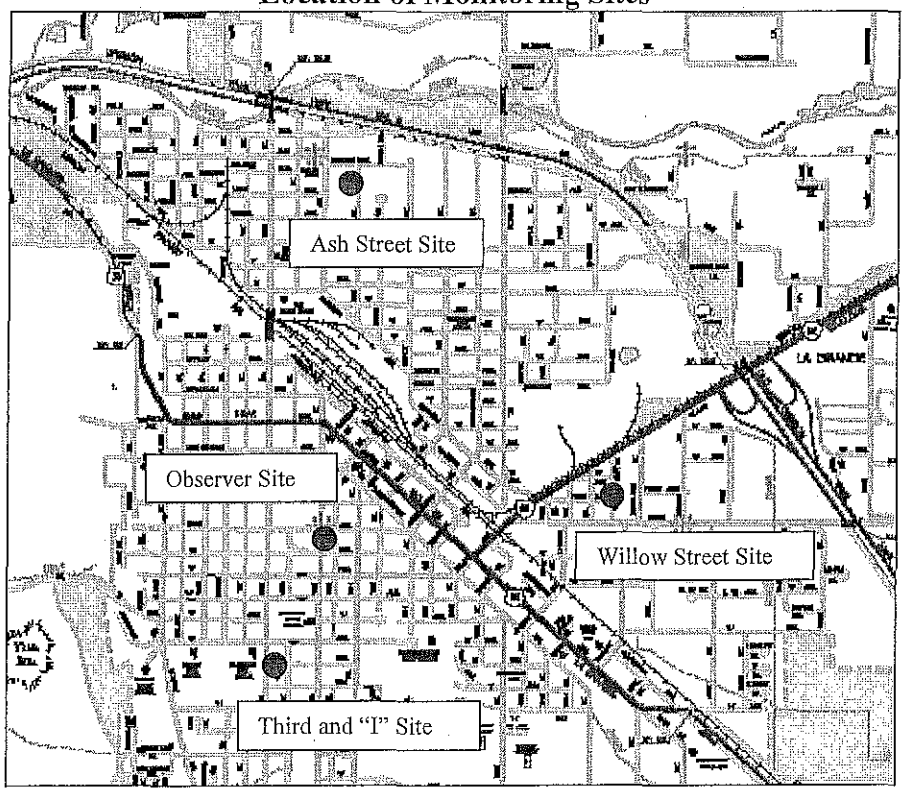
Another report written in December 1986 indicated there were significant sources of dust, although 63% of the samples contain products from vegetative burning. The 1986 study did not intend to verify monitoring site location although there was an indication that the Observer site and the Ash street site were significant TSP locations and comparable within La Grande. Ash Street is at a similar elevation and in a residential neighborhood similar to the Willow Street site. The Ash Street site is in the northern part of the city, whereas the Willow Street site is in the eastern part of the city.

Table 4.59.2-4: 1986 Survey for PM_{10} & TSP – Site Results

Date	Ash Street Highest PM_{10} recorded Values	Ash Street Highest TSP recorded Values	Observer Bldg. Highest TSP recorded Values
Nov. 14, 1984	76 µg/m3	74 µg/m3	-- µg/m3
Dec. 14, 1984	67 µg/m3	111 µg/m3	103 µg/m3
Feb. 06, 1985	95 µg/m3	109 µg/m3	91 µg/m3
Mar. 14, 1985	69 µg/m3	159 µg/m3	210 µg/m3

The southwestern part of the city rises in elevation and sampling for $PM_{2.5}$ in recent years at Third and I street indicate that the Southwestern portion of the city is not at the worst case location. In 1999, DEQ established a $PM_{2.5}$ monitor at Third and I Street with a nephelometer and meteorology equipment, and was located in the southwestern section of La Grande near the High School on a bench several feet in elevation above the main part of La Grande. Ambient air quality in the southwest portion of La Grande was comparable to background (Ladd Marsh).

Figure 4.59.2-6:
Location of Monitoring Sites



Both the 1986 study and the 1993 study provide indications that the Willow Street site is in the worst case area of La Grande. The studies show that pollution is somewhat uniform across the north and eastern sections and in the lower elevation of La Grande and is considered the worst case area. The 1986 and the 1993 PM_{10} studies are included as Appendix D9-5.

4.59.2.5 Conclusions Regarding Demonstration of Attainment

Monitoring data show that La Grande is in attainment with the national ambient air quality standards for particulate matter ten microns and less in size (PM_{10}). Economic data show that attainment is not attributable to a "down turn" in the economy. An evaluation of meteorological conditions shows that attainment can not be solely attributed to favorable meteorology. The 1986 and 1993 special studies indicate that the Willow Street monitoring location does represent the general area of maximum PM_{10} exposure within the La Grande UGB.

Based on the evidence above, the attainment of PM_{10} standards in La Grande has been due to permanent and enforceable measures.

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4.59.3 MAINTENANCE DEMONSTRATION

This section shows compliance with standards and that this compliance will be maintained for at least 10 years after the date of EPA redesignation[8]. The maintenance analysis shows that the La Grande UGB will remain in attainment with air quality standards for PM_{10} through the year 2025. The analysis includes an emission inventory conducted for the calendar year 1999, a year in the attainment period. The emission inventory is grown based on growth factors determined by the Oregon Office of Economic Analysis to the year 2025. A design value is calculated for 2001 based upon five years worth of ambient air quality data. The design value is proportioned based on the emission inventory to 2025. If the proportioned value continues to be below the standard, then La Grande is predicted to remain in attainment.

4.59.3.1 Attainment Period Inventory

An emission inventory representing a contemporary, representative year of the attainment period was developed. The emission inventory year was chosen as 1999 and extrapolated to the 2001 attainment year based on selected growth factors. Future year emission forecasts were also developed for every year until 2025. In order to demonstrate continued attainment, future year anticipated ambient concentrations must be lower than the National Ambient Air Quality Standards (NAAQS) based on a proportional analysis of ambient concentrations compared to attainment year (2001) emissions projected to future years.

An emission inventory consists of emission estimates from all sources that emit PM_{10}. These sources include major industry, area sources, nonroad sources and onroad mobile sources. The inventory for these sources includes both annual (tons of PM_{10} emitted per year), and daily (pounds of PM_{10} emitted during a worst case winter day) emission estimates. Because compliance with the max. 24-hr mean PM_{10} standard is linked to daily emissions, emission estimates reflecting a worst case winter season day (pounds of PM_{10} per day) will be used for the maintenance analysis and demonstration. In addition, compliance with the annual standard is linked to annual mean emissions. The mean annual emissions (tons per year) will be used for the maintenance analysis and demonstration.

Major Industry

Emissions from major industry are estimated from operating permits and annual reporting of actual emissions. The emission inventory includes two major point sources. A Boise Building Products lumber mill is located within the nonattainment area boundary (UGB). Boise also owns a particleboard facility several miles outside of La Grande, known as the Boise Particleboard Plant. The particleboard plant is a significant source in the county whose emissions have a potential to impact La Grande, albeit unlikely, and were included in the inventory.

[8] Federal Clean Air Act Section 175A(a)

Area Sources

Area source emissions include emissions from woodstoves, other forms of home heating, open burning (within or affecting the UGB), industrial and commercial heating. It also includes sources of fugitive dust and burning activities not categorized elsewhere. Woodstove emissions are the largest proportion of area source emissions in the inventory. Worst case day is considered during the November through February time frame addressing the winter woodheating season.

Nonroad Mobile

Nonroad mobile emissions reflect emissions from activities such as the use of railroads, landscape maintenance equipment, agricultural operations, construction, light commercial and industrial equipment use. Emissions are primarily from 2-cycle, 4-cycle, and diesel engines. The seasonal PM_{10} emission inventory is adjusted to reflect those activities occurring during the November through February time frame. With the exception of railroads, most of these activities occur at other times than the winter. Annual nonroad emissions reflect year-round activity and are therefore a greater percentage of total airshed emissions on an annual basis.

Mobile Source Emissions

Motor vehicle (onroad) emissions are directly related to the amount of travel within a community. A Travel Demand model was developed by the Oregon Department of Transportation to evaluate motor vehicle travel within the La Grande UGB. The model uses local travel survey information to simulate the choices made by La Grande residents as to when, where, and how they will reach their destinations. The model reproduced motor vehicle travel behavior on the existing transportation network for 1995 and modeled predicted transportation demand for 2015. DEQ interpolated these data for 1999 and 2001. The result of the modeling process is an estimation of traffic volumes, vehicle speeds, and vehicle miles traveled on the community road system.

The largest contribution to PM_{10} emissions from motor vehicle travel is re-entrained road dust from travel. Emission factors for re-entrained road dust are calculated based on EPA guidance for determining emission factors (AP-42) and produces results that appear to be reasonable in determining actual emissions. See Figure 4.59.3-1.

The mobile emissions model for PM_{10} (EPA Mobile 6.2 model) was used to determine tailpipe emissions. The Mobile 6.2 emission factor model produces emission rate estimates for different vehicle types (such as light duty gas vehicles and heavy duty diesel trucks), and then provides a composite "fleet average" emission rate for a selected speed. Figure 4.59.3-2 is an example of emissions for different vehicle types. These fleet average emission rates (in grams PM_{10}/mile driven) are combined with travel model data (vehicle miles traveled-VMT and mean speeds) to produce total emission estimates (including tailpipe and re-entrained road dust) for motor vehicle travel in the UGB.

Figure 4.59.3-1: Emission Factors for Vehicle Emissions
Union County – La Grande and Island City UGB
(Grams per Mile)

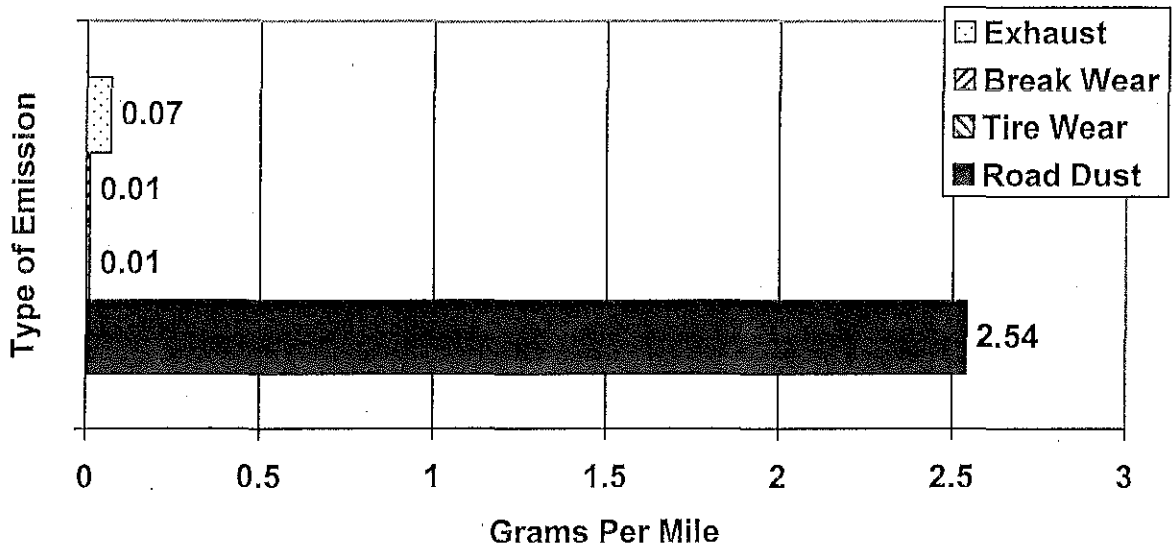
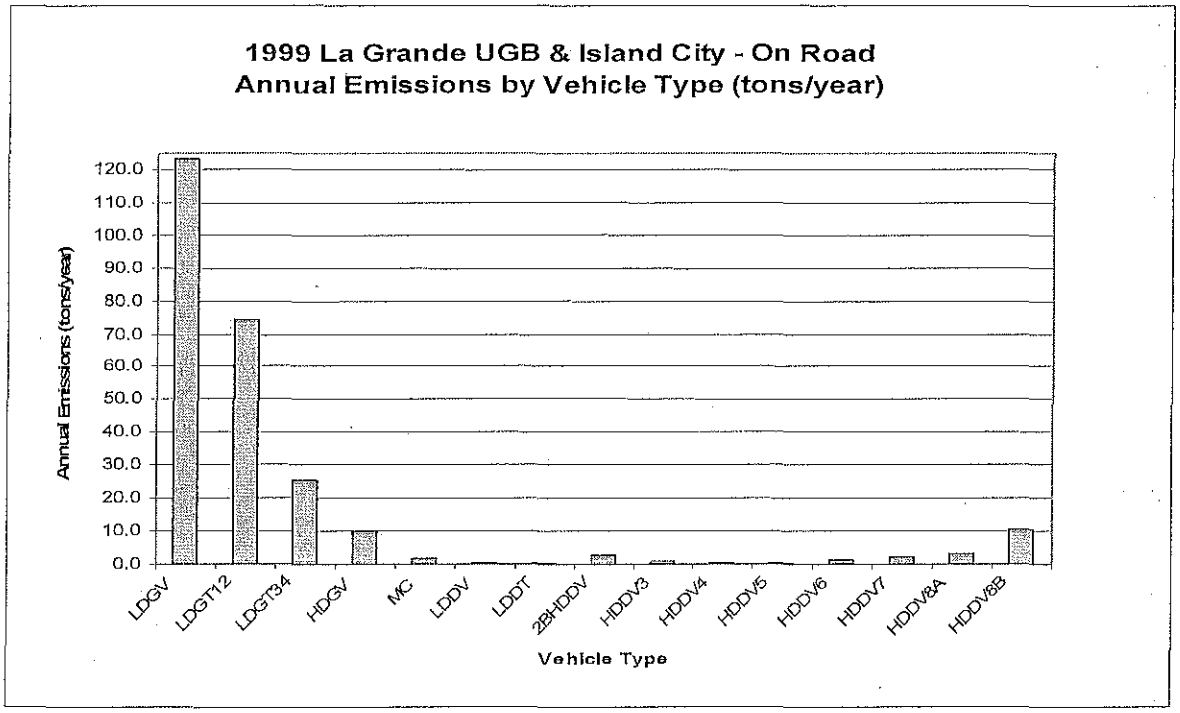


Figure 4.59.3-2: Annual Emissions by Vehicle Type



LDGV = Light duty gas vehicle (passenger); MC= Motorcycle; LDGT1 and LDGT2 = Light duty gas trucks in different weight classes; LDDV = Light duty diesel vehicle; LDDT = Light duty diesel truck; and HDDV = Heavy-duty diesel vehicle.

Emission Inventory Summary

The 2001 PM_{10} attainment emission inventory is summarized in Tables 4.59.3-1 and 4.59.3-2. Emissions from motor vehicles were calculated by applying emission factors developed by EPA's Mobile 6.2 computer program to estimates of motor vehicle travel developed by the Oregon Department of Transportation's travel demand model. The procedures for calculating the attainment emission inventories and detailed results of mobile emission estimates are presented in Appendix D9-4. Per EPA guidance, emissions from Major Industrial Sources are maximum permitted emissions as projected to 2025.

Table 4.59.3-1: 2001 Attainment Emission Inventory (Typical PM_{10} Worst Case Day)

Source Category	PM_{10} Emissions (lbs/day)	Percent Contribution
Major Industry	704 (319 kg/day)	15%
Area Sources	2,602 (1180 kg/day)	54%
Nonroad Mobile	119 (54 kg/day)	2%
Onroad Mobile	1,405 (638 kg/day)	29%
Total Emissions	**4,830 (2,191 kg/day)**	**100%**

Table 4.59.3-2: 2001 Attainment Emission Inventory (Annual Mean PM_{10})

Source Category	PM_{10} Emissions (Tons/year)	Percent Contribution
Major Industry	126 (114 metric tons)	21%
Area Sources	172 (156 metric tons)	29%
Nonroad Mobile	23 (21 metric tons)	4%
Onroad Mobile	266 (241 metric tons)	46%
Total Emissions	**587 (532 metric tons)**	**100%**

4.59.3.2 Maintenance Analysis

The maintenance demonstration must show that emissions growth will not result in PM_{10} levels exceeding the National Ambient Air Quality Standard (NAAQS). DEQ is using a simple analysis technique called a roll forward (or proportional) analysis to predict future impacts on the NAAQS. It is based on the premise that ambient PM_{10} concentrations taken from filter samples from the Willow Street site will change in proportion to changes in emissions calculated in the emissions inventory for the La Grande Urban Growth Boundary. The roll forward approach involves adjusting the ambient PM_{10} design concentration (up or down) in proportion to increases (or decreases) in future year emissions in the emissions

inventory. The design concentration is calculated using base year concentration, subtracting background, then in the future year analysis after growth occurs adding background back. If emissions are projected to exceed the NAAQS, additional strategies must be adopted to reduce emissions.

The maintenance demonstration is detailed in section 4.59.3.4 and shows that the projected 2025 ambient concentration is approximately 71% of the PM_{10} federal health daily standard (150 $\mu g/m^3$) and 52% of the annual standard (50 $\mu g/m^3$).

4.59.3.2.1 Future Forecast

Future emission estimates are derived from official forecasts of future population, housing, economic activity and land use. Each source category increases or decreases based on growth assumptions identified in this plan. Although DEQ is only required to forecast emissions to 2017 (a ten year plan, after approval by EPA), 2025 was selected as the last forecast year to ensure an added margin of safety in the planning process. Additionally, a subsequent maintenance planning process will be required eight years after approval of this plan and this analysis may also satisfy that maintenance period, assuming similar emission strategies, reductions and growth estimates continue.

Growth Rates to 2025

Executive Order 97-22 directs key state agencies such as DEQ and ODOT to use population and employment forecasts developed or approved by the Oregon Office of Economic Analysis (OEA). OEA forecasts are made at the county level, not the city level. DEQ developed a future population and employment forecast for the La Grande nonattainment area (UGB) based on the city's comprehensive plan that is both consistent with OEA projections. Future travel in the La Grande UGB is based on the following growth assumptions (2001-2025), resulting in a VMT growth rate of 1.9%.

Category	Growth Rate (linear): Percent per Year
Population	0.8%
Housing	0.7%
Employment	0.3%
VMT Growth Rate	1.9%

Estimated Linear Rates

Major Industry

For 1999 to 2003, actual emissions are used for annual rates. Beginning in 2004, permit limits are used, which means there is an apparent increase in emissions, particularly in the annual emissions. Actual emissions from both facilities at Boise Building Solutions remain below their annual permitted limits. In addition, emissions from major industry are

predicted to increase at the rate equal to that of anticipated industrial employment growth. The projected increase should accommodate some industrial expansion.

Area Sources

Area source emissions generally increase with population and employment, although some sources like woodstoves have unique growth rates. A significant reduction in woodstove emissions has been seen between 1999 and 2002. In 1993 and then again in 2002, household surveys were conducted under contract with Oregon Institute of Technology in Klamath Falls to determine how many households were burning in wood stoves and the amount of wood stove use. This information was used to determine 1999 and 2002 emissions and also is reflected in the emission inventory projection to 2025. Woodstoves have the greatest area source emissions in the inventory. In the case of home wood heating, the net emissions "change" reflects the small annual increase anticipated for cleaner certified stoves, balanced against a significant decline over time in older noncertified stoves.

Nonroad Mobile

In general, nonroad mobile emissions are expected to increase with area-wide population and employment. However, new fuel standards improve emissions and show overall reductions in emissions over time. Railroad emissions are the greatest portion of this category.

Mobile Source Emissions

A travel demand model for 2015 was also developed by the Oregon Department of Transportation to evaluate future motor vehicle travel within the UGB. The model interpolated the emissions between two years, 1995 and 2015, and extrapolated emissions beyond 2015. The result of the modeling process is an estimation of traffic volumes and emissions were estimated directly from the traffic volume estimates. Similar PM_{10} emission factors were used. In addition, to the travel demand model, the local air quality commission decided to add 10% VMT in 2025 to address future unanticipated transportation projects.

Emissions Forecasting

Figure 4.59.3-3 and Table 4.59.3-3 show worst case daily PM_{10} emissions projected to the year 2025. Figure 4.59.3-4 and Table 4.59.3-4 show annual PM_{10} emissions projected to the year 2025. Emission forecasting methodologies for each of the four major source categories are briefly described below. More specific information on emissions from individual sources and the procedures used for projecting emissions are presented in Appendix D6-4.

Figure 4.59.3-3: PM_{10} Maintenance Analysis (Emissions Forecast)
Worst Case Winter PM_{10} Day (Lbs PM_{10}/Day)

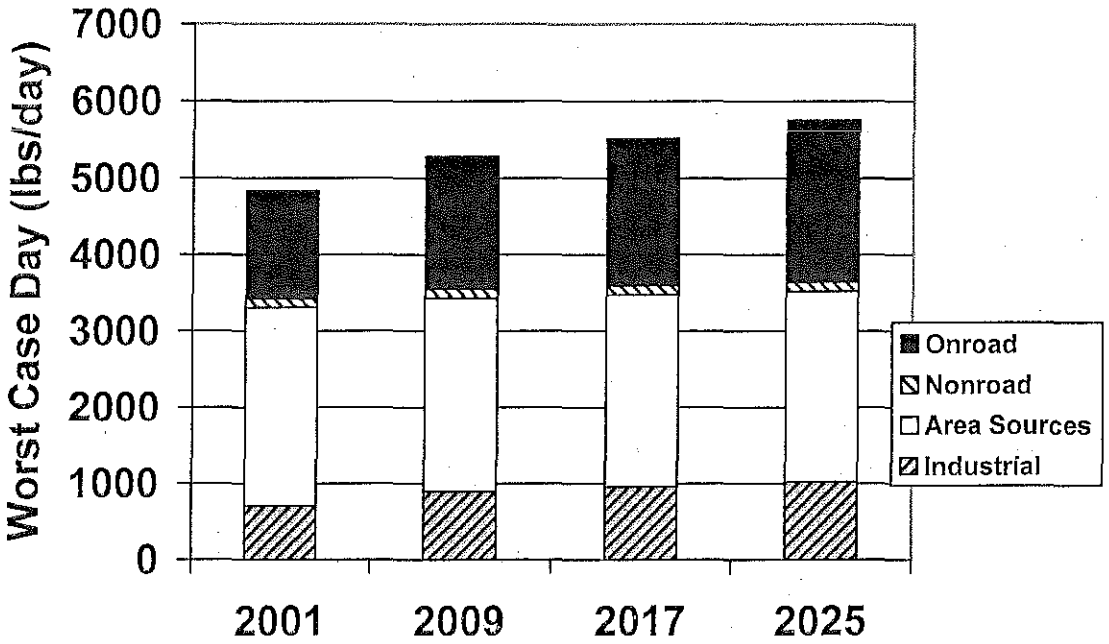


Table 4.59.3-3: PM_{10} Emissions Forecast
PM_{10} Nonattainment Area = La Grande Urban Growth Boundary
Pounds PM_{10}/Worst Case Winter Day (kg/day)

Year	2001	2009	2017	2025
Industrial Sources	704 (319)	892 (405)	956 (434)	1021 (463)
Area Sources	2602 (1180)	2537 (1151)	2519 (1143)	2500 (1134)
Nonroad Mobile Sources	119 (54)	121 (55)	123 (56)	124 (56)
Onroad Mobile Sources	1405 (638)	1733 (786)	1920 (871)	2108 (956)
Total	4830 (2191)	5283 (2397)	5518 (2504)	5753 (2609)

Net increase in 2025 from 2001 attainment levels = 923 lbs/day PM_{10}.

Figure 4.59.3-4: PM_{10} Maintenance Analysis (Emissions Forecast)
Annual PM_{10} Day (Tons PM_{10}/Year)

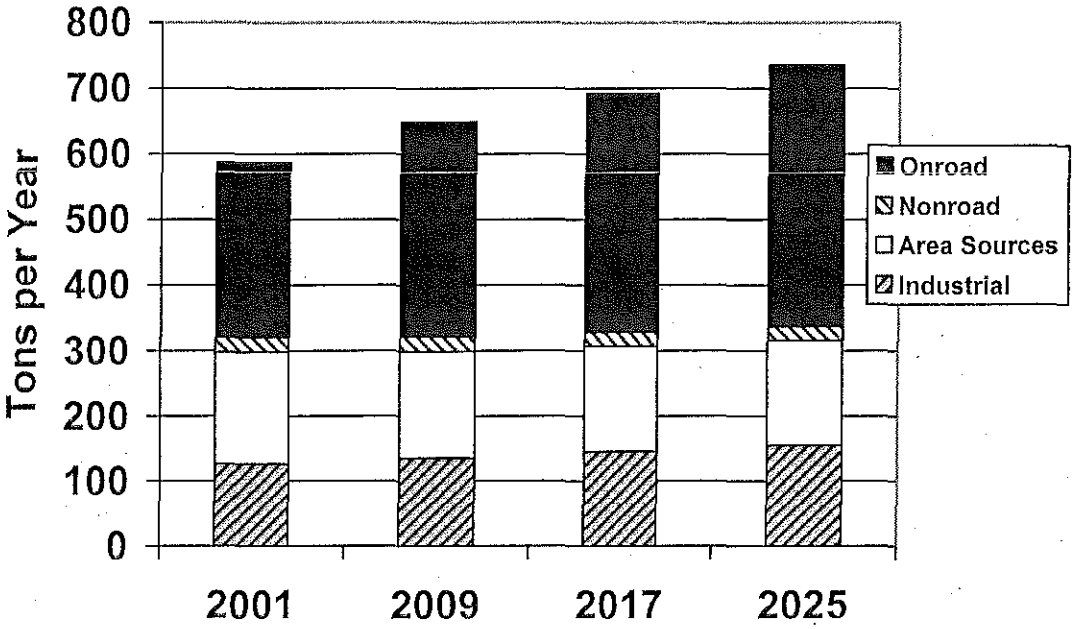


Table 4.59.3-4: PM_{10} Emissions Forecast
PM_{10} Nonattainment Area = La Grande Urban Growth Boundary
Tons PM_{10}/Annual (Metric Tons/yr)

Year	2001	2009	2017	2025
Industrial Sources	126 (114)	135 (122)	145 (132)	155 (141)
Area Sources	172 (156)	164 (149)	162 (147)	161 (146)
Nonroad Sources	23 (21)	23 (21)	22 (20)	21 (19)
Onroad Mobile Sources	266 (241)	327 (297)	363 (329)	398 (361)
Total	587 (532)	649 (589)	692 (628)	735 (667)

Net increase in 2025 from 2001 attainment levels = 148 tons/year PM_{10}.

4.59.3.2.2 Future Analysis (Proportional Analysis)

The 2025 ambient concentration was estimated by applying a ratio of 2025 emissions and base year emissions, to the base year and design year ambient concentration. The following formula was used to predict the 2025 PM_{10} ambient concentration for the La Grande UGB.

2025 PM_{10} Ambient Concentration = [(2001 DV - BKGD) * (2025 EI/predicted 2001 EI)] + BKGD

where:

- 2025 PM_{10} Ambient Concentration is in micrograms per cubic meter and is a prediction to compare with the National Ambient Air Quality Standard.
- 2001 DV is the 2001 Desigh Value or Design Concentration in micrograms per cubic meter is compared to the National Ambient Air Quality Standard and equals 92.8 micrograms per cubic meter ($\mu g/m^3$) for a 24 hour mean or 22.0 $\mu g/m^3$ for the expected annual mean between 1999 and 2003.
- BKGD is the background monitoring site concentration for the Ladd Marsh monitor design concentration and is seasonal (December through February) 23.9 µg/m3 for the 24 hour mean and 6.5 for a seasonal (December through February) expected annual mean between 1999 and 2002.
- 2025 EI is the 2025 calculated emission inventory based on growth factors and actual emissions in 2001 and in 2025 is calculated to be 5,753 pounds per day (2609 kg/day) for a worst case day and 735 tons per year (667 metric tons/yr).
- An example calculation for 2017 is as follows: 103 $\mu g/m^3$ = (93 $\mu g/m^3$ – 24 $\mu g/m^3$) * (5518 lbs/day / 4830 lbs/day) + 24 $\mu g/m^3$

The La Grande commission suggested we add 10% VMT to the onroad mobile PM_{10} emission calculation to determine if the 2025 predicted ambient concentration could demonstrate maintenance. It did, and the predicted 2025 ambient concentration is 106 $\mu g/m^3$ for the worst-case winter day and 26 $\mu g/m^3$ per year for the expected annual mean. The results of the analysis displayed in Table 4.59.3-5 and Figures 4.59.3-4 and 4.59.3-5 include the 10% added VMT. The future ambient concentration levels are all below the NAAQS of 150 $\mu g/m^3$ for the 24-hour standard and 50 $\mu g/m^3$ for an annual mean standard and maintenance of both standards is demonstrated. Table 4.59-3-5 demonstrates that for selected year from 2001 through 2025 the predicted ambient concentrations are below the NAAQS of 50 $\mu g/m^3$ for an annual mean standard and 150 $\mu g/m^3$ for the 24-hour standard.

Table 4.59.3-5: PM_{10} Attainment Demonstration for Selected Years

Worst Case Day	2001 Worst Case Day	2009 Worst Case Day	2017 Worst Case Day	2025 Worst Case Day
Total Emissions from Inventory – Worst Case Day - lbs/day (Kg/day)	4,830 lbs/day (2,191 kg/day)	5,283 lbs/day (2,396 kg/day)	5,518 lbs/day (2,503 kg/day)	5,753 lbs/day (2,610 kg/day)
Estimated Ambient Concentration – Micrograms/cubic meter	93 $\mu g/m^3$	99 $\mu g/m^3$	103 $\mu g/m^3$	106 $\mu g/m^3$
Annual Mean	**2001 Annual Mean**	**2009 Annual Mean**	**2017 Annual Mean**	**2025 Annual Mean**
Total Emissions from Inventory – Annual Mean tons per year (metric tons/yr)	587 tons/yr (533 metric tons/yr)	649 tons/yr (589 metric tons/yr)	692 tons/yr (628 metric tons/yr)	735 tons/yr (667 metric tons/yr)
Estimated Ambient Concentration– Micrograms/cubic meter	22 $\mu g/m^3$	24 $\mu g/m^3$	25 $\mu g/m^3$	26 $\mu g/m^3$

Figures 4.59.3-5 and 4.59.3-6 below show the same demonstration graphically for all years.

Figure 4.59.3-5: PM_{10} Maintenance Demonstration (Annual)

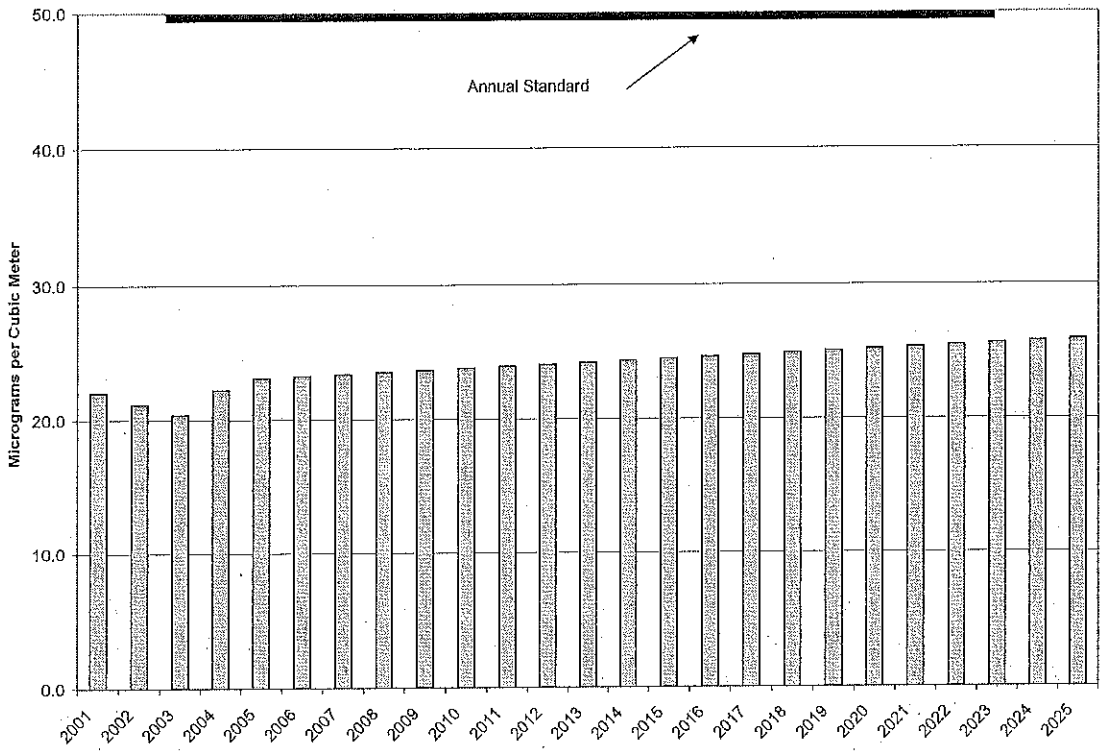
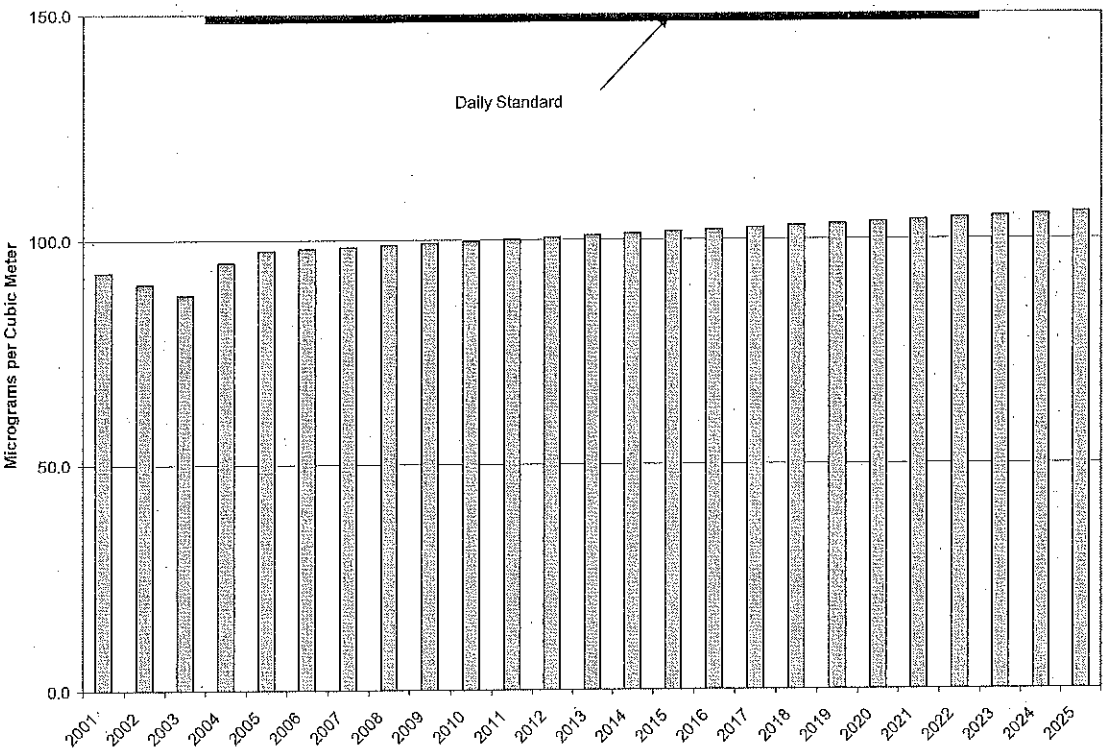


Figure 4.59.3-6: PM_{10} Maintenance Demonstration (Daily)



4.59.3.2.3 Transportation Emissions Budgets for Conformity

Federal, state and local transportation plans or projects must address mobile source emissions in a process known as "a conformity determination" for nonattainment and maintenance areas to ensure compliance with the Clean Air Act. Most transportation programs and projects affecting travel in the La Grande UGB are contained in the La Grande Urban Area Transportation Systems Plan (TSP). All proposed significant transportation projects planned to be built through 2017 have been accounted for in the TSP, travel model analysis, and emissions inventory. In keeping with federal conformity requirements, only projects with an expected funding source are included in the emissions inventory.

The budget is the amount allocated to motor vehicles of PM_{10} emissions allowed in La Grande's UGB. DEQ is required to conduct an analysis for at least 10 years after maintenance plan approval or at least to 2017. The emission budget is initially derived from the emission inventory. In addition to the emission inventory, the conformity determinations must be planned for an additional 20 years into the future beyond the 2017 transportation project planning period based on the federal transportation planning rules. Therefore, the emission budget and maximum vehicle miles traveled (VMT) are greater than the 2017 emission inventory amounts. The La Grande commission also requested DEQ add 10% VMT buffer to include unanticipated projects that may be considered in the future. DEQ accommodated this request. For conformity purposes only, the last year of this plan is 2017.

All regionally significant projects that lie within the UGB are analyzed by the Oregon Department of Transportation (ODOT). The TSP is updated as needed and new projects are added. Regionally significant projects identified in the State Transportation Improvement Program (STIP) are analyzed prior to approval of the STIP. The STIP is a short range planning document that is updated every two years by ODOT. The analysis must show that any added PM_{10} emissions for the entire transportation network plus emissions generated by a new project is below the budgeted amount. DEQ determined that the 24-hour daily mean is the most constraining and will be used to determine conformity. There is not a need to determine conformity with the annual standard at this time. It is assumed that meeting the 24-hour daily mean conformity budget test, will also meet the annual test. In La Grande, there are no new regionally significant projects identified at this time. All current projects are accounted for in the TSP. However, an unanticipated project may occur resulting in the need to conduct a conformity analysis. The motor vehicle emissions budget through 2017 is outlined in Table 4.59.3-6 and has been established for transportation conformity purposes within the La Grande Urban Growth Boundary. This budget applies as a cap or ceiling on emissions for all years prior and subsequent to 2017 or until there is an EPA approved revision to the budget in this maintenance plan.

Table 4.59.3-6: Motor Vehicle Emissions Budget
La Grande Motor Vehicle PM_{10} Emissions Budget
Worst Case Winter PM_{10} Season (lbs/day)

Motor Vehicle Emission Budget through 2017 with 10% VMT Increase	2,750 lbs/day 1,247 kg/day
➢ Tailpipe emission factor based on Mobile 6.2	0.1 gr./mile
➢ Re-entrained road dust – Paved road emission factor	2.5 gr./mile
➢ Re-entrained road dust – Unpaved road emission factor	41.7 gr./mile

For planning and analysis purposes only, the daily projected emission inventory increasing VMT by 10% and allowing for future ODOT planning years is as follows:

Table 4.59.3-7: Motor Vehicle VMT
La Grande Motor Vehicle VMT
(Vehicle Miles Traveled)

Estimated Daily Vehicle Miles Traveled (VMT)	370,549

Motor vehicle emission rates and travel model data used in this plan can be found in Appendix D9-4.

4.59.3.2.4 Continuous Control Measures

The maintenance analysis in Section 4.59.3.2.2 shows that compliance with particulate matter standards can be maintained through 2015 without additional strategies. There is a modest increase in emissions projections to 2015. The La Grande area will continue to rely on the following control strategies for long-term maintenance:

Table 4.59.3-8: 1991 Attainment Strategies & 2004 Maintenance Plan Strategies Comparison and Changes in Strategies

1991 Attainment Plan Strategy	Effective Date	EPA Approval Date	2004 Maintenance Plan Strategy
Air Quality Program Plan Ordinance. Includes: Voluntary Woodstove Curtailment Public Education Program Open burning restrictions	October 1989 and November 1991	3/17/95	Same
Statewide Certification of Woodstoves	March 1990	3/17/95	Same
Woodstove Replacement Program	1991-95	3/17/95	Completed
Highway Roadsanding	Nov 1991	3/17/95	Same
Forest Burning		3/17/95	Same, however Blue Mountain Agreement adds La Grande as a protected area
Agricultural Burning	June 1991	3/17/95	Same
Boise Cascade replacement of hog fuel boilers with natural gas-fired units - 65 tons per year permit limit reduction.	Nov 1991	3/17/95	Same
New Source Review as an emission growth management strategy – Offsets required for new or expanding sources over 15 tons per year of emissions. Requires Lowest Achievable Emission Rate (LAER) from control equipment despite cost.	Nov 1991	3/17/95	Continue offsets; Require Best Available Control Technology (BACT) that allows for some consideration of control cost
Fugitive Dust Control Measures	Nov 1991	3/17/95	Same
Other Statewide Rules	Various dates	Various dates	Same

Air Quality Program Resolution and Ordinance

In August 1991, the La Grande City Council established a resolution to continue the consultation and cooperation with DEQ and others to implement a voluntary program to control emissions from various sources including woodstoves, open burning and road dust. The program has been effective in reducing emissions from woodstoves and open burning in the La Grande UGB. The following are elements of the program.

- Conduct a public education program.
- Conduct a voluntary wood stove curtailment program - On days with high pollution (red days) all wood stove activity is requested to be curtailed. On days with moderate pollution (yellow days) uncertified wood stove activity is requested to be curtailed. Advisory calls are made on a daily basis in the winter to alert the public as to the outlook for pollution levels that day.
- Conduct neighborhood surveys to evaluate the effectiveness of the voluntary curtailment program.
- Develop an ordinance to prohibit open burning other than in the months of April and May; October and November.

- Develop an ordinance to prohibit the burning garbage, plastic and other material which normally emits dense smoke or noxious odors.
- Explore a home weatherization and a wood stove conversion program.
- Develop a fugitive dust control program – Dust was controlled by stabilizing dust on unpaved roads, paving gravel streets, upgrading winter road sanding materials and controlling community development activity.

Another ordinance established the Air Quality Commission as a Council appointed Committee. The city has and will continue the 1991 air quality program through its Air Quality Commission.

In addition, when the city issues a daily winter advisory call under the initial voluntary curtailment plan, they add $PM_{2.5}$ to the analysis to make the advisory call. The advisory call uses both PM_{10} and $PM_{2.5}$. This methodology provides an added protection to a potential exceedance of the PM_{10} standard. This methodology will continue through the life of the maintenance plan.

The La Grande Air Quality Commission feels the public education or awareness portion of the program is one of the most significant efforts of the city in reducing particulate emissions. The commission developed an effective public school education program aimed at teaching elementary-aged children the importance of clean air. Commissioners typically visit each school annually and invite all sixth grade students to participate in the air quality essay contest. Students are asked to monitor air advisories in the winter and teachers provide an air quality curriculum. In addition to the school program, brochures are typically distributed throughout the community and media informed of the air quality advisory. Previous public awareness projects conducted include the Christmas tree recycling program, staffing a booth at the Union County Fair, and participating in a festival called "Arts For All". Public awareness activities will continue but be evaluated annually as to their effectiveness allowing for changes as needed.

Since the original 1991 resolution and ordinance, emissions from wood stoves have steadily declined and open burning has been limited.

Statewide Certification of Wood Stoves

The 1991 legislature enacted a ban on the sale of uncertified used wood stoves. Additionally, the State Building Code Agency prohibits the installation of uncertified used wood stoves. The effect of this ban and prohibition has been to reduce the emissions from heavy polluting stoves and allowing only the installation of certified wood stoves effectively reducing the amount of pollution from individual certified stoves to more than half of the pollution of the uncertified stoves. Wood has been more and more difficult to obtain and residents must travel farther to cut the same volume of wood. Consequently, there is an incentive not to cut wood. Additionally, the hearth products industry has promoted natural gas fired stoves and more natural gas-fired stoves than woodstoves are being installed, thus reducing particulate pollution. The net benefit to the airshed has been a significant reduction in emissions from wood stoves. DEQ estimates that PM_{10} emissions from uncertified wood

stoves have been substantively been reduced as identified in a recent 2002 survey to determine attitudes and wood burning behavior.

Wood Stove Replacement Program

The wood stove replacement program for low-income households was effective in significantly reducing emissions in the early 1990's. In a major one-time effort, a June 1991 community development block grant was obtained to remove uncertified wood stoves from homes and replace them with a satisfactory heat source and weatherize homes. From June 1991 to May 1993, this program resulted in 82 non-certified woodstoves being removed and replaced with certified woodstoves or an alternate source of heat. In 1992, 14 additional uncertified stoves were removed by the "Great American Wood Stove Changeout" sponsored by the local hearth products dealers. An additional 15 wood stoves were voluntarily replaced in 1991 and 1992 according to building code records. The Air Quality Commission is committed to find methods of replacing uncertified woodstoves in homes as the opportunity arises. La Grande tallies building permits for heating devices annually and has determined fewer installations of woodstoves and an increase in gas-fired stoves over the years.

Open Burning

On August 11, 1993, the mayor signed an ordinance establishing limits on open outdoor fires and prohibiting the use of residential burn barrels and incinerators. The ordinance restricted open outdoor fires to April, May, October and November as well as restricting other burning during periods considered to be hazardous. The ordinance was updated January 14, 1998. Residents are requested to telephone the air advisory number to determine if air conditions are favorable for burning during the open burn seasons. Beginning in 2001, the city began charging for open burn permits and providing alternatives for yard waste disposal substantially reducing the number of permits issued.

Highway Road Sanding

The Oregon Department of Transportation, the County Public Works Department and the City's Public Works Department have made significant strides in reducing the amount of winter roadsanding material placed on the roadways. By 2001, the Oregon Department of Transportation (ODOT) on state highways and City Public Works on residential roadways have substantially reduced roadway sanding and uses only a less friable material than previously used. Sweepers are used to remove the sanding material placed on the roadways as soon as practicable after a storm event. In recent years, ODOT has utilized magnesium chloride and calcium magnesium acetate as anti-icing agents on roadways significantly reducing the need for sanding materials. These reductions will continue.

Road Dust

In 1991 through 1993, dust control applications were made during the summer to address 22 blocks of unpaved roadway. In 1993, the City applied for and received a Congestion

Mitigation Air Quality (CMAQ) grant for oil matting unpaved roadways. Additionally, the city applied for a community development block grant to oil mat additional roads adjacent to La Grande. In 1995 the city was able to oil mat 6 miles of unpaved roadway and in1997. oil matting occurred on 8.7 miles of unpaved roadway eliminating most gravel roadways in La Grande.

The city land-use codes require developers in La Grande to limit dust from their construction activities and provide curbs and sidewalks along paved roadways during the development. The city utilizes a cost share approach with residents to control dust on remaining roadways not paved. Newly annexed portions of the city that are not paved will be oil matted.

Forest Burning

Smoke from prescribed burning, slash burning and underburning (burning under large trees) has not significantly impacted the nonattainment area, however this activity has had safeguards established to prevent unintended smoke impacts to the La Grande nonattainment area.

The Oregon Department of Forestry (ODF) administers a forest smoke management program for forests near La Grande. Daily burn instructions are issued by ODF for burning occurring near La Grande. For private lands, the smoke management program is voluntary. For federal lands the program is mandatory. Four forests in Northeast Oregon have entered into a smoke management agreement called the "Blue Mountain Agreement". Two of the forests surround La Grande and ODF provides them with a burn forecast and burning instructions and the Federal agencies report plans and accomplishments daily. La Grande is considered a protected area under this agreement. The purpose of both the private and federal land program is to avoid smoke intrusions into La Grande and other smoke sensitive areas. The forest burning agreements and smoke management are important emission growth management strategies.

Agricultural Burning

A mandatory agricultural smoke management program on farm lands outside the City of La Grande was adopted by Union County in 1991. The program was implemented by ordinance as a support to the original 1991 attainment plan and continues to be a supporting strategy to this plan. Although this maintenance plan references the 1991 ordinance/program as a base for a continuing strategy, the ordinance is not needed to maintain the standards in La Grande and therefore recent and future changes to this ordinance are not state or federally required elements of this maintenance plan. Nevertheless, Union County has been committed to improving their smoke management program.

The 1991 smoke management program provides agricultural producers of grain and grass seed instructions for burning during conditions when smoke transport is favorable to avoid the nonattainment area. The producers burn season is in the summer and typically outside

the woodheating season. The field burning season for agricultural producers is normally during the months of July, August and September, and occasionally into October. The summer field burning program is a mandatory program attempting to prevent smoke from entering La Grande. The County has the authority to issue civil penalties to field burners if there is an intrusion into La Grande. The program normally starts mid-July and continues to the end of September. This strategy remains an important emission growth management strategy.

Recently, Union County has adopted a year around advisory program where producers are required to contact a burn number whenever they wish to burn to determine if a particular day is a burn day or not. The program also attempts to avoid smoke impacts to other communities in Union County.

Typically if an impact occurs in La Grande, the resulting impact occurs for a short period of one or two hours at most. This impact is averaged with the remaining 24-hour period and the resulting 24-hour average is typically substantially less than the health standard. Although the Smoke Management Center may receive numerous complaints, it has not represented an exceedance or a violation of the health standard. All past exceedances of the PM_{10} standard in La Grande have occurred outside of the field burning season.

Industrial Emission Reduction

In 1991, Boise Cascade-La Grande agreed to reduce PM_{10} emissions by replacing their hog fuel boiler in 1992 with a natural gas-fired boiler and subject to NSPS requirements. DEQ permanently reduced permitted PM_{10} emissions by 65 tons per year. In addition, DEQ plans to continue specific requirements for industrial sources unique to the La Grande UGB (Oregon Administrative Rules Chapter 340, Division 240, Rules 0300 through 0360).

New Source Review

Any new major industrial source or a major modification to an existing source is subject to the New Source Review (NSR) requirements. NSR requirements include an emission control technology requirement and an emission analysis requirement.

As requested by the La Grande Air Quality Commission, once EPA redesignates the La Grande UGB, the Lowest Achievable Emission Rate (LAER) requirement will be replaced by Best Available Control Technology (BACT) requirements. Currently, any source that proposes to emit 15 tons or more of PM_{10} per year must install emission control technology called LAER control technology. LAER is an industrial emission control equipment requirement to control emissions to the lowest level regardless of cost. Upon federal redesignation to attainment, the requirement for major new and expanding industry will become Best Available Control Technology (BACT) for sources emitting 15 tons or more of PM_{10} emissions. This could be a less stringent requirement because it allows a source to consider a cost/benefit in designing and evaluating industrial emission controls.

The La Grande Air Quality Commission decided to continue the offset requirements for the La Grande UGB. Based on their recommendation, DEQ agreed to continue this NSR requirement through the maintenance planning period. A new or expanding major industry that emits less than 15 tons per year (called the Significant Emission Rate or SER) is not required to conduct an air quality analysis. However, any new or expanding major industry that proposes to emit more than 15 tons of PM_{10} must conduct an analysis or demonstrate that their PM_{10} emissions will not contribute to the degradation of the airshed. Offsets or additional controls will continue to be required when modeling demonstrates there is a PM_{10} impact to the La Grande airshed. Offsets are an equivalent or greater emission reduction obtained from another source of PM_{10} emissions before allowing an increase from the proposed new source. The proposed source can also further control their emissions to reduce the anticipated airshed impact. Specific rules addressing industrial sources in former nonattainment areas are addressed in Oregon Administrative Rules, Chapter 340, Divisions 222, 224, and 225.

Once redesignated to attainment for PM_{10}, the La Grande UGB will be both an Oregon PM_{10} maintenance area and a federal PM_{10} attainment area. In addition to Oregon requirements for New Source Review, federal requirements for the Prevention of Significant Deterioration (PSD) must also apply to federal major sources. Federal major sources are those facilities with emissions of 250 ton/year or more, or specific industry types (listed in OAR 340-200-0020(25)) with emissions of 100 tons/year or more. The PSD program includes emission control technology requirements for new and expanding industrial facilities; as well as two different air quality analysis requirements designed prevent a violation of federal PM_{10} standards, and limit the amount of air quality degradation that can occur from industrial emission increases. Any new or expanding federal major source will have to meet the more stringent of the Oregon NSR or federal PSD requirements. It is expected that the Oregon NSR requirements will be the more stringent.

Other Statewide Rules

Although not typically referenced, several Oregon rules control emissions on a routine basis in all or portions of the nonattainment area. State rules require control of visual emissions, fugitive emissions and nuisance conditions. Additionally, open burning of commercial, demolition, construction, industrial and land clearing waste or debris is prohibited within areas such as the La Grande. Prevention of Significant Deterioration rules (PSD) applies to new or expanding major federal sources within or near La Grande.

4.59.3.3 Contingency Plan

The Maintenance Plan must contain contingency measures that would be implemented in the event of: 1) a violation of the PM_{10} standard after the area has been redesignated to maintenance, or 2) other appropriate triggering protocol contained in the plan. La Grande's contingency plan is outlined below.

The Clean Air Act Section 175A(d) requires that all control measures contained in the State Implementation Plan (SIP) prior to redesignation be retained as a contingency measure in the

Maintenance Plan. Therefore, Lowest Achievable Emission Rate (LAER) technology for major industrial sources must be contingency measures in the PM_{10} Maintenance Plan.

La Grande's PM_{10} Contingency Plan is designed in phases in order to both prevent a violation of PM_{10} standards, and to promptly correct any violation that may occur.

Phase One: Risk of Violation

If estimated ambient concentrations exceed 90% (135 µg/m3) of the 24 hour NAAQS concentration (based on available real-time data) of PM_{10} at Willow Street at any time, the Air Quality Commission and DEQ will convene within 30 days. The Commission and DEQ will evaluate the cause of the exceedance and recommend strategies to be considered for implementation. The Commission will issue a news release alerting the public of the situation and offering a possible cause of the high concentration and any immediate remedies available. The Commission will also convene if the annual concentration is projected to equal or exceed 90% of the standard (45 µg/m3) based on an analysis by DEQ. Within six months of triggering phase one of this contingency plan, the Commission will provide an evaluation of the cause of the near exceedance and identify a schedule for implementation of any recommended strategies to prevent an exceedance or violation of the PM_{10} standards. The schedule will include automatic implementation of more stringent requirements should phase two need to be implemented.

If the high PM_{10} concentration were determined to be based on a natural event per EPA's policy or an exceptional event, no further action may be needed other than a discussion of the elements of a Natural Events Action Plan.

Phase Two: Actual Violation

If a violation of the PM_{10} standard occurs and is validated by DEQ, the following contingency measures will automatically be implemented. All actions considered must be permanent and enforceable.

(1) Any new major industrial source or a major modification to an existing source subject to the New Source Review (NSR) requirements will revert back to Lowest Achievable Emission Rate (LAER) control technology; and
(2) The strategies developed under phase one will be implemented upon the time schedule detailed in the action plan.

The contingency strategies to be considered include, but are not limited to:

- Improved public education;
- Review advisory call methodology;
- A mandatory woodstove curtailment program;
- An ordinance removing uncertified woodstoves upon sale of a home;
- Registering woodstoves for a fee;

- Ban open burning;
- Review forest slash burning strategies by updating the state agreements;
- Review agricultural burning by updating the County ordinance;
- Discontinue winter road sanding;
- A vehicle inspection program and program to reduce driving;
- Add additional dust controls to land-use planning;
- Review alternative heating systems, including solar and geothermal; and
- Evaluate all sources of particulate pollution in the La Grande – Grande Ronde valley, developing additional strategies to address the most significant sources of particulate.

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4.59.4 ADMINISTRATIVE REQUIREMENTS

The criteria that must be satisfied for a nonattainment area to be redesignated to attainment include several administrative requirements related to compliance with various Clean Air Act provisions. Each of these elements is described below.

4.59.4.1 SIP Requirements/Nonattainment Area Requirements

La Grande has met all State Implementation Plan (SIP) requirements specified in Section 110 and Part D of the Clean Air Act.

In summary, Section 110 says that a state shall submit a plan that becomes part of the SIP, providing for the implementation, maintenance, and enforcement of an air quality standard. Part D outlines specific plan requirements for nonattainment areas.

4.59.4.2 Summary of Previous Planning Requirements

A particulate matter ten microns and less (PM_{10}) attainment plan was adopted for the La Grande UGB on November 8, 1991 by the Environmental Quality Commission (EQC), and submitted to EPA. EPA initially approved the attainment plan effective August 30, 1994 unless adverse or critical comments were received. There were comments and the effective date of the approval was withdrawn. EPA responded to those comments and finally approved the attainment plan effective on March 17, 1995.

4.59.4.3 1990 Clean Air Act Requirements and Status

The La Grande UGB has met the additional requirements for PM_{10} nonattainment areas included in the 1990 Clean Air Act Amendments. The required attainment date of December 31, 1994 was met in 1994. The 1990 Clean Air Act Amendments place additional requirements on moderate PM_{10} nonattainment areas. The following are DEQ submittal dates and EPA approval dates of submissions required by section 110 and Part D of the 1990 Clean Air Act Amendments:

a. *1990 Emissions inventory, to be revised every three years thereafter until attainment.* On November 8, 1991, DEQ submitted to EPA a comprehensive 1986 PM_{10} emission inventory along with the Attainment Plan for the La Grande nonattainment area. Subsequently, DEQ has provided EPA with a 1999 emission inventory for City of La Grande with this document.

b. *Transportation and General Conformity Requirements.* Section 176(c) of the Clean Air Act requires states to revise the SIPs to establish criteria and procedures for demonstrating that federal actions conform to the goals established in the SIP. On April 14, 1995, DEQ submitted to EPA a revision to the Oregon SIP establishing transportation conformity requirements for

Oregon (OAR 340-020-0710 through 340-020-1080), and General Conformity requirements (OAR 340-020-1500 through 340-020-1600) were submitted on September 27, 1995. EPA approved the transportation conformity rules as a SIP revision on May 16, 1996. EPA modified the transportation conformity rules in 1997 to allow more flexibility; DEQ adopted these changes on October 13, 1998.

c. *New Source Review Rules (NSR) for "major sources".* On November 16, 1992, DEQ submitted revisions to the New Source Review permit program. These revisions included a requirement that offsets come from contemporaneous, actual emission reductions.

d. *Contingency Measures.* Contingency measures in the original Attainment Plan were required for the La Grande Nonattainment Area. La Grande met the December 31, 1994 deadline for compliance with the PM_{10} National Ambient Air Quality Standards. Subsequent to that deadline, contingency measures were not required. This maintenance plan provides for additional contingency measures to promptly correct any violation.

4.59.4.4 Monitoring Network, Verification and Commitments

The DEQ is responsible for the operation of the permanent ambient PM_{10} monitor in the La Grande UGB. The DEQ oversees the quality control and quality assurance program for the PM_{10} data.

The DEQ will continue to comply with the air monitoring requirements of Title III, Section 319, of the Clean Air Act. The monitoring site will also continue to be operated in compliance with EPA monitoring guidelines set forth in 40 CFR Part 50 and appendices J and K; and 40 CFR Part 58 and associated Appendices A through G. In addition, DEQ will continue to comply with the "Ambient Air Quality Monitoring Program" specified in Volume 2, Section 6 of the SIP. Further, DEQ will continue to operate and maintain the network of State and Local Air Monitoring Stations (SLAMS) and National Air Monitoring Stations (NAMS) in accordance with the terms of the Performance Partnership Agreement (PPA).

The DEQ also periodically conducts special studies to verify that existing monitors are recording the highest PM_{10} concentrations in the area. DEQ may conduct a five-year periodic survey of monitoring site locations, pending EPA review. Based on PM_{10} monitoring data and funding availability, DEQ in consultation with EPA may reach agreement that the periodic survey is unnecessary, or should be delayed.

The DEQ will analyze on an annual basis the PM_{10} air quality monitoring data to verify continued attainment of the PM_{10} standard, in accordance with 40 CFR Part 50 and EPA's Redesignation guidance. These data, along with the previous year data, will provide the necessary information for determining whether the La Grande UGB continues to comply with standards.

DEQ will commit to an evaluation of growth and other planning assumptions if PM_{10} concentrations significantly increase over current levels.

4.59.4.5 Public Consultation Procedures

DEQ involved the public during the development of the La Grande PM_{10} emission reduction and growth management strategies for the maintenance plan through the local air quality commission. The commission held public meetings, and DEQ published notices in the paper and prepared press releases for other media sources in the area. A public hearing was held and public comment was accepted for the adoption of the maintenance plan and associated rulemaking.

4.59.4.6 PM_{10} Impacts to Other States

The majority of sources of PM_{10} emissions identified in the emissions inventory are locally generated sources and the highest emission levels are typically low wind speed wintertime events. The transport of these emissions is unlikely. Additionally, La Grande is nestled in the Grande Ronde Valley and a significant distance from either Washington (approximately 45 miles) or Idaho (approximately 60 miles). Under rare circumstances where transport winds may carry emissions toward other states, emissions would likely disperse and not reach either state.

4.59.4.7 Assurance of Funding

Adequate funding to meet the requirements of Section 110(a)(2)(E) of the Clean Air Act Amendments is available for the emission reduction and growth management strategies identified in this plan.

Residential woodburning and public awareness programs are implemented by the City of La Grande through an intergovernmental agreement each year. DEQ plans to continue funding this agreement based upon need and availability of funding. The community plans to continue looking for sources of funding to improve air quality locally.

Industrial source compliance assurance programs are implemented by DEQ as part of the statewide base program. Resources are identified in the annual Performance Partnership Agreement (PPA) prepared between DEQ and EPA. DEQ provides regional permit writers and inspectors for industrial sources located in La Grande. DEQ provides staff to implement the Oregon monitoring network.

The forest slash burning program is administered by the Oregon Department of Forestry, in cooperation with the US Forest Service, and funded by a fee-based program. Agricultural residue burning is administered by the Union County Smoke Management Program and funded by permit fees.

4.59.4.8 Enforceability

As described in this plan, control measures are enforced by the state or local governments. Area source compliance is the responsibility of the local government with technical assistance from DEQ. Industrial source compliance is the responsibility of DEQ.

4.59.4.9 Federal Major Source PM_{10} Precursors

Currently, there are no federal major sources located within the urban growth boundary of La Grande, and hence none that contribute to PM_{10} precursors in accordance with the Clean Air Act Amendments of 1990 Section 189(E). Oregon's New Source Review procedures will address PM_{10} precursor pollutants should a federal major source propose to locate in La Grande.

4.59.4.10 Plan Revision

DEQ plans to begin revising this maintenance plan eight years after EPA approval for a second ten year period as required by the Clean Air Act Amendments Section 175A.(b). At that time, emission sources, growth assumptions and strategies will be re-evaluated. DEQ plans to submit the newly revised maintenance plan to EPA for approval at that time. The revision will provide for continued maintenance of standards.

For the interim period between EPA approval of this plan and the next plan revision, the department will rely on ambient monitoring data to track progress of the maintenance plan. Growth projections for La Grande are modest. As long as ambient PM_{10} concentrations show no significant upward trend, a mid-term emission inventory update or emissions tracking program will not be necessary. If PM_{10} concentrations significantly increase over current levels, then an evaluation of growth and other planning assumptions will be necessary.

If a fourth-high PM_{10} concentration in any year is measured above eighty percent (80%) of the standard, the department will prepare an analysis of growth factors to determine if other planning assumptions have changed. The analysis will include a review of emission factors, growth rate assumptions, traffic data, and other significant assumptions used to develop the maintenance plan. If there are significant changes, the department will consult with EPA to determine if a more extensive periodic emission inventory update, or other action, is warranted.

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EQC Staff Report Attachment B – Appendix D9-1

State of Oregon
Department of Environmental Quality

Particulate Matter Ten Microns and less (PM_{10})

Glossary

Including AQ Acronyms and Definitions

ACRONYMS and DEFINITIONS

Air monitoring: The proof of any strategy is ultimately gauged on what is monitored. Sampling devices are placed in each community to determine if there is a pollution problem and then, if one is identified, the actual impact on an area. The data collected from the samples is also placed into the PM_{10} control plan to complete the pollution picture for a given community.

Beta Scatter, B-scat: B-scat is the unit measurement from the Nephelometer. B-scat is an acronym for Beta Scatter that is the light scattering measurement value. B-scat is a relative measure that most closely reflects or scatters light from very fine or ultra fine particulate matter. The larger particulate matter typically does not scatter light as well as the very fine particulate matter.

Clean Air Act and Amendments (CAA): A federal rule promulgated by the Congress of the United States that identifies all the clean air standards for the nation.

Clean Air Act Deadline: The Clean Air Act Deadline in the 1990 amendment was December 31, 1994. This deadline was for those cities that were identified by the State of Oregon when the 1990 amendment was passed as nonattainment. Oregon had to develop plans identifying strategies and had roughly three years to bring each of these areas back into attainment prior to that deadline. Then, a maintenance plan would need to be developed to assure that these areas would remain in attainment for the next ten years. For new nonattainment areas identified, a new deadline is developed for each of these areas allowing about three years for attainment strategies to work.

Cubic Meter: A measurement of air volume. A cubic meter is about 35 cubic feet.

Curtailment: A community-based program designed to insure wood stove owners are not burning their wood stoves on specific days. It can be a voluntary curtailment program, or it can be a mandatory curtailment program. Generally, a community will issue an advisory forecast that predicts when air pollution will be bad in an area. The committee or local government will request of the community members not to burn their wood stove on that day.

Curtailment Compliance: Visual observations of community members homes to determine the effectiveness of the curtailment strategy. A baseline is established for those homes that burn on cold green days. When residents are requested not to burn in their wood stoves, a curtailment compliance survey will be conducted to compare against a baseline value. Once this comparison is made, committee members or a local air quality coordinator can determine the effectiveness of the curtailment program.

Degrees Centigrade or Celsius: A scientific measurement of temperature. Zero degrees Celsius is the temperature that water freezes. To change from Fahrenheit to Celsius the formula is C = 5/9 times (F - 32).

Emission Controls: Strategies developed for each source of pollution. These controls are synonymous with strategies identified above.

Emission Inventory, E.I.: A tally of all sources of pollution for a given area and represents their relative impact on an airshed. Each source of pollution has a production of emissions and these emissions are all added together to determine the total amount of pollution in an area. These emission inventories are then placed into models to determine how the emissions will be reduced for an area.

Emission Reduction Strategies: Ideas or strategies to reduce pollution in a certain area. A local government at the recommendation of an air quality committee usually formalizes these ideas. If an area becomes nonattainment, these ideas are formalized in a PM_{10} Control Plan or an "Attainment Plan" or a "Maintenance Plan" to present to EPA as the strategy to bring the city or area back into compliance with the standards.

Growth Management Strategies: Important strategies to prevent unbridled growth of emissions in a specific category. These strategies may or may not result in a reduction in emissions from its implementation. The strategies can be identified in an "Attainment Plan" or a "Maintenance Plan".

Maintenance Plan: Once a nonattainment area meets the National Ambient Air Quality Standard and meets the Clean Air Act deadline, DEQ is required to develop a Maintenance Plan to show EPA that the former nonattainment area can continue to maintain air quality below the National Ambient Air Quality Standard. This plan is very similar to an Attainment Plan, in that it must use an analysis of data to show that the prior years were not an anomaly.

Meteorology: The science of weather measurements. DEQ collects temperature and windspeed data. This data to correlate pollution levels and assist in the understanding of the weather influences on pollution.

Microgram: A very small scientific measurement of weight. A microgram is one millionth of a gram. One ounce is about 28 grams.

Modeling: Used to quantify worst case situations to determine the impact of pollution on an area. Mathematical models have been developed to take actual or estimated data and analyze the impacts of various sources of pollution in an area. It has been described as putting information into a black box and out the other end comes the estimated amount of pollution a given area will have. These estimates are then used to determine the effectiveness of strategies and are used to show EPA how pollution will be reduced in an area.

NAAQS (National Ambient Air Quality Standards): Ambient (outdoor) standards for particulate matter. The 24-hour standard for PM_{10} is 150 micrograms per cubic meter (ug/m3) from midnight to midnight. The annual average standard for PM_{10} is 50 ug/m3. The 24-hour standard for

$PM_{2.5}$ is 65 $\mu g/m^3$ from midnight to midnight. And the annual average standard for $PM_{2.5}$ is 15 $\mu g/m^3$. All must be met to be in compliance and avoid nonattainment area status.

Nephelometer, Neph: An instrument that determines light scattering. This instrument provides hour by hour light scattering data and can be accessed by a computer modem. Light scattering is useful because it roughly correlates to the amount of fine particulate matter in the air. Once sufficient data is collected, a correlation can be made between light scattering and $PM_{2.5}$ and PM_{10} concentrations. The hourly light scattering data can then be used to immediately identify an estimated amount of pollution in the air over the last 24-hour period. It is also used in conjunction with weather information to predict what the pollution will be for the following evening. The advisory forecasts are based in part on this information. A person doesn't need to wait for two months for the results of a PM_{10} or $PM_{2.5}$ sampler to suspect if they are in violation of a standard. One caution, however, it does not necessarily give the same result as the $PM_{2.5}$ or PM_{10} samplers. EPA does not approve a nephelometer as a sampler to determine violations of the NAAQS.

New Source Review: Rules that spell out requirements for new and expanding industrial sources of pollution. Sources affected by these rules normally emit more that 15 tons of PM_{10} per year, and are required to have emission control equipment and model their emissions to demonstrate compliance with standards or and other thresholds established by rule.

Nonattainment: A label applied to cities or areas that do not meet the National Ambient Air Quality Standard (NAAQS). It is a formal designation, which means that EPA must identify the city as not meeting the standard and they must formally publish the results in the Federal Register. Once a city is designated nonattainment there is a similar formal process to reclassify the city back into attainment.

Public "Education", Public Awareness: An effective strategy in controlling pollution in a given area. When the public becomes aware of pollution they often respond by taking proactive steps to minimizing their sources of the pollution.

$PM_{2.5}$: The fine particulate matter that is 2.5 microns or less in diameter. EPA established a new standard similar to the PM_{10} standard but at a lower level (see NAAQS).

PM_{10}: An acronym for fine particulate matter that is in the air. This particulate matter is ten microns and less in diameter. Cannot be seen with the naked eye. For reference the period at the end of this sentence is about 500 microns in diameter.

PM_{10} or $PM_{2.5}$ Control Plan: Referred to as an "Attainment Plan". When a city or area has data that shows it has violated the NAAQS, DEQ prepares a PM_{10} or $PM_{2.5}$ Control Plan. This plan is a formal document that identifies the strategies a particular city or area will use to bring it back into compliance with the standards. The strategies are formalized, and must be measurable. Each strategy is detailed and must be followed completely. The effectiveness of each strategy must be

measured. EPA holds the State and the local community responsible for implementing the strategy. DEQ must prove to EPA that the strategy is working.

PM_{10} samplers: Air samplers that measure the amount of PM_{10} concentration in the air. PM_{10} samplers are normally "reference method" samplers that have specific requirements set by EPA for manufacturing and operation. Air sampling needs to be consistent nation-wide to compare one sample to another and the reference method sampler allows this comparison. It is different than a nephelometer because it measures the weight of the particulate matter by a volume of air mass over a period of time. The nephelometer only measures light scattering.

Redesignation: When a nonattainment area is formally designated as returning to attainment. It is a formal declaration by EPA that the former nonattainment area is now back into attainment. It recognizes that the strategies have been working and will continue to work to maintain clean air in a community. It does not mean that communities can go back to the old ways of doing things.

State Implementation Plan (SIP): A document which details how the state is going to implement federal requirements. EPA and DEQ reviews each element of the Plan to determine the effectiveness of DEQ's air quality programs. The SIP is detailed and specific in its plans to keep Oregon's air clean. Each PM_{10} or $PM_{2.5}$ Control Plan becomes part of the overall SIP.

Temperature Inversion: When a warm air mass traps a cold air mass next to the ground. When these situations arise, fine particulate matter pollution (particularly from woodstove smoke) increases. Typically more wood when it is cold outside; the cold air mass collects the wood smoke; and the warm air mass traps the cold air and the wood smoke and keeps the pollution next to the ground where people breath. The strength of the inversion depends upon weather conditions. During high pressure, clear skies, and typically in valleys or low lying areas, inversions can become strong and trap the pollution very close to the ground.

Wind Speed: An important measurement to make when predicting air pollution events. Typically, wood smoke pollution occurs when wind speeds are less than 3miles per hour. Any wind speed greater than 3 miles per hour usually removes pollution from an area.

Technical Analysis Protocol

La Grande PM_{10} Maintenance Plan
March 2004

I. Background Information

The La Grande PM_{10} nonattainment area is defined as the urban growth boundary. The La Grande UGB is classified as nonattainment for the 24-hour PM_{10} NAAQS. A map delineating the urban growth boundary is provided as Figure 1.

A. Design Values

A medium-volume PM_{10} monitor was located at various locations in La Grande from 1986 through 2004. One PM_{10} monitor was located at 1601 North Willow Street from 1986 to 2004. A $PM_{2.5}$ monitor was established in 1999 and was located at 3rd and I street with a meteorological station. Since 1999, the $PM_{2.5}$ monitor, and meteorological station was not co-located with the PM_{10} monitor. In December 2003, the $PM_{2.5}$ monitor and meteorological station was relocated to 2806 N Ash Street after re-evaluation of monitor location. The PM_{10} monitor is a Federal Reference Method monitor or an EPA approved surrogate Federal Reference Method monitor. Design values will be calculated for only the Willow Street site. [1]

The selected base year for the emission inventory for the maintenance plan is 1999. The emission inventory will be rolled forward to include 2003. The validated, maximum 24-hour PM_{10} concentration for the five-year period 1999-2003 is 96 micrograms per cubic meter (ug/m^3) at the Willow Street site. For the five-year period 1999-2003[2] the design value for the 24-hour daily concentration based on the top 10 percent of the validated data is statistically derived at 92.6 $\mu g/m^3$. The daily PM_{10} standard is 150 ug/m^3. The annual PM_{10} standard is 50 $\mu g/m^3$. The average of annual averages for the period between 1999 and 2003 is 22.0 µg/m3.

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[1] From 1977 to 1986, a total suspended particulate matter (TSP) monitor was located at 1312 Tenth street and in 1986 and 1987 at 1601 N. Willow.

[2] Data does not include November and December of 2003 because data is not yet quality assured.

B. Attainment Year and Concentrations

The La Grande area attained the standard for PM_{10} in 1991. The area has remained in compliance with the standard since 1992. The last exceedance of the 24-hour PM_{10} standard in the La Grande UGB occurred in 1991, as did the last violation of the PM_{10} 24-hour standard. The La Grande UGB has not exceeded the PM_{10} annual standard since 1988. The maximum monitored PM_{10} 24-hour average in the 1999 emission inventory year was 96 $\mu g/m^3$ recorded on January 5, 1999; the second highest monitored value was 89 $\mu g/m^3$ recorded on January 4, 1999. The annual average in the 1999 emission inventory year was 23.2 $\mu g/m^3$.

C. Control Strategies

The La Grande area attained the standard for PM_{10} prior to full implementation of the 1991 attainment plan control strategies. These strategies targeted residential wood burning and the wood products industry. Open burning controls, slash burning restrictions, fugitive dust controls, and a ban on the sale of uncertified wood stoves were also added to the mix of strategies.

II. Potential Risk for Renewed Nonattainment

Table 1 shows the five highest monitored values for PM_{10} since the last exceedance in 1987. The standard is 150 ug/m3, rounded to the nearest 10 ug/m3.

Table 1
Five Highest PM_{10} 24-Hour Values Since Last Exceedance

Concentration	Date
148 ug/m3	December 27, 1993
146 ug/m3	February 12, 1996
139 ug/m3	January 29, 1991
122 ug/m3	January 5, 1995
121 ug/m3	November 10, 1993

Figure 2 shows that the concentration trend since 1989 is downward. Meteorological trends through the same time period will be addressed in the maintenance plan to demonstrate that attainment of the standard was not due to favorable meteorological conditions. Figure 3 shows the annual average at Willow Street with a similar downward trend. Current years are less than half the standard.

Figure 2
La Grande PM_{10} Trend
24-Hour Highest Concentrations

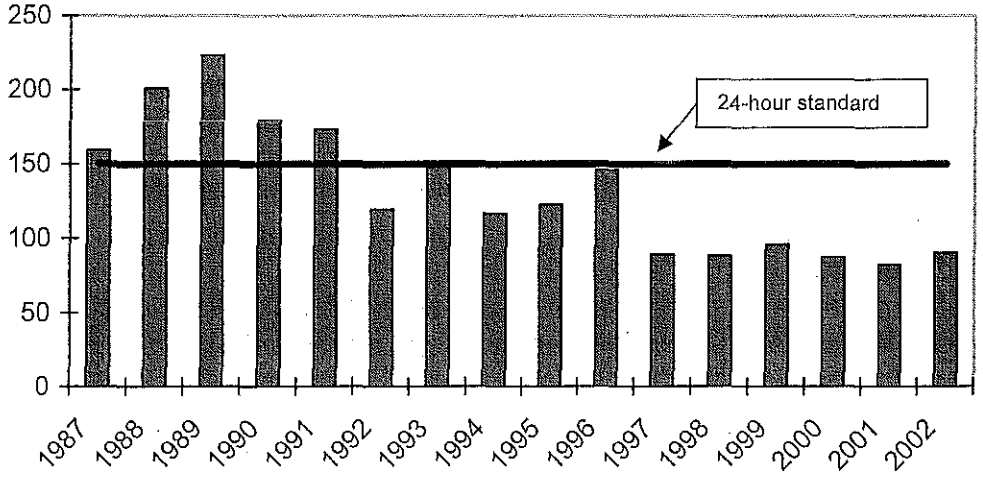
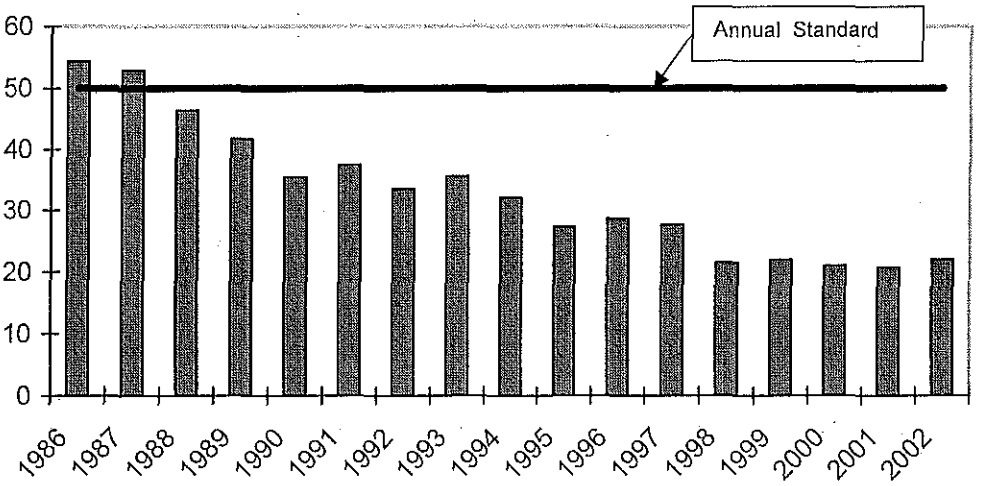


Figure 3
La Grande PM_{10} Trend
Annual Average Concentrations



Two special reports were prepared by DEQ to evaluate the monitoring locations and sources of contributions to particulate matter on the filters. The first report in December 1986 indicated there were significant sources of dust, although 63% of the samples contain products from vegetative burning. The results of the second study finalized in June 1993 showed that the highest particulate concentrations occurred at the current PM_{10} site at Willow Street. The data is representative of La Grande's particulate levels and does not show a significant influence from local dust. The PM_{10} monitoring site at Willow Street has not changed since1987.

The attainment year emissions level and 2025 projection of motor vehicle emissions will be based on EPA's MOBILE 6.2 model for tailpipe, brake-wear and tire-wear and AP-42 for fugitive dust. The final maintenance plan document will include a complete attainment year emission inventory and a 2025 emission inventory projection, with the overall source mix for the maintenance period.

Growth projections for the La Grande UGB are shown in Table 2. The growth rates will be recommended by the La Grande Air Quality Commission for the PM_{10} maintenance plan in accordance with state requirements. This commission will also advise the Department on the development of the PM_{10} maintenance plan. The commission includes representatives from the local jurisdiction, Eastern Oregon University, industry, environmental groups, health groups and local business. The growth rates are consistent with the most recent local comprehensive plan and Portland State University's Center for Population Research and Census projections.

Table 2
La Grande Area Projected Average Annual Growth

Population growth	0.77%
Household growth	0.70%
Employment	0.26%
Regional VMT	0.96%

III. Demonstration of Attainment of National Ambient Air Quality Standard for PM_{10}

A. Monitored Data

Monitored data from 1999 through 2003 will be used to show that the area is in attainment. Data through 2004 will demonstrate that the area continues to show attainment with the PM_{10} daily and annual standards.

B. Other Attainment Documentation

The saturation study referenced above provides further evidence that the area is in attainment. The findings of this study will be submitted as an appendix to the maintenance plan.

A meteorological analysis will be performed to demonstrate that the PM_{10} levels of recent years are not attributable to favorable meteorological conditions. This analysis will be summarized in the maintenance plan.

IV. Summary of Approved SIP Revision

A. Summary of Air Quality Attainment Plan/Dates of Approval

- La Grande became a moderate PM_{10} nonattainment area on February 8, 1989.
- A PM_{10} attainment plan for La Grande was adopted and submitted to EPA on November 15, 1991. EPA approved and placed the attainment plan into the Federal Register as a final rule on February 15, 1995 (see 60 FR 8563).

B. Description of Permanent and Enforceable Emission Reductions

The attainment strategies were implemented after attainment was achieved. Nonetheless, these are permanent and enforceable strategies that are anticipated to carry over to the maintenance plan. The basis for any new strategies included in the maintenance plan will be documented through an emission inventory.

C. Clean Air Act Sections 110 and Part D Requirements

The portions of Section 110 and Part D that apply to the La Grande nonattainment area are sections 172(c), 176(c)(4) and 187(a).

1977 Clean Air Act Amendments -- New Source Review and Plant Site Emission Limit rules were submitted to EPA on September 9, 1981 and approved on August 13, 1982.

Conformity rules were adopted in 1995 and approved by EPA on May 16, 1996.

The 1999 and 2002 periodic emission inventory requirement will be addressed concurrently through the maintenance plan emission inventory.

V. Air Quality Maintenance Plan

A. Attainment Year Emissions Inventory

A baseline, attainment period emission inventory will be developed for 1999. Annual and worst case daily PM_{10} emissions will be calculated. EPA's MOBILE 6.2 model and AP-42 will be used to estimate mobile source emissions. VMT will be supplied by the Oregon Department of Transportation (ODOT) travel demand model. The La Grande travel model provides a localized tool for estimating the area's travel, potential travel changes under various policy options and land use, and demographic changes. The travel model output will be used with MOBILE 6.2 emission factors to estimate mobile source emissions. A summary of the travel model validation will be submitted to EPA with the La Grande PM_{10} maintenance plan.

B. Maintenance Demonstration

The maintenance demonstration will rely on a proportional rollforward approach, relying on the attainment period ambient concentration, background concentration, the 2025 daily emissions projection, and the 1999 daily emission inventory. The annual emission projection will be done in a similar manner using annual emissions. The following formula will be used to calculate the 2025 projected ambient concentration:

2025 PM_{10} ambient concentration =

[(1997-2001 PM_{10} ambient concentration – background) * (2025 EI/1999 EI)]

+ background

The resulting ambient concentration will be below the PM_{10} 24-hour and annual NAAQS. A 2017 projected demonstration will also be made using similar methodology.

It is anticipated that additional control measures will not be required to keep the area in attainment throughout the maintenance period. An emissions budget that will govern future transportation conformity determinations for PM_{10} will be established.

C. Monitoring Network and Commitments

DEQ will also commit to a five-year periodic survey, pending EPA review. Based on monitoring data, relevant traffic data and other considerations such as special project funding availability, DEQ air monitoring, modeling and planning staff, in consultation with EPA air monitoring, modeling and planning staff may reach agreement that the periodic survey is unnecessary, or should be delayed.

D. Verification of Continued Attainment

DEQ will continue to operate the PM_{10} monitor in the nonattainment area. A tracking method, such as periodic emission inventories, will be evaluated and addressed in the final redesignation document.

E. Contingency Measures

Contingency measures and triggering events will be discussed with the local advisory commission and addressed in the final plan.

VI. Schedule for Completion

• SIP Development Plan to EPA	January 2004
• Technical Analysis Protocol to EPA	March 2004
• Technical Work Completed (draft emission inventory and projection)	September 2004
• Advisory Committee Review	October 2004
• Topic Review Meeting	November 2004
• Authorization for public hearing	January 2005
• Submit Legal Notice for Bulletin	February 2005
• Conduct Public Hearing (maintenance plan with proposed emission inventory)	March 2005
• EQC Adoption (maintenance plan with final emission inventory)	May 2005
• Submit redesignation request and adopted maintenance plan to EPA	June 2005
• EPA Approval (18 months)	December 2006

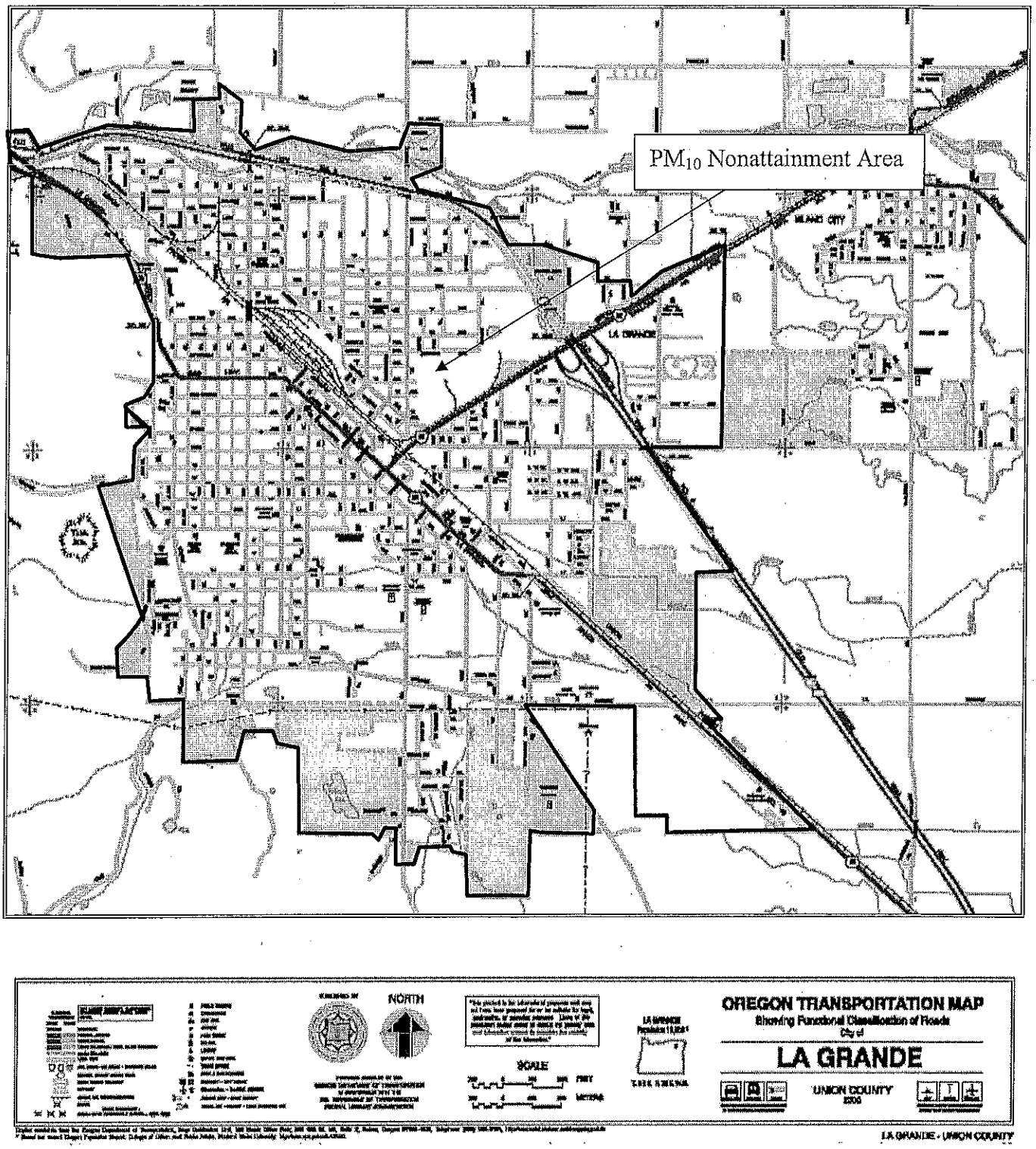
Department of Environmental Quality

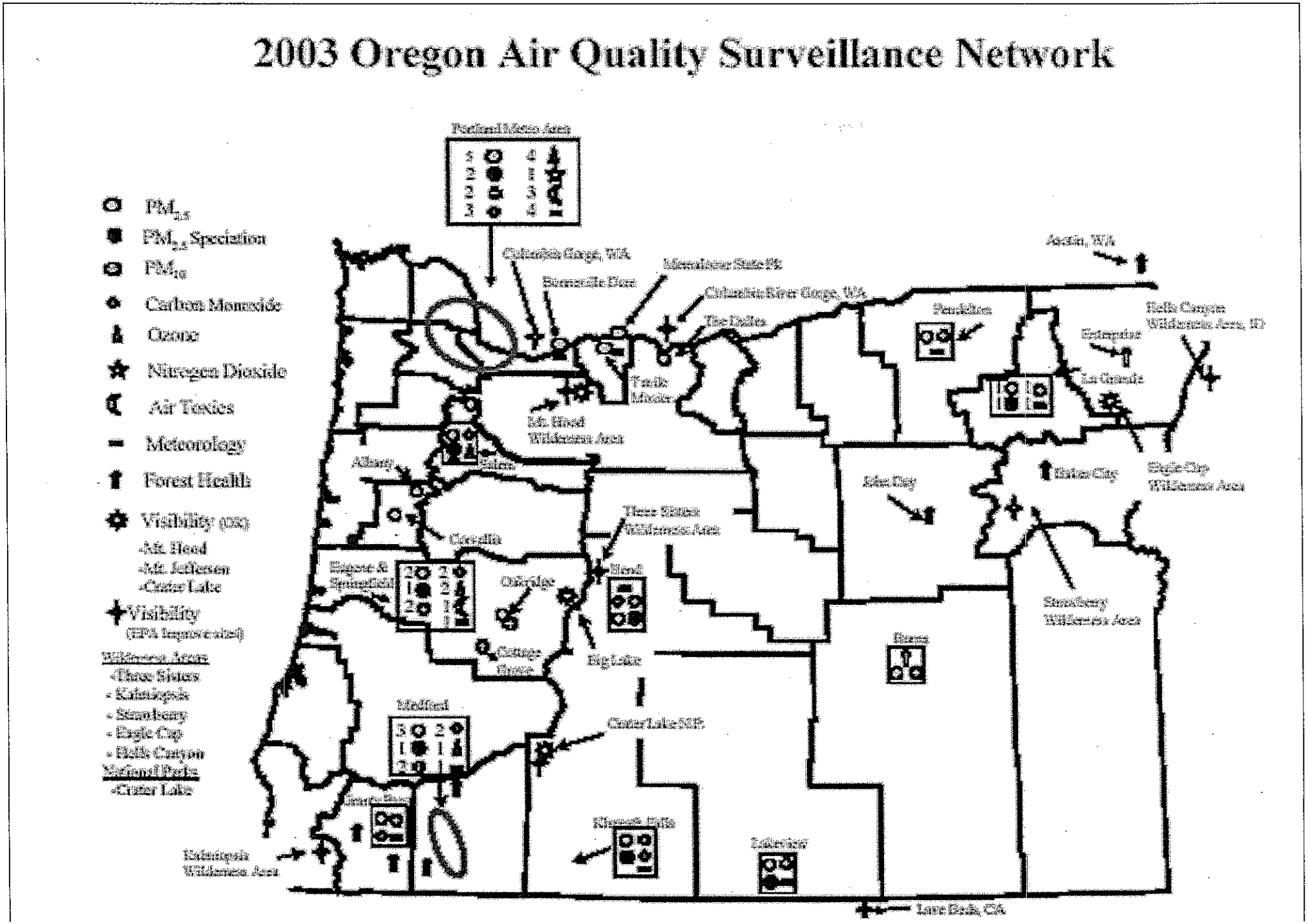
Annette Liebe, Manager, Airshed Planning Section Date

Region 10 Environmental Protection Agency

Bonnie Thie, Manager, State & Tribal Programs Unit Date

Figure 1 La Grande PM_{10} Nonattainment Area




2003 Oregon Air Quality Surveillance Network
Portland Metro Area
PM2.5
PM2.5 Speciation
PM10
Carbon Monoxide
Ozone
Nitrogen Dioxide
Air Toxics
Meteorology
Forest Health
Visibility (IMPROVE)
Mt. Hood
Mt. Jefferson
Crater Lake
Visibility
(EPA Improve site)
Wilderness Areas
Three Sisters
Kalmiopsis
Strawberry
Eagle Cap
Hells Canyon
National Parks
Crater Lake
Columbia Gorge, WA
Boardman State Pk
Columbia River Gorge, WA
The Dalles
Mt. Hood Wilderness Area
Albany
Corvallis
Eugene & Springfield
Oakridge
Three Sisters Wilderness Area
Bend
Cottage Grove
Big Lake
Medford
Crater Lake NP
Grants Pass
Kalmiopsis Wilderness Area
Klamath Falls
Lakeview
Lava Beds, CA
Ashtin, WA
Pendleton
Hells Canyon Wilderness Area, ID
Enterprise
La Grande
Baker City
Eagle Cap Wilderness Area
John Day
Strawberry Wilderness Area
Burns

STATE OF OREGON AIR QUALITY CONTROL PROGRAM,
VOLUME 3: STATE IMPLEMENTATION PLAN APPENDICES

SECTION 4.59: La Grande Urban Growth Boundary

Appendix D9: La Grande PM10

D9-4: Emission Inventory and Forecast Executive Summary

State of Oregon
1999 Attainment Year
&
2025 Maintenance Year
SIP Emission Inventory
For Particulate Matter 10 Microns and Smaller
(PM_{10})

LA GRANDE URBAN GROWTH BOUNDARY & ISLAND CITY AREA

30 DECEMBER 2004

Oregon Department of Environmental Quality
Air Quality Division
811 SW 6th Avenue
Portland, Oregon 97204

DEQ
State of Oregon
Department of
Environmental
Quality

Executive Summary

The La Grande Urban Growth Boundary (UGB)[1] has met the National Ambient Air Quality Standards (NAAQS) for PM_{10}. In accordance with the 1990 Federal Clean Air Act Amendments (CAAA), the area can now be redesignated from nonattainment to maintenance status through a process which involves developing a Redesignation Request and Maintenance Plan. This attainment year emission inventory (1999) and emission forecast (2025) inventory is provided as part of the maintenance plan package to show compliance with published EPA requirements. The principal components for development and documentation have been addressed in this inventory, which includes stationary point, stationary area, nonroad mobile, and on road mobile sources. Quality assurance implementation, and emissions summaries are also provided. The geographic focus for the emissions inventory and forecast is the La Grande PM_{10} Nonattainment Area, otherwise known as the La Grande Urban Growth Boundary (UGB). The Island City area is included because of its proximity to the nonattainment area boundary

In this document the terms "annual", "typical day", and "worst case season day" emissions are used to categorize the estimated emissions for a particular time period. The annual emissions, in tons per year, are a total amount of emissions for the source category that occurred throughout the year. The typical day is intended to represent daily seasonal emission values during this four month time period under ordinary activity. The worst case season daily emissions, in pounds per day, are based on the definition of the yearly period from November 1st through the end of February as one in which, historically, the daily PM_{10} standard would most likely be exceeded and are scaled up from typical day emissions.

Not all of the source categories inventoried require adjustment. For example, the 1999 worst case season day emissions for the large industrial point sources are based on the annual emissions value reported to the Oregon DEQ in the annual reports submitted by the sources. Typically, industrial production and emissions are fairly constant throughout the year; therefore a seasonal adjustment for a worst case day would not be needed. Many area sources, such as residential wood combustion, that are influenced by factors such as temperature and home heating demand during this season were adjusted to reflect the higher daily emissions that occur. Residential heating is adjusted based on the weather during this season of interest. On road mobile worst case season day emissions are based on motor vehicle travel during the worst case period of time: weekdays, Monday through Friday. In Oregon, the highest on road mobile emissions typically occur during the summer months resulting from tourism traffic. The influence of the summer emissions are captured in the annual emissions estimate. Complete descriptions of the procedure taken to estimate these "worst case season day" emissions can be found on the individual source calculation pages in Part 2 of this document.

Worst case day emissions represent the maximum contributions to the 24-hour (daily) PM_{10} standard within the La Grande UGB and Island City. Estimated contribution on a worst case 1999 PM_{10} season day are as follows: (1) stationary point sources contribute 35%, (2) stationary area sources contribute 41%, (3) nonroad mobile sources contribute 2%, and (4) on road mobile sources contribute 22% of the total PM_{10} air emissions. Details of the Oregon 1999 La Grande UGB and Island City PM_{10} Attainment Year and 2025 Maintenance Year SIP Emission Inventories from stationary point, stationary area, nonroad mobile, and on road mobile sources are presented in this document. The following tables and graphs summarize the results of the emission inventory.

Executive Summary Table 1: Summary of 1999 Emissions Data

Executive Summary Table 1. La Grande UGB & Island City 1999 Estimated Annual & Seasonal PM_{10}: Summary Emissions by Source Type

Source Description	PM_{10} Annual Emissions (tons/yr)	PM_{10} Season Worst Case Day Emissions (lbs/day)
STATIONARY POINT SOURCES	188.1	2,182
STATIONARY AREA SOURCES	181.1	2,658
NONROAD MOBILE SOURCES	23.5	118
ON ROAD MOBILE SOURCES	257.9	1,363
NATURAL SOURCES	Not Applicable	Not Applicable
Total within La Grande UGB & Island City	650.6	6,321

To demonstrate continued maintenance of the annual and daily PM10 NAAQS, the 1999 emissions inventory was projected to a 2025 future year. Since levels of growth are varied depending upon the type of PM_{10} source category, a variety of applicable growth factors were developed for factoring up the 1999 emission inventory. Based on recommendations by the La Grande Air Quality Advisory Committee, ODEQ used the appropriate population,

[1] For particulate matter smaller than 10 microns (PM_{10})

household, employment, VMT, and employment growth rates. The growth rates are summarized in Part 2.8 of the document.

Generally, for each source category, the 1999 emissions were grown based on a linear non-compounding formula utilizing the growth rates. When forecasting emissions for major point sources, future emissions are based on estimated PSEL emissions for 1999 through 2003. After 2003, PSELs (including credits and unassigned PSELs) were used and projected with applicable economic indicators until 2007. PSELs were adjusted after 2007 to remove unassigned emissions which will be lost according to OR DEQ Rule (OAR340-222-0045(5)). Stationary area source emissions were projected using the linear growth formula and the appropriate source specific growth rate. The growth rate applied to each area source category can be found in Part 2.7, Future Year Emission Inventory. Nonroad mobile 2-cycle, 4-cycle,and diesel equipment were projected using the EPA NONROAD 2004 Model. The emissions from railroad activity were grown based on industrial employment figures. Geogenic emissions were not projected to future years. Projected emissions for mobile source VMT are estimated through the EMME/2 model and the mobile source emissions are calculated from this VMT.

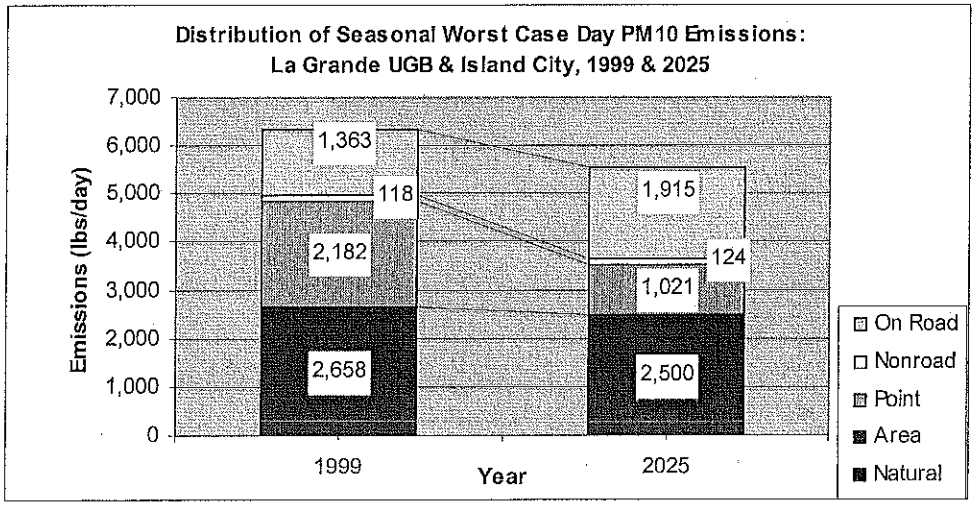
A discussion of this projection formula can be found in Section 2.7 of this document. The emissions for 2025 are summarized the tables and figures below. Complete future year forecasted emission values (through 2025) can be found in Appendix E.

Executive Summary Table 2: Summary of 2025 Emissions Data

Executive Summary Table 2. La Grande UGB & Island City 2025 Estimated Annual & Seasonal PM_{10}: Summary Emissions by Source Type

Source Description	PM_{10} Annual Emissions (tons/yr)	PM_{10} Season Worst Case Day Emissions (lbs/day)
STATIONARY POINT SOURCES	155.0	1,021
STATIONARY AREA SOURCES	160.1	2,500
NONROAD MOBILE SOURCES	21.0	124
ON ROAD MOBILE SOURCES	362.2	1,915
NATURAL SOURCES	Not Applicable	Not Applicable
Total within La Grande UGB & Island City	698.4	5,561

Executive Summary Figure A: Comparison of 1999 and 2025 PM10 Seasonal Emissions



EQC STAFF REPORT

Attachment B

Appendix D9-5a
Special Study Report
PM_{10} in La Grande and Pendleton 1986

PM-10 PARTICULATE IN PENDLETON and LA GRANDE

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Air Quality Division
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December - 1986

PM-10 Particulate in Pendleton and LaGrande

SUMMARY

1. PM-10 samples from Pendleton and LaGrande respectively appear to average about 45 percent and 63 percent vegetative burning products. Individual PM-10 samples (days) can be as much as 85 percent vegetative burning products.

2. If a log-normal distribution can be assumed for a large population of PM-10 samples based on the sample set taken in this study, LaGrande appears to have a higher annual second high PM-10 value (critical value) of 130 ug/m^3 with a 95 percent confidence interval of 110 - 153 ug/m^3.

   On the average a single PM-10 sample of 150 ug or greater may be expected at LaGrande once very 1.25 years and a second annual high of 150 ug or greater once every 38 years. Under the sampled conditions a 150 ug sample of PM-10 is much less likely in Pendleton, being expected once every 3.5 years with a second annual high once every 130 years. It does not appear that woodstove operations in Pendleton and LaGrande threatens a proposed PM-10 standard of 150 ug/m^3 - 24 hour average.

3. PM-10 and TSP values do not appear to be closely related except for the obvious restriction that PM-10 cannot be greater than TSP.

4. There may be a fair correlation between PM-10 values and average nephelometer values. The relationship is probably site specific. Much more data than is available for this study is needed if it is desired to establish a high degree of confidence in the nature of the relationship between PM-10 and nephelometer observations.

5. Ambient carbon monoxide values from woodstove operation are very low compared to the ambient air standard but do show a correlation with nighttime smoke concentrations identified by higher nephelometer readings. This relationship tends to confirm the effect of woodstove operation on PM-10 and nighttime CO values.

PM-10 Particulate in Eastern Oregon

INTRODUCTION

Ambient air particulate standards were established at the beginning of the 1970's, primarily to protect public health from urban particulate. The standard measurement method uses the "high volume filter" (hi-vol) which collects "total suspended particulate" (TSP). TSP includes all airborne particles which are roughly less than 70 to 100 um in aerodynamic size. Particles larger than 5 to 10 um are not usually considered to be a problem to public health because such particles are effectively filtered out by the nasal passages and are not capable of deep penetration and deposition in the lungs. Many times, however, the larger particles account for a major part of the TSP, giving a false measure of the risk to public health.

The Environmental Protection Agency (EPA) is presently considering a change in the particulate standard to consider only the particulate less than 10 um which penetrates deeply into the lungs. This is being called PM-10 particulate.

TSP samples at eastern Oregon sites have frequently been in excess of the TSP ambient air standards, particularly during dust storm conditions. Wind blown dust is usually larger than 10 um. These exceedances of the standard have not been considered significant in recognition of the indigenous nature of the source.

With the probability of the establishment of a PM-10 standard, a reassessment of eastern Oregon particulate is needed. Recent increased reliance on wood burning for residential heating has lead to increased fine particulate levels in some areas. It has been shown that Medford, for instance, can experience significantly high PM-10 values due to wood burning. It is suspected the same may be true of some eastern Oregon locations, such as Pendleton and LaGrande.

METHODOLOGY

Sites were selected in Pendleton and LaGrande for collection of data to assess the PM-10 environment and possible effects of woodstoves. In addition, samples were collected for "background" from the monitoring site frequently used by PGE for ambient monitoring east of the power plant on PGE property at Boardman. It was reasoned that the Boardman site would be relatively unaffected by woodstoves. The sampling locations in Pendleton and LaGrande are indicated in Figures 1 and 2. All sample collection and analyses were conducted by the DEQ Laboratory Services Division.

The State Office Building (SOB) in Pendleton was chosen as one of the study sample sites because it is an established, long-term TSP sampling site. Local residents and resident DEQ staff indicated that the area around McKay School southwest of the city was frequently filled with smoke believed to be from woodstove usage. Carbon monoxide and nephelometer measurements were taken at McKay School during December 1984.

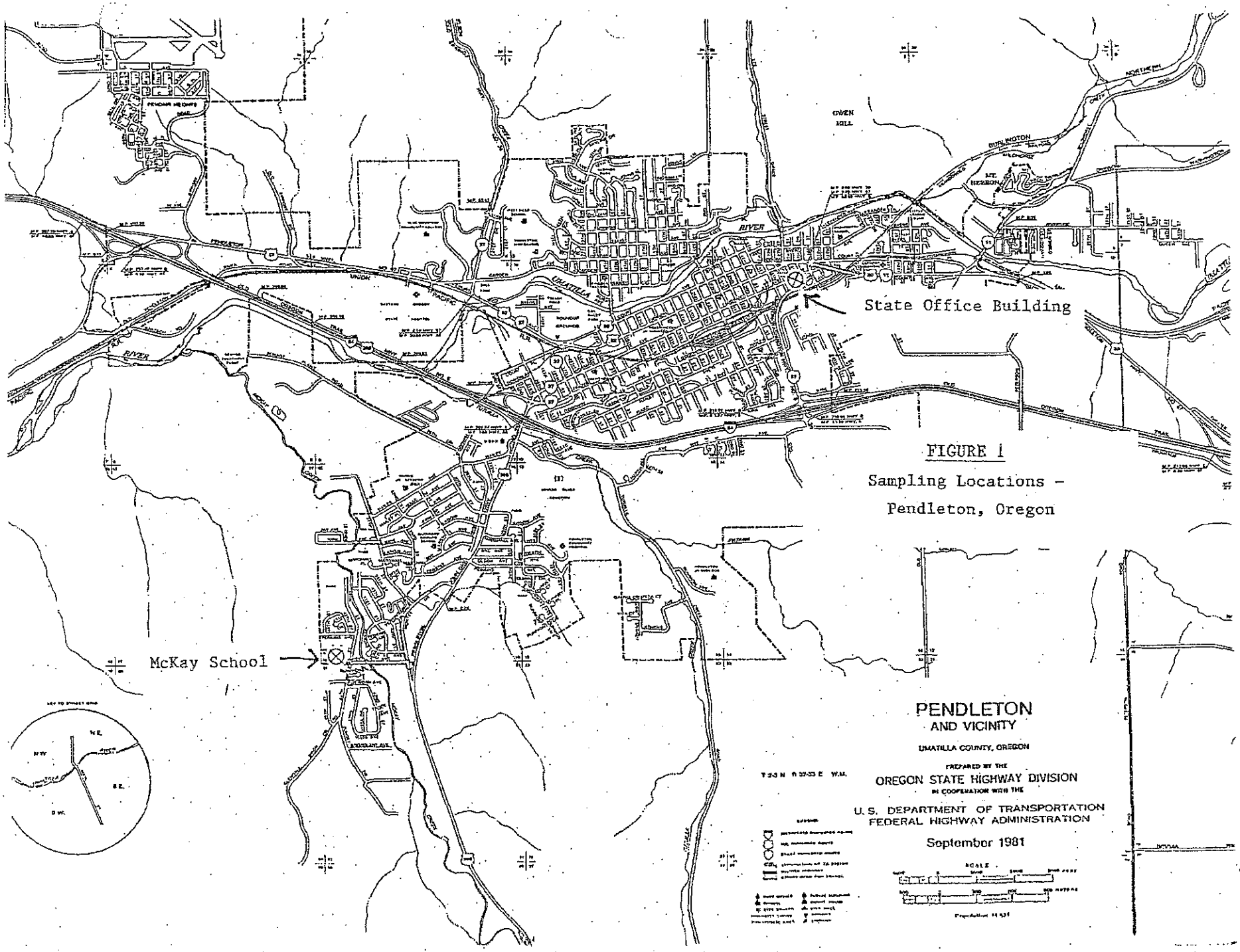


FIGURE 1

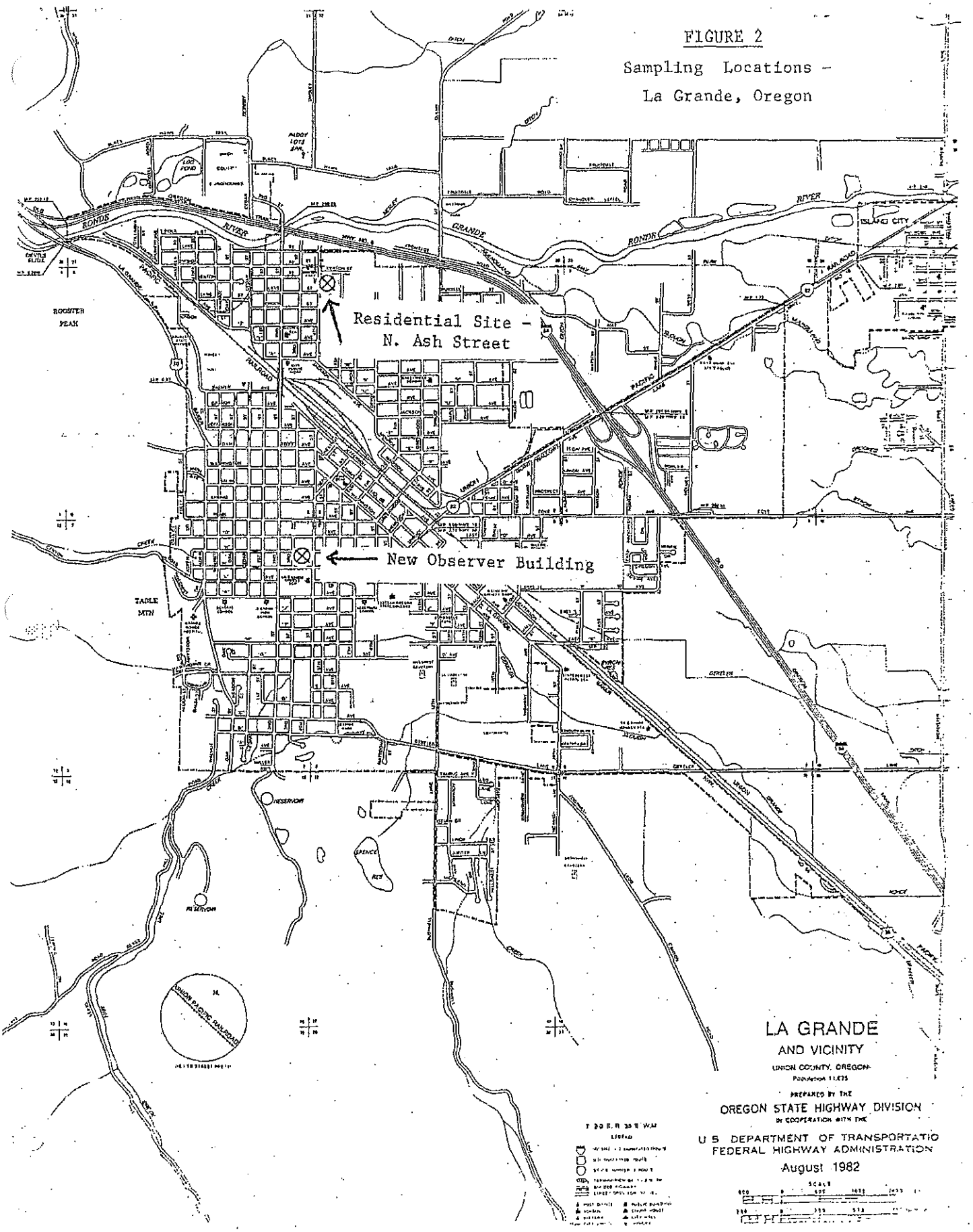
Sampling Locations -

Pendleton, Oregon

FIGURE 2

Sampling Locations –

La Grande, Oregon



In LaGrande a monitoring site was chosen at the "New Observer" building at Fourth and "N" Streets where TSP samples were taken for the study beginning January 6, 1983 through May 5, 1985. Due to the interest in PM-10 and wood smoke contribution, a residential site located adjacent to 2801 North Ash Street was used beginning October 1984 to collect data on TSP, PM-10, carbon monoxide and light scattering (nepholometer).

TSP and PM-10 samples were obtained on a schedule basically once every sixth day. The TSP samples were obtained by the standard reference method on glass fiber filters. The PM-10 samples were obtained with ER&T medium volume samples with parallel samples obtained on glass fiber and cellulose acetate filters for chemical mass balance (CMB) analysis. The TSP and PM-10 data collected for that study are in Appendix A.

The carbon monoxide and nephelometer monitors obtained hourly average values during their operation. Resource limitations forced an abbreviated sampling regime, particularly for nephelometer and carbon monoxide monitoring. Table 1 gives the inclusive data covered by the samples used in this study.

Table 1

INCLUSIVE SAMPLE DATES
(B = beginning date; E = ending date)

Pollutant	TSP Hi-Vol	PM10 Medium-Vol	Nephelometer	Carbon Monoxide
Code #	11101191	9246091	1120311	4210111
Sample Frequency	Every 6th day, 24 hr average	Every 6th day, 24 hr average	Hourly average	Hourly average
Boardman				
PGE Site #2400001	B 12/25/83 E 05/31/85 (gaps in data)	B 12/14/83 E 05/31/85	B 12/08/83 E 03/29/84 B 10/08/84 E 04/05/85	
Pendleton				
State Office Building Site #3020119	B 01/06/83 E 06/30/85	B 10/15/83 E 11/02/84	B 10/12/83 E 04/05/84 B 11/07/84 E 01/04/85	
McKay School Site #3020120			B 11/28/84 E 01/04/85	B 11/28/84 E 01/04/85
LaGrande				
Observer Bldg Site #3116113	B 01/06/83 E 05/30/85			
Ash St. Residential Site #3116114	B 11/27/84 E 05/31/85	B 10/27/84 E 05/31/85	B 10/23/84 E 04/05/85	B 11/07/84 E 02/12/85

ANALYSIS

The data show considerable variance between TSP and PM-10 measurements at all three locations sampled, Boardman, Pendleton, and LaGrande. In general, the mean PM-10 values are about 50 percent of the TSP values but the data show a considerable amount of scatter, see Figure 3. The regression slopes range from 0.39 for Pendleton to 0.57 for LaGrande, and the r^2 product correlation coefficients show poor consistency from sample to sample. Visual inspection confirms the result. The wide scatter shown in these plots demonstrate the hopelessness of trying to correlate TSP and PM-10 measurements in eastern Oregon.

The extreme high values seem to be particularly unrelated. Some "high" TSP values are accompanied by "high" PM-10 values, but not all. For instance, on February 6, 1985, the TSP and PM-10 values at the LaGrande residential site were 109 ug/m^3 and 95 ug/m^3, while on May 13, 1985 the TSP and PM-10 values were 176 ug/m^3 and 41 ug/m^3. (See Appendix A.) The only apparent sources of particulate for these areas are soil dust (windblown dust, agricultural tillage, road dust, etc.) and smoke from various types of vegetative burning (slash burning, field burning, range fires, woodstoves, etc.). A possible explanation of the failure of PM-10 and TSP to track one another can be appreciated by considering the nature of the two prime sources and the kind of particulate they produce. Atmospheric conditions act to segregate the periods dominated by the two kinds of particulate.

First, soil dust must be entrained by wind stirring the ground surface. Soil primarily consists of larger particles, greater than 10um. Larger particles tend to settle out quickly so prolonged suspension of larger particulate requires a significant amount of air turbulence (good ventilation).

On the other hand, smoke particulate from vegetative burning is quite small, most less than 2 or 3 um. While such fine particulate easily remains suspended for long periods of time, winds and atmospheric turbulence quickly dissipate fine particulates. For fine particulates to accumulate, calm periods of stagnant atmosphere are required.

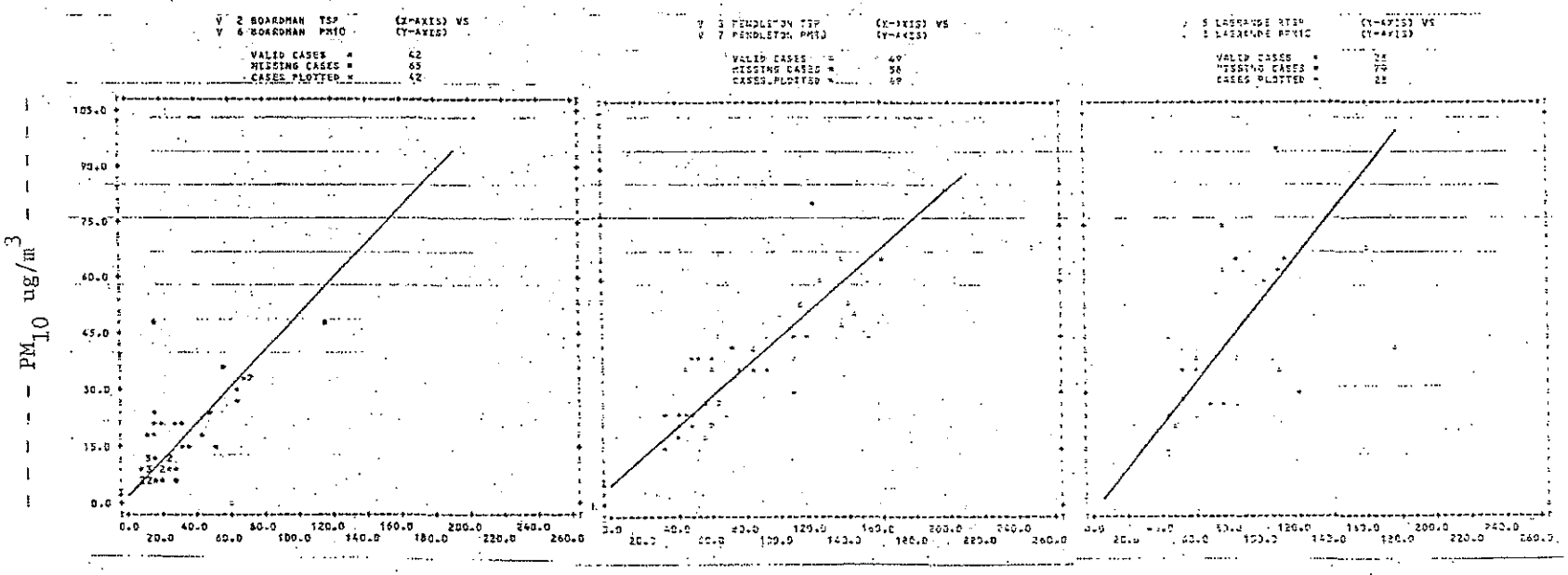
From these considerations it is not surprising that TSP and PM-10 appear to dominate at different times.

PM-10 VALUES IN RELATION TO A PROPOSED AMBIENT AIR STANDARD

Establishment of a PM-10 ambient air standard has been proposed by EPA although the level of such a standard has not been settled. A good estimate of an eventual standard is 150 ug/m - 24 hour average, not to be exceeded more than once per year. Such a standard is intended to cover every day of the year. The samples taken in this study were taken one in every six days so are only a portion of the possible values during the study period. Even if a sample had been taken every day, we would only have samples for one year; other years could have given different results.

FIGURE 3

Regression Scattergrams for PM_{10} vs. TSP



BOARDMAN	PENDLETON	LA GRANDE
$PM_{10} = 0.480\ TSP + 2.47$	$PM_{10} = 0.392\ TSP + 5.62$	$PM_{10} = 0.573\ TSP - 1.73$
$r^2 = 0.432$	$r^2 = 0.621$	$r^2 = 0.216$

The point is that, at best, we have only a small sample of a very large population of possible values. To ascertain the probability of exceeding some extreme value with such a limited data set has a relatively high uncertainty. If a "normal" distribution can be assumed, and if the data set is representative of the long term population, estimates of the probability of occurrence of values near the standard can be made using probability statistics.

First, it is necessary to get the data into a form which can be expected to conform to a normal distribution. The histograms and statistical data shown in Figure 4 for the Boardman, Pendleton and LaGrande PM-10 samples, compare the observed data with expected normal distribution of the given sample size, mean and standard deviation. Particulate data is usually considered to be of the log-normal form. However, fitting sample data to a normal curve is sometimes difficult. For the purpose of determining standards exceedances, the behavior of the distribution in the vicinity of the standard is important if probability statistics are to be used. This is the extreme high value end of the distribution being investigated. The high value tails of this data plotted in Figure 4 appear to follow the expected distribution more closely with log ug/m^3 than with ug/m^3. The log of 150 ug/m^3 is very close to 5.0, therefore, 150 ug/m^3 barely falls within the highest category of the log plots of Figure 4, a rare occurrence.

A common test for the fit of data to a normal distribution uses the probability of the skewness and kurtosis values. Tests for skewness and kurtosis place the log distribution within the 90 percent significance limits for a normal distribution. Significance limits identify the maximum or minimum values a quantity (in this case skewness and kurtosis) is expected to take a given percentage if the data is normally distributed. The method for these tests is given in Statistical Methods, Sixth Edition, Snedecor & Cochran, 1967, p 84-89.

Assuming then, that the PM-10 data from Pendleton and LaGrande can be treated as a log-normal distribution, the mean second high annual value and a confidence interval for the second high annual value can be estimated. The second high is computed as the value of the 99.45 percentile, 100 x (1-(2/365)), and the confidence interval is computed by standard statistical methods.

$$95\% \text{ confidence interval} = \bar{x} + 2.54s \pm (1.96s/(n)^{1/2})$$

For Pendleton, the mean annual second high PM-10 value is estimated to be 114 ug/m^3 with a 95% confidence interval of 101 to 127 ug/m^3. On the average, in Pendleton one can expect a PM-10 sample of 150 ug/m^3 or higher about once every 3 1/2 years and a second high of 150 ug/m^3 once every 130 years. For LaGrande the mean annual second high PM-10 value is 130 ug/m^3 with a 95% confidence interval of 110 to 153 ug/m^3. On the average, in LaGrande one can expect a PM-10 sample of 150 ug/m^3 or greater about once every 1 1/4 years and a second high of 150 ug/m^3 once every 38 years.

The reader is cautioned that these calculations may be in considerable error because these numbers are based on a very small sample of data; the data may not be an unbiased sample of the population; and the fit to a log-

FIGURE 4A

HISTORGRAM OF

BOARDMAN PM-10

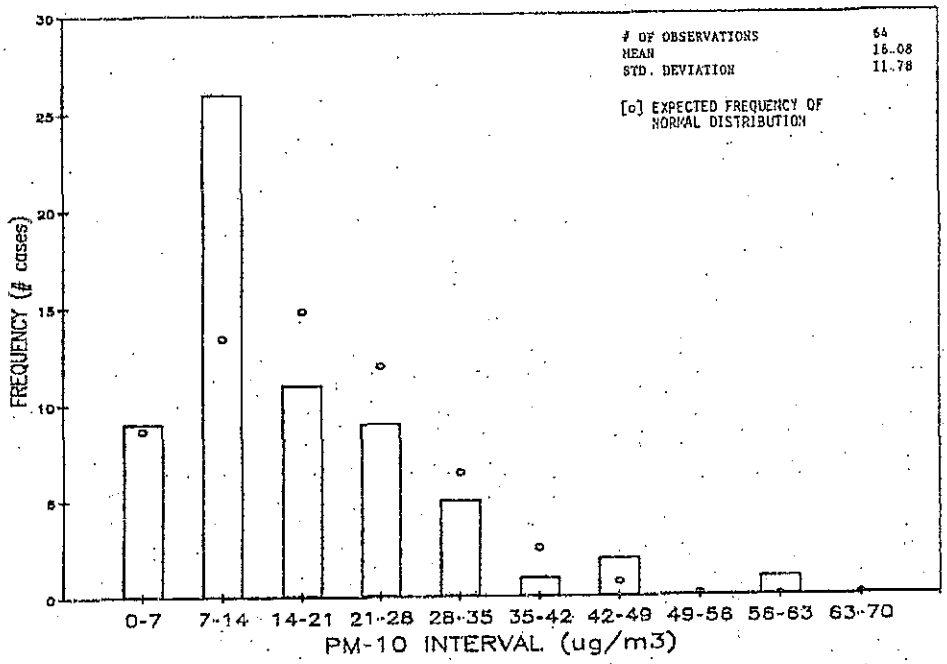
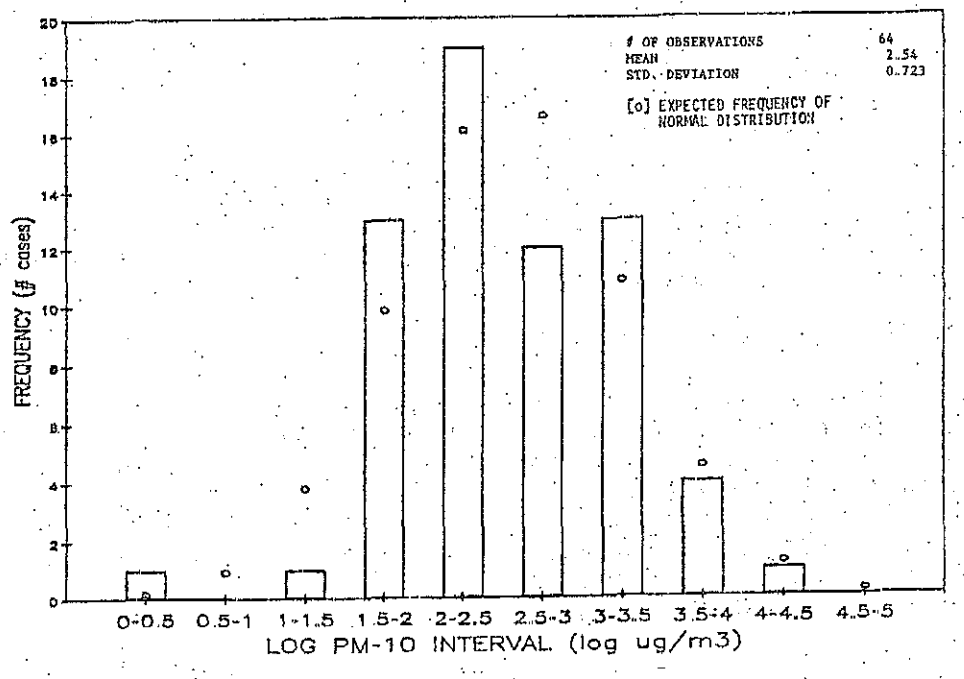


FIGURE 4B

HISTORGRAM OF

BOARDMAN LOG PM-10



HISTOGRAM OF

PENDLETON PM10

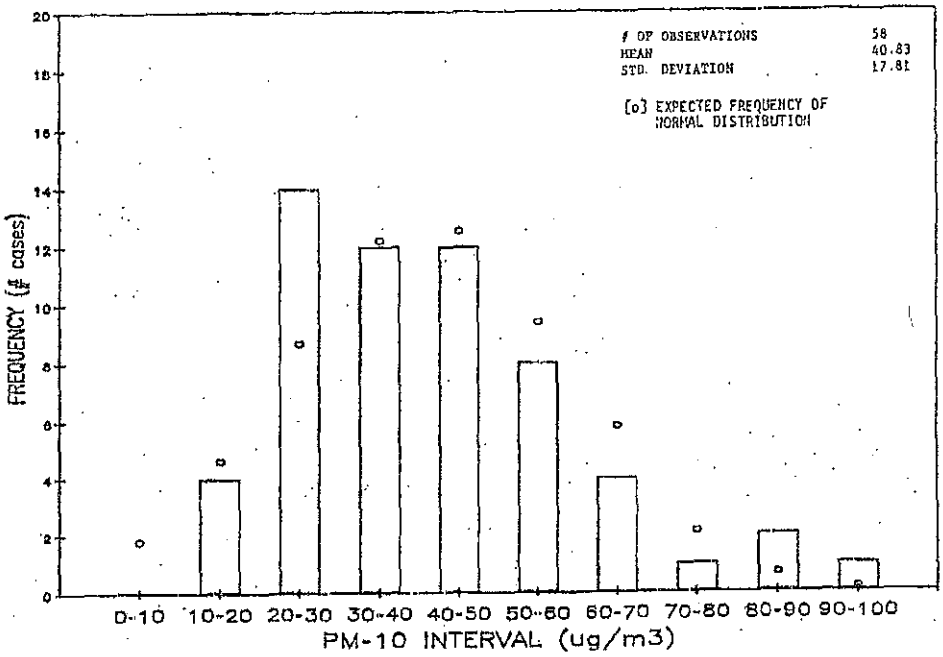


FIGURE 4D

HISTOGRAM OF

PENDLETON LOG PM-10

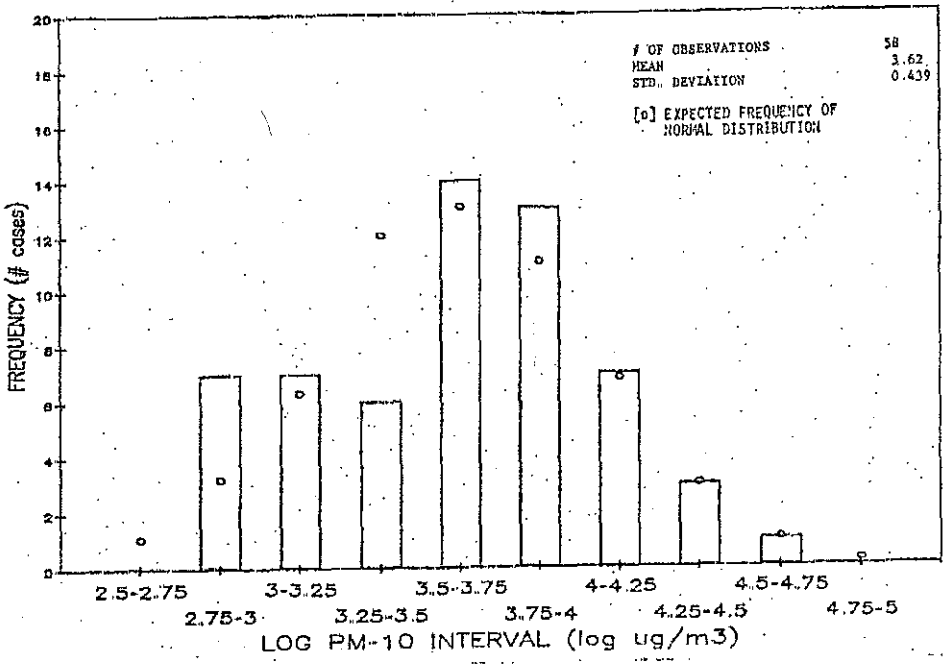


FIGURE 4E

HISTOGRAM OF

LAGRANDE PM-10

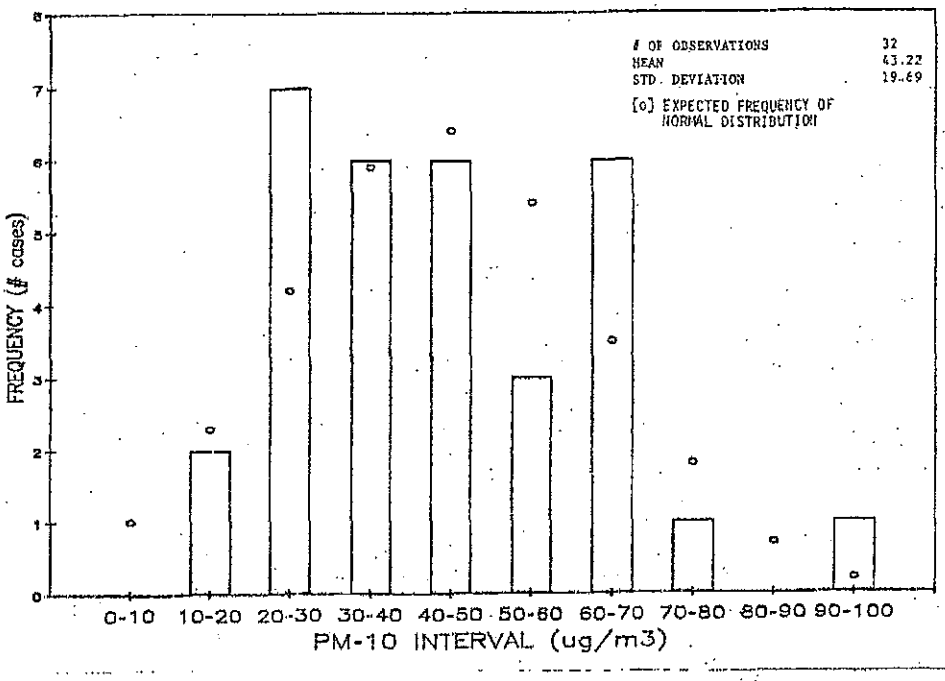
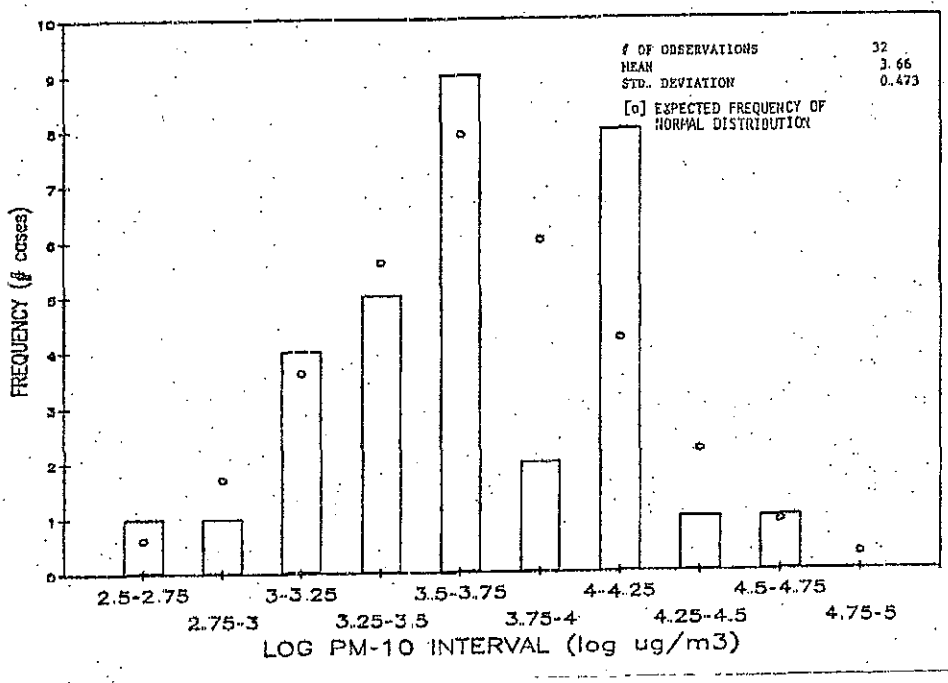


FIGURE 4F

HISTOGRAM OF

LAGRANDE LOG PM-10



normal distribution has not been rigorously established. It would be much better to have at least 2 years of daily data on which to make such estimates. It should be remembered that slight departures from the "normal" distribution can cause a two- or three-fold error in these estimates. Based upon the data of this study, however, it appears there is little likelihood of violating the proposed PM-10 standard.

PARTICULATE SOURCES

Sources of particulate in eastern Oregon are few. In general, the particulate comes from soil dust generators; agriculture, wind, roads, bare ground, etc., and vegetative smoke generators; slash burning, open burning, woodstoves, mill processing, etc. Other distinctive sources of particulate are very minor. Chemical analysis of the receptor samples does not lead to positive identification of sources because the available source fingerprints are similar and do not distinguish well between the various smoke sources. Appendix B lists the CMB summaries for analyses conducted in this study. The analyses reveal that the major significant contributions to PM-10 particulate are soil and vegetative smoke sources. Other sources, transportation, sulfite and nitrate, are included to improve the analytical fit of the result.

The fine particulate emission inventories for Umatilla and Union counties suggest that smoke and soil dust are the major fractions to expect in the fine particulate. The PM-10 particulate inventory from the State of Oregon emission inventory data base for the two counties are shown in Table 2.

TABLE 2

PM-10 PARTICULATE EMISSION INVENTORIES FOR UMATILLA AND UNION COUNTIES
(From Oregon Emission Inventory, 1985)

Source Emission	Umatilla Co. tons/yr	%	Union Co. tons/yr	%
Smoke	1,222	8.4	2,104	54.6
Soil dust	12,875	88.8	1,577	40.9
Organic matter	48	0.3	6	0.2
Transportation	348	2.4	168	4.4
	14,498		3,855	

There are no unique large sources of fine particulate in eastern Oregon. Smoke sources include wood products, mills, paving, residential/ commercial and industrial fuel burning, railroads, open burning, slash burning, wild fires and agricultural burning. Soil sources include rock crushing, concrete milling, road dust and agricultural tillage. Naturally occurring dust sources have not been included. Organic particulate sources are insignificant but include grain and feed handling and milling. Transportation sources include motor vehicle emissions.

The largest difference in the emission inventory between the two counties is in agricultural tilling producing soil dust. This seems to be manifested in the PM-10 particulate CMB differences between Pendleton and LaGrande. Pendleton averages 47.5% soil and 35.2% smoke, compared to 17.8% soil and 67.6% smoke for LaGrande. The larger soil fraction in Pendleton may be at least partially the result of the much larger emission of soil dust in Umatilla County.

The average CMB analyses shown in Appendix B must be tempered somewhat because the samples for CMB analyses were not selected with an unbiased process. The subset of CMB samples do not evenly represent all months and have mean PM-10 values 50% greater than their corresponding parent set of samples. Despite these cautions, it is believed to be reasonable to estimate the average percentage composition of the PM-10 particulate because, in at least some of the cases, composition seems to be unaffected by, and independent of, season or sample size. With these thoughts in mind, Table 3 shows the mean percent weighted fractions for soil and vegetative burning for TSP and PM-10.

TABLE 3

Statistics for Eastern Oregon Particulate Data

	Boardman TSP	Pendleton TSP (State Office Building)	LaGrande TSP (Observer Building)	LaGrande TSP (Residential)	Bordman PM10 ug	Pendleton PM10 ug (State Office Building)	LaGrande PM10 ug (Residential)
no. of samples	53	89	96	32	64	58	32
mean ug/m^3	32.0	94.0	82.9	82.7	16.1	40.8	43.2
max ug/m^3	114	270	234	176	61	91	95
min ug/m^3	6	30	20	22	1	16	14
‡ mean % soil	‡72	‡77	--	‡57	44	48	18
‡ mean % vegetative burning	‡17	‡16	--	‡36	34	35	68
statistical 2nd high annual PM10						114	130
95% confidence interval of annual 2nd high						101-127	110-153

‡ Note: Fractional percentages are based on the weighted average of a smaller subset of samples which were analyzed for chemical mass balance and may not reflect the actual average of all samples. See Appendix II.

All of the difference between TSP and PM10 is assumed to be due to soil dust.

All particulate from vegetative burning is assumed to be in the PM10 fraction.

OTHER EVIDENCE

A good or dependable source CMB analysis generally applicable to PM-10 from woodstoves does not exist. Wood types vary widely from different sources and contain different smoke producing materials. The two smoke source analyses used in the CMB portion of this study were slash burning and field burning. The woodstove source fingerprint from Medford lead to poorer results. Other attempts to identify the source of smoke depend on visual and associative observations.

Field personnel and local residents have recognized stratified smoke over residential areas on cold mornings. While these observations have no quantitative value, they do serve to qualitatively point to residential space heating as a cause for the smoke.

Nephelometry is selectively sensitive to the smaller particles of smoke (<2 u). A better correlation of nephelometer B-scat with PM-10 than with TSP might be expected. Figure 5 shows comparison scattergrams of TSP and PM-10 with 24 hour average value B-scat. As expected, the r^2 correlation coefficients are much better with PM-10 than with TSP. One conclusion of this observation is that the nephelometer is more representative of PM-10 than it is of TSP. The nature of particulate matter has long been recognized to be characteristic of a particular location and season. This is evidenced by the slope differences between locations indicated in Figure 5. Unless extensive data gathering shows otherwise, correlation between PM-10 and nephelometry should be used only for the site and season for which they are generated.

A carbon monoxide monitor was located at the LaGrande residential site and the Pendleton McKay School site. About 3 1/2 months of CO data are available from the LaGrande residential site from November 1984 to February 1985 and one month December 1984 from McKay School. There was no evidence of problems meeting the carbon monoxide standard.

In areas where wood burning for residential space heating has been observed, it has also been observed that elevated carbon monoxide readings may be present on nights when heavy smoke impacts occur. To investigate this effect, several periods of relatively high nephelometer readings at the LaGrande residential site and Pendleton McKay School site were identified from the nephelometer record. These periods usually occurred during the evening and at night. Hourly carbon monoxide observations from these periods were paired with their associated hourly nephelometer observations. A scatter plot of these data is presented in Figure 6. The data show a reasonably good correlation, r^2's equal to 0.82 and 0.78.

Sources of carbon monoxide are few and far between. Outside of a few specialized industrial sources, the only significant sources of carbon monoxide in the environment are auto traffic and oxygen poor fuel combustion (woodstoves). There are no significant industrial sources in LaGrande or Pendleton, and automotive traffic during the evening and at night is not likely in a LaGrande or Pendleton residential neighborhood.

The only likely source of CO left to consider is woodstoves. The fact that the higher CO values correspond well with higher nephelometer values during evening and nighttime supports the idea that both are from the same source. The fit would probably look better if longer time averaged values were used instead of hourly values, but there is insufficient data for a good analysis in this case.

If it can be assumed that the relationships demonstrated in Figures 5 and 6 are valid for the extended higher value ranges (some may legitimately question this), it would appear that PM-10 standards would be exceeded before carbon monoxide standards if only woodstoves as a source of carbon monoxide is considered. Even an exceedance of PM-10 from woodstoves alone would likely be accompanied with 24 hour nephelometer range readings in excess of 7 B$_{scat}$. Such high 24 hour averages would probably not be tolerable to the public and suggests that steps would have to be taken to reduce the smoke problem before either the PM-10 or CO standards would be exceeded.

FIGURE 5

24-hr. average PM_{10} and ISP values (x axis)

vs. 24-hr. average Nephelometer values (y axis)

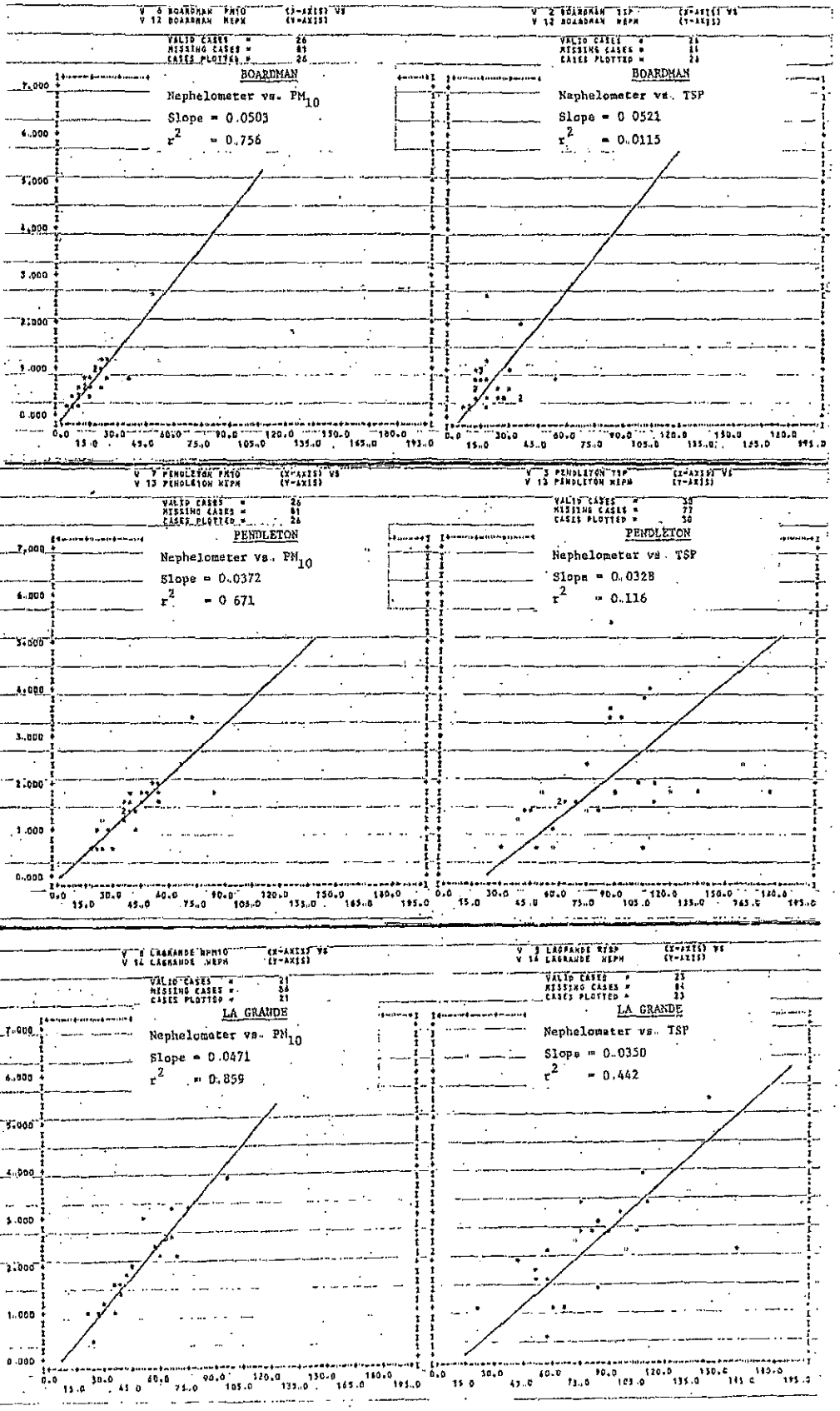
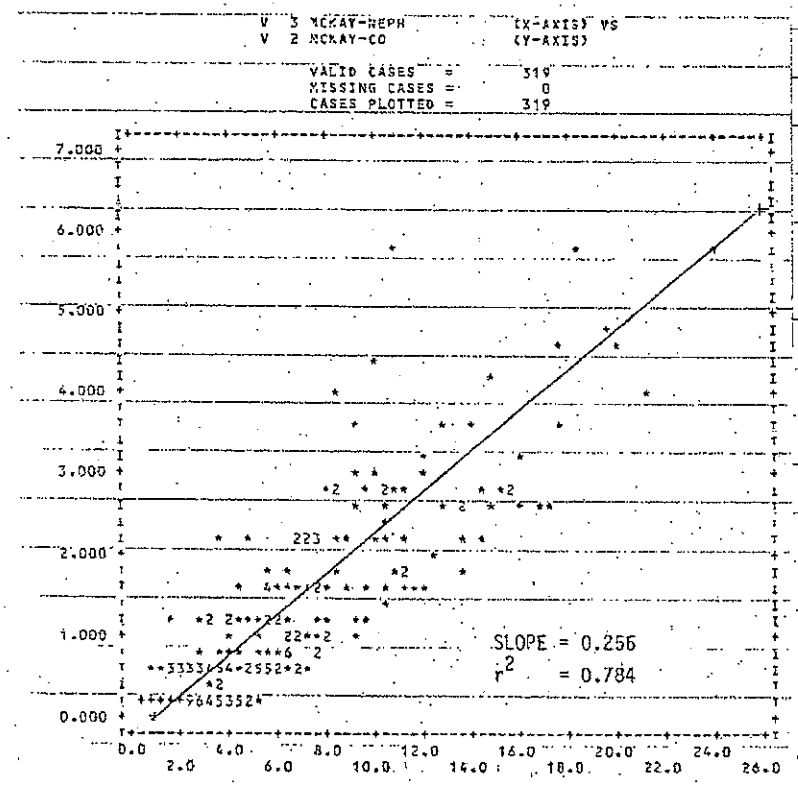


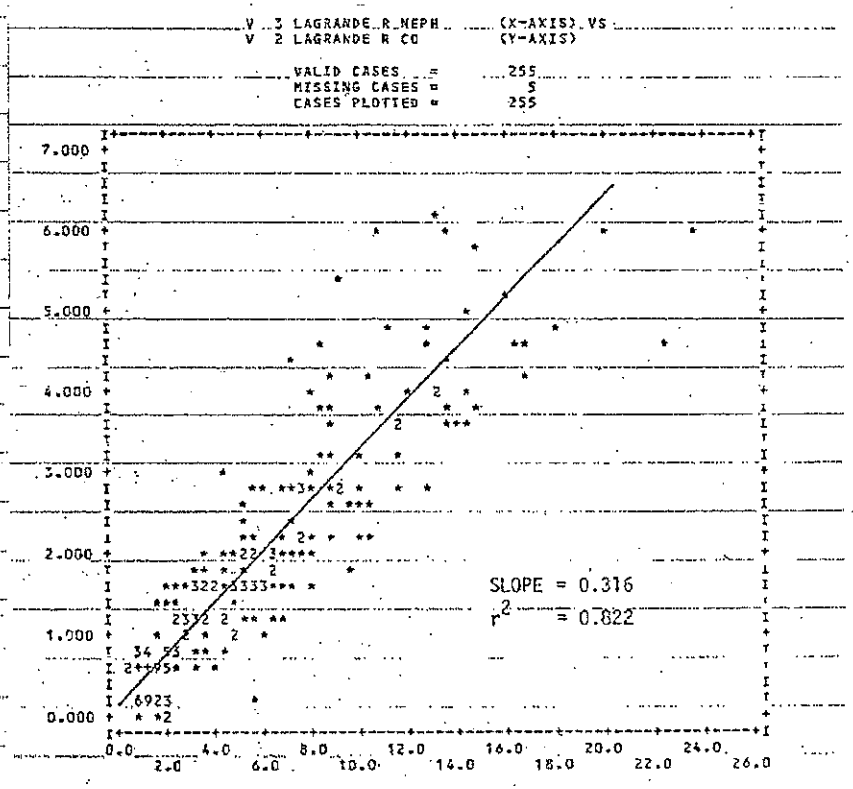
FIGURE 6

Hourly Nephelometer values (x-axis) vs. Hourly CO values (y-axis)
(Data selected for periods of higher nighttime nephelometer values)

McKAY SCHOOL - PENDLETON



RESIDENTIAL SITE - LA GRANDE



APPENDIX A
Base Data for Eastern Oregon Particulate PM10 Study

TSP - 24hr avg ugm/m^3
PM10 - 24hr avg ugm/m^3
Neph - 24hr avg B-scattering

DATE	BOARDMAN TSP	PENDLETON TSP	LAGRANDE O-TSP	LAGRANDE R-TSP	BOARDMAN PM10	PENDLETON PM10	LAGRANDE R-PM10	BOARDMAN 24HR NEPH	PENLETON 24HR NEPH	LAGRANDE 24HR NEPH
831003.	--	--	104.	--	--	--	--	--	--	--
831009.	--	57.	37.	--	--	--	--	--	--	--
831015.	--	--	81.	--	--	42.	--	--	1.10	--
831021.	--	112.	116.	--	--	55.	--	--	1.60	--
831027.	--	--	104.	--	--	54.	--	--	1.80	--
831102.	--	59.	60.	--	--	40.	--	--	1.50	--
831108.	--	--	36.	--	--	35.	--	--	1.20	--
831114.	--	48.	93.	--	--	20.	--	--	0.70	--
831120.	--	30.	64.	--	--	25.	--	--	0.70	--
831126.	--	59.	54.	--	--	36.	--	--	1.50	--
831202.	--	51.	62.	--	--	40.	--	--	1.90	--
831208.	--	92.	--	--	--	73.	--	--	3.40	--
831214.	--	46.	67.	--	9.	38.	--	0.40	1.40	--
831220.	--	64.	46.	--	61.	44.	--	--	1.60	--
831226.	25.	104.	119.	--	12.	--	--	0.50	3.90	--
840101.	16.	--	21.	--	23.	--	--	0.80	1.25	--
840107	12.	75.	37.	--	9.	--	--	0.60	2.37	--
840113.	11.	38.	26.	--	11.	24.	--	0.80	1.28	--
840119	29.	111.	217.	--	--	54.	--	1.00	2.08	--
840125.	6.	106.	43.	--	--	29.	--	0.20	0.57	--
840131.	17.	134.	191.	--	--	49.	--	0.80	1.71	--
840206.	15.	90.	159.	--	17.	44.	--	1.00	1.86	--
840212.	8.	--	52.	--	5.	20.	--	0.20	0.98	--
840218.	11.	160.	102.	--	12.	66.	--	0.50	2.49	--
840224.	--	56.	74.	--	5.	18.	--	--	0.65	--
840301.	10.	101.	81.	--	10.	51.	--	--	1.93	--
840307	30.	174.	234.	--	22.	85.	--	0.50	1.87	--
840313.	9.	42.	104.	--	8.	36.	--	0.30	1.33	--
840319.	--	57.	49.	--	5.	26.	--	0.20	1.07	--
840325.	--	76.	106.	--	6.	35.	--	0.20	1.40	--
840331.	--	82.	108.	--	16.	43.	--	--	1.44	--
840406.	8.	85.	84.	--	7.	--	--	--	--	--
840412.	21.	62.	28.	--	8.	--	--	--	--	--
840418.	16.	44.	73.	--	7.	25.	--	--	--	--
840424.	16.	--	54.	--	11.	39.	--	--	--	--
840430.	--	62.	80.	--	6.	26.	--	--	--	--

APPENDIX A CONTINUED
Base Data for Eastern Oregon Particulate PM10 Study

TSP - 24hr avg ugm/m^3
PM10 - 24hr avg ugm/m^3
Neph - 24hr avg B-scattering

DATE	BOARDMAN TSP	PENDLETON TSP	LAGRANDE 0-TSP	LAGRANDE R-TSP	BOARDMAN PM10	PENDLETON PM10	LAGRANDE R-PM10	BOARDMAN 24HR NEPH	PENLETON 24HR NEPH	LAGRANDE 24HR NEPH
840506.	--	39.	53.	--	7.	17.	--	--	--	--
840512.	--	52.	42.	--	10.	16.	--	--	--	--
840518.	29.	106.	74.	--	20.	38.	--	--	--	--
840524.	--	68.	48.	--	12.	24.	--	--	--	--
840530.	91.	247.	97.	--	--	70.	--	--	--	--
840605.	11.	40.	21.	--	7.	21.	--	--	--	--
840611.	--	60.	53.	--	--	20.	--	--	--	--
840617.	--	64.	54.	--	16.	26.	--	--	--	--
840623.	--	60.	54.	--	21.	21.	--	--	--	--
840629.	--	--	68.	--	--	32.	--	--	--	--
840705.	--	109.	86.	--	--	38.	--	--	--	--
840711.	--	152.	--	--	--	45.	--	--	--	--
840717.	--	141.	88.	--	--	55.	--	--	--	--
840723.	--	143.	93.	--	--	50.	--	--	--	--
840729.	58.	85.	40.	--	1.	35.	--	--	--	--
840804.	--	82.	55.	--	--	41.	--	--	--	--
840810.	51.	116.	64.	--	--	44.	--	--	--	--
840816.	--	125.	96.	--	26.	61.	--	--	--	--
840822.	66.	150.	114.	--	34.	59.	--	--	--	--
840828.	32.	--	76.	--	15.	30.	--	--	--	--
840903.	--	54.	30.	--	30.	--	--	--	--	--
840909.	--	61.	61.	--	--	--	--	--	--	--
840915.	--	118.	58.	--	--	81.	--	--	--	--
840921.	--	106.	79.	--	--	44.	--	--	--	--
840927.	51.	--	52.	--	--	53.	--	--	--	--
841003.	81.	134.	108.	--	--	65.	--	--	--	--
841009.	37.	90.	57.	--	--	35.	--	0.36	--	--
841015.	23.	71.	44.	--	--	43.	--	0.40	--	--
841021.	--	--	--	--	24.	91.	--	1.17	--	--
841027.	--	32.	40.	42.	3.	16.	44.	0.27	--	1.91
841102.	--	49.	52.	50.	9.	25.	41.	--	--	1.84
841108.	--	87.	59.	--	10.	--	50.	--	3.70	2.93
841114.	11.	86.	--	74.	9.	--	76.	--	3.40	3.22
841120.	--	--	20.	22.	5.	--	21.	--	3.40	0.95
841126.	--	--	--	50.	9.	--	35.	--	3.50	1.60
841202.	--	87.	104.	82.	15.	--	66.	0.86	5.36	2.52
841208.	--	109.	115.	99.	--	--	60.	2.57	4.09	2.28

APPENDIX A CONTINUED
Base Data for Eastern Oregon Particulate PM10 Study

TSP - 24hr avg ugm/m^3
PM10 - 24hr avg ugm/m^3
Neph - 24hr avg B-scattering

DATE	BOARDMAN TSP	PENDLETON TSP	LAGRANDE O-TSP	LAGRANDE R-TSP	BOARDMAN PM10	PENDLETON PM10	LAGRANDE R-PM10	BOARDMAN 24HR NEPH	PENLETON 24HR NEPH	LAGRANDE 24HR NEPH
841214.	--	119.	103.	111.	--	--	67.	37.00	1.83	3.29
841220.	--	--	83.	89.	--	--	64.	1.64	2.70	2.65
841226.	--	69.	53.	57.	--	--	--	0.42	1.51	2.12
850101.	--	--	25.	83.	--	--	--	1.14	1.80	2.90
850107.	35.	--	121.	97.	--	--	--	2.10	--	3.10
850113.	16.	62.	98.	--	--	--	31.	1.03	--	1.17
850119.	15.	52.	180.	145.	22.	--	--	1.10	--	5.49
850125.	13.	93.	192.	72.	18.	--	58.	1.04	--	2.35
850131.	--	87.	73.	75.	16.	--	64.	0.67	--	2.57
850206.	17.	107.	91.	109.	49.	--	95.	2.70	--	3.90
850212.	11.	255.	82.	--	11.	--	--	--	--	1.78
850218.	19.	270.	156.	106.	22.	--	63.	1.11	--	2.67
850224.	35.	233.	192.	58.	14.	--	40.	0.33	--	1.56
850302.	19.	113.	118.	60.	10.	--	35.	0.33	--	0.92
850308.	44.	119.	104.	85.	19.	--	40.	--	--	1.34
850314.	54.	179.	210.	159.	35.	--	69.	0.78	--	2.13
850320.	26.	135.	98.	105.	10.	--	40.	0.47	--	--
850326.	19.	70.	74.	67.	7.	--	27.	0.30	--	0.99
850401.	13.	103.	100.	58.	6.	--	23.	0.40	--	0.37
850407.	64.	114.	104.	--	27	--	38.	--	--	--
850413.	64.	99.	109.	118.	30.	--	31.	--	--	--
850419.	50.	42.	46.	49.	15.	--	22.	--	--	--
850425.	26.	71.	40.	44.	7.	--	23.	--	--	--
850501.	114.	199.	--	106.	48.	--	35.	--	--	--
850507.	24.	61.	83.	83.	13.	--	28.	--	--	--
850513.	48.	--	167.	176.	24.	--	41.	--	--	--
850519.	71.	67.	54.	74.	33.	--	26.	--	--	--
850525.	25.	62.	37.	--	8.	--	14.	--	--	--
850531.	73.	70.	48.	42.	32.	--	16.	--	--	--
850606.	--	45.	--	--	--	--	--	--	--	--
850612.	--	--	--	--	--	--	--	--	--	--
850618.	--	123.	--	--	--	--	--	--	--	--
850624.	--	71.	--	--	--	--	--	--	--	--
850630.	--	80.	--	--	--	--	--	--	--	--

APPENDIX B

Chemical Mass Balance, % Contribution - Boardman

Date	Auto Trans	Veg Burn (Slash) (Field Burn)	Sec NO3	Sec SO4	Soil	Total ugm in sample	Chi Square
831220	no possible stable solution to CMB equations					61	
840822	0 72	49.97	2.75	9.47	43.46	34	1.00
840828	1.05	54.45	2.62	3 66	38.22	15	0.37
850206	0.87	39.33	31.47	17.03	3.30	49	0.73
850224	2.14	65.71	3.57	4.29	45.71	14	0.21
850314	0.84	18.98	10.80	4.60	59.87	35	0.66
850501	0.84	20.37	4.15	4.18	66.75	48	1.36
850513	1.54	21.61	4.38	4.26	63.06	24	0.52
Sumn ugm	2.195	75.24	24.07	17.35	96.65	219	
% of whole	1.0	34.4	11.0	7.9	44.1	98.4	

Chemical Mass Balance, % Contribution - Pendleton

Date	Auto Trans	Veg Burn (Slash) (Field Burn)	Sec NO3	Sec SO4	Soil	Total ugm in sample	Chi Square
831208	No acceptible solution to CMB equations					73	
840218	3.22	43.24	1.38	0.61	40.48	66	1.80
840307	2.86	29.07	2.97	0.82	53.66	85	1.80
840331	3.39	30.78	5.57	4.50	42.00	43	0.86
840530	0.93	38.86	1.29	1.32	48.83	70	1.71
840711	1.96	38.46	1.45	3.93	31.81	45	0 68
840729	2.35	34.34	1.65	11.51	54.74	35	1.13
840822	2 03	32.60	2.34	3.73	59.65	59	1.63
840915	4.38	27.33	1.74	2.72	66.56	69	2.52
841021	3.03	40.44	3.82	2.69	30.96	91	1.22
Sumn ugm	15.35	197.90	14.02	16.28	267.34	563	
% of whole	2.7	35.2	2.5	2.9	47.5	90.8	

Chemical Mass Balance, % Contribution - La Grande

Date	Auto Trans	Veg Burn (Slash) (Field Burn)	Sec NO3	Sec SO4	Soil	Total ugm in sample	Chi Square
841114	0.73	90.24	0.54	0.66	7.16	76	1.93
841202	0.10	78.51	2.23	1.53	7.30	66	0.59
841214	0.72	70.95	2.59	3.04	8.00	67	0.35
#[8501191	0.79	71.13	7.90	1.99	6.05	176	0.91
# Sample not used to compute averages because total weight was much greater than TSP value							
850125	0.43	68.20	10.67	5.08	8.32	58	0.86
850206	0.44	74.16	4.05	3.02	3.54	95	0.63
850218	0.44	67.35	12.59	3.73	14.00	63	1.10
850224	0.44	77.98	3.60	1.81	12.88	40	1.12
850314	0.36	46.76	0.44	1.62	32.95	69	1.28
850507	1.36	35.11	4.26	5.38	60.18	28	0.37
850513	0.85	34.78	2.96	2.71	73.82	41	1.39
Sumn ugm	3.20	407.92	25.74	16.17	107.63	603	
% of whole	0.5	67.6	4.3	2.7	17.8	93.0	

EQC STAFF REPORT

Attachment B

Appendix D9-5b
Special Study Report
La Grande PM_{10} Monitoring 1993

Special Study Report

La Grande PM_{10} SIP Monitoring

Oregon Department of Environmental Quality
Air Quality Division

Technical Services Section
Report No.89-3

Approved: _____

Date: 6/23/93

LaGrande PM_{10} SIP Monitoring

Introduction

TSP monitoring was conducted in La Grande at the Observer building from 1981 until 1987. During that period there were no exceedances of the primary National Ambient Air Quality Standard (NAAQS), however the secondary standard was exceeded a number of times. A second TSP site was established in 1986 at the Dockwiler site and PM_{10} sampling was also initiated that year. In 1987 the Dockwiler site exceeded the TSP standard (260 $\mu g/m^3$) once. In 1987 TSP sampling at both sites was terminated, while PM_{10} sampling continued at Dockwiler.

In 1988 the NAAQS for PM_{10} was exceeded five times; in 1989, twice; and in 1990 only once. Of the exceedences of the NAAQS recorded from 1988 through 1990, the highest levels are most often recorded during the period from October through March. The second highest levels recorded each year often occur from April through August and only one exceedance of the NAAQS occurred during this period. Initially high particulate levels were thought to be primarily a result of residential wood combustion, however chemical mass balance analysis (CMB) conducted in the last two years suggests that dust has contributed significantly to PM_{10} levels. This brought into question the appropriateness of the sampling site given a large fugitive dust source nearby, that is the Boise Cascade Mill. DEQ needed to see if the Dockwiler site was being unduly influenced by the local dust source thus adding a bias to sampling used to describe air quality in La Grande.

Procedure

A second PM_{10} site, located in La Grande in the central business district was established and operated on a daily sampling schedule from November 1990 through March 1991. Samples were taken every six days in April. This was the previous TSP site at the Observer building and the sampler was located on the roof of the building, approximately six meters above the ground. The existing site (Dockwiler) in northwest La Grande was operated concurrently on an identical schedule.

Dockwiler is in a residential area near a log yard and the sampler is located approximately three meters above the ground. Samples from both sites were collected with reference method sequencing medium volume samplers. All samples were collected from midnight to midnight. In addition meteorological data including wind speed and direction, temperature, and nephelometer

data, a measure of light scattering, were collected at the Dockwiler site during this same period. CMB analyses was performed on fourteen of the samples (seven from each site) and used to determine the relative contribution of soils to particulate levels.

Results and Discussion

PM_{10}

During the five months of sampling, a total of only two exceedances of the NAAQS were recorded, one at Dockwiler, and one at the Observer. Indicated PM_{10} levels at the Dockwiler site were higher than those at the Observer site 63% of the time. The sites tracked each other quite well as can be seen on the following pages.

In general PM_{10} values were relatively low during the winter of 1990-91. Only 2% of the total values for both sites were greater than or equal to 75% of the NAAQS (i.e. 110 $\mu g/m^3$). At Dockwiler, 7% more of the values recorded were greater than 50% of the NAAQS and for the Observer, 9% more. In contrast, during the winter of 1987-88 6% of the values recorded at Dockwiler were greater than 110 $\mu g/m^3$, and 25% were greater than 75 $\mu g/m^3$. In the winter of 1988-89, 3% were greater than 110 $\mu g/m^3$, and 16% were greater than 75 $\mu g/m^3$: and during the winter of 1989-90, 4% were greater than 110 $\mu g/m^3$, and 16% were greater than 75 $\mu g/m^3$. In the last four years of sampling the 1990-91 winter showed the lowest PM_{10} levels of any year sampled thus far.

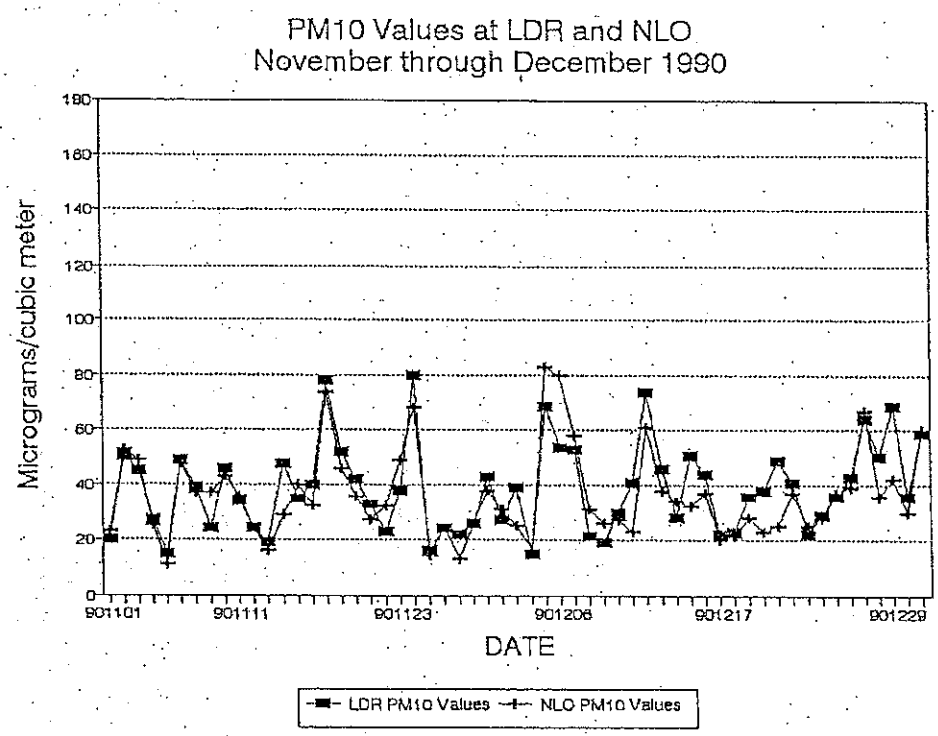
A linear regression performed on both sets of data yielded an r2 = 0.90. Comparison of all observed values showed a difference between the sites ranging from 0 to 63% and averaged 18%. In all cases the greater differences occurred on days when indicated PM_{10} levels were low (less than or equal to 80 $\mu g/m^3$). On days when levels were greater than 80 $\mu g/m^3$, the maximum difference was 17%, and on the day of highest PM_{10} levels (January 28) the difference between the two sites was only 8%. On the four highest days (PM_{10} greater than or equal to 110 $\mu g/m^3$) the Observer site showed higher levels than Dockwiler two times. On the highest day Dockwiler showed the highest value.

A *t*-test was performed between the data sets from Dockwiler and the Observer. The resulting *t*-Statistic showed that no significant difference exists between the data collected at the two sites: $t = .577$. [For df > 120 and P = .05, values > 1.96 are statistically significant.] The data is shown on the following pages.

PM10 DATA FOR BOTH SITES

LDR: La Grande Dockwiler Residence
NLO: New La Grande Observer

DATE	LDR PM10	NLO PM10
901101	20	29
901102	50	53
901103	45	49
901104	27	25
901105	15	11
901106	49	48
901107	39	37
901108	24	37
901109	46	43
901110		64
901111	34	36
901112	24	24
901113	19	15
901114	48	29
901115	35	40
901116	40	32
901117	78	74
901118	52	46
901119	42	36
901120	20	
901121	33	27
901122	23	32
901123	38	49
901124	80	68
901125	15	14
901126	24	24
901127	22	13
901128	26	26
901129	24	
901130	43	38

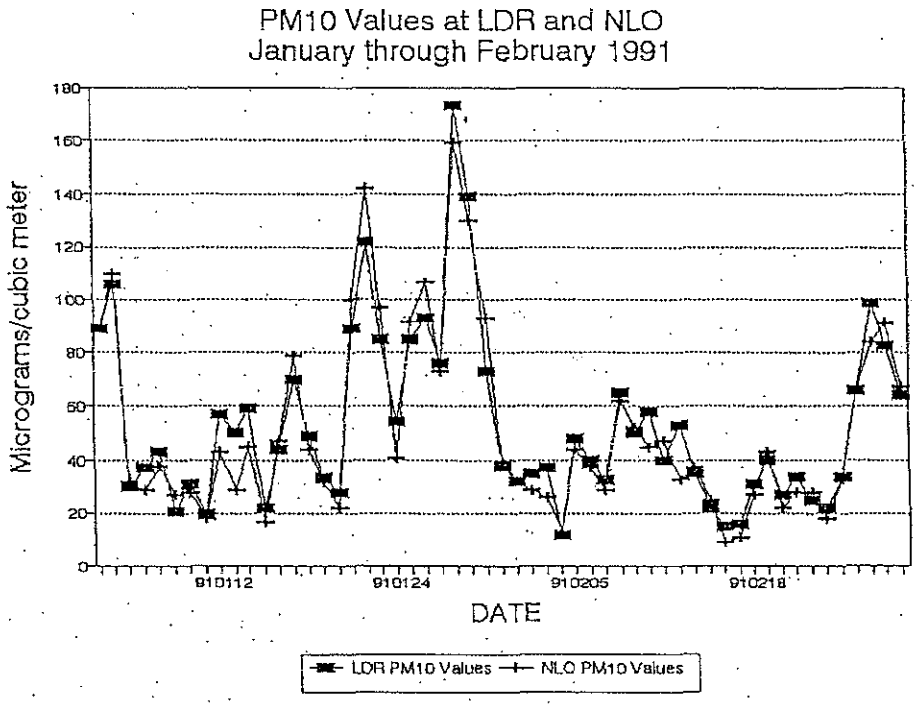


DATE	LDR PM10	NLO PM10
901201	27	31
901202	39	25
901203	15	16
901204	21	
901205	69	83
901206	54	90
901207	53	58
901208	21	31
901209	19	26
901210	30	27
901211	41	23
901212	74	61
901213	46	38
901214	28	34
901215	51	32
901216	44	37
901217	22	20
901218	23	21
901219	38	28
901220	38	23
901221	49	25
901222	41	37
901223	22	25
901224	29	28
901225	36	37
901226	43	39
901227	64	67
901228	50	36
901229	69	42
901230	36	30
901231	59	60

PM10 DATA FOR BOTH SITES

LDR: La Grande Dockwiller Residence
NLO: New La Grande Observer

DATE	LDR PM10	NLO PM10
910101		61
910102	89	89
910103	106	110
910106	30	32
910107	37	29
910108	43	38
910109	21	27
910110	31	28
910111	20	18
910112	57	43
910113	50	29
910114	59	45
910115	22	17
910116	44	47
910117	70	79
910118	49	44
910119	34	32
910120	28	22
910121	89	100
910122	122	142
910123	85	97
910124	54	41
910125	85	92
910126	93	107
910127	76	73
910128	173	159
910129	139	130
910130	73	93
910131	37	39

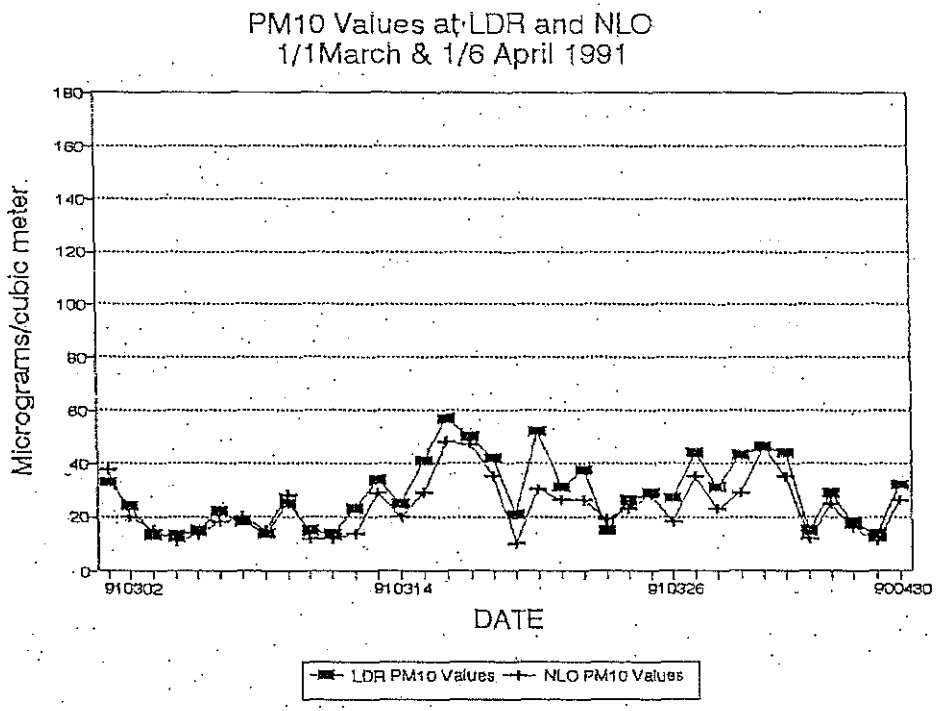


DATE	LDR PM10	NLO PM10
910201	32	32
910202	35	28
910203	37	26
910204	12	13
910205	48	44
910206	40	37
910207	33	29
910208	65	62
910209	50	52
910210	58	45
910211	40	47
910212	53	33
910213	35	37
910214	18	
910215	22	25
910216	15	9
910217	16	11
910218	31	27
910219	40	43
910220	27	22
910221	34	28
910222	25	28
910223	22	19
910224	34	33
910225	66	66
910226	99	84
910227	83	91
910228	64	87

PM10 DATA FOR BOTH SITES

LDR: La Grande Dockwiler Residence
NLO: New La Grande Observer

DATE	LDR PM10	NLO PM10
910301	33	37
910302	24	20
910303	13	15
910304	13	11
910305	15	13
910306	22	18
910307	18	20
910308	14	15
910309	25	28
910310	15	12
910311	14	12
910312	23	14
910313	34	28
910314	25	20
910315	41	29
910316	57	46
910317	50	47
910318	42	35
910319	21	10
910320	62	30
910321	31	25
910322	37	26
910323	15	19
910324	26	23
910325	29	28
910326	27	18
910327	44	35
910328	31	23
910329	43	29
910330	46	46
910331	44	35
900408	15	12
900412	29	25
900418	18	16
900424	14	11
900430	32	26



U1

Nephelometer

Nephelometers measure the ability of small particles to scatter light and cause visibility reduction. The amount of light scattered is usually proportional to the particle mass concentration of particles less than 2.5 microns. When particulates include a large portion of smoke, nephelometer values will often be high because the smaller particles scatter light more efficiently. Dust particles are frequently larger than 2.5 microns and when particulates include a large portion of dust, nephelometer values will not necessarily be high because the larger particles do not scatter light as efficiently as do the smaller particles. Nephelometry data is used to predict particulate levels if they contain a substantial portion of smaller particles. As the proportion of smaller particles decreases, the correlation becomes weaker, thus the relationship between the PM_{10} concentration and the nephelometer gives a rough indication of the particle size mix of the particulate.

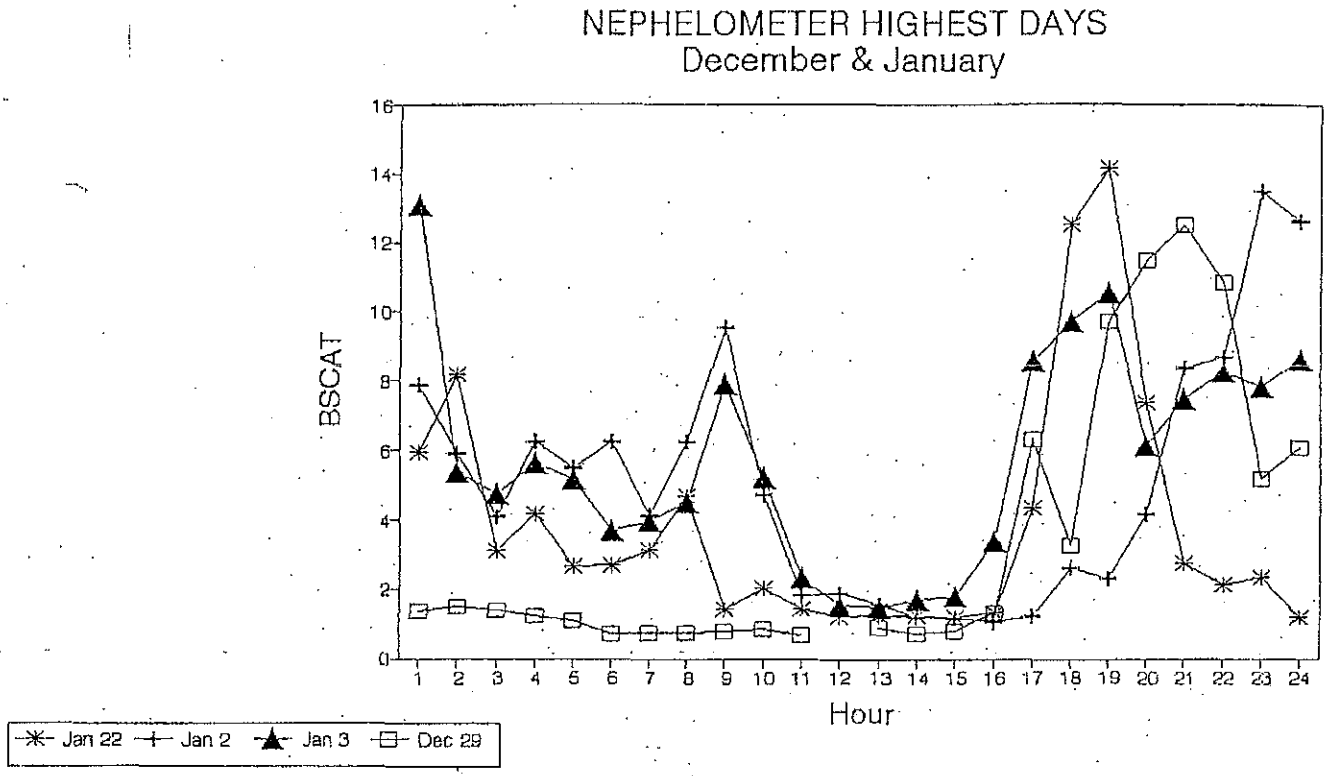
The correlation between the nephelometer and particulate data is relatively poor in this study ($r^2 = .45$) and the days of highest particulate levels were not days of highest nephelometer readings. This result suggests that particles on high particulate days would tend to fall in the larger size range (i.e. PM 2.5-10.0), and that dust is a significant contributor to the high PM_{10} levels recorded.

A graph of some nephelometer data appears below. The peak hours frequently occur between 6 pm and 1 am, with some early morning (6 am-9 am) peaks as well. On the days of highest particulate levels, the peak nephelometer values occurred at 6 pm and 7 pm, dropping off slightly and then rising again from 11 pm until 3 am. These peak hours coincide with normal hours of wood stove operation.

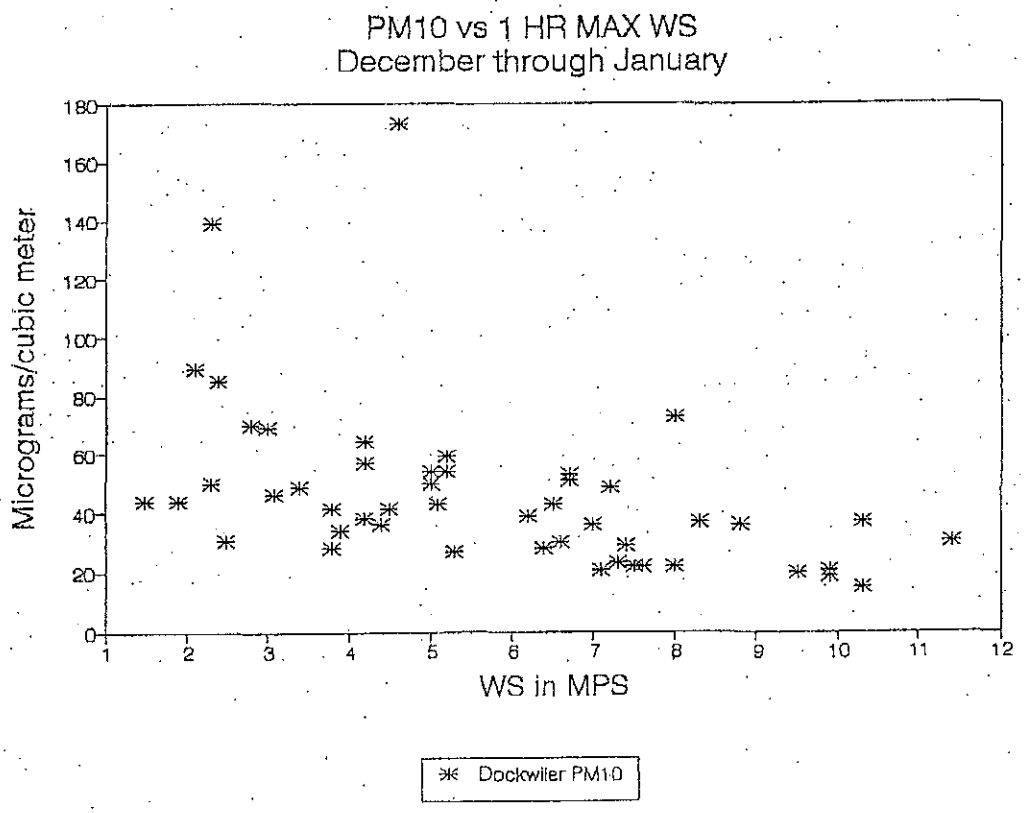
Meteorology

Meteorology plays a key role in the persistence or dispersion of pollutants. Often cold temperatures and low wind speeds are conducive to the accumulation of PM_{10}. Wood burning increases in response to the low temperatures and a stagnation of the air mass inhibits the dispersion of airborne particulate. Burning advisories developed for various Oregon cities depend in part on the ability to predict meteorological conditions and determine the relationship between specific weather conditions and the potential for particulate accumulation.

An attempt was made to correlate the meteorological data with the particulate data for this study. A linear regression performed on the Dockwiler data and the wind speed and wind direction data yielded very poor results: for PM_{10} values and one hour average



wind speeds, the r^2 = 0.21, for PM_{10} values and 24 hour average wind speeds, the r^2 = 0.18. In terms of wind direction, data analysis showed no correlation with either site. The Dockwiler PM_{10} data are graphed with respect to the maximum 1 hr average wind speed (X axis) below. The highest PM_{10} levels occur at lower wind speeds, i.e. less than 4.7 mps, but low PM_{10} levels are also recorded when wind speeds are low. 39% of the PM_{10} levels less than 80 $\mu g/m^3$ occurred when wind speeds were less than 4.6 mps.



Assuming that low temperatures might relate to more residential wood combustion, data was analyzed for a correlation between the temperature and particulate levels. No correlation was seen for this parameter and a multiple linear regression including all three parameters (wind speed, wind direction, and temperature) showed poor correlation as well.

Regressions were run on temperature, wind speed, wind direction, and PM_{10} using only data for days with values greater than 65 $\mu g/m^3$. Neither the singular regressions using only one parameter, nor the multiple regressions using combinations of parameters showed any correlation.

CMB

Chemical analysis is done routinely on PM_{10} samples taken in La Grande. From soil analyses it has been determined that dust in La Grande is approximately 29.9% silicon. We can estimate the percent dust in a PM_{10} sample by determining the amount of silicon in the sample.

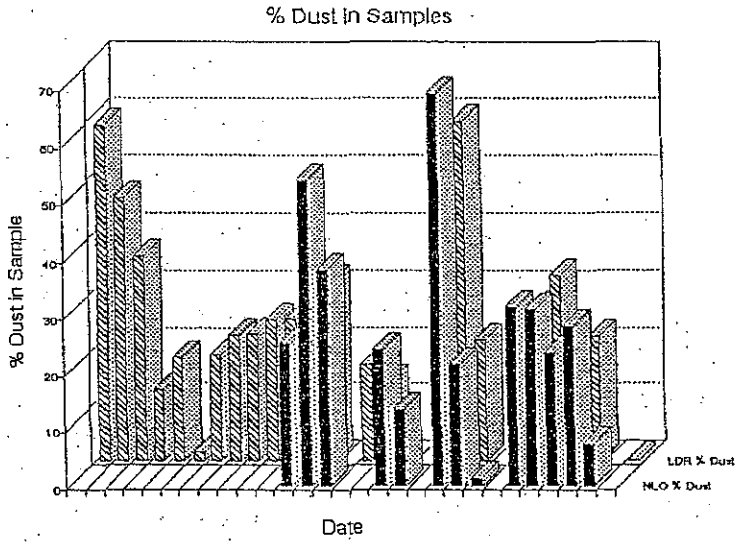
Results from the seven samples analyzed from each site indicate that the percent dust in the samples ranges from 20 to 69%. The average percent of dust in the seven samples for the Dockwiler site was 31% and for the Observer, 37%. On the day of highest PM_{10} levels, CMB analysis indicated more than 60% dust in samples from both sites. There is no consistent correlation between the percent dust and the indicated PM_{10} levels, however. Both sites show low PM_{10} levels with equally high percentages of dust in those samples. (October 10, 1989 Dockwiler PM_{10} = 43 $\mu g/m^3$ and 58.9% dust, December 5, 1990 Observer PM_{10} = 83 $\mu g/m^3$ and 53.9% dust). In all but one instance (6 out of 7 samples) where analysis was done on a pair of samples, the Observer site indicated higher dust fractions than the Dockwiler site.

It might be expected that high wind speeds would correlate with high dust levels; that a specific wind direction could indict a specific source; and/or that either or both factors might be related to the dust fraction of a sample. However, there was no apparent correlation between the wind speed or wind direction and the percent dust of the samples. The number of values available for analysis is, however quite small. Dust contribution at the Observer site was slightly higher than at the Dockwiler site, but overall both PM_{10}, silicon, and percent dust levels look similar to each other as can be seen on the graphs on the following pages.

CMB DATA FROM THE LAGRANDE DUST STUDY

NLO: New La Grande Observer
LDR: La Grande Dockwiller Residence

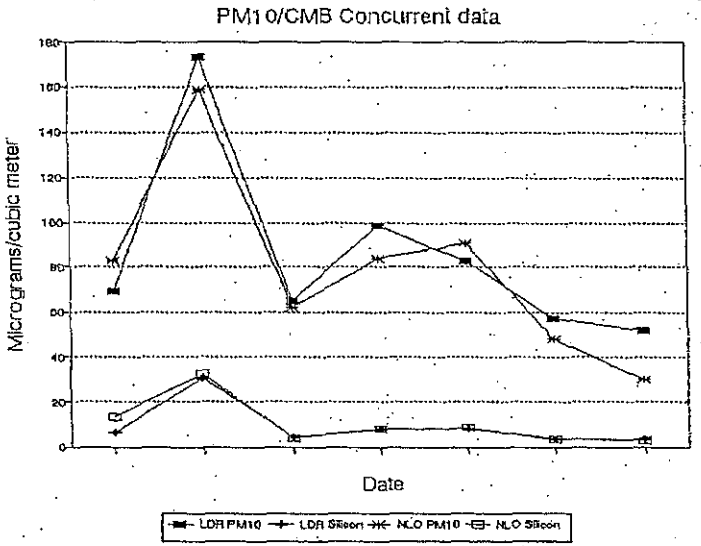
DATE	LDR Silicon	LDR PM10	LDR % Dust	NLO Silicon	NLO PM10	NLO % Dust
10/10/89	7.57	43	58.68			
10/17/89	9.41	68	46.28			
10/19/89	7.58	70	36.22			
11/01/89	4.1	109	12.58			
11/22/89	4.83	98	18.36			
11/24/89	0.24	52	1.54			
12/19/89	9.4	166	18.71			
12/20/89	14.98	223	22.32			
12/29/89	4.86	72	22.58			
01/17/90	2.91	39	24.95			
01/19/90	6.86	91	25.21			
11/09/90				3.25	43	25.28
12/05/90	6.63	69	32.14	13.38	83	53.91
12/06/90				9.19	80	38.42
12/12/90	3.77	74	17.04			
12/22/90	1.74	41	14.19			
12/26/90				2.82	39	24.18
01/01/91				2.43	61	13.32
01/14/91	0.28	59	1.59			
01/29/91	30.87	173	59.68	32.83	159	69.06
02/08/91	4.15	65	21.35	4	62	21.58
02/13/91				0.15	37	1.36
02/19/91	1.36	40	11.37			
02/26/91	8.05	99	27.20	7.94	84	31.61
02/27/91	9.14	83	32.80	8.48	91	31.17
03/16/91	3.41	57	20.01	3.4	48	23.69
03/20/91	3.43	52	22.06	2.64	30	26.32
03/24/91				0.51	23	7.42
03/25/91	0.032	29	0.37			
		Average	23.80			28.41
		Maximum	59.68			69.06
		Minimum	0.37			1.36
		Std Dev	15.30			17.36

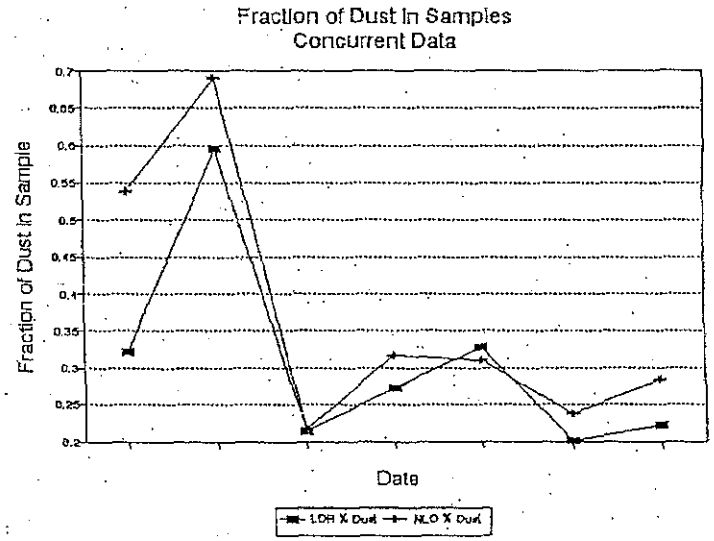


CONCURRENT CMB DATA

DATE	LDR Silicon	LDR PM10	LDR % Dust	NLO Silicon	NLO PM10	NLO % Dust
12/05/90	6.63	69	0.32	13.36	83	0.54
01/28/91	30.87	173	0.60	32.63	159	0.69
02/08/91	4.15	65	0.21	4	62	0.22
02/26/91	8.05	99	0.27	7.94	84	0.32
02/27/91	8.14	83	0.33	8.48	91	0.31
03/16/91	3.41	57	0.20	3.4	48	0.24
03/20/91	3.43	52	0.22	2.64	30	0.28

LDR: La Grande Dockwiler Residence
NLO: New La Grande Observer





Summary and Conclusions

From this data it appears that the samples collected at the Dockwiler site is representative of La Grande's particulate levels and do not show any apparent influence from a local source of dust. The graphs show a consistent mirroring of values throughout the study with the Dockwiler site showing slightly higher levels than the Observer site but with slightly less dust content. This result would not be expected if one or the other of the sites had a unique local influence.

The nephelometer data indicates that there is some influence from space heating (probably wood) due to the peaks coincident with normal hours of wood stove operation. That the nephelometer data correlated poorly with the PM_{10} data, especially on days of high indicated PM_{10} levels, suggests that there may be a significant portion of larger particles in the samples (i.e. greater than 2.5 microns). The relatively high levels of dust at both sites would suggest a fairly large average particle size.

CMB data further substantiates this potential for significant dust contribution to PM_{10} levels. On the average, samples are between 25 and 30% dust. There is an indication that higher PM_{10} levels may show higher percent dust, however because only one pair of samples of the seven pairs analyzed showed PM_{10} greater than 80% of the NAAQS, it is difficult to speculate on the actual contribution to higher PM_{10} levels. All of the other pairs were 66% or less of the PM_{10} NAAQS and the dust fraction of the samples ranged from 20 to 54%. All PM_{10} samples may contain dust fractions falling in this range regardless of actual PM_{10} levels. Meteorology data did little to clarify the situation.

State of Oregon
Department of
Environmental
Quality

LA GRANDE, OREGON
$PM_{2.5}$ PARTICULATE SITE VALIDATION STUDY

2001 - 2002

Conducted By

The Oregon Department Of Environmental Quality

Laboratories And Applied Research Division

Air Quality Monitoring Section

Sampling by: Jennifer Garinger

Report by: Mark Hansen, and Jeff Smith

August, 2001

Review by:_____ **Date:** _____

Review by:_____ **Date:** _____

Review by:_____ **Date:** _____

WORK PLAN

1. PURPOSE:

This study is being conducted in conjunction with the establishment of a new $PM_{2.5}$ particulate sampling site in La Grande on a lot at Third and I Streets (LTI). Data from this study will help determine if the Federal Reference Method (FRM) $PM_{2.5}$ sampler is optimally placed to characterize neighborhood scale $PM_{2.5}$ levels in La Grande. $PM_{2.5}$ measurements from this neighborhood site will be used to help determine if the La Grande air shed meets the new National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ particulates.

2. HOW ACCOMPLISHED:

The study will begin in October of 2001 and continue for approximately one year. The survey samplers to be used have all been successfully tested and documented as to their precision and accuracy. The samplers are low volume devices using an inertial greased impactor as the particulate size separation method. The sampler uses a 110 VAC pump to pull 15 lpm of ambient air through a teflon filter. This filter is connected to a 2 meter piece of PVC pipe which is attached to the pump with a piece of rigid tubing. These survey samplers have been used many times in the past and have been recently re-tested at the Lab and in Hillsboro, Oregon for precision and accuracy. Test results are on file at the ODEQ laboratory.

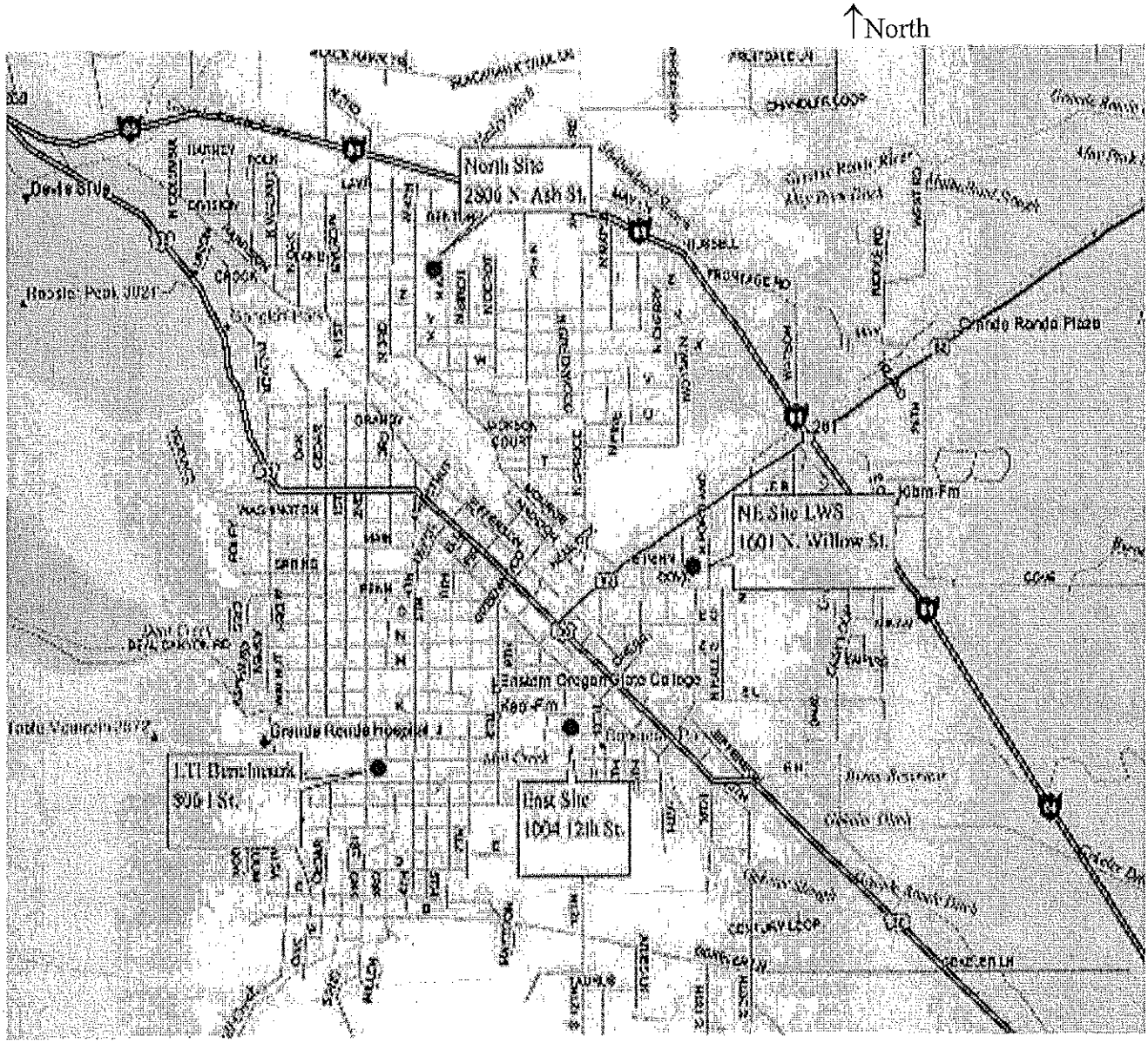
The samplers will run on the national 1 in 6 day schedule like other particulate samplers located in the state. Sites will be serviced by the local air monitoring network personnel as required. The filters will be returned to the ODEQ laboratory for analysis. The analysis will determine their mass loadings and the ambient $PM_{2.5}$ concentrations.

3. SITE SELECTION:

Survey sites have been located to the north, northeast and east of the new FRM $PM_{2.5}$ sampler at 3rd and I Streets (the benchmark site) with surroundings approximately similar to the FRM site. There are no known major fine particulate point sources nearby. The survey sites are within 1-2 kilometers of the benchmark FRM site. No survey sites west and south of the FRM site have been selected as the FRM site is already located in the southwest corner of La Grande and there are no neighborhoods in those directions that are sufficiently far enough from the FRM site.

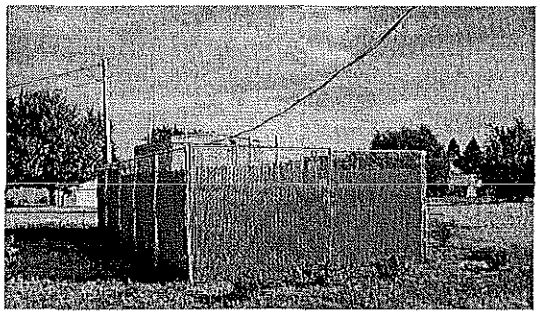
See the site photos and the attached map of the network for more information about the sites.

MAP of LA GRANDE PM2.5 SURVEY SITES

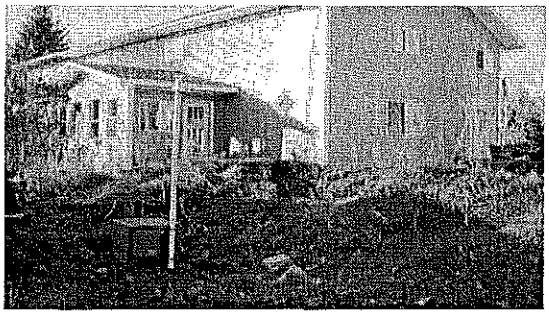


LA GRANDE PM2.5 SURVEY SITE INFORMATION.

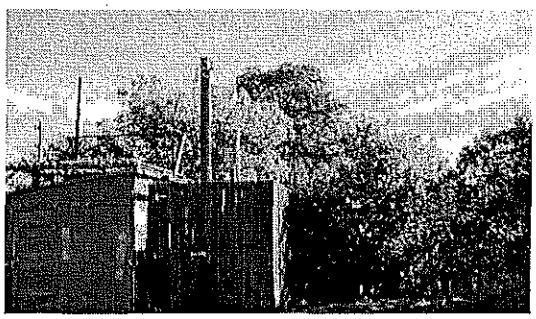
Benchmark Site.
LTI
806 I St.
Site ID#21638
Lat. 45 19 09.17869
Long. 118 05 55.20316



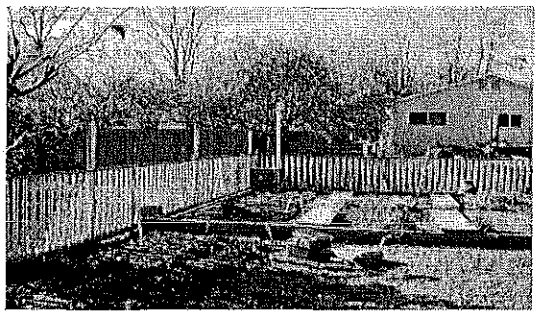
North
2806 North Ash St.
Site ID#26448
Lat. 45 20 19.13352
Long. 118 05 40.59314



Northeast.
LWS
1601 N. Willow St.
Site ID#10148
Lat. 45 19 36.89
Long. 118 04 45.84



East.
1004 12th St.
Site ID#26449
Lat. 45 19 14.45709
Long. 118 05 13.01101



4. PROJECT QUALITY ASSURANCE AND QUALITY CONTROL:

The R & P model 2025 sequential FRM $PM_{2.5}$ sampler is an US EPA reference method sampler for the measurement of $PM_{2.5}$. It is a proven and reliable method of measuring fine particulate and will be the benchmark device for this study. It operates at the LTI site. Two survey samplers will be co-located at the benchmark site where they can provide data used to determine the precision and accuracy of the survey method used in this study.

The survey samplers will be subjected to periodic independent flow audits performed by DEQ Lab staff during regularly scheduled (monthly) network reviews. The performance of the local operator will also be reviewed during these visits.

The operator will maintain a "journal" of the project, noting significant events (equipment problems, unusual weather, etc.), and document the required cleaning and re-greasing of the $PM_{2.5}$ size selective impactor inlets.

Normal Quality Control procedures for PM filter mass determinations will occur at the laboratory during the review of the samples and field data sheets before and after analysis.

5. FUND CODE:

This study is part of the calendar year 2001 work plan for the state wide $PM_{2.5}$ network. It is funded under an US EPA 103 grant. The internal DEQ Lab fund code is 26443.

6. SUMMARY AND REPORT:

A report detailing the results of this study will be generated at the end of the one year period. The report will include all of the sampling data from all 4 sites. A comparison will be made between the performance of the primary and duplicate survey samplers (precision data) and between the average of the two survey samplers and the FRM at Third and I Streets (accuracy data). The results of the 3 survey sites will be compared to those from the benchmark site. A conclusion will be made as to the suitability of the current $PM_{2.5}$ siting in La Grande.

7. PROJECT SCHEDULE:

Activity	Date
Develop work plan.	July – August, 2001
Site search and procurement.	August – September, 2001
Equipment preparation and testing.	September, 2001
Begin sampling	October, 2001
End sampling.	November, 2002
Final report.	December, 2002

PROJECT IMPLEMENTATION

1. NETWORK QA/QC

All sampler and flow orifices used in the survey were calibrated at the Lab using a National Institute of Standards and Technology (NIST) traceable roots meter.

At the start of the $PM_{2.5}$ site survey effort in 1998, all of the samplers to be used were tested and reliable sampler operation was confirmed. Twelve of the standardized inlets used in the surveys were gang tested in Portland in December, 1998. Results of the group testing proved quite satisfactory in that the inlets compared favorably to one another, although they all tended to over collect $PM_{2.5}$ as compared to the reference method sampler. An additional test of 6 of the 15 lpm $PM_{2.5}$ inlets and samplers was also performed in Beaverton at Highland Park School in early 1999 with similar results. Prior to the La Grande survey, the inlets to be used were gang tested in Portland for three samples during the last week of August, 2001. The results of all of these tests are on file with the DEQ Laboratory.

Network Quality Control (QC) audits were performed at network setup on 10-3-01 and as part of regular network review on 12-6-01, 1-8-02, 2-5-02, 3-5-02, 4-5-02, 5-1-02, 6-4-02, 7-2-02, 8-7-02 and 9-10-02. A review of the audit records indicated that all of the samplers operated within 10% of the ideal design flow (assuring a proper particulate size cut by the inlets) and that the operator's flow orifice used for the survey was well within 10% of the audit orifice values.

According to the operator's records all of the $PM_{2.5}$ impactor inlets were cleaned and re-greased at their regularly scheduled (monthly) intervals throughout the duration of the survey.

The benchmark $PM_{2.5}$ FRM sampler was subject to regular monthly QC audits. All sensor and flow audits performed during the duration of the survey were within EPA established limits. Additional quarterly Quality Assurance (QA) audits of the $PM_{2.5}$ FRM sampler performed by the DEQ Laboratory QA section were all within EPA limits, confirming these results.

As a result of all of these efforts, we believe that the data quality objectives for this project were met and are confident in the quality of the data generated by this survey.

2. RESULTS:

Results of the La Grande $PM_{2.5}$ survey are shown in the following tables and graphs. Table 1 contains all of the survey sampling data from the study. Table 2 is a summary of that data. Figure 1 is a graph comparing the survey data from Table 1.

The precision and accuracy (P&A) of the R&P $PM_{2.5}$ FRM sampler was not tested as part of this study. P&A data for this sampler is routinely developed at a number of regular $PM_{2.5}$ sampling sites across the state. This information is available from the DEQ Lab and from EPA.

Data on the precision of the survey samplers was generated by co-locating (primary and duplicate) samplers at the benchmark site. This data is displayed in Table 3 and its

accompanying graph, Figure 2. The statistical correlation between the two was 0.861. The corresponding R squared value was 0.7413. The average difference between the primary and duplicate samplers was 0.07 ug/m3 with a maximum difference of 5 ug/m3. The standard deviation value between the two was 1.8287. This data is based on 58 of the possible 61 valid matched filter pairs.

Survey sampler accuracy is represented by the average of the co-located survey samplers vs. the benchmark $PM_{2.5}$ FRM sampler. In instances where either the primary or duplicate survey sample is missing, the single remaining value is used to represent the survey sampler average. This data is displayed in Table 4 and its accompanying graph, Figure 2. The survey samplers tended to over collect particulate as compared to the benchmark FRM sampler by an average of 2.73 ug/m3 with a maximum difference of 7.4 ug/m3. The correlation between the two was 0.8873 with a corresponding R squared value of 0.7873. The sigma (standard deviation) value between the two was 1.5552.

All of the survey sites generated varied but consistent results. Survey averages from the four sites ranged from 8.51 to 11.52 ug/m3. Considering that the survey samplers tended to over-report as compared to the FRM sampler, these values are comfortably below the annual $PM_{2.5}$ NAAQS of 15 ug/m3. The northeast site (LWS) had the highest average while the benchmark site (LTI) had the lowest survey average. The two highest single values from the entire survey were 29.1 and 26.2 ug/m3. Both of these occurred at the northeast site and are well below the NAAQS 24 hour standard of 65 ug/m3.

3. CONCLUSIONS:

While the precision and accuracy data from this survey were not as good as with most of the other surveys already conducted, it appears to matter little since overall results clearly indicate that the $PM_{2.5}$ monitoring station at the Third and I Streets (LTI) benchmark site is not suitably located to characterize neighborhood scale $PM_{2.5}$ levels in La Grande. This site not only had the lowest survey average but the two highest individual values generated from this site were well below those generated at each of the other three sites. In fact, it has been noticed that the FRM $PM_{2.5}$ values from the background site at Ladd Marsh often exceeded the values obtained from the LTI site. The northeast site (LWS) generated the highest survey average as well as the highest individual values for the entire survey. This site was originally developed as a maximum PM10 site. It also appears to be the maximum $PM_{2.5}$ site and would not be suitable in representing neighborhood scale $PM_{2.5}$ levels in La Grande. The north and east survey sites ranked second and third, respectively. Although three years of monitoring are required in order to determine compliance with NAAQS, it appears very likely that La Grande will be in attainment of these standards.

4. RECOMMENDATIONS

If it is deemed appropriate to continue $PM_{2.5}$ monitoring in La Grande despite probable compliance with NAAQS, the recommendation is that the LTI site be moved to or very near the north survey site. Survey results from the north site indicate that it would be much more suitable than LTI for representing neighborhood scale $PM_{2.5}$ levels in La Grande.

Table 1 La Grande PM2.5 Survey Results (all values in ug/m3)

Date	North	Northeast	East	LTI Prim	LTI Dupe	LTI P&D Avg	LTI FRM
4-Oct-01	11	11.7	10.9	9	9.8	9.4	7.9
10-Oct-01	**FC**	9.6	2.8	6.6	7.3	7	4.3
16-Oct-01	6.5	6	3.3	4.8	4.1	4.5	5.5
22-Oct-01	10	10.1	9.9	11.7	**FC**	11.7	4.5
28-Oct-01	8.3	9	7.1	6.9	9	8	4.4
3-Nov-01	10.7	11.7	15.2	9.9	10.5	10.2	8.9
9-Nov-01	11.9	9.6	11.3	11.5	11.6	11.6	12.1
15-Nov-01	15.2	6	11.9	9.7	12	10.9	3.5
21-Nov-01	7.7	10.1	7.3	3.1	3.2	3.2	2.5
27-Nov-01	13.8	9	17.3	14.7	15.8	15.3	11.5
3-Dec-01	14.1	**ID**	**SBO**	11.2	10.4	10.8	9.5
9-Dec-01	10.1	14.4	**IM**	8.6	5.8	7.2	5.4
15-Dec-01	7.3	5.8	5.9	4.9	4.9	4.9	3.8
21-Dec-01	19.5	18.1	17	14.4	16.1	15.3	12.8
27-Dec-01	17	13.4	16.3	9.6	7.9	8.8	5.8
2-Jan-02	13.5	10.5	**IM**	9.1	8.8	9	6.8
8-Jan-02	11.4	13.4	10.7	**NRE**	**NRE**		6.0
14-Jan-02	12.3	19.9	10.7	8.7	7.8	8.3	6.6
20-Jan-02	9.2	13.2	13.1	9	8.7	8.9	7.6
26-Jan-02	16.6	17.4	**IM**	10.2	11.5	10.9	7.8
1-Feb-02	22.8	26.2	24.3	17.8	14.6	16.2	13.5
7-Feb-02	13.8	10.5	11.4	11.8	11.3	11.6	6.5
13-Feb-02	21.9	22.9	22.4	17	15.6	16.3	13.8
19-Feb-02	12.2	13.4	9	7.4	8.4	7.9	5.9
25-Feb-02	11.7	11.7	20.6	11.4	9.3	10.4	6
3-Mar-02	10.7	29.1	18.2	12.7	10.9	11.8	7.5
9-Mar-02	11.3	7	9.6	5.7	5.5	5.6	3.5
15-Mar-02	11.9	11.8	9.6	6.8	7	6.9	5.3
21-Mar-02	10.2	20.3	12.5	9.6	7.7	8.7	6.5
27-Mar-02	10.4	**IM**	10.6	8.8	8	8.4	**IM**
2-Apr-02	8.4	12.4	5.1	5.4	4.7	5.1	3.2
8-Apr-02	7	11.2	9	6.3	6.2	6.3	4.6
14-Apr-02	7.6	5.2	8.9	4.9	2.8	3.9	2.1
20-Apr-02	9	9.3	6.8	7.7	8.8	8.3	4.4
26-Apr-02	6.1	7.3	7.3	8.6	6.7	7.7	5.4
2-May-02	10.8	14.1	11.5	10.8	9.7	10.3	4.6
8-May-02	8.2	8.8	6.8	5.9	6.8	6.4	4.9
14-May-02	4.4	4.4	3.5	3.7	3.6	3.7	1.1
20-May-02	6.1	4.5	6.3	4.4	5.2	4.8	2.1
26-May-02	6.2	5.3	7.4	6	5.1	5.6	5.4
1-Jun-02	13.8	12.9	12.3	8.6	7.1	7.9	2.3
7-Jun-02	7.1	6.9	6.1	6.3	9.3	7.8	2.3
13-Jun-02	10.9	13.4	13.6	8.6	6.1	8.4	6.1

Date	North	Northeast	East	LTI Prim	LTI Dupe	LTI P&D Avg	LTI FRM
19-Jun-02	7.3	5.8	5.4	3.9	4.4	4.2	2.4
25-Jun-02	10.2	14.9	8.6	6.4	7.4	6.9	4.7
1-Jul-02	3.9	4.7	11.2	9.3	4.5	6.9	2.3
7-Jul-02	**FD**	**FD**	5.9	6.1	6	6.1	4.3
13-Jul-02	17.5	16.5	**IM**	15.5	16.4	16	13.2
19-Jul-02	8	FD	6.3	6	8.1	7.1	3.5
25-Jul-02	16	23.3	20.4	14.1	16.3	15.2	9.9
31-Jul-02	8.7	9.1	6.9	4	3.8	3.9	2.1
6-Aug-02	10.3	15.1	13.4	8.9	12.7	10.8	7
12-Aug-02	7.4	10.1	12.7	7.1	7.3	7.2	5
18-Aug-02	**FC**	7.7	5.9	**FC**	4.8	4.8	3.5
24-Aug-02	8.5	8.6	8.7	6.9	6.7	6.8	4.9
30-Aug-02	13.3	8.7	8.3	6	8.3	6.7	4.7
5-Sep-02	10.6	9.3	14.5	8.7	9.4	9.1	5.9
11-Sep-02	10	8.7	10.7	7.5	12.5	10	5.7
17-Sep-02	4.7	**IM**	4.1	3.3	3.2	3.3	2.2
23-Sep-02	10.3	3.8	12.7	13.7	8.7	11.2	5.5
29-Sep-02	10.2	11.5	8	8.4	8.8	8.6	4.6
Averages	10.78	11.52	10.49			8.51	

Code Key for Missing Samples:
FC - Filter contaminated
FD - Filter damaged
ID - Insufficient documentation
SBO - Sampler blown over
IM - Instrument malfunction
NRE - Network review error

Table 2 Summary of La Grande $PM_{2.5}$ survey data

Site	# samples	Survey Average	Highest	2nd highest	Days > 15
	(61 possible)	ug/m3	ug/m3	ug/m3	ug/m3
North	58	10.78	22.8	21.9	7
Northeast	56	11.52	29.1	26.2	10
East	57	10.49	24.3	22.4	9
LTI-P	58	8.52	17.8	17	2
LTI-D	58	8.45	16.4	16.3	5
Avg of P&D	58	8.51	16.3	16.2	5
LTI FRM	57	5.78	13.8	13.5	0

Figure 1

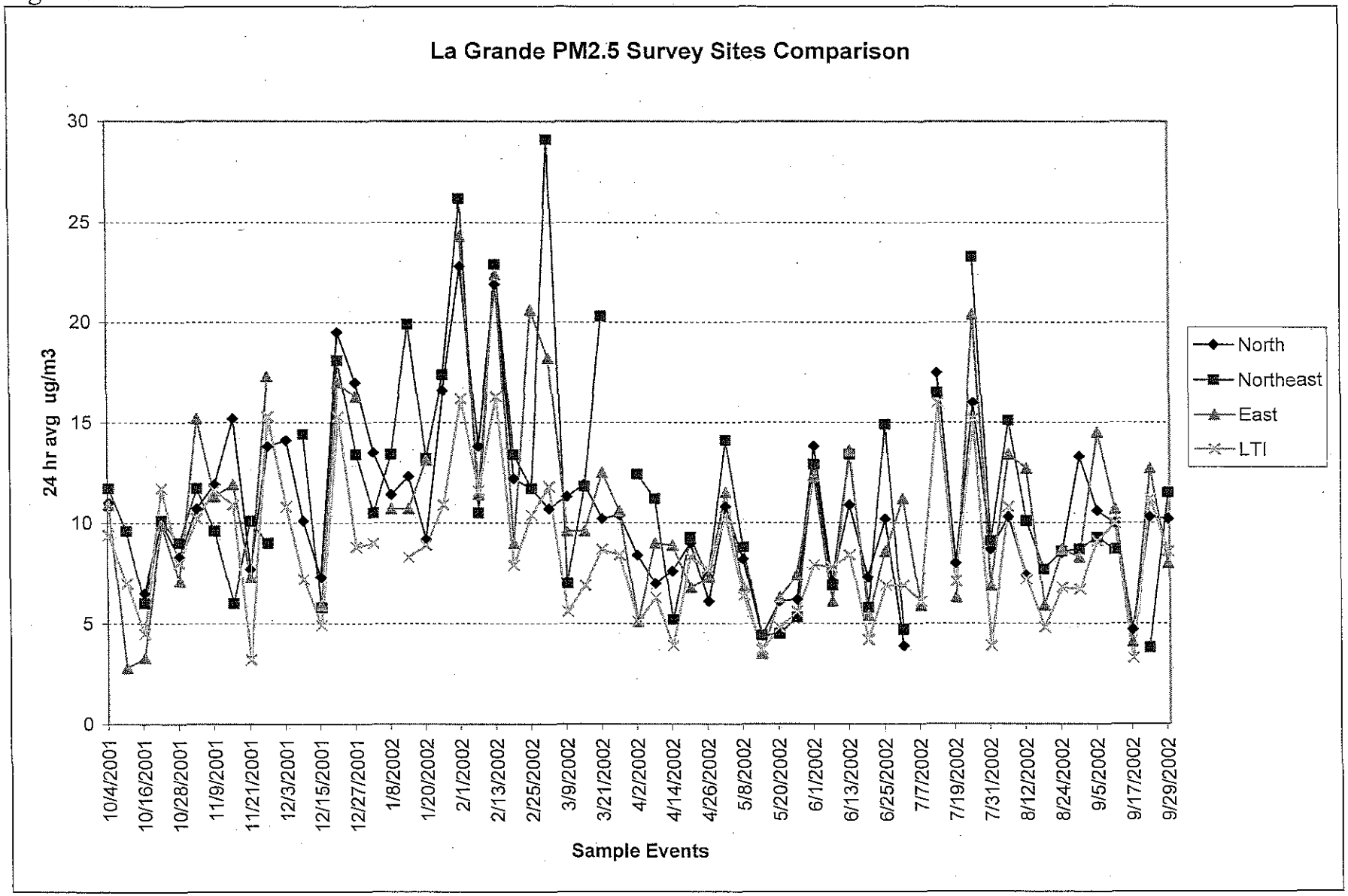

La Grande PM2.5 Survey Sites Comparison
24 hr avg ug/m3
0
5
10
15
20
25
30
10/4/2001
10/16/2001
10/28/2001
11/9/2001
11/21/2001
12/3/2001
12/15/2001
12/27/2001
1/8/2002
1/20/2002
2/1/2002
2/13/2002
2/25/2002
3/9/2002
3/21/2002
4/2/2002
4/14/2002
4/26/2002
5/8/2002
5/20/2002
6/1/2002
6/13/2002
6/25/2002
7/7/2002
7/19/2002
7/31/2002
8/12/2002
8/24/2002
9/5/2002
9/17/2002
9/29/2002
Sample Events
North
Northeast
East
LTI

Table 3 Precision Data: Co-located surveys at LTI (benchmark site)

All values in ug/m3

Date	Primary	Duplicate	Pri - Dup
4-Oct-01	9	9.8	-0.8
10-Oct-01	6.6	7.3	-0.7
16-Oct-01	4.8	4.1	0.7
28-Oct-01	6.9	9	-2.1
3-Nov-01	9.9	10.5	-0.6
9-Nov-01	11.5	11.6	-0.1
15-Nov-01	9.7	12	-2.3
21-Nov-01	3.1	3.2	-0.1
27-Nov-01	14.7	15.8	-1.1
3-Dec-01	11.2	10.4	0.8
9-Dec-01	8.6	5.8	2.8
15-Dec-01	4.9	4.9	0
21-Dec-01	14.4	16.1	-1.7
27-Dec-01	9.6	7.9	1.7
2-Jan-02	9.1	8.8	0.3
14-Jan-02	8.7	7.8	0.9
20-Jan-02	9	8.7	0.3
26-Jan-02	10.2	11.5	-1.3
1-Feb-02	17.8	14.6	3.2
7-Feb-02	11.8	11.3	0.5
13-Feb-02	17	15.6	1.4
19-Feb-02	7.4	8.4	-1
25-Feb-02	11.4	9.3	2.1
3-Mar-02	12.7	10.9	1.8
9-Mar-02	5.7	5.5	0.2
15-Mar-02	6.8	7	-0.2
21-Mar-02	9.6	7.7	1.9
27-Mar-02	8.8	8	0.8
2-Apr-02	5.4	4.7	0.7
8-Apr-02	6.3	6.2	0.1
14-Apr-02	4.9	2.8	2.1
20-Apr-02	7.7	8.8	-1.1
26-Apr-02	8.6	6.7	1.9
2-May-02	10.8	9.7	1.1
8-May-02	5.9	6.8	-0.9
14-May-02	3.7	3.6	0.1
20-May-02	4.4	5.2	-0.8
26-May-02	6	5.1	0.9
1-Jun-02	8.6	7.1	1.5
7-Jun-02	6.3	9.3	-3
13-Jun-02	8.6	6.1	2.5
19-Jun-02	3.9	4.4	-0.5
25-Jun-02	6.4	7.4	-1
1-Jul-02	9.3	4.5	4.8
7-Jul-02	6.1	6	0.1
13-Jul-02	15.5	16.4	-0.9
19-Jul-02	6	8.1	-2.1
25-Jul-02	14.1	16.3	-2.2
31-Jul-02	4	3.8	0.2
6-Aug-02	8.9	12.7	-3.8
12-Aug-02	7.1	7.3	-0.2
24-Aug-02	6.9	6.7	0.2
30-Aug-02	6	8.3	-2.3
5-Sep-02	8.7	9.4	-0.7
11-Sep-02	7.5	12.5	-5
17-Sep-02	3.3	3.2	0.1
23-Sep-02	13.7	8.7	5
29-Sep-02	8.4	8.8	-0.4
Count =	58		
Average =	8.52	8.45	0.07
Correl. =	0.8610		
Sigma =	1.8287		

Figure 2

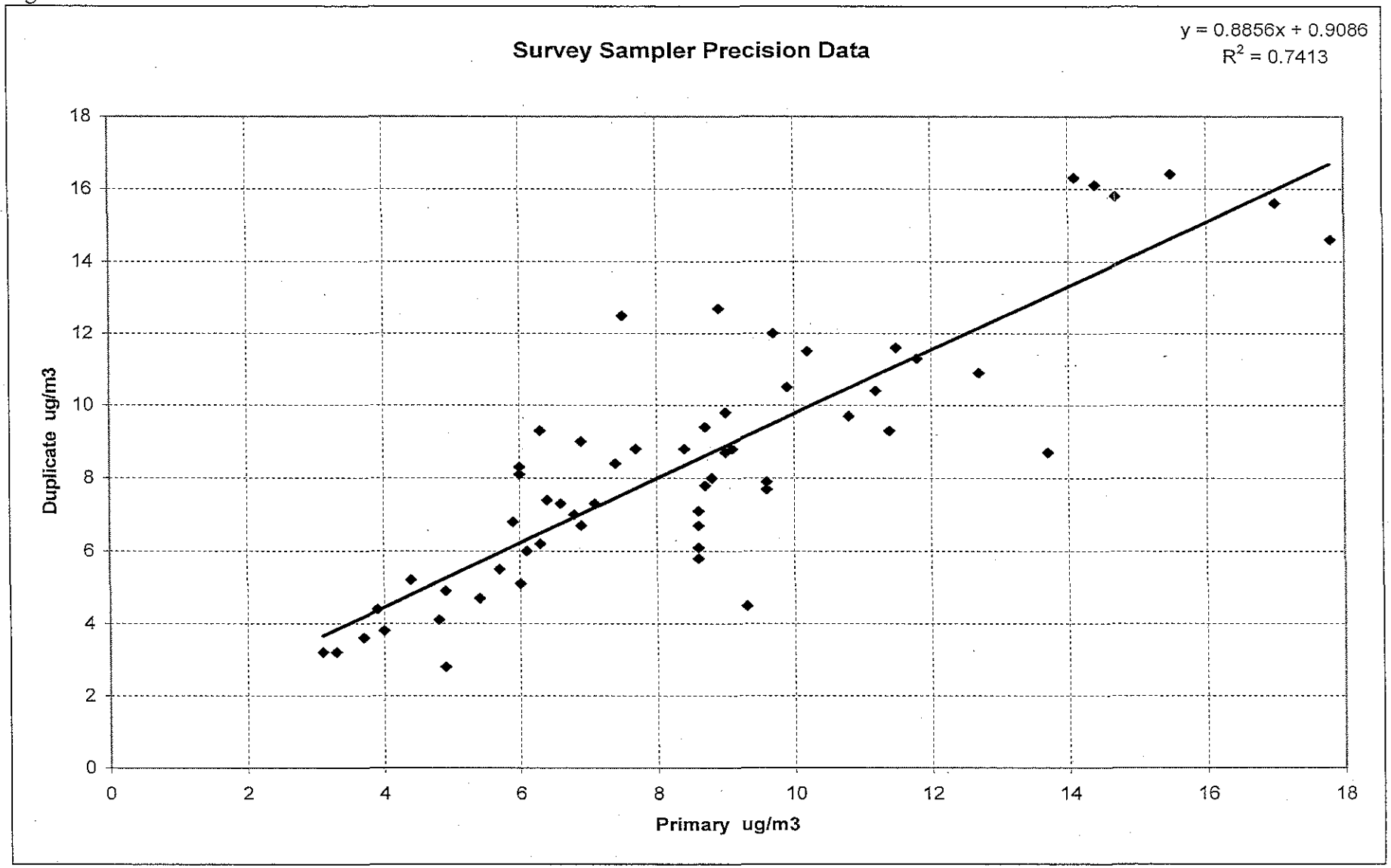
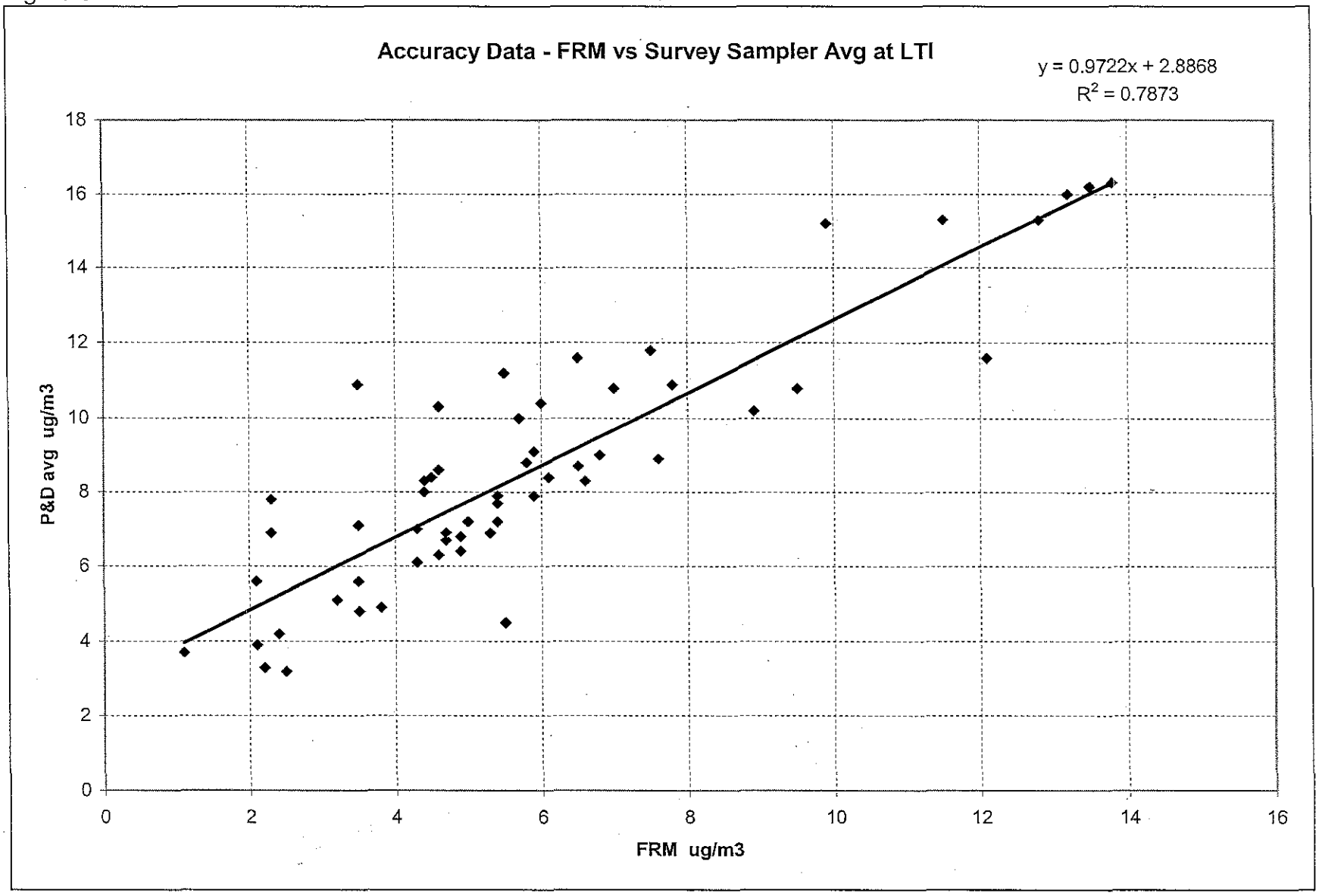

Survey Sampler Precision Data
y = 0.8856x + 0.9086
R2 = 0.7413
Duplicate ug/m3
Primary ug/m3
0
2
4
6
8
10
12
14
16
18

Table 4 Accuracy Data: FRM versus Survey at Benchmark site (LTI)

All values in ug/m3

Date	FRM	P&D Avg	FRM-P&D
10-Oct-01	4.3	7	-2.7
16-Oct-01	5.5	4.5	1
22-Oct-01	4.5	8.4	-3.9
28-Oct-01	4.4	8	-3.6
3-Nov-01	8.9	10.2	-1.3
9-Nov-01	12.1	11.6	0.5
15-Nov-01	3.5	10.9	-7.4
21-Nov-01	2.5	3.2	-0.7
27-Nov-01	11.5	15.3	-3.8
3-Dec-01	9.5	10.8	-1.3
9-Dec-01	5.4	7.2	-1.8
15-Dec-01	3.8	4.9	-1.1
21-Dec-01	12.8	15.3	-2.5
27-Dec-01	5.8	8.8	-3
2-Jan-02	6.8	9	-2.2
14-Jan-02	6.6	8.3	-1.7
20-Jan-02	7.6	8.9	-1.3
26-Jan-02	7.8	10.9	-3.1
1-Feb-02	13.5	16.2	-2.7
7-Feb-02	6.5	11.6	-5.1
13-Feb-02	13.8	16.3	-2.5
19-Feb-02	5.9	7.9	-2
25-Feb-02	6	10.4	-4.4
3-Mar-02	7.5	11.8	-4.3
9-Mar-02	3.5	5.6	-2.1
15-Mar-02	5.3	6.9	-1.6
21-Mar-02	6.5	8.7	-2.2
2-Apr-02	3.2	5.1	-1.9
8-Apr-02	4.6	6.3	-1.7
14-Apr-02	2.1	3.9	-1.8
20-Apr-02	4.4	8.3	-3.9
26-Apr-02	5.4	7.7	-2.3
2-May-02	4.6	10.3	-5.7
8-May-02	4.9	6.4	-1.5
14-May-02	1.1	3.7	-2.6
26-May-02	2.1	5.6	-3.5
1-Jun-02	5.4	7.9	-2.5
7-Jun-02	2.3	7.8	-5.5
13-Jun-02	6.1	8.4	-2.3
19-Jun-02	2.4	4.2	-1.8
25-Jun-02	4.7	6.9	-2.2
1-Jul-02	2.3	6.9	-4.6
7-Jul-02	4.3	6.1	-1.8
13-Jul-02	13.2	16	-2.8
19-Jul-02	3.5	7.1	-3.6
25-Jul-02	9.9	15.2	-5.3
31-Jul-02	2.1	3.9	-1.8
6-Aug-02	7	10.8	-3.8
12-Aug-02	5	7.2	-2.2
18-Aug-02	3.5	4.8	-1.3
24-Aug-02	4.9	6.8	-1.9
30-Aug-02	4.7	6.7	-2
5-Sep-02	5.9	9.1	-3.2
11-Sep-02	5.7	10	-4.3
17-Sep-02	2.2	3.3	-1.1
23-Sep-02	5.5	11.2	-5.7
29-Sep-02	4.6	8.6	-4
Count =	57		
Average =	5.78	8.51	-2.73
Correl. =	0.8873		
Sigma =	1.5552		

Figure 3


Accuracy Data - FRM vs Survey Sampler Avg at LTI
y = 0.9722x + 2.8868
R2 = 0.7873
P&D avg ug/m3
FRM ug/m3
0
2
4
6
8
10
12
14
16
18

State of Oregon
Department of
Environmental
Quality

LA GRANDE, OREGON
$PM_{2.5}$ PARTICULATE SITE VALIDATION STUDY

2001 - 2002

Conducted By

The Oregon Department Of Environmental Quality

Laboratories And Applied Research Division

Air Quality Monitoring Section

Sampling by: Jennifer Garinger

Report by: Mark Hansen, and Jeff Smith

August, 2001

Review by:_____ **Date:** _____

Review by:_____ **Date:** _____

Review by:_____ **Date:** _____

WORK PLAN

1. PURPOSE:

This study is being conducted in conjunction with the establishment of a new $PM_{2.5}$ particulate sampling site in La Grande on a lot at Third and I Streets (LTI). Data from this study will help determine if the Federal Reference Method (FRM) $PM_{2.5}$ sampler is optimally placed to characterize neighborhood scale $PM_{2.5}$ levels in La Grande. $PM_{2.5}$ measurements from this neighborhood site will be used to help determine if the La Grande air shed meets the new National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ particulates.

2. HOW ACCOMPLISHED:

The study will begin in October of 2001 and continue for approximately one year. The survey samplers to be used have all been successfully tested and documented as to their precision and accuracy. The samplers are low volume devices using an inertial greased impactor as the particulate size separation method. The sampler uses a 110 VAC pump to pull 15 lpm of ambient air through a teflon filter. This filter is connected to a 2 meter piece of PVC pipe which is attached to the pump with a piece of rigid tubing. These survey samplers have been used many times in the past and have been recently re-tested at the Lab and in Hillsboro, Oregon for precision and accuracy. Test results are on file at the ODEQ laboratory.

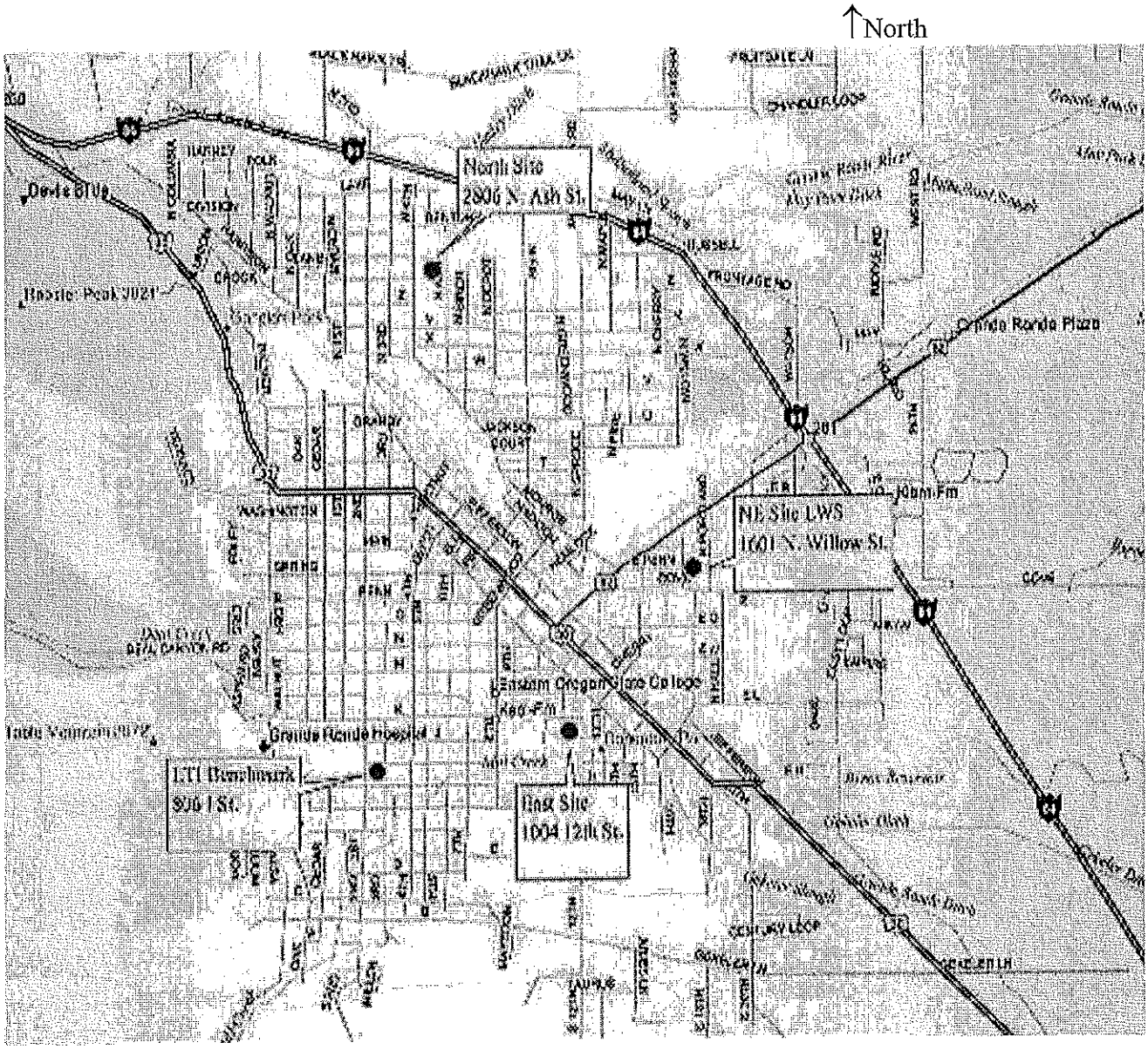
The samplers will run on the national 1 in 6 day schedule like other particulate samplers located in the state. Sites will be serviced by the local air monitoring network personnel as required. The filters will be returned to the ODEQ laboratory for analysis. The analysis will determine their mass loadings and the ambient $PM_{2.5}$ concentrations.

3. SITE SELECTION:

Survey sites have been located to the north, northeast and east of the new FRM $PM_{2.5}$ sampler at 3rd and I Streets (the benchmark site) with surroundings approximately similar to the FRM site. There are no known major fine particulate point sources nearby. The survey sites are within 1-2 kilometers of the benchmark FRM site. No survey sites west and south of the FRM site have been selected as the FRM site is already located in the southwest corner of La Grande and there are no neighborhoods in those directions that are sufficiently far enough from the FRM site.

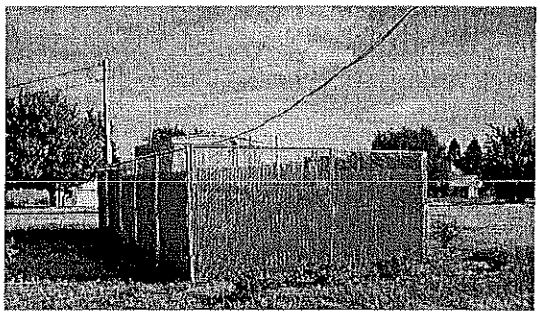
See the site photos and the attached map of the network for more information about the sites.

MAP of LA GRANDE PM2.5 SURVEY SITES

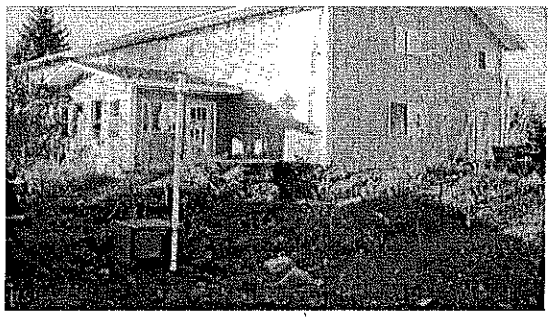


LA GRANDE PM2.5 SURVEY SITE INFORMATION.

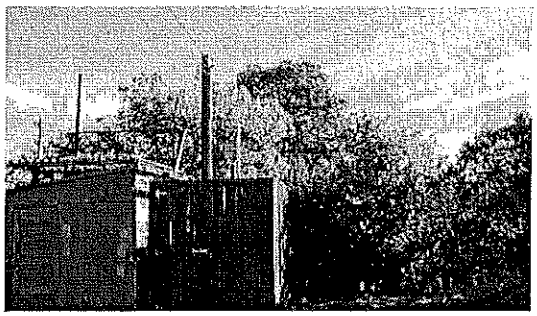
Benchmark Site.
LTI
806 I St.
Site ID#21638
Lat. 45 19 09.17869
Long. 118 05 55.20316



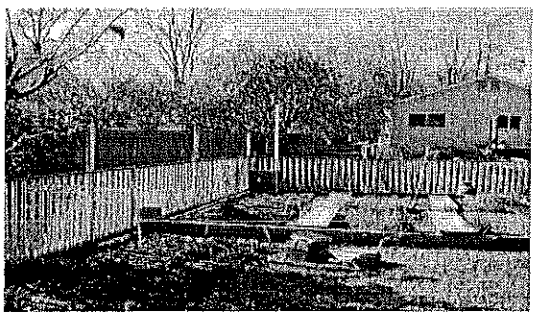
North
2806 North Ash St.
Site ID#26448
Lat. 45 20 19.13352
Long. 118 05 40.59314



Northeast.
LWS
1601 N. Willow St.
Site ID#10148
Lat. 45 19 36.89
Long. 118 04 45.84



East.
1004 12th St.
Site ID#26449
Lat. 45 19 14.45709
Long. 118 05 13.01101



4. PROJECT QUALITY ASSURANCE AND QUALITY CONTROL:

The R & P model 2025 sequential FRM $PM_{2.5}$ sampler is an US EPA reference method sampler for the measurement of $PM_{2.5}$. It is a proven and reliable method of measuring fine particulate and will be the benchmark device for this study. It operates at the LTI site. Two survey samplers will be co-located at the benchmark site where they can provide data used to determine the precision and accuracy of the survey method used in this study.

The survey samplers will be subjected to periodic independent flow audits performed by DEQ Lab staff during regularly scheduled (monthly) network reviews. The performance of the local operator will also be reviewed during these visits.

The operator will maintain a "journal" of the project, noting significant events (equipment problems, unusual weather, etc.), and document the required cleaning and re-greasing of the $PM_{2.5}$ size selective impactor inlets.

Normal Quality Control procedures for PM filter mass determinations will occur at the laboratory during the review of the samples and field data sheets before and after analysis.

5. FUND CODE:

This study is part of the calendar year 2001 work plan for the state wide $PM_{2.5}$ network. It is funded under an US EPA 103 grant. The internal DEQ Lab fund code is 26443.

6. SUMMARY AND REPORT:

A report detailing the results of this study will be generated at the end of the one year period. The report will include all of the sampling data from all 4 sites. A comparison will be made between the performance of the primary and duplicate survey samplers (precision data) and between the average of the two survey samplers and the FRM at Third and I Streets (accuracy data). The results of the 3 survey sites will be compared to those from the benchmark site. A conclusion will be made as to the suitability of the current $PM_{2.5}$ siting in La Grande.

7. PROJECT SCHEDULE:

Activity	Date
Develop work plan.	July – August, 2001
Site search and procurement.	August – September, 2001
Equipment preparation and testing.	September, 2001
Begin sampling	October, 2001
End sampling.	November, 2002
Final report.	December, 2002

PROJECT IMPLEMENTATION

1. NETWORK QA/QC

All sampler and flow orifices used in the survey were calibrated at the Lab using a National Institute of Standards and Technology (NIST) traceable roots meter.

At the start of the $PM_{2.5}$ site survey effort in 1998, all of the samplers to be used were tested and reliable sampler operation was confirmed. Twelve of the standardized inlets used in the surveys were gang tested in Portland in December, 1998. Results of the group testing proved quite satisfactory in that the inlets compared favorably to one another, although they all tended to over collect $PM_{2.5}$ as compared to the reference method sampler. An additional test of 6 of the 15 lpm $PM_{2.5}$ inlets and samplers was also performed in Beaverton at Highland Park School in early 1999 with similar results. Prior to the La Grande survey, the inlets to be used were gang tested in Portland for three samples during the last week of August, 2001. The results of all of these tests are on file with the DEQ Laboratory.

Network Quality Control (QC) audits were performed at network setup on 10-3-01 and as part of regular network review on 12-6-01, 1-8-02, 2-5-02, 3-5-02, 4-5-02, 5-1-02, 6-4-02, 7-2-02, 8-7-02 and 9-10-02. A review of the audit records indicated that all of the samplers operated within 10% of the ideal design flow (assuring a proper particulate size cut by the inlets) and that the operator's flow orifice used for the survey was well within 10% of the audit orifice values.

According to the operator's records all of the $PM_{2.5}$ impactor inlets were cleaned and re-greased at their regularly scheduled (monthly) intervals throughout the duration of the survey.

The benchmark $PM_{2.5}$ FRM sampler was subject to regular monthly QC audits. All sensor and flow audits performed during the duration of the survey were within EPA established limits. Additional quarterly Quality Assurance (QA) audits of the $PM_{2.5}$ FRM sampler performed by the DEQ Laboratory QA section were all within EPA limits, confirming these results.

As a result of all of these efforts, we believe that the data quality objectives for this project were met and are confident in the quality of the data generated by this survey.

2. RESULTS:

Results of the La Grande $PM_{2.5}$ survey are shown in the following tables and graphs. Table 1 contains all of the survey sampling data from the study. Table 2 is a summary of that data. Figure 1 is a graph comparing the survey data from Table 1.

The precision and accuracy (P&A) of the R&P $PM_{2.5}$ FRM sampler was not tested as part of this study. P&A data for this sampler is routinely developed at a number of regular $PM_{2.5}$ sampling sites across the state. This information is available from the DEQ Lab and from EPA.

Data on the precision of the survey samplers was generated by co-locating (primary and duplicate) samplers at the benchmark site. This data is displayed in Table 3 and its

accompanying graph, Figure 2. The statistical correlation between the two was 0.861. The corresponding R squared value was 0.7413. The average difference between the primary and duplicate samplers was 0.07 ug/m3 with a maximum difference of 5 ug/m3. The standard deviation value between the two was 1.8287. This data is based on 58 of the possible 61 valid matched filter pairs.

Survey sampler accuracy is represented by the average of the co-located survey samplers vs. the benchmark $PM_{2.5}$ FRM sampler. In instances where either the primary or duplicate survey sample is missing, the single remaining value is used to represent the survey sampler average. This data is displayed in Table 4 and its accompanying graph, Figure 2. The survey samplers tended to over collect particulate as compared to the benchmark FRM sampler by an average of 2.73 ug/m3 with a maximum difference of 7.4 ug/m3. The correlation between the two was 0.8873 with a corresponding R squared value of 0.7873. The sigma (standard deviation) value between the two was 1.5552.

All of the survey sites generated varied but consistent results. Survey averages from the four sites ranged from 8.51 to 11.52 ug/m3. Considering that the survey samplers tended to over-report as compared to the FRM sampler, these values are comfortably below the annual $PM_{2.5}$ NAAQS of 15 ug/m3. The northeast site (LWS) had the highest average while the benchmark site (LTI) had the lowest survey average. The two highest single values from the entire survey were 29.1 and 26.2 ug/m3. Both of these occurred at the northeast site and are well below the NAAQS 24 hour standard of 65 ug/m3.

3. CONCLUSIONS:

While the precision and accuracy data from this survey were not as good as with most of the other surveys already conducted, it appears to matter little since overall results clearly indicate that the $PM_{2.5}$ monitoring station at the Third and I Streets (LTI) benchmark site is not suitably located to characterize neighborhood scale $PM_{2.5}$ levels in La Grande. This site not only had the lowest survey average but the two highest individual values generated from this site were well below those generated at each of the other three sites. In fact, it has been noticed that the FRM $PM_{2.5}$ values from the background site at Ladd Marsh often exceeded the values obtained from the LTI site. The northeast site (LWS) generated the highest survey average as well as the highest individual values for the entire survey. This site was originally developed as a maximum PM10 site. It also appears to be the maximum $PM_{2.5}$ site and would not be suitable in representing neighborhood scale $PM_{2.5}$ levels in La Grande. The north and east survey sites ranked second and third, respectively. Although three years of monitoring are required in order to determine compliance with NAAQS, it appears very likely that La Grande will be in attainment of these standards.

4. RECOMMENDATIONS

If it is deemed appropriate to continue $PM_{2.5}$ monitoring in La Grande despite probable compliance with NAAQS, the recommendation is that the LTI site be moved to or very near the north survey site. Survey results from the north site indicate that it would be much more suitable than LTI for representing neighborhood scale $PM_{2.5}$ levels in La Grande.

Table 1 La Grande PM2.5 Survey Results (all values in ug/m3)

Date	North	Northeast	East	LTI Prim	LTI Dupe	LTI P&D Avg	LTI FRM
4-Oct-01	11	11.7	10.9	9	9.8	9.4	7.9
10-Oct-01	**FC**	9.6	2.8	6.6	7.3	7	4.3
16-Oct-01	6.5	6	3.3	4.8	4.1	4.5	5.5
22-Oct-01	10	10.1	9.9	11.7	**FC**	11.7	4.5
28-Oct-01	8.3	9	7.1	6.9	9	8	4.4
3-Nov-01	10.7	11.7	15.2	9.9	10.5	10.2	8.9
9-Nov-01	11.9	9.6	11.3	11.5	11.6	11.6	12.1
15-Nov-01	15.2	6	11.9	9.7	12	10.9	3.5
21-Nov-01	7.7	10.1	7.3	3.1	3.2	3.2	2.5
27-Nov-01	13.8	9	17.3	14.7	15.8	15.3	11.5
3-Dec-01	14.1	**ID**	**SBO**	11.2	10.4	10.8	9.5
9-Dec-01	10.1	14.4	**IM**	8.6	5.8	7.2	5.4
15-Dec-01	7.3	5.8	5.9	4.9	4.9	4.9	3.8
21-Dec-01	19.5	18.1	17	14.4	16.1	15.3	12.8
27-Dec-01	17	13.4	16.3	9.6	7.9	8.8	5.8
2-Jan-02	13.5	10.5	**IM**	9.1	8.8	9	6.8
8-Jan-02	11.4	13.4	10.7	**NRE**	**NRE**		6.0
14-Jan-02	12.3	19.9	10.7	8.7	7.8	8.3	6.6
20-Jan-02	9.2	13.2	13.1	9	8.7	8.9	7.6
26-Jan-02	16.6	17.4	**IM**	10.2	11.5	10.9	7.8
1-Feb-02	22.8	26.2	24.3	17.8	14.6	16.2	13.5
7-Feb-02	13.8	10.5	11.4	11.8	11.3	11.6	6.5
13-Feb-02	21.9	22.9	22.4	17	15.6	16.3	13.8
19-Feb-02	12.2	13.4	9	7.4	8.4	7.9	5.9
25-Feb-02	11.7	11.7	20.6	11.4	9.3	10.4	6
3-Mar-02	10.7	29.1	18.2	12.7	10.9	11.8	7.5
9-Mar-02	11.3	7	9.6	5.7	5.5	5.6	3.5
15-Mar-02	11.9	11.8	9.6	6.8	7	6.9	5.3
21-Mar-02	10.2	20.3	12.5	9.6	7.7	8.7	6.5
27-Mar-02	10.4	**IM**	10.6	8.8	8	8.4	**IM**
2-Apr-02	8.4	12.4	5.1	5.4	4.7	5.1	3.2
8-Apr-02	7	11.2	9	6.3	6.2	6.3	4.6
14-Apr-02	7.6	5.2	8.9	4.9	2.8	3.9	2.1
20-Apr-02	9	9.3	6.8	7.7	8.8	8.3	4.4
26-Apr-02	6.1	7.3	7.3	8.6	6.7	7.7	5.4
2-May-02	10.8	14.1	11.5	10.8	9.7	10.3	4.6
8-May-02	8.2	8.8	6.8	5.9	6.8	6.4	4.9
14-May-02	4.4	4.4	3.5	3.7	3.6	3.7	1.1
20-May-02	6.1	4.5	6.3	4.4	5.2	4.8	2.1
26-May-02	6.2	5.3	7.4	6	5.1	5.6	5.4
1-Jun-02	13.8	12.9	12.3	8.6	7.1	7.9	2.3
7-Jun-02	7.1	6.9	6.1	6.3	9.3	7.8	2.3
13-Jun-02	10.9	13.4	13.6	8.6	6.1	8.4	6.1

Date	North	Northeast	East	LTI Prim	LTI Dupe	LTI P&D Avg	LTI FRM
19-Jun-02	7.3	5.8	5.4	3.9	4.4	4.2	2.4
25-Jun-02	10.2	14.9	8.6	6.4	7.4	6.9	4.7
1-Jul-02	3.9	4.7	11.2	9.3	4.5	6.9	2.3
7-Jul-02	**FD**	**FD**	5.9	6.1	6	6.1	4.3
13-Jul-02	17.5	16.5	**IM**	15.5	16.4	16	13.2
19-Jul-02	8	FD	6.3	6	8.1	7.1	3.5
25-Jul-02	16	23.3	20.4	14.1	16.3	15.2	9.9
31-Jul-02	8.7	9.1	6.9	4	3.8	3.9	2.1
6-Aug-02	10.3	15.1	13.4	8.9	12.7	10.8	7
12-Aug-02	7.4	10.1	12.7	7.1	7.3	7.2	5
18-Aug-02	**FC**	7.7	5.9	**FC**	4.8	4.8	3.5
24-Aug-02	8.5	8.6	8.7	6.9	6.7	6.8	4.9
30-Aug-02	13.3	8.7	8.3	6	8.3	6.7	4.7
5-Sep-02	10.6	9.3	14.5	8.7	9.4	9.1	5.9
11-Sep-02	10	8.7	10.7	7.5	12.5	10	5.7
17-Sep-02	4.7	**IM**	4.1	3.3	3.2	3.3	2.2
23-Sep-02	10.3	3.8	12.7	13.7	8.7	11.2	5.5
29-Sep-02	10.2	11.5	8	8.4	8.8	8.6	4.6
Averages	10.78	11.52	10.49			8.51	
Code Key for Missing Samples:							
FC - Filter contaminated							
FD - Filter damaged							
ID - Insufficient documentation							
SBO - Sampler blown over							
IM - Instrument malfunction							
NRE - Network review error							

Table 2 Summary of La Grande $PM_{2.5}$ survey data

Site	# samples	Survey Average	Highest	2nd highest	Days > 15
	(61 possible)	ug/m3	ug/m3	ug/m3	ug/m3
North	58	10.78	22.8	21.9	7
Northeast	56	11.52	29.1	26.2	10
East	57	10.49	24.3	22.4	9
LTI-P	58	8.52	17.8	17	2
LTI-D	58	8.45	16.4	16.3	5
Avg of P&D	58	8.51	16.3	16.2	5
LTI FRM	57	5.78	13.8	13.5	0

Figure 1

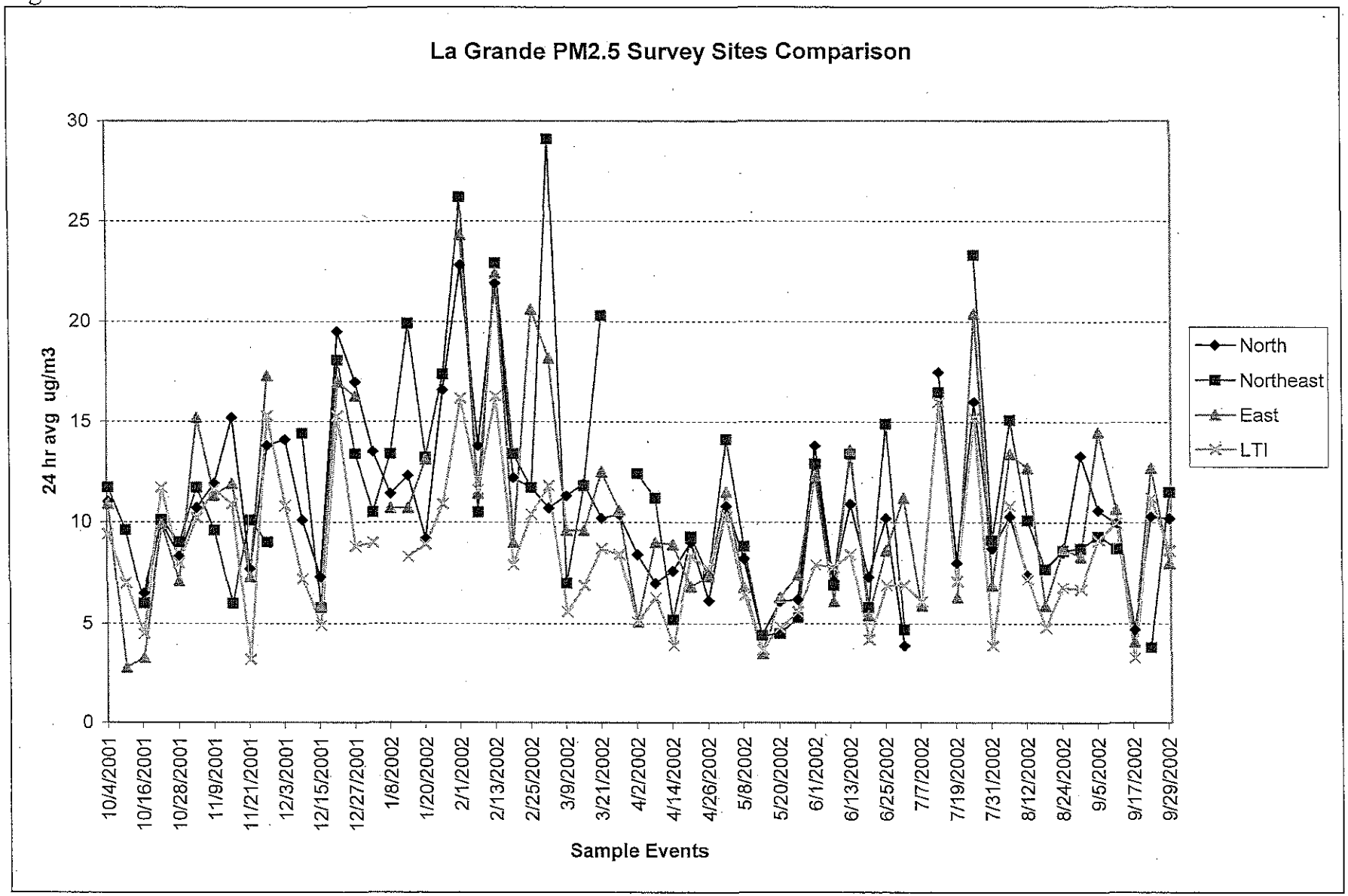

La Grande PM2.5 Survey Sites Comparison
24 hr avg ug/m3
0
5
10
15
20
25
30
10/4/2001
10/16/2001
10/28/2001
11/9/2001
11/21/2001
12/3/2001
12/15/2001
12/27/2001
1/8/2002
1/20/2002
2/1/2002
2/13/2002
2/25/2002
3/9/2002
3/21/2002
4/2/2002
4/14/2002
4/26/2002
5/8/2002
5/20/2002
6/1/2002
6/13/2002
6/25/2002
7/7/2002
7/19/2002
7/31/2002
8/12/2002
8/24/2002
9/5/2002
9/17/2002
9/29/2002
Sample Events
North
Northeast
East
LTI

Table 3 Precision Data: Co-located surveys at LTI (benchmark site)

All values in ug/m3

Date	Primary	Duplicate	Pri - Dup
4-Oct-01	9	9.8	-0.8
10-Oct-01	6.6	7.3	-0.7
16-Oct-01	4.8	4.1	0.7
28-Oct-01	6.9	9	-2.1
3-Nov-01	9.9	10.5	-0.6
9-Nov-01	11.5	11.6	-0.1
15-Nov-01	9.7	12	-2.3
21-Nov-01	3.1	3.2	-0.1
27-Nov-01	14.7	15.8	-1.1
3-Dec-01	11.2	10.4	0.8
9-Dec-01	8.6	5.8	2.8
15-Dec-01	4.9	4.9	0
21-Dec-01	14.4	16.1	-1.7
27-Dec-01	9.6	7.9	1.7
2-Jan-02	9.1	8.8	0.3
14-Jan-02	8.7	7.8	0.9
20-Jan-02	9	8.7	0.3
26-Jan-02	10.2	11.5	-1.3
1-Feb-02	17.8	14.6	3.2
7-Feb-02	11.8	11.3	0.5
13-Feb-02	17	15.6	1.4
19-Feb-02	7.4	8.4	-1
25-Feb-02	11.4	9.3	2.1
3-Mar-02	12.7	10.9	1.8
9-Mar-02	5.7	5.5	0.2
15-Mar-02	6.8	7	-0.2
21-Mar-02	9.6	7.7	1.9
27-Mar-02	8.8	8	0.8
2-Apr-02	5.4	4.7	0.7
8-Apr-02	6.3	6.2	0.1
14-Apr-02	4.9	2.8	2.1
20-Apr-02	7.7	8.8	-1.1
26-Apr-02	8.6	6.7	1.9
2-May-02	10.8	9.7	1.1
8-May-02	5.9	6.8	-0.9
14-May-02	3.7	3.6	0.1
20-May-02	4.4	5.2	-0.8
26-May-02	6	5.1	0.9
1-Jun-02	8.6	7.1	1.5
7-Jun-02	6.3	9.3	-3
13-Jun-02	8.6	6.1	2.5
19-Jun-02	3.9	4.4	-0.5
25-Jun-02	6.4	7.4	-1
1-Jul-02	9.3	4.5	4.8
7-Jul-02	6.1	6	0.1
13-Jul-02	15.5	16.4	-0.9
19-Jul-02	6	8.1	-2.1
25-Jul-02	14.1	16.3	-2.2
31-Jul-02	4	3.8	0.2
6-Aug-02	8.9	12.7	-3.8
12-Aug-02	7.1	7.3	-0.2
24-Aug-02	6.9	6.7	0.2
30-Aug-02	6	8.3	-2.3
5-Sep-02	8.7	9.4	-0.7
11-Sep-02	7.5	12.5	-5
17-Sep-02	3.3	3.2	0.1
23-Sep-02	13.7	8.7	5
29-Sep-02	8.4	8.8	-0.4
Count =	58		
Average =	8.52	8.45	0.07
Correl. =	0.8610		
Sigma =	1.8287		

Figure 2

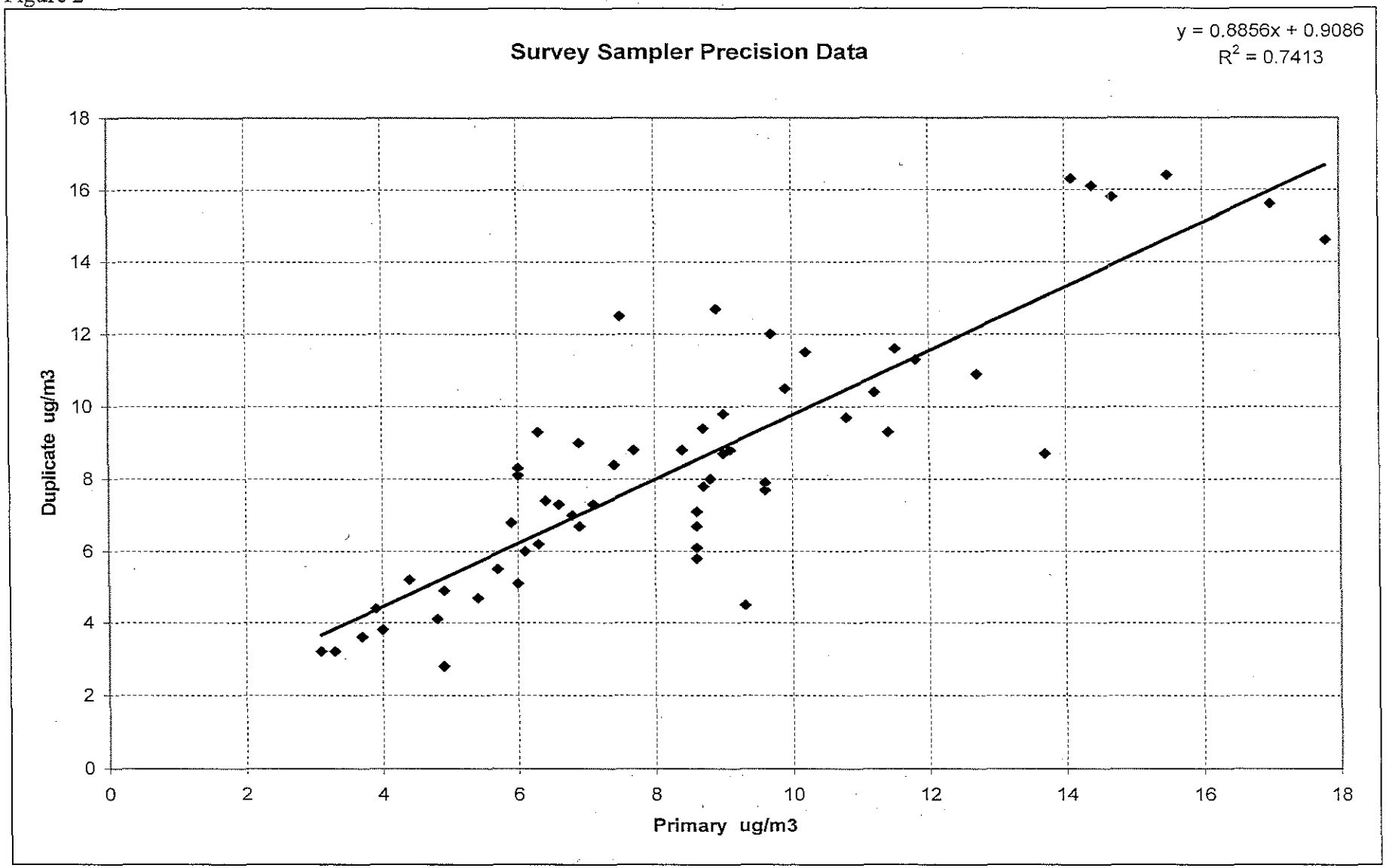
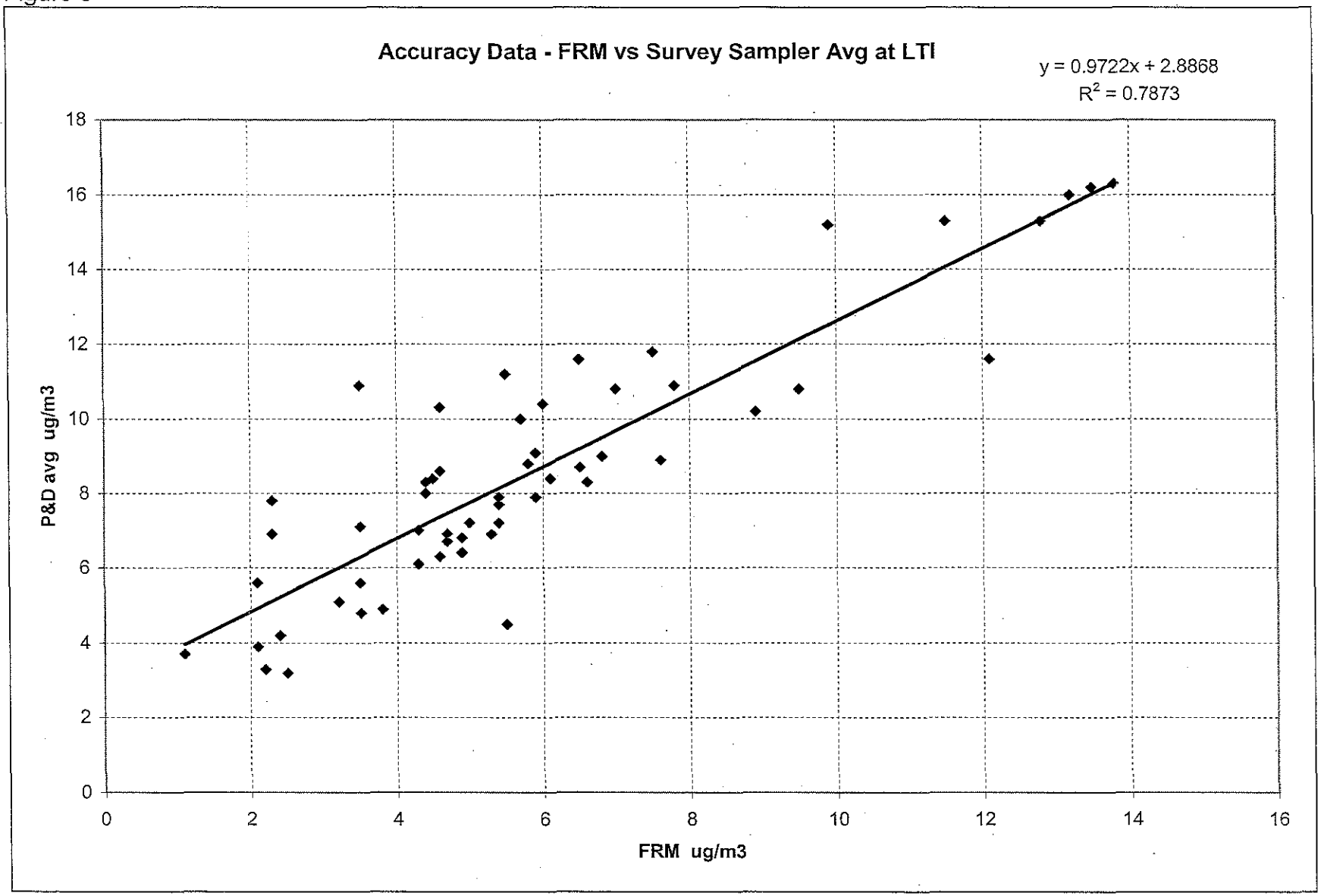

Survey Sampler Precision Data
y = 0.8856x + 0.9086
R2 = 0.7413
Duplicate ug/m3
Primary ug/m3
0
2
4
6
8
10
12
14
16
18

Table 4 Accuracy Data: FRM versus Survey at Benchmark site (LTI)

All values in ug/m3

Date	FRM	P&D Avg	FRM-P&D
10-Oct-01	4.3	7	-2.7
16-Oct-01	5.5	4.5	1
22-Oct-01	4.5	8.4	-3.9
28-Oct-01	4.4	8	-3.6
3-Nov-01	8.9	10.2	-1.3
9-Nov-01	12.1	11.6	0.5
15-Nov-01	3.5	10.9	-7.4
21-Nov-01	2.5	3.2	-0.7
27-Nov-01	11.5	15.3	-3.8
3-Dec-01	9.5	10.8	-1.3
9-Dec-01	5.4	7.2	-1.8
15-Dec-01	3.8	4.9	-1.1
21-Dec-01	12.8	15.3	-2.5
27-Dec-01	5.8	8.8	-3
2-Jan-02	6.8	9	-2.2
14-Jan-02	6.6	8.3	-1.7
20-Jan-02	7.6	8.9	-1.3
26-Jan-02	7.8	10.9	-3.1
1-Feb-02	13.5	16.2	-2.7
7-Feb-02	6.5	11.6	-5.1
13-Feb-02	13.8	16.3	-2.5
19-Feb-02	5.9	7.9	-2
25-Feb-02	6	10.4	-4.4
3-Mar-02	7.5	11.8	-4.3
9-Mar-02	3.5	5.6	-2.1
15-Mar-02	5.3	6.9	-1.6
21-Mar-02	6.5	8.7	-2.2
2-Apr-02	3.2	5.1	-1.9
8-Apr-02	4.6	6.3	-1.7
14-Apr-02	2.1	3.9	-1.8
20-Apr-02	4.4	8.3	-3.9
26-Apr-02	5.4	7.7	-2.3
2-May-02	4.6	10.3	-5.7
8-May-02	4.9	6.4	-1.5
14-May-02	1.1	3.7	-2.6
26-May-02	2.1	5.6	-3.5
1-Jun-02	5.4	7.9	-2.5
7-Jun-02	2.3	7.8	-5.5
13-Jun-02	6.1	8.4	-2.3
19-Jun-02	2.4	4.2	-1.8
25-Jun-02	4.7	6.9	-2.2
1-Jul-02	2.3	6.9	-4.6
7-Jul-02	4.3	6.1	-1.8
13-Jul-02	13.2	16	-2.8
19-Jul-02	3.5	7.1	-3.6
25-Jul-02	9.9	15.2	-5.3
31-Jul-02	2.1	3.9	-1.8
6-Aug-02	7	10.8	-3.8
12-Aug-02	5	7.2	-2.2
18-Aug-02	3.5	4.8	-1.3
24-Aug-02	4.9	6.8	-1.9
30-Aug-02	4.7	6.7	-2
5-Sep-02	5.9	9.1	-3.2
11-Sep-02	5.7	10	-4.3
17-Sep-02	2.2	3.3	-1.1
23-Sep-02	5.5	11.2	-5.7
29-Sep-02	4.6	8.6	-4
Count =	57		
Average =	5.78	8.51	-2.73
Correl. =	0.8873		
Sigma =	1.5552		

Figure 3

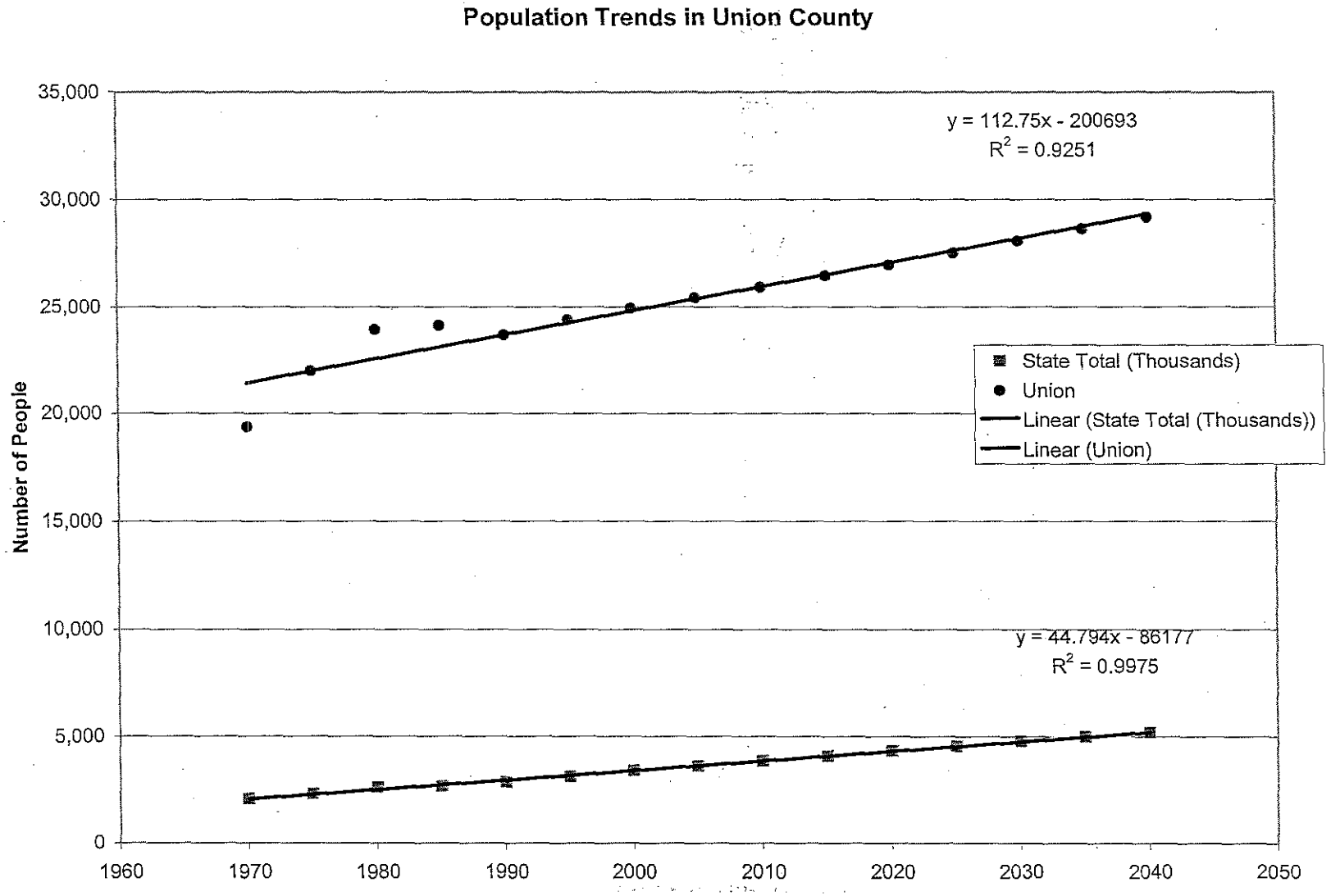

Accuracy Data - FRM vs Survey Sampler Avg at LTI
y = 0.9722x + 2.8868
R2 = 0.7873
P&D avg ug/m3
FRM ug/m3
0
2
4
6
8
10
12
14
16
18

Appendix D9-6
(Volume 3)
CONFORMITY PROCESS

The transportation conformity process for Oregon is contained in OAR 340-252-0010 through 340-252-0290. The transportation conformity rules were adopted by the Environmental Quality Commission on March 3, 1995 and became effective on March 23, 1995. EPA approved the transportation conformity rules as a SIP revision on May 15, 1996. The state rules are more effective, more efficient and more equitable than the federal regulations because:

1. they require all transportation control measures to be implemented in a timely manner regardless of their eligibility for federal funding;
2. they require consistency with emissions budgets while EPA reviews maintenance plans for approval;
3. they require analysis of localized air quality impacts for some state and locally funded projects.

The conformity rules also establish interagency consultation procedures for making conformity determinations for Regional Transportation Plans and Transportation Improvement Programs, and for developing transportation related provisions of the maintenance plan.


Population Trends in Union County
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Number of People
1960
1970
1980
1990
2000
2010
2020
2030
2040
2050
y = 112.75x - 200693
R2 = 0.9251
y = 44.794x - 86177
R2 = 0.9975
State Total (Thousands)
Union
Linear (State Total (Thousands))
Linear (Union)

EQC Staff Report Attachment B – Appendix D9-7b – Population Growth Trends

Year ==>	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
La Grande					11766		12327								
Union	19,377	22,000	23,921	24,131	23,667	24,400	24,927	25,422	25,927	26,439	26,971	27,512	28,084	28,641	29,188

	Union County	La Grande	City Est	Est UGB	City est
1990	23,667	11,766		13,155	
1991		11,807		13,218	
1992		11,864		13,282	
1993		11,921		13,345	
1994		11,978		13,409	
1995	24,400	12,035		13,474	
1996		12,093		13,539	
1997	24,469	12,151		13,603	
1998	24,582	12,210		13,669	
1999	24,694	12,268		13,734	
2000	24,807	12,327		13,800	
2001	24,920	12,422		13,867	
2002	25,033	12,518		13,933	
2003	25,145	12,614	12,500	14,000	14000
2004	25,258	12,711		14,108	
2005	25,371	12,809		14,216	
2006	25,484	12,908		14,326	
2007	25,596	13,007		14,436	
2008	25,709	13,107		14,547	
2009	25,822	13,208		14,659	
2010	25,935	13,310		14,772	
2011	26,047	13,412		14,886	
2012	26,160	13,516		15,001	
2013	26,273	13,620		15,116	
2014	26,386	13,724		15,233	
2015	26,498	13,830		15,350	
2016	26,611	13,937		15,468	
2017	26,724	14,044		15,587	
2018	26,837	14,152		15,707	
2019	26,949	14,261		15,828	
2020	27,062	14,371		15,950	
2021	27,175	14,482		16,073	
2022	27,288	14,593		16,197	
2023	27,400	14,705		16,321	
2024	27,513	14,819		16,447	
2025	27,626	14,933		16,574	

Pop

Union Co. Growth Av Ann Gr 0.77%

Household

Employment

Discussion with Mike Hyde - 12-31-03 based on Comprehensive Plan Update

QC Staff Report Attachment B – Appendix D9-7c – Population and Housing

	Population	Population La Grande	City Est	Population Est UGB	City est	Housing Union Co	Housing La Grande	Housing UGB
Union County								
1990		11,766		13,189		9035	4,891	5,482
1991		11,807		13,250			4,908	5,508
1992		11,864		13,311			4,931	5,533
1993		11,921		13,372			4,955	5,558
1994		11,978		13,434			4,979	5,584
1995		12,035		13,495			5,003	5,610
1996		12,093		13,557			5,027	5,635
1997	24,469	12,151		13,620			5,051	5,661
1998	24,582	12,210		13,682			5,075	5,687
1999	24,694	12,268		13,745			5,100	5,714
2000	24,807	12,327		13,809		9740	5124	5,740
2001	24,920	12,422		13,872			5,521	6,165
2002	25,033	12,518		13,936			5,563	6,194
2003	25,145	12,614	12,500	14,000	14000		5,606	6,222
2004	25,258	12,711		14,108			5,649	6,270
2005	25,371	12,809		14,216			5,693	6,318
2006	25,484	12,908		14,326			5,737	6,367
2007	25,596	13,007		14,436			5,781	6,416
2008	25,709	13,107		14,547			5,825	6,465
2009	25,822	13,208		14,659			5,870	6,515
2010	25,935	13,310		14,772			5,915	6,565
2011	26,047	13,412		14,886			5,961	6,616
2012	26,160	13,516		15,001			6,007	6,667
2013	26,273	13,620		15,116			6,053	6,718
2014	26,386	13,724		15,233			6,100	6,770
2015	26,498	13,830		15,350			6,147	6,822
2016	26,611	13,937		15,468			6,194	6,875
2017	26,724	14,044		15,587			6,242	6,928
2018	26,837	14,152		15,707			6,290	6,981
2019	26,949	14,261		15,828			6,338	7,035
2020	27,062	14,371		15,950			6,387	7,089
2021	27,175	14,482		16,073			6,436	7,143
2022	27,288	14,593		16,197			6,486	7,198
2023	27,400	14,705		16,321			6,536	7,254
2024	27,513	14,819		16,447			6,586	7,310
2025	27,626	14,933		16,574			6,637	7,366

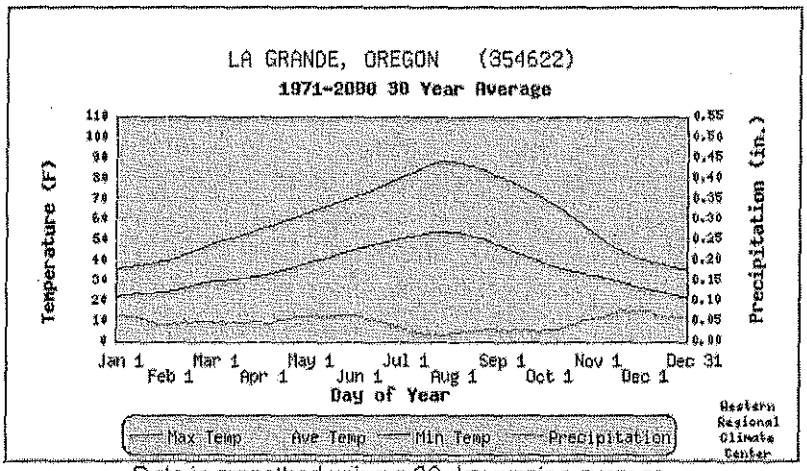
	Union Co. Growth Av Ann Gr	
Pop		0.77%
	Household	
	Employment	

Discussion with Mike Hyde - 12-31-03 based on Comprehensive Plan Update

Appendix D9-7d

LA GRANDE, OREGON

1971 - 2000 Temperature and Precipitation



Data is smoothed using a 29 day running average.

- Max. Temp. is the average of all daily maximum temperatures recorded for the day of the year between the years 1971 and 2000.
- Ave. Temp. is the average of all daily average temperatures recorded for the day of the year between the years 1971 and 2000.
- Min. Temp. is the average of all daily minimum temperatures recorded for the day of the year between the years 1971 and 2000.
- Precipitation is the average of all daily total precipitation recorded for the day of the year between the years 1971 and 2000.

LA GRANDE, OREGON

Period of Record General Climate Summary - Temperature

Station:(354622) LA GRANDE															
From Year=1965 To Year=2004															
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Days
January	38.1	24.2	31.1	61	31/1971	-17	31/1996	37.7	67	19.8	***	0.0	7.1	25.2	1.1
February	43.2	26.7	35.0	66	25/1986	-14	01/1996	41.7	92	23.9	***	0.0	2.3	21.2	0.4
March	51.3	30.8	41.0	79	30/1966	9	05/1976	46.4	78	34.9	***	0.0	0.1	18.8	0.0
April	58.5	35.0	46.7	88	24/1977	16	13/1968	52.0	87	41.1	***	0.0	0.0	10.5	0.0
May	67.5	41.8	54.6	95	29/1983	25	11/1970	59.4	92	49.9	84	0.5	0.0	2.4	0.0
June	76.0	48.5	62.3	100	24/1992	29	26/1976	67.4	92	57.9	91	2.9	0.0	0.1	0.0
July	85.9	53.3	69.6	108	13/2002	32	07/1971	75.0	103	60.3	93	11.7	0.0	0.0	0.0
August	86.2	52.0	69.1	104	04/1978	32	28/1980	73.8	67	63.9	76	12.4	0.0	0.0	0.0
September	76.5	43.8	60.2	100	02/1998	23	29/1985	66.6	67	52.0	85	3.1	0.0	1.6	0.0
October	62.8	35.4	49.1	89	02/2001	11	31/2002	54.7	65	43.9	84	0.0	0.1	10.8	0.0
November	46.6	30.3	38.4	71	01/1988	-14	23/1985	44.0	99	25.9	85	0.0	1.2	17.7	0.1
December	38.7	24.9	31.8	59	13/1995	-18	23/1983	37.8	79	22.3	85	0.0	5.7	24.8	0.8
Annual	60.9	37.2	49.1	108	20020713	-18	19831223	51.1	66	44.4	85	30.6	16.4	133.2	2.4
Winter	40.0	25.2	32.6	66	19860225	-18	19831223	37.9	92	24.9	93	0.0	15.0	71.2	2.3
Spring	59.1	35.8	47.5	95	19830529	9	19760305	51.8	92	43.9	75	0.5	0.1	31.7	0.0
Summer	82.7	51.3	67.0	108	20020713	29	19760626	70.6	103	61.0	93	27.0	0.0	0.2	0.0
Fall	62.0	36.5	49.2	100	19980902	-14	19851123	52.9	66	41.1	85	3.1	1.3	30.1	0.1

2001 Design Value for Willow Street (using 1999-2003 data)

Design Value = 90th Percentile Value + 3.61 times (Average of Top 10% - 90th Percentile value)

24 Hour Design Value (1)

DV = 40.9 + 3.61 * (55.2-40.9)

DV = 92.8

(1) See Willow Street Data By Date Spreadsheet 99-03 PM10 data
The formula is: DV = X90 + 3.61(U90 - X90)

92.8	Design Value
96.1	Max 5year 99-03
40.9	90th percentile
55.2	Mean of top 10%
599	values
21.9	5 year annual design value
22.0	Top 3 year

QC Staff Report Attachment B – Appendix D9-8b Projected Growth Table

La Grande UGB & Island City 1999 Annual and Seasonal PM10:

Summary of Annual and Seasonal Emissions Growth and Design Values from 1999 to 2025 Including 10% more VMT

egory	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	202
	Tons per Year																										
TOTAL URCES	651	619	587	554	525	595	628	633	638	644	649	654	660	665	671	676	681	687	692	697	703	708	713	719	724	729	73
ual iQS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
ual Predicted Ambient centration			22.0	21.2	20.4	22.2	23.1	23.2	23.4	23.5	23.7	23.8	23.9	24.1	24.2	24.4	24.5	24.6	24.8	24.9	25.1	25.2	25.3	25.5	25.6	25.8	25.
kground DV ual			7																								
erence bkgd*cur EI/1996			16																								
			15.50	14.65	13.87	15.72	16.59	16.73	16.87	17.01	17.15	17.30	17.44	17.58	17.72	17.86	18.00	18.14	18.28	18.42	18.57	18.71	18.85	18.99	19.13	19.27	19.4
d added back			22.00	21.15	20.37	22.22	23.09	23.23	23.37	23.51	23.65	23.80	23.94	24.08	24.22	24.36	24.50	24.64	24.78	24.92	25.07	25.21	25.35	25.49	25.63	25.77	25.9
w/o background			22.00	20.80	19.69	22.31	23.55	23.75	23.95	24.15	24.35	24.55	24.75	24.95	25.15	25.35	25.55	25.75	25.95	26.15	26.35	26.55	26.75	26.95	27.15	27.35	27.5

tegory	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	202
	Lbs per Day																										
TOTAL URCES	5,188	5,009	4,830	4,651	4,478	4,982	5,166	5,195	5,225	5,254	5,283	5,313	5,342	5,371	5,401	5,430	5,459	5,489	5,518	5,547	5,577	5,606	5,635	5,665	5,694	5,723	5,75

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 200

GENERAL AIR POLLUTION

PROCEDURES AND DEFINITIONS

340-200-0040

State of Oregon Clean Air Act Implementation Plan

(1) This implementation plan, consisting of Volumes 2 and 3 of the State of Oregon Air Quality Control Program, contains control strategies, rules and standards prepared by the Department of Environmental Quality and is adopted as the state implementation plan (SIP) of the State of Oregon pursuant to the federal Clean Air Act, 42 U.S.C.A ‖ 7401 to 7671q.

(2) Except as provided in section (3), revisions to the SIP will be made pursuant to the Commission's rulemaking procedures in division 11 of this chapter and any other requirements contained in the SIP and will be submitted to the United States Environmental Protection Agency for approval.

(3) Notwithstanding any other requirement contained in the SIP, the Department may:

(a) Submit to the Environmental Protection Agency any permit condition implementing a rule that is part of the federally-approved SIP as a source-specific SIP revision after the Department has complied with the public hearings provisions of 40 CFR 51.102 (July 1, 2002); and

(b) Approve the standards submitted by a regional authority if the regional authority adopts verbatim any standard that the Commission has adopted, and submit the standards to EPA for approval as a SIP revision.

[NOTE: Revisions to the State of Oregon Clean Air Act Implementation Plan become federally enforceable upon approval by the United States Environmental Protection Agency. If any provision of the federally approved Implementation Plan conflicts with any provision adopted by the Commission, the Department shall enforce the more stringent provision.]

Stat. Auth.: ORS 468.020

Stats. Implemented: ORS 468A.035

Hist.: DEQ 35, f. 2-3-72, ef. 2-15-72; DEQ 54, f. 6-21-73, ef. 7-1-73; DEQ 19-1979, f. & ef. 6-25-79; DEQ 21-1979, f. & ef. 7-2-79; DEQ 22-1980, f. & ef. 9-26-80; DEQ 11-1981, f. & ef. 3-26-81; DEQ 14-1982, f. & ef. 7-21-82; DEQ 21-1982, f. & ef. 10-27-82; DEQ 1-1983, f. & ef. 1-21-83; DEQ 6-1983, f. & ef. 4-18-83; DEQ 18-1984, f. & ef. 10-16-84; DEQ 25-1984, f. & ef. 11-27-84; DEQ 3-1985, f. & ef. 2-1-85; DEQ 12-1985, f. & ef. 9-30-85; DEQ 5-1986, f. & ef. 2-21-86; DEQ 10-1986, f. & ef. 5-9-86; DEQ 20-1986, f. & ef. 11-7-86; DEQ 21-1986, f. & ef. 11-7-86; DEQ 4-1987, f. & ef. 3-2-87; DEQ 5-1987, f. & ef. 3-2-87; DEQ 8-1987, f. & ef. 4-23-87; DEQ 21-1987, f. & ef. 12-16-87; DEQ 31-1988, f. 12-20-88, cert. ef. 12-23-88; DEQ 2-1991, f. & cert. ef. 2-14-91; DEQ 19-1991, f. & cert. ef. 11-13-91; DEQ 20-1991, f. & cert. ef. 11-13-91; DEQ 21-1991, f. & cert. ef. 11-13-91; DEQ 22-1991, f. & cert. ef. 11-13-91; DEQ 23-1991, f. & cert. ef. 11-13-91; DEQ 24-1991, f. & cert. ef. 11-13-91; DEQ 25-1991, f. & cert. ef. 11-13-91; DEQ 1-1992, f. & cert. ef. 2-4-92; DEQ 3-1992, f. & cert. ef. 2-4-92; DEQ 7-1992, f. & cert. ef. 3-30-92; DEQ 19-1992, f. & cert. ef. 8-11-92; DEQ 20-1992, f. & cert. ef. 8-11-92; DEQ 25-1992, f. 10-30-92, cert. ef. 11-1-92; DEQ 26-1992, f. & cert. ef. 11-2-92; DEQ 27-1992, f. & cert. ef. 11-12-92; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 8-1993, f. & cert. ef. 5-11-93; DEQ 12-1993, f. & cert. ef. 9-24-93; DEQ 15-1993, f. & cert. ef. 11-4-93; DEQ 16-1993, f. & cert. ef. 11-4-93; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 19-1993, f. & cert. ef. 11-4-93; DEQ 1-1994, f. & cert. ef. 1-3-94; DEQ 5-1994, f. & cert. ef. 3-21-94; DEQ 14-1994, f. & cert. ef. 5-31-94; DEQ 15-1994, f. 6-8-94, cert. ef. 7-1-94; DEQ 25-1994, f. & cert. ef. 11-2-94; DEQ 9-1995, f. & cert. ef. 5-1-95; DEQ 10-1995, f. & cert. ef. 5-1-95; DEQ 14-1995, f. & cert. ef. 5-25-95; DEQ 17-1995, f. & cert. ef. 7-12-95; DEQ 19-1995, f. & cert. ef. 9-1-95; DEQ 20-1995 (Temp), f. & cert. ef. 9-14-95; DEQ 8-1996(Temp), f. & cert. ef. 6-3-96; DEQ 15-1996, f. & cert. ef. 8-14-96; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 22-1996, f. & cert. ef. 10-22-96; DEQ 23-1996, f. & cert. ef. 11-4-96; DEQ 24-1996, f. & cert. ef. 11-26-96; DEQ 10-1998, f. & cert. ef. 6-22-98; DEQ 15-1998, f. & cert. ef. 9-23-98; DEQ 16-1998, f. & cert. ef. 9-23-98; DEQ 17-1998, f. & cert. ef. 9-23-98; DEQ 20-1998, f. & cert. ef. 10-12-98; DEQ 21-1998, f. & cert. ef. 10-12-98; DEQ 1-1999, f. & cert. ef. 1-25-99; DEQ 5-1999, f. & cert. ef. 3-25-99; DEQ 6-1999, f. & cert. ef. 5-21-99; DEQ 10-1999, f. & cert. ef. 7-1-99; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-020-0047; DEQ 15-1999, f. & cert. ef. 10-22-99; DEQ 2-2000, f. 2-17-00, cert. ef. 6-Ä1-01; DEQ 6-2000, f. & cert. ef. 5-22-00; DEQ 8-2000, f. & cert. ef. 6-6-00; DEQ 13-2000, f. & cert. ef. 7-28-00; DEQ 16-2000, f. & cert. ef. 10-25-00; DEQ 17-2000, f. & cert. ef. 10-25-00; DEQ 20-2000 f. & cert. ef. 12-15-00; DEQ 21-2000, f. & cert. ef. 12-15-00; DEQ 2-2001, f. & cert. ef. 2-5-01; DEQ 4-2001, f. & cert. ef. 3-27-01; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 15-2001, f. & cert. ef. 12-26-01; DEQ 16-2001, f. & cert. ef. 12-26-01; DEQ 17-2001, f. & cert. ef. 12-28-01; DEQ 4-2002, f. & cert. ef. 3-14-02; DEQ 5-2002, f. & cert. ef. 5-3-02; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 5-2003, f. & cert. ef. 2-6-03; DEQ 14-2003, f. & cert. ef. 10-24-03; DEQ 19-2003, f. & cert. ef. 12-12-03; DEQ 1-2004, f.& cert. ef. 4-14-04

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 204

DESIGNATION OF AIR QUALITY AREAS

340-204-0030

Designation of Nonattainment Areas

The following areas are designated as Nonattainment Areas:

(1) Carbon Monoxide Nonattainment Areas: The Salem Nonattainment Area for Carbon Monoxide is the Salem-Kaiser Area Transportation Study as defined in OAR 340-204-0010.

(2) PM10 Nonattainment Areas:

(a) The Eugene Nonattainment Area for PM10 is the Eugene-Springfield UGB as defined in OAR 340-204-0010.

~~(b) The LaGrande Nonattainment Area for PM10 is the LaGrande UGB as defined in OAR 340-204-0010.~~

~~(c) The Lakeview Nonattainment Area for PM10 is the Lakeview UGB as defined in OAR 340-204-0010.~~

~~(d)~~(b) The Oakridge Nonattainment Area for PM10 is the Oakridge UGB as defined in OAR 340-204-0010.

(3) Ozone Nonattainment Areas: The Salem Nonattainment Area for Ozone is the Salem-Kaiser Area Transportation Study as defined in OAR 340-204-0010.

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 14-1995, f. & cert. ef. 5-25-95; DEQ 18-1996, f. & cert. ef. 8-19-96; DEQ 15-1998, f. & cert. ef. 9-23-98; DEQ 1-1999, f. & cert. ef. 1-25-99; DEQ 14-1999, f. &

cert. ef. 10-14-99, Renumbered from 340-031-0520; DEQ 15-1999, f. & cert. ef. 10-22-99; DEQ 16-2000, f. & cert. ef. 10-25-00; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02

340-204-0040

Designation of Maintenance Areas

The following areas are designated as Maintenance Areas:

(1) Carbon Monoxide Maintenance Areas:

(a) The Eugene Maintenance Area for Carbon Monoxide is the Eugene-Springfield AQMA as defined in OAR 340-204-0010.

(b) The Portland Maintenance Area for Carbon Monoxide is the Portland Metropolitan Service District as referenced in OAR 340-204-0010.

(c) The Medford Carbon Monoxide Maintenance Area is the Medford UGB as defined in OAR 340-204-0010.

[**NOTE:** EPA maintenance plan approval and redesignation pending]

(d) The Grants Pass Carbon Monoxide Maintenance Area is the Grants Pass CBD as defined in OAR 340-204-0010.

(e) The Klamath Falls Carbon Monoxide Maintenance Area is the Klamath Falls UGB as defined in OAR 340-204-0010.

(2) Ozone Maintenance Areas:

(a) The Medford Maintenance Area for Ozone is the Medford-Ashland AQMA as defined in OAR 340-204-0010.

(b) The Oregon portion of the Portland - Vancouver Interstate Maintenance Area for Ozone is the Portland AQMA, as defined in OAR 340-204-0010.

(3) PM10 Maintenance Areas:

(a) The Grants Pass PM10 Maintenance Area is the Grants Pass UGB as defined in OAR 340-204-0010.

(b) The Klamath Falls PM10 Maintenance Area is the Klamath Falls UGB as defined in OAR 340-204-0010.

(c) The Medford-Ashland PM10 Maintenance Area is the Medford-Ashland AQMA as defined in OAR 340-204-0010.

[**NOTE:** EPA maintenance plan approval and redesignation pending]

(d) The La Grande PM10 Maintenance Area is the La Grande UGB as defined in OAR 340-204-0010.

[**NOTE:** EPA maintenance plan approval and redesignation pending]

(e) The Lakeview PM10 Maintenance Area is the Lakeview UGB as defined in OAR 340-204-0010.

[**NOTE:** EPA maintenance plan approval and redesignation pending]

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040]

Stat. Auth.: ORS 468.020
Stat. Implemented: ORS 468A.025
Hist.: DEQ 14-1995, f. & cert. ef. 5-25-95; DEQ 18-1996, f. & cert. ef. 8-19-96; DEQ 15-1998, f. & cert. ef. 9-23-98; DEQ 1-1999, f. & cert. ef. 1-25-99; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-031-0530; DEQ 15-1999, f. & cert. ef. 10-22-99; DEQ 16-2000, f. & cert. ef. 10-25-00; DEQ 11-2002, f. & cert. ef. 10-8-02

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 224

MAJOR NEW SOURCE REVIEW

340-224-0060

Requirements for Sources in Maintenance Areas

Proposed major sources and major modifications that would emit a maintenance pollutant within a designated maintenance area, including VOC or NOx in a designated ozone maintenance area, must meet the requirements listed below:

(1) Best Available Control Technology (BACT). Except as provided in section (5) and (6) of this rule, the owner or operator must apply BACT for each maintenance pollutant emitted at a SER.

(a) For a major modification, the requirement for BACT applies only to:

(A) Each new emissions unit that emits the pollutant in question and was installed since the baseline period or the most recent New Source Review construction approval for that pollutant; and

(B) Each modified emissions unit that increases the actual emissions of the pollutant in question above the netting basis.

(b) For phased construction projects, the BACT determination must be reviewed at the latest reasonable time before commencement of construction of each independent phase.

(c) When determining BACT for a change that was made at a source before the current NSR application, the technical and economic feasibility of retrofitting required controls may be considered, provided:

(A) The change was made in compliance with NSR requirements in effect when the change was made; and

(B) No limit is being relaxed that was previously relied on to avoid NSR.

(d) Individual modifications with potential to emit less than 10 percent of the significant emission rate are exempt from this section unless:

(A) They are not constructed yet;

(B) They are part of a discrete, identifiable larger project that was constructed within the previous 5 years and that is equal to or greater than 10 percent of the significant emission rate; or

(C) They were constructed without, or in violation of, the Department's approval.

(2) Air Quality Protection:

(a) Offsets and Net Air Quality Benefit. Except as provided in subsections (b), (c) and (d) of this section, the owner or operator must obtain offsets and demonstrate that a net air quality benefit will be achieved in the area as specified in OAR 340-225-0090.

(b) Growth Allowance. The requirements of this section may be met in whole or in part in an ozone or carbon monoxide maintenance area with an allocation by the Department from a growth allowance, if available, in accordance with the applicable maintenance plan in the SIP adopted by the Commission and approved by EPA. An allocation from a growth allowance used to meet the requirements of this section is not subject to OAR 340-225-0090. Procedures for allocating the growth allowances for the Oregon portion of the Portland-Vancouver Interstate Maintenance Area for Ozone and the Portland Maintenance Area for Carbon Monoxide are contained in OAR 340-242-0430 and 340-242-0440.

(c) In a carbon monoxide maintenance area, a proposed carbon monoxide major source or major modification is exempt from subsections (a) and (b) of this section if the owner or operator can demonstrate that the source or modification will not cause or contribute to an air quality impact equal to or greater than 0.5 mg/m3 (8 hour average) and 2 mg/m3 (1-hour average). The demonstration must comply with the requirements of OAR 340-225-0045.

(d) In a PM10 maintenance area, a proposed PM10 major source or major modification is exempt from subsection (a) of this section if the owner or operator can demonstrate, pursuant to the requirements of OAR 340-225-0045, that the source or modification will not cause or contribute to an air quality impact in excess of:

(A) 120 µg/m3 (24-hour average) or 40 µg/m3 (annual average) in the Grants Pass PM10 maintenance area

~~, or~~

(B) 140 µg/m3 (24-hour average) or 47 µg/m3 (annual average) in the Klamath Falls PM10 maintenance area~~. The demonstration must comply with the requirements of OAR 340-225-0045~~, or

(C) 140 µg/m3 (24-hour average) or 45 µg/m3 (annual average) in the Lakeview PM10 maintenance area. In addition, a single source impact is limited to an increase of 5 µg/m3 (24-hour average) in the Lakeview PM10 maintenance area.

(3) The owner or operator of a source subject to this rule must provide an air quality analysis in accordance with OAR 340-225-0050(1) and (2), and 340-225-0060.

(4) Additional Requirements for Federal Major Sources: The owner or operator of a federal major source subject to this rule must provide an analysis of the air quality impacts for the proposed source or modification in accordance with OAR 340-225-0050(3) and 340-225-0070. In addition to the provisions of this section, provisions of section 340-224-0070 also apply to federal major sources.

(5) Contingency Plan Requirements. If the contingency plan in an applicable maintenance plan is implemented due to a violation of an ambient air quality standard, this section applies in addition to other requirements of this rule until the Commission adopts a revised maintenance plan and EPA approves it as a SIP revision.

(a) The requirement for BACT in section (1) of this rule is replaced by the requirement for LAER contained in OAR 340-224-0050(1).

(b) An allocation from a growth allowance may not be used to meet the requirement for offsets in section (2) of this rule.

(c) The exemption provided in subsection (2)(c) and (2)(d) of this rule for major sources or major modifications within a carbon monoxide or PM10 maintenance area no longer applies.

(6) Medford-Ashland AQMA: Proposed major sources and major modifications that would emit PM10 within the Medford-Ashland AQMA must meet the LAER emission control technology requirements in OAR 340-224-0050.

(7) Pending Redesignation Requests. This rule does not apply to a proposed major source or major modification for which a complete application to construct was submitted to the Department before the maintenance area was redesignated from nonattainment to attainment by EPA. Such a source is subject to OAR 340-224-0050.

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040]

[Publications: Publications referenced in this rule are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 26-1996, f. & cert. ef. 11-26-96; DEQ 15-1998, f. & cert. ef. 9-23-98; DEQ 1-1999, f. & cert. ef. 1-25-99; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-028-1935; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 225

AIR QUALITY ANALYSIS REQUIREMENTS

340-225-0020

Definitions

The definitions in OAR 340-200-0020 and this rule apply to this division. If the same term is defined in this rule and OAR-340-200-0020, the definition in this rule applies to this division.

(1) "Allowable Emissions" means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(a) The applicable standards as set forth in 40 CFR parts 60, 61 and 63;

(b) The applicable State Implementation Plan emissions limitation, including those with a future compliance date; or

(c) The emissions rate specified as a federally enforceable permit condition.

(2) "Background Light Extinction" means the reference levels (Mm-1) shown in the estimates of natural conditions as referenced in the FLAG to be representative of the PSD Class I or Class II area being evaluated.

(3) "Baseline Concentration" means:

(a) Except as provided in subsection (c), the ambient concentration level for sulfur dioxide and PM10 that existed in an area during the calendar year 1978. If no ambient air quality data is available in an area, the baseline concentration may be estimated using modeling based on actual emissions for 1978. Actual emission increases or decreases occurring before January 1, 1978 must be included in the baseline calculation, except that actual emission increases from any source or modification on which construction commenced after January 6, 1975 must not be included in the baseline calculation;

(b) The ambient concentration level for nitrogen oxides that existed in an area during the calendar year 1988.

(c) For the area of northeastern Oregon within the boundaries of the Umatilla, Wallowa-Whitman, Ochoco, and Malheur National Forests, the ambient concentration level for PM10 that existed during the calendar year 1993. The Department may allow the source to use an earlier time period if the Department determines that it is more representative of normal emissions.

(d) For PM10 in the Medford-Ashland AQMA: the ambient PM10 concentration levels that existed during the year that EPA redesignates the AQMA to attainment for PM10.

(4) "Competing PSD Increment Consuming Source Impacts" means the total modeled concentration above the modeled Baseline Concentration resulting from increased emissions of all other sources since the baseline concentration year that are within the Range of Influence of the source in question. Allowable Emissions may be used as a conservative estimate, in lieu of Actual Emissions, in this analysis.

(5) "Competing NAAQS Source Impacts" means total modeled concentration resulting from allowable emissions of all other sources that are within the Range of Influence of the source in question.

(6) "FLAG " refers to the Federal Land Managers' Air Quality Related Values Work Group Phase I Report. See 66 Federal Register 2, January 3, 2001 at 382 to 383.

(7) "General Background Concentration" means impacts from natural sources and unidentified sources that were not explicitly modeled. The Department may determine this as site-specific ambient monitoring or representative ambient monitoring from another location.

(8) "Predicted Maintenance Area Concentration" means the future year ambient concentration predicted by the Department in the applicable maintenance plan as follows:~~.~~

(a) The future year (2015) concentrations ~~to be used~~ for the Grants Pass UGB are 89 µg/m3 (24-hour average) and 21 µg/m3 (annual average).

(b) The f~~F~~uture year (2015) concentrations ~~to be used~~ for the Klamath Falls UGB are 114 µg/m3 (24-hour average) and 25 µg/m3 (annual average).

(c) The future year (2025) concentrations for the Lakeview UGB are 126 µg/m3 (24-hour average) and 27 µg/m3 (annual average).

(9) "Nitrogen Deposition" means the sum of anion and cation nitrogen deposition expressed in terms of the mass of total elemental nitrogen being deposited. As an example, Nitrogen Deposition for NH4NO3 is 0.3500 times the weight of NH4NO3 being deposited.

(10) "Ozone Precursor Distance" means the distance in kilometers from the nearest boundary of a designated ozone nonattainment or maintenance area within which a major new or modified source of VOC or NOx is considered to significantly affect that designated area. The determination of significance is made by either the formula method or the demonstration method.

(a) The Formula Method.

(A) For sources with complete permit applications submitted before January 1, 2003:
D = 30 km

(B) For sources with complete permit applications submitted on or after January 1, 2003:
D = (Q/40) x 30 km

(C) D is the Ozone Precursor Distance in kilometers. The value for D is 100 kilometers when D is calculated to exceed 100 kilometers. Q is the larger of the NOx or VOC emissions increase from the source being evaluated in tons/year, and is quantified relative to the netting basis.

(D) If a source is located at a distance less than D from the designated area, the source is considered to have a significant effect on the designated area. If the source is located at a distance equal to or greater than D, it is not considered to have a significant effect.

(b) The Demonstration Method.

An applicant may demonstrate to the Department that the source or proposed source would not significantly impact a nonattainment area or maintenance area. This demonstration may be based on an analysis of major topographic features, dispersion modeling, meteorological conditions, or other factors. If the Department determines that the source or proposed source would not significantly impact the nonattainment area or maintenance area under high ozone conditions, the Ozone Precursor Distance is zero kilometers.

(11) "Ozone Precursor Offsets" means the emission reductions required to offset emission increases from a major new or modified source located inside the designated nonattainment or maintenance area or within the Ozone Precursor Distance. Emission reductions must come from within the designated area or from within the Ozone Precursor Distance of the offsetting source as described in OAR 340-225-0090. The offsets determination is made by either the formula method or the demonstration method.

(a) The Formula Method.

(A) Required offsets (RO) for new or modified sources are determined as follows:

—(i) For sources with complete permit applications submitted before January 1, 2003:
RO = SQ

—(ii) For sources with complete permit applications submitted on or after January 1, 2003:
RO = (SQ minus (40/30 * SD))

(B) Contributing sources may provide offsets (PO) calculated as follows:
PO = CQ minus (40/30 * CD)

(C) Multiple sources may contribute to the required offsets of a new source. For the formula method to be satisfied, total provided offsets (PO) must equal or exceed the required offset (RO).

(D) Definitions of factors used in paragraphs (A) (B) and (C) of this subsection:

(i) RO is the required offset of NOx or VOC in tons per year as a result of the source emissions increase. If RO is calculated to be negative, RO is set to zero;

(ii) SQ is the source emissions increase of NOx or VOC in tons per year above the netting basis;

(iii) SD is the source distance in kilometers to the nonattainment or maintenance area. SD is zero for sources located within the nonattainment or maintenance area.

(iv) PO is the provided offset from a contributing source and must be equal to or greater than zero;

(v) CQ is the contributing emissions reduction in tons per year quantified relative to contemporaneous pre-reduction actual emissions (OAR 340-268-0030(1)(b)).

(vi) CD is the contributing source distance in kilometers to the nonattainment or maintenance area. For a contributing source located within the nonattainment or maintenance area, CD equals zero.

(b) The Demonstration Method.

An applicant may demonstrate to the Department using dispersion modeling or other analyses the level and location of offsets that would be sufficient to provide actual reductions in concentrations of VOC or NOx in the designated area during high ozone conditions. The modeled reductions of ambient VOC or NOx concentrations resulting from the emissions offset must be demonstrated over a greater area and over a greater period of time within the designated area as compared to the modeled ambient VOC or NOx concentrations resulting from the emissions increase from the source subject to this rule. If the Department determines that the demonstration is acceptable, then the Department will approve the offsets proposed by the applicant. The demonstration method does not apply to sources located inside an ozone nonattainment area.

(12) "Range of Influence (ROI)" means:

(a) For PSD Class II and Class III areas, the Range of Influence of a competing source (in kilometers) is defined by:

(A) ROI (km) = Q (tons/year) / K (tons/year km).

(B) Definition of factors used in paragraph (A) of this subsection:

(i) ROI is the distance a source has an effect on an area and is compared to the distance from a potential competing source to the Significant Impact Area of a proposed new source. Maximum ROI is 50 km, however the Department may request that sources at a distance greater than 50 km be included in a competing source analysis.

(ii) Q is the emission rate of the potential competing source in tons per year.

(iii) K (tons/year km) is a pollutant specific constant as defined in the table below:

Pollutant	PM10	SOx	NOx	CO	Lead
K	5	5	10	40	0.15

(b) For PSD Class I areas, the Range of Influence of a competing source includes emissions from all sources that occur within the modeling domain of the source being evaluated. The Department determines the modeling domain on a case-by-case basis.

(13) "Source Impact Area" means a circular area with a radius extending from the source to the largest distance to where predicted impacts from the source or modification equal or exceed the Significant Air Quality Impact levels set out in Table 1 of OAR 340 division 200. This definition only applies to PSD Class II areas and is not intended to limit the distance for PSD Class I modeling.

(14) "Sulfur Deposition" means the sum of anion and cation sulfur deposition expressed in terms of the total mass of elemental sulfur being deposited. As an example, sulfur deposition for (NH4)2SO4 is 0.2427 times the weight of (NH4)2SO4 being deposited.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 12-2002(Temp), f. & cert. ef. 10-8-02 thru 4-6-03

EQC Staff Report Attachment D1 - Presiding Officer's Report Lakeview

State of Oregon
Department of Environmental Quality **Memorandum**

Date: May 18, 2005

To: Environmental Quality Commission

From: Cindy Foster, Air Quality Specialist and Hearings Officer

Subject: Presiding Officer's Report for Rulemaking Hearing – Attachment D1 to the Environmental Quality Commissions Staff Report
Title of Proposal: Lakeview PM_{10} Maintenance Plan and Associated Rules
Hearing Date and Time: March 22, 2005, 7:00 PM
May 12, 2005, 10:00 AM
Hearings Location: 525 N. 1st Street, Lakeview, OR 97630

The Department convened the rulemaking hearing on the proposal on March 22, 2005 at 7:00 PM and closed it at 7:30 PM. A second hearing on the proposal was held on May 12, 2005 at 10:00 AM and closed at 10:30 AM. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

A total of six people attended the first hearing including the hearings officer and the author of the Maintenance Plan and five people, including myself, attended the second hearing. There was no testimony at either hearing. There was one written comment provided during the comment period.

Before taking comments, I briefly explained the rulemaking proposal and procedures for each of the hearings.

The following is a summary of written and oral comments received at the hearing. The Department will include these comments in the Summary of Comments and Agency Responses for this rulemaking.

Oral Comments:

There were no oral comments provided.

Written Comments:

The Town Council of the Town of Lakeview prepared a resolution concurring with the Lakeview PM_{10} Maintenance Plan and Associated Rules and acknowledged the citizens involved in helping DEQ prepare the plan.

State of Oregon
Department of Environmental Quality **Memorandum**

Date: April 1, 2005

To: Environmental Quality Commission

From: Patty Jacobs, Air Quality Engineer and Hearings Officer

Subject: Presiding Officer's Report for Rulemaking Hearing - Attachment D1 to the Environmental Quality Commissions Staff Report
Title of Proposal: La Grande PM_{10} Maintenance Plan and Associated Rules
Hearing Date and Time: March 24, 2005, 7:00 PM
Hearings Location: 1000 Adams Avenue, La Grande, OR 97850

The Department convened the rulemaking hearing on the proposal on March 24, 2005 at 7:00 PM and closed it at 7:30 PM. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

A total of five people attended the first hearing including the hearings officer, a DEQ inspector and the author of the Maintenance Plan. There was no testimony.

Before taking comments, I briefly explained the rulemaking proposal and procedures for the hearing.

The following is a summary of written and oral comments received at the hearing. The Department will include these comments in the Summary of Comments and Agency Responses for this rulemaking.

Oral Comments:

There were no oral comments provided.

Written Comments:

There were no written comments provided.

Attachment E-1
Summary of Public Comment and Agency Response

Title of Rulemaking: Lakeview PM_{10} Maintenance Plan and Associated Rules
Prepared by: Larry Calkins **Date: May 19, 2005**

Comment period

The public comment period opened on February 15, 2005 and closed at 5:00 PM on May 18, 2005. DEQ held two public hearings; one on March 22, 2005 at 7:00 PM at the Town Hall Council Chambers located at 525 N. 1st Street in Lakeview and a second one on May 12, 2005 at 10:00 AM at the Town Hall Council Chambers at the same location. Six people attended the first hearing, including the hearings officer and the author, and five people, including the hearings officer, attended the second hearing. There were no oral comments at either hearing. The Town Council submitted a resolution concurring with the Lakeview PM_{10} Maintenance Plan and Associated Rules during the comment period.

Organization of comments and responses

The summary of the individual comment and the Department's response is provided below. The person who provided the comment is also referenced below.

Summary of Comments and Agency Responses	
Comment 1	The Town of Lakeview submitted a resolution to be included as part of the hearing record that stated the Town concurred with the Lakeview PM10 Maintenance Plan and acknowledged the citizens that participated in helping develop the plan. (1)
Response	Thank you.

Commenter and Reference Number				
Reference Number	**Name**	**Organization**	**Address**	**Date on comments**
1	Rick Watson, Mayor	Town of Lakeview, Town Council	525 N. 1st Lakeview, OR 97630	Mar. 23, 2005

Attachment E-2
Summary of Public Comment and Agency Response

Title of Rulemaking: La Grande PM_{10} Maintenance Plan and Associated Rules
Prepared by: Larry Calkins **Date: April 1, 2005**

Comment period

The public comment period opened on February 15, 2005 and closed at 5:00 PM on March 31, 2005. DEQ held a public hearing on March 24, 2005 at 7:00 PM at the La Grande City Council Chambers. Five people attended the hearing including the hearings officer and the author. There were no oral or written comments submitted.

Organization of comments and responses

There were no comments provided.

Attachment F1
Environmental Quality Commission Staff Report

List of Lakeview Air Quality Committee Members Appointed by the Lakeview Town Council.

- **Janine Cannon, Chair**
- **Ray Bledsaw**
- **Marv Crocker**
- **Dave Hadley**
- **Russ Larkin**
- **Doyle McAnnany**
- **Mike Patrick**
- **Jerald Steward**

Staff support is provided by Colleen Phillips, the Lakeview Town Recorder and Air Quality Coordinator, who can be contacted at 541-947-4957. The Committee typically meets three to four times during the winter months at noon at the Town Hall in Lakeview.

For the purpose of the PM_{10} Maintenance Plan there were four additional extended meetings:

August 10, 2004, 10:00 AM to 1:00 PM – A description of the Maintenance Process
September 9, 2004, 10:00 AM to 1:00 PM – Discussion of Issues associated with the Maintenance Plan
October 21, 2004, 10:00 AM to 1:00 PM – Continuation of Issues Discussion
November 9, 2004, 10:00 AM to 1:00 PM – Review of the Working Draft Maintenance Plan
December, 2004 – Continued review of the Draft Maintenance Plan

Attachment F2
Environmental Quality Commission Staff Report

List of La Grande Air Quality Commission Members Appointed by the La Grande City Council.

- **Colin Andrew, Chair**
- **Bart Barlow**
- **Emily Chartier**
- **Robert Davis**
- **Tim Hoffnagle**
- **Robert Leonard**
- **Charles Lindstrom**

Staff support is provided by Liz Hill, the La Grande Regulatory Specialist, who can be contacted at 541-962-1325. Commission typically meets the 3rd Tuesday of each month at 6:00 PM at the Public Works Building 800 X Avenue in La Grande.

For the purpose of the PM_{10} Maintenance Plan there were four additional extended meetings:

August 12, 2004, 4:00 to 8:00 PM – A description of the Maintenance Process
September 30, 2004, 4:00 to 7:00 PM – Discussion of Issues associated with the Maintenance Plan
October 27, 2004, 4:00 to 7:00 PM – Continuation of Issues Discussion
November 18, 2004, 4:00 to 7:00 PM – Review of the Working Draft Maintenance Plan
December, 2004 – Continued review of the Draft Maintenance Plan

Attachment G-1
Relationship to Federal Requirements
Lakeview PM_{10} Maintenance Plan

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

The federal requirements applicable to this rulemaking are:

- Redesignation requirements: The Clean Air Act contains requirements for changing an area's status from nonattainment to attainment. Once a nonattainment area community has met certain requirements, an approved maintenance plan is required before EPA can change the area's status or redesignate the area.

- Maintenance plan requirements: The Clean Air Act requires that a maintenance plan show that a nonattainment area has met the public health standards. The plan must also show the area will continue to meet public health standards for at least ten years, continue the strategies that brought the area into attainment, and provide contingency plans in case the area violates the public health standards.

- Industrial new source review (NSR) requirements: Once designated to attainment, federal NSR rules rely upon the prevention of significant deterioration (PSD) rules. The federal PSD rules include emission control technology requirements and requirements for ambient air quality analysis.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

The applicable federal requirements are performance based, requiring a maintenance plan that addresses present and future ambient concentrations. The future concentrations are compared to the federal health-based standards. The New Source Review program is both technology and performance based, specifying the level of emission control technology required, and requiring a demonstration that emission increases from new and expanding industry will not degrade air quality beyond allowed levels or cause a violation of federal air quality standards.

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

No. The federal requirements are those allowed by the Clean Air Act, and do not provide for designations other than attainment or nonattainment. In Oregon, our main concern is protecting Lakeview from once again violating the federal public health

standards. Oregon's NSR rules provide a precautionary maintenance area status limiting emission growth to protect areas against exceeding standards.

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. The regulated community should find the proposed industrial NSR rules more flexible, cost effective, and clear than the current regulations. Importantly, the proposed NSR rules for maintenance areas will ensure that costly retrofitting will not be needed in the future as long as violations do not reoccur.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

No.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Yes, the proposed limits on emission increases under the PM_{10} maintenance plans for new and expanding industry account for expected growth and provide a safety margin that protects air quality and ensures continued compliance with PM_{10} standards over the next 10 years. The cap or limit proposed in Lakeview is 93% of the daily and 90% of the annual ambient standards. The Lakeview air quality committee decided upon these requirements based upon each areas growth potential and future projected ambient concentration.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. The PM_{10} maintenance plans will require continuing most of the existing emission reduction measures that resulted in attaining the PM_{10} standards. The proposed NSR industrial rules were developed to ensure that all new and expanding major PM_{10} sources contribute to preventing a future violation. While the requirements in the proposed plan are somewhat less stringent for the development of major new and expanding PM_{10} sources, the plan maintains a reasonable equity between existing sources and proposed sources without compromising the integrity of the airshed.

8. Would others face increased costs if a more stringent rule is not enacted?

Possibly. If less stringent rules are adopted and in the unlikely event that Lakeview again violates the PM_{10} standards, Lakeview again may be subject to stringent industrial rules.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

No.

10. Is demonstrated technology available to comply with the proposed requirement?

Yes. The required industrial control technology or Best Available Control Technology (BACT) is based on demonstrated technology. BACT is a federal requirement and is the result of an established procedure. Federal guidance is available to help sources determine BACT.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

Yes. The proposed maintenance plans and related requirements are designed to maintain the PM_{10} public health standards in these communities and prevent or regulate pollution from new sources. If these areas were to violate the standards and return to nonattainment status, more restrictive requirements would apply. This plan and these rules are a cost-effective method of maintaining air quality because they control emissions before problems occur rather than correcting them after they occur.

Attachment G-2
Relationship to Federal Requirements
La Grande PM_{10} Maintenance Plan

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

The federal requirements applicable to this rulemaking are:

- Redesignation requirements: The Clean Air Act contains requirements for changing an area's status from nonattainment to attainment. Once a nonattainment area community has met certain requirements, an approved maintenance plan is required before EPA can change the area's status or redesignate the area.

- Maintenance plan requirements: The Clean Air Act requires that a maintenance plan show that a nonattainment area has met the public health standards. The plan must also show the area will continue to meet public health standards for at least ten years, continue the strategies that brought the area into attainment, and provide contingency plans in case the area violates the public health standards.

- Industrial new source review (NSR) requirements: Once designated to attainment, federal NSR rules rely upon the prevention of significant deterioration (PSD) rules. The federal PSD rules include emission control technology requirements and requirements for ambient air quality analysis.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

The applicable federal requirements are performance based, requiring a maintenance plan that addresses present and future ambient concentrations and requiring certain levels of emission controls. The future concentrations are compared to the federal health-based standards. The New Source Review program is both technology and performance based, specifying the level of emission control technology required, and requiring a demonstration that emission increases from new and expanding industry will not degrade air quality beyond allowed levels or cause a violation of federal air quality standards

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

No. The federal requirements are those allowed by the Clean Air Act, and do not provide for designations other than attainment or nonattainment. In Oregon, our main concern is protecting La Grande from once again violating the federal public health

standards. Oregon's NSR rules provide a precautionary maintenance area status limiting emission growth to protect areas against exceeding standards.

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. The regulated community should find the proposed industrial NSR rules more flexible, cost effective, and clearer than the current regulations. Importantly, the proposed NSR rules for maintenance areas will ensure that costly retrofitting will not be needed in the future as long as violations do not reoccur.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

No.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Yes, the proposed limits on emission increases under the PM_{10} maintenance plan for new and expanding industry account for expected growth and provide for controlled emission increases that protects air quality and ensures continued compliance with PM_{10} standards over the next 10 years. The proposal for La Grande requires new and expanding industry to continue to obtain emission offsets before they can establish in the Urban Growth Boundary. The local advisory commission agreed upon this requirement based on their community objectives.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. The PM_{10} maintenance plan will require continuing most of the existing emission reduction measures that resulted in attaining the PM_{10} standards. The proposed NSR industrial rules were developed to ensure that all new and expanding major PM_{10} sources contribute to preventing a future violation. While the requirements in the proposed plan are somewhat less stringent for the development of major new and expanding PM_{10} sources, the plan maintains a reasonable equity between existing sources and proposed sources without compromising the integrity of the airshed.

8. Would others face increased costs if a more stringent rule is not enacted?

Possibly. If less stringent rules are adopted and in the unlikely event that La Grande again violates the PM_{10} standards, La Grande again may be subject to stringent industrial rules.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

No.

10. Is demonstrated technology available to comply with the proposed requirement?

Yes. The required industrial control technology or Best Available Control Technology (BACT) is based on demonstrated technology. BACT is a federal requirement and is the result of an established procedure. Federal guidance is available to help sources determine BACT.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

Yes. The proposed maintenance plan and related requirements are designed to maintain the PM_{10} public health standards in these communities and prevent or regulate pollution from new sources. If these areas were to violate the standards and return to nonattainment status, more restrictive requirements would apply. This plan and these rules are a cost-effective method of maintaining air quality because they control emissions before problems occur rather than correcting them after they occur.

Attachment H-1
DEPARTMENT OF ENVIRONMENTAL QUALITY
Chapter 340
Proposed Rulemaking
STATEMENT OF NEED AND FISCAL AND ECONOMIC IMPACT
This form accompanies a Notice of Proposed Rulemaking

Title of Proposed Rulemaking:	Lakeview PM_{10} Maintenance Plan
Need for the Rule(s)	The Department of Environmental Quality (Department) is proposing the Environmental Quality Commission adopt the PM_{10} maintenance plan for the Lakeview Urban Growth Boundary (UGB) area. PM_{10} refers to particulate matter 10 microns and smaller. Lakeview has met the National Ambient Air Quality Standards for PM_{10} for over ten years. The plan ensures that Lakeview will continue to meet standards for the next ten years and enables DEQ to request that the Environmental Protection Agency (EPA) redesignate Lakeview to attainment status. The Department also proposes amendments to air quality permitting rules for major new or modified industrial sources of PM_{10} and for Lakeview to be classified as a PM_{10} maintenance area. Additionally, the plan establishes a cap on PM_{10} emissions from motor vehicles. If adopted, the Department will submit the maintenance plan and supporting rule amendments to EPA for approval as part of Oregon's State Implementation Plan as required by the federal Clean Air Act.
Documents Relied Upon for Rulemaking	The PM_{10} plan reflects the requirements and guidance of several documents, including but not limited to: the federal Clean Air Act, EPA guidance for the development of attainment and maintenance plans, guidance for the preparation of emission inventories, and air quality modeling protocols. "Employment Projections by Industry 2002 – 2012, Oregon and Regional Summary"; Oregon Employment Department – Workforce Analysis August 2001. Located on the internet at http://www.qualityinfo.org/olmisj/PubReader?itemid=00002030. Oregon Job's Outlook; Located on the internet at http://www.ocf1.org/scholarships/job_outlook.htm. Discussions with local air quality committees convened at Lakeview's town council's request. (Meeting summaries available upon request). Contact: Larry Calkins, DEQ, ER The Dalles.
Fiscal and Economic Impact	
Overview	The proposed maintenance plan, redesignation, and rules will not result in significant increased costs and will remove some barriers to economic growth. The plan obligates Lakeview and the state to continue existing programs to reduce and manage PM_{10} emissions. It allows limited growth of PM_{10} emissions from new and expanding major industrial sources, establishes a cap on emissions from transportation projects, and establishes contingency procedures to prevent or correct future violations of the PM_{10} public health standards.
General public	Citizens in Lakeview will not see a change in fiscal or economic impact. The existing voluntary and regulatory programs to curtail wood smoke and open burning will continue. Supporting educational programs and telephone advisory hotlines will continue.
Small Business	In general, small businesses will not be required to change current practices. Small businesses as defined by the Administrative Practices Act are 50 or less employees. Most small businesses emit less than 15 tons of PM_{10} emissions in a year and will not see a change in cost because existing PM_{10} requirements will continue. Changes in permit requirements for small businesses that increase emissions by 15 tons or more per year will likely result in reduced costs for the permitted sources, as described in Large Business, below.
Large Business	Costs will not change for businesses operating industrial sources emitting less than 15 tons PM_{10} per year. Changes in permitting requirements are expected to reduce costs for businesses operating new or expanding major industrial sources with PM_{10} emissions larger than 15 tons per year locating in the Lakeview UGB area. Currently, these industrial sources in these areas must install equipment that reduces emissions to the highest extent possible without regard to cost. The proposed rules will allow sources to use the best available emission control equipment and consider cost/benefit (dollars per ton of emissions controlled) when selecting the equipment. In addition, the proposed rules allow limited PM_{10} emissions increases from major new or expanding industrial sources in Lakeview. Currently, any source in Lakeview that wishes to increase emissions must model and obtain offsets (an equivalent emission reduction from another source). Under the proposed rules, sources will continue to be required to analyze potential PM_{10} emission

	increases. If modeling shows emissions are within limits established for each maintenance area, then the source will be exempt from offsets. An exemption from offsets can be less expensive than obtaining required offsets. Although the equipment costs and the modeling efforts of the company are the same or less expensive, both the current and proposed rules continue to require these companies to submit equipment cost analysis and modeling analysis to the Department for review and approval. Any cost savings to the company and DEQ cannot be estimated because each scenario is different and cannot be predicted.
Local Government	This rulemaking will not result in any new impacts to local government in Lakeview. Lakeview conducts the wood smoke curtailment programs in their communities with partial grant funding from DEQ. Lakeview enforces an open burning ordinance and assists the DEQ with open burning investigations and public education. The proposed plans call for a continuation of outreach and education. The outreach effort by Lakeview will be the same, and DEQ intends to continue funding assistance to Lakeview for this effort depending upon funding availability and need.
State Agencies	**Department of Transportation (ODOT)** ODOT is required to conduct transportation-related conformity determinations. The proposed rulemaking does not change the quality or number of conformity determinations required by ODOT. **Oregon Department of Forestry (ODF)** ODF will continue to protect Lakeview from smoke intrusions through a voluntary smoke management program. This rulemaking does not change the requirements of ODF.
DEQ	➢ FTE's: No additional FTE is required to carry out this rulemaking. DEQ does not expect Lakeview will see a significant increase in permit applications for industrial expansion as a result of the allowable increase in PM_{10} emissions. The Department expects to process any new air quality permit applications using existing modeling and permitting staff. In addition, DEQ may require slightly less time per permit to analyze control equipment and review modeling analyses, but this is not expected to result in measurable cost savings. ➢ Revenues: Permit application fees will remain the same for new or expanding industrial sources of PM_{10}. Any new applications could increase revenues. ➢ Expenses: This rulemaking will not result in changes to the Department's expenses. It may be easier to issue permits for new or modified sources because of less rigorous permitting requirements.
Other agencies	There are no known impacts on other agencies.
Assumptions	The Department assumes the wood products industries and other sources of PM_{10} emissions will not experience a significant revitalization in the next ten years. Economic trends over the last ten years support this assumption. According to the Oregon Employment Department, manufacturing jobs will grow at a substantially slower rate than non-manufacturing sectors of the economy in Oregon. It is further assumed that the Department will receive only a few permit applications each year as a direct result of this rulemaking.
Housing Costs	This proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.
Administrative Rule Advisory Committee	The Department used an advisory committee comprised of citizens appointed by the town council.

Prepared by	Printed name	Date
[signature] for Jim Roys	Ishmay Robertson	2/10/05
Approved by DEQ Budget Office	Printed name	Date

Attachment H-2
DEPARTMENT OF ENVIRONMENTAL QUALITY
Chapter 340
Proposed Rulemaking
STATEMENT OF NEED AND FISCAL AND ECONOMIC IMPACT
This form accompanies a Notice of Proposed Rulemaking

Title of Proposed Rulemaking:	La Grande PM_{10} Maintenance Plan
Need for the Rule(s)	The Department of Environmental Quality (Department) is proposing the Environmental Quality Commission adopt a PM_{10} maintenance plan for the La Grande Urban Growth Boundary (UGB) area. PM_{10} refers to particulate matter 10 microns and smaller. La Grande has met the National Ambient Air Quality Standards for PM_{10} for over fourteen years. The plan ensures that La Grande will continue to meet standards for the next ten years and enables DEQ to request that the Environmental Protection Agency (EPA) redesignate La Grande to attainment status. The Department also proposes amendments to air quality permitting rules for major new or modified industrial sources of PM_{10} and for La Grande to be classified as a PM_{10} maintenance area. Additionally, the plan establishes a cap on PM_{10} emissions from motor vehicles. If adopted, the Department will submit the maintenance plan and supporting rule amendments to EPA for approval as part of Oregon's State Implementation Plan as required by the federal Clean Air Act.
Documents Relied Upon for Rulemaking	The PM_{10} Plan reflects the requirements and guidance of several documents, including but not limited to: the federal Clean Air Act, EPA guidance for the development of attainment and maintenance plans, guidance for the preparation of emission inventories, and air quality modeling protocols. "Employment Projections by Industry 2002 – 2012, Oregon and Regional Summary"; Oregon Employment Department – Workforce Analysis August 2001. Located on the internet at http://www.qualityinfo.org/olmisj/PubReader?itemid=00002030. Oregon Job's Outlook; Located on the internet at http://www.ocf1.org/scholarships/job_outlook.htm. Discussions with local air quality committees convened at La Grande city council's request. (Meeting summaries available upon request). Contact: Larry Calkins, DEQ, ER The Dalles.
Fiscal and Economic Impact	
Overview	The proposed maintenance plan, redesignation, and rules will not result in significant increased costs and will remove some barriers to economic growth. The plan obligates La Grande and the state to continue existing programs to reduce and manage PM_{10} emissions. It allows limited growth of PM_{10} emissions from new and expanding major industrial sources, establishes a cap on emissions from transportation projects, and establishes contingency procedures to prevent or correct future violations of the PM_{10} public health standards.
General public	In La Grande, citizens will not see a change in fiscal or economic impact. The existing voluntary and regulatory programs to curtail wood smoke and open burning will continue. Supporting educational programs and telephone advisory hotlines will continue.
Small Business	In general, small businesses will not be required to change current practices. Small businesses as defined by the Administrative Practices Act are 50 or less employees. Most small businesses emit less than 15 tons of PM_{10} emissions per year and will not see a change in costs because existing PM_{10} requirements will continue. Changes in permit requirements for small businesses that increase emissions by 15 tons or more of PM_{10} per year will likely result in reduced costs for the permitted sources, as described in Large Business, below.
Large Business	Costs will not change for businesses operating industrial sources emitting less than 15 tons PM_{10} per year. Changes in permitting requirements are expected to reduce costs for businesses operating new or expanding major industrial sources with PM_{10} emissions larger than 15 tons per year locating in the La Grande UGB area. Currently, these industrial sources in La Grande must install equipment that reduces emissions to the highest extent possible without regard to cost. The proposed rules will allow sources to use the best available emission control equipment and consider cost/benefit (dollars per ton of emissions controlled) when selecting the equipment. Currently, any source in La Grande that wishes to increase emissions must model and obtain offsets (an equivalent emission reduction from another source). Under the proposed rules, sources will also be required to model potential PM_{10} emission increases. The La Grande Air Quality

	Although the equipment costs and the modeling efforts of the company are the same or less expensive, both the current and proposed rules continue to require these companies to submit equipment cost analysis and modeling analysis to the Department for review and approval. Any cost savings to the company and DEQ cannot be estimated because each scenario is different and cannot be predicted.
Local Government	This rulemaking will not result in any new impacts to local governments in La Grande. La Grande conducts a wood smoke curtailment program with partial grant funding from DEQ. It enforces an open burning ordinance and assists the DEQ with open burning investigations and public education. The proposed plans call for a continuation of outreach and education. The outreach effort by La Grande will be the same, and DEQ intends to continue funding assistance to La Grande for this effort depending upon funding availability and need.
State Agencies	**Oregon Department of Transportation (ODOT)** ODOT is required to conduct transportation-related conformity determinations. The proposed rulemaking does not change the quality or number of conformity determinations required by ODOT. **Oregon Department of Forestry (ODF)** ODF will continue to protect La Grande from smoke intrusions through a smoke management program. This rulemaking does not change the requirements of ODF.
DEQ	➢ FTE's: No additional FTE is required to carry out this rulemaking. DEQ does not expect La Grande to see a significant increase in permit applications for industrial expansion as a result of the rule changes. The Department expects to process any new air quality permit applications using existing modeling and permitting staff. This is not expected to result in measurable cost savings. ➢ Revenues: Permit application fees will remain the same for new or expanding industrial sources of PM_{10}. Any new applications could increase revenues. ➢ Expenses: This rulemaking will not result in changes to the Department's expenses. It may be easier to issue permits for new or modified sources because of less rigorous permitting requirements.
Other agencies	There are no known impacts on other agencies.
Assumptions	The Department assumes the wood products industries and other sources of PM_{10} emissions will not experience a significant revitalization in the next ten years. Economic trends over the last ten years support this assumption. According to the Oregon Employment Department, manufacturing jobs will grow at a substantially slower rate than nonmanufacturing sectors of the economy in Oregon. It is further assumed that the Department will receive only a few permit applications each year as a direct result of this rulemaking.
Housing Costs	This proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.
Administrative Rule Advisory Committee	The Department used an advisory committee comprised of citizens appointed by the City of La Grande.

Prepared by	Printed name	Date
Approved by DEQ Budget Office.	Printed name	Date

Attachment I-1
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Lakeview PM_{10} Maintenance Plan

Land Use Evaluation Statement

1. Explain the purpose of the proposed rules.

The Department of Environmental Quality (Department) is proposing the Environmental Quality Commission adopt the Lakeview PM_{10} maintenance plan. Lakeview has met the National Ambient Air Quality Standards for over ten years. The plan is needed to ensure that Lakeview continues to meet standards for the next ten years and to enable DEQ to request the Environmental Protection Agency (EPA) to redesignate Lakeview from nonattainment to attainment. The Department is also proposing amendments to the air quality permitting rules for major new or modified industrial sources of PM_{10} in Lakeview to be classified as located in a PM_{10} maintenance area. If adopted, the Department will submit the maintenance plan and rule amendments to EPA for approval as part of Oregon's State Implementation Plan as required by the federal Clean Air Act. If the plan is not adopted, there is a potential for new or expanding industries in this community to be unnecessarily restricted by strict industrial rules. Additionally, proposed transportation projects may be unnecessarily delayed or modified without proper planning.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?

Yes X No_

a. If yes, identify existing program/rule/activity:

The Department implements the New Source Review program through an existing air quality-permitting program. New sources larger than 15 tons a year must apply for a permit. Permit applicants must obtain a land use compatibility statement from the appropriate local jurisdiction before the Department may issue a permit.

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes X No______ (if no, explain):

c. If no, apply the following criteria to the proposed rules.

N/A

3. If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.

N/A The New Source Review program is subject to land use compliance and compatibility procedures.

La Hanan 1/25/05

Division | ~~Intergovernmental Coord.~~ Govt Relations Manager | Date

Attachment I-2
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
La Grande PM_{10} Maintenance Plan

Land Use Evaluation Statement

1. Explain the purpose of the proposed rules.

The Department of Environmental Quality (Department) is proposing the Environmental Quality Commission adopt the La Grande PM_{10} maintenance plan. La Grande has met the National Ambient Air Quality Standards for over fourteen years. The plan is needed to ensure that La Grande continues to meet standards for the next ten years and to enable DEQ to request the Environmental Protection Agency (EPA) to redesignate La Grande from nonattainment to attainment. The Department is also proposing amendments to the air quality permitting rules for major new or modified industrial sources of PM_{10} in La Grande to be classified as located in a PM_{10} maintenance area. If adopted, the Department will submit the maintenance plan and rule amendments to EPA for approval as part of Oregon's State Implementation Plan as required by the federal Clean Air Act. If the plan is not adopted, there is a potential for new or expanding industries in this community to be unnecessarily restricted by strict industrial rules. Additionally, proposed transportation projects may be unnecessarily delayed or modified without proper planning.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?

Yes X No

a. If yes, identify existing program/rule/activity:

The Department implements the New Source Review program through an existing air quality-permitting program. New sources larger than 15 tons a year must apply for a permit. Permit applicants must obtain a land use compatibility statement from the appropriate local jurisdiction before the Department may issue a permit.

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes X No_____ (if no, explain):

c. If no, apply the following criteria to the proposed rules.

N/A

3. If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.

N/A The New Source Review program is subject to land use compliance and compatibility procedures.

	Intergovernmental Coord. Govt Relations Manager	1/25/05
Division		Date

State of Oregon
Department of Environmental Quality Memorandum

To: Environmental Quality Commission **Date:** August 11, 2005

From: Stephanie Hallock, Director S. Hallock

Subject: Director's Dialogue

Update on DEQ Budget and Legislation

Budget: DEQ's budget passed the House and the Senate as House Bill 5135 (attachment A). The budget reduces the Governor's recommended budget by approximately $200,000 for air toxics monitoring, $200,000 for policy guidance and technical assistance in hazardous waste, and a one time cut of $487,000 in general funds for debt service on Orphan Site bonds.

Our policy package to support TMDL implementation on the Willamette with over $800,000 in general funds and 4.5 FTE was approved, as was general funding to cover increased costs for the new lab, so we don't have to divert other program dollars to cover those costs this biennium. All of our policy packages on federal and other funds were approved. In the 2007 budget request, we have an opportunity to request more money for monitoring, as there is interest and support in the legislature.

DEQ's total budget will be approximately $264.6 million, composed of $22.7 million of General Funds, $3.7 million of Lottery Funds, $37.9 million Federal and $200.3 million Other Funds. Of that total budget, nearly $4.4 million of General Fund and $86.7 million of Other Funds is dedicated to debt service on bonds and providing clean water facility SRF loans to local communities. The remaining $173.5 million is the amount that DEQ normally refers to as its "operating budget." Within this operating budget, Air Quality receives $45.1 million of total limitation, Water Quality $46.6 million, and Land Quality $58.9 million, Cross-Media $3 million, and Agency Management $19.9 million.

The Water Quality *Budget Note* that I mentioned to you in June is also included:

"DEQ, DOGAMI, DSG, DFW, DLCS, and OWR will work with the Office of Regulatory Streamlining on one or more projects to streamline the delivery of water-related permitting programs and projects including water-related permitting associated with removal/fill projects and on permitting associated with aggregate mining activities. The agencies will report back on their plans and progress to the Joint Legislative Audit Committee no later than April 30, 2006 and Dec. 31, 2006. To the greatest extent practical, the Office of Regulatory Streamlining will involve the co-chairs of the Joint Legislative Audit Committee, or their designees, in any work group activities needed to implement this budget note."

The budget bill contains language prohibiting DEQ and the EQC from spending money to adopt or enforce rules imposing California's strict tailpipe emissions standards. The Governor has said he will line-item veto this language.

Legislation:

All DEQ bills have passed, and only our budget bill awaits the Governor's signature.

The following DEQ bills have been signed by the Governor:

Senate Bill 42 changes the Clean Water State Revolving Fund law to add two to five years to the loan repayment term. The bill passed the Senate and House and Governor Kulongoski signed it June 7, 2005

Senate Bill 43 (Toxic Use Reduction) The Governor held a signing ceremony for SB43 on June 9th. The bill, introduced by the Governor on behalf of DEQ, updates and streamlines the state's toxic use reduction and hazardous waste reduction law, first passed in 1989. The bill passed unanimously in the state House and Senate. David Livengood, DEQ's toxic use reduction coordinator, has developed a detailed implementation plan to assist businesses and DEQ's technical assistance staff. We are confident SB 43 will lead to better toxic use reduction planning by businesses and the submittal of more meaningful and useful information to DEQ.

Senate Bill 44 extends the sunset of the existing fee that funds federally required work to prevent leaks and contamination from underground storage tanks. It also extends the expedited enforcement pilot program, which switches the focus from the violations to helping facilities achieve compliance. The bill passed the both the Senate and the House by wide margins and the Governor signed it on July 15, 2005.

Senate Bill 45 improves the stability and accountability of the water quality permit program by increasing fees, making process improvements, and requiring annual performance reports to the legislature, local government, businesses and the public. This bill was supported by industry, local government, and environmental groups, who were represented on the Blue Ribbon Committee that developed the bill and DEQ's wastewater permit budget proposal. The Governor signed SB 45 into law on July 15, 2005 and held a subsequent signing ceremony.

Other Significant Bills that Passed:

Senate Bill 218 provides injunctive relief for public employees in cases of harassment, obstruction, assault, and other crimes.

House Bill 3238 emphasizes developing accurate fiscal impacts, and specifically the impacts of new rules on small businesses. The bill requires that within five years of adoption, the agency will review the rule to determine if it had its intended impact (amendments and repeals of existing rules or rules that adopt federal laws by reference or rules adopted to comply with court or legislative actions are exempt). If no advisory committee is appointed for permanent rules and 10 or more persons object to the fiscal impact statement during the public comment period, then the agency is required to appoint a fiscal impact advisory committee to make recommendations on the rule's fiscal impact (this requirement does not apply to rules adopted to comply with judicial actions).

House Bill 2157 clarifies authority for DEQ to require criminal background checks for lab staff working on chemical terrorism and Umatilla staff working on chemical weapons destruction.

House Resolution 3, sponsored by Representatives Anderson, Butler, Garrard, Jenson and Nelson, declares that state agencies should not impose requirements relating to the control of greenhouse gas emissions except as required by federal or state law. The resolution, which expresses an opinion or sentiment but does not become law, moved through the House Environment Committee and passed the full House.

House Bill 2130: places suction dredge fees into statute. Fees are consistent with those in the suction dredge general permit renewal package approved by the Commission. This bill came at the request of Representatives Anderson and Butler responding to suction dredge miners seeking fee certainty. This bill is still awaiting the Governor's signature.

Bills that didn't make it:

Mixing Zones: None of the bills offered during the session relating to water quality mixing zones and toxics made it past a committee hearing. They were: Senate Bill 532, Senate Bill 555, Senate Bill 652 and House Bill 2664.

Senate Bill 740 (Electronic Waste Recycling Bill) would establish a statewide system to collect and recycle computers, monitors, printers, and televisions from residential and commercial generators. The bill would use a fee of $6 to $10 on each new monitor or television sold to pay for the collection and recycling. DEQ would use an RFP process to select a contractor to operate the program.

House Bill 2948 would have made EQC orders in contested case hearings eligible for appeal to circuit court in addition to the Court of Appeals.

Senate Bill 344, sponsored by Senator Ringo, directs the Environmental Quality Commission to adopt regulations implementing California motor vehicle emissions standards beginning with the 2009 model year.

House Bill 3481 As introduced, this bill provided various financial incentives for biofuel production, including pollution control tax credits. The bill was amended in the House to extend the sunset of the entire pollution control tax credit program to 2016 and increase the eligible percentage from 35% to 50%. The House also added an amendment that requires any rules adopted by the EQC to permit and encourage the sale or lease of vehicles that use biodiesel. The Senate version of the bill was closer to the original bill and eliminated any extension of pollution control tax credits and limitation on EQC rules. A Conference Committee worked toward a compromise agreement, but in the end the parties could not agree, and the bill died.

Cal LEV, Washington: As a reminder, the Washington Legislature recently passed a bill adopting California Low Vehicle Emission standards beginning with the 2009 model year. Implementation of the law, however, is contingent upon Oregon also adopting the standards.

Follow up to the House Audits Committee: You may recall from our last meeting that a private citizen, Dr. Gary Adams, issued a report questioning the validity of DEQ's vehicle inspection equipment calibrations. DEQ issued a report identifying the errors in Dr. Adam's analysis, but the

House Audits Committee recommended that DEQ hire an independent third party to review both reports. DEQ issued a Request for Proposals (RFP) on August 1, and expects to evaluate cost estimates and contract with a consultant in early September to begin the reviews.

Donalda Dodson appointed to EQC

At the October EQC meeting in Gresham, the EQC will welcome its newest member, Donalda Dodson, who was confirmed by the Senate Rules Committee on August 2. Donalda will complete the balance of Didi Malarkey's term, which expires June 30, 2007.

Donalda lives in Salem, where she is interim Executive Director of the Oregon Child Health Development Coalition. Until 2004, she was the Administrator of the Office of Family Health at DHS and, before that, worked in public health-related programs for Marion and Benton counties. Donalda has a bachelor's degree in nursing and a master's degree in Public Health from the University of Washington. She chairs the Oregon Hunger Task Force and has served on many boards and committees locally and statewide. Donalda has received numerous awards and recognitions throughout her career. Donalda will bring a wealth of valuable experience to the Commission and will create an important link between environmental protection and public health. Please joining me in welcoming Donalda to the EQC in October.

Measure 37 Claims are increasing

DEQ recently received four Measure 37 claims—the first claims received under the measure. Three of the claims, directed at the Department of Land and Conservation Development, challenge local zoning, subdivision and county land use determinations regarding properties in Marion and Clackamas Counties and the city of Portland. The fourth claim is directed at the Department of State Lands regarding wetland use restrictions. All four claims are directed secondarily at Forestry and DEQ, in the belief that Forestry and DEQ regulations (particularly DEQ On-Site regulations) may also restrict land use. None of the properties have been the subject of an on-site determination.

Measure 37 includes a broad exemption that limits claims about land use restrictions that are based on pollution control measures. DOJ will review DEQ Measure 37 claims for validity in light of these exemptions. DEQ will provide a brief report to the lead agency that will be included in the state's response to the Measure 37 claimant. The Director of DEQ has authority to deny Measure 37 claims. However, at DOJ's recommendation, DEQ is considering a possible rulemaking to clarify EQC and DEQ decision-making authority with respect to the claims.

Vehicle Inspection Program Update

At the June 2005 meeting, the EQC revised Vehicle Inspection Program rules to phase-out the costly Enhanced Emissions Test and replace it with the Basic and On-Board Diagnostics (OBD) Tests. Since then, DEQ has worked with the Department of Administrative Services and Department of Justice to finalize a contract with a vendor, SysTech, to replace and upgrade DEQ's Basic and OBD analyzers and software. In late 2005, SysTech will develop pilots of new self-service and online OBD tests the Commission approved in October 2003. These new tests have

triggered national interest and invitations for DEQ to speak at an EPA Air Quality forum in Chicago, a Clean Air Conference in Colorado, and at MIT in Boston.

Columbia River Gorge National Scenic Area

In early August, DEQ and the Southwest Washington Clean Air Agency (SWCAA) will meet with the Columbia Gorge Commission to review the status of the Gorge Air Quality study and identify the impact of DEQ budget reductions on a planned process to develop an air quality strategy for the Scenic Area. While funding for technical work (monitoring and modeling) was not affected, funding cuts will require DEQ to scale back a stakeholder process slated to begin when the technical study concludes in 2007. DEQ predicts some stakeholder opposition to scaling back the public process, particularly in light of recent media coverage of a study showing environmental damage in the Gorge from acid deposition. We are considering requesting restoration of funds in our 2007-2009 budget.

Clean Diesel

DEQ's recent efforts to improve diesel emissions have focused on bolstering federal grant applications to improve exhaust controls on construction equipment and school buses. One grant application, developed by the Associated General Contractors of Oregon with extensive DEQ involvement, would fund a project to retrofit diesel exhaust controls on construction equipment used to build bridges. A second application developed with support from DEQ and the Lane Regional Air Pollution Authority (LRAPA) would fund multiple projects to retrofit or replace aging school buses at districts statewide.

In addition to these efforts, DEQ is continuing to support Freightliner's efforts to test the reliability of 2007 model year trucks—the cleanest diesel trucks ever developed. Freightliner, which formerly tested new models at manufacturing facilities nationwide, approached the state about consolidating test operations in Oregon. DEQ shares an interest in the development of reliable, clean-running diesel vehicles with broad market appeal. With support from the Governor's Office and the Oregon Department of Transportation (ODOT), DEQ staff negotiated an agreement with Freightliner that minimizes obstacles to testing these dramatically cleaner vehicles. The agreement, which the parties are expected to sign soon, exempts Freightliner test vehicles from certain fuel taxes during research and development. In return, Freightliner will supply DEQ with portable equipment to test emissions from heavy duty vehicles; provide ODOT with more precise data for bridge strain and pavement wear studies; provide the Department of Energy with fuel consumption data comparing wind tunnel and field testing; and provide public service advertising space on the side of test vehicles.

California Low Emission Vehicles standards

As I reported previously, the Washington Legislature adopted the California motor vehicle emission standards (Cal LEV) contingent on Oregon's adoption. Since then, the auto industry made a full court press to prohibit the EQC from adopting Cal LEV. Both the House and the Senate included a provision in DEQ's budget that would prohibit us from spending funds to adopt Cal LEV. However, Legislative Council indicated that the prohibition is unconstitutional, and the Governor has announced plans to line-item veto the provision.

The next step will be the formation of a Governor's Task Force on implementing Cal LEV in Oregon. The Governor's Office plans to appoint the Task Force members in the near future. We are assisting the Governor's staff and a third party facilitator to develop a charter for the Task Force, and are pulling together the issues to be discussed. In preparing, we've had a great deal of help from California, Washington, and the east coast states that have opted into Cal LEV. We intend to convene the Task Force in September and conclude in October with a report to the Governor covering what we've learned about the costs, benefits, impacts, and options for implementing Cal LEV. If the Governor desires to opt-in to Cal LEV for the 2009 model year, the Commission would need to consider a temporary rule this December.

Environmental Council of the States (ECOS)—Director's activity update

On July 28, Director Hallock and other officers from the Environmental Council of the States (ECOS) met with the Administrator of EPA, Steve Johnson, the newly-confirmed Deputy Administrator of EPA, Marcus Peacock, (formerly of the Office of Management and Budget), and other EPA officials to discuss state concerns about declining funding for state grants in EPA's budget. States have requested greater participation in development of EPA's 2007 budget and greater equity in future budget reductions. For the past two budget cycles, states have born the brunt of the cuts to EPA's budget. ECOS has retained a lobbyist in the event that EPA is not willing to work collaboratively with states on future budgets.

The ECOS officers also met with the Executive Directors of sister associations for air, water and waste and agreed to work on a unified message and presence regarding the EPA budget. The meeting with the Administrator was positive, but states are awaiting EPA response to a list of specific requests. States are also concerned about escalating regulatory and guidance requirements from EPA, with shrinking resources. EPA did volunteer to "pilot" an economic analysis of the impact on states of a few proposed rules. ECOS welcomes the analysis and hopes that EPA will conduct such analyses routinely.

The ECOS annual meeting will be held September 7-9 in Maine. Director Hallock, who currently serves as Vice President, is expected to be elected President. The 2006 annual meeting of ECOS will be hosted in Portland, Oregon next August.

DEQ responds to email inquires about ammonia emissions at Threemile Canyon Farms

In late June, I received over 3,000 emails from citizens around the country as part of a United Farm Workers Union campaign to highlight worker and community exposure to ammonia emissions from animal waste at Threemile Canyon Farms dairy operations facility in Boardman. Currently, no government agency regulates air emissions from dairies. Dairies and other animal feeding operations are subject to state and federal regulations to protect surface and ground water. Threemile Canyon Farms are in compliance with their Confined Animal Feeding Operation (CAFO) permit with the Oregon Department of Agriculture.

Based on estimates developed by the Western Regional Air Pollution Domain, a dairy operation the size of Threemile Canyon Farms would be expected to emit 2,469,174 pounds of ammonia annually—about ten times more than any single major industrial source of ammonia emissions in Oregon. However, agricultural operations like Threemile Canyon Farms emit ammonia in a dilute

form that dissipates quickly in the air and has no known health impacts in a community.

The EPA is conducting a multi-year study to collect data on emissions from dairies and other animal feeding operations. Information about this effort is available on EPA's Web site at www.epa.gov/compliance/resources/agreements/caa/cafo-agr-0501.html

DEQ coordinated a response to the email campaign with Oregon OSHA and Oregon Department of Agriculture and sent it out under my signature on July 14th.

73rd OREGON LEGISLATIVE ASSEMBLY--2005 Regular Session

B-Engrossed
House Bill 5135

Ordered by the Senate July 27
Including House Amendments dated June 10 and Senate Amendments dated July 27

Sponsored by COMMITTEE ON HEALTH AND HUMAN SERVICES

SUMMARY

The following summary is not prepared by the sponsors of the measure and is not a part of the body thereof subject to consideration by the Legislative Assembly. It is an editor's brief statement of the essential features of the measure.

Appropriates moneys from General Fund to Department of Environmental Quality for certain biennial expenses.

Limits biennial expenditures from fees, moneys or other revenues, including Miscellaneous Receipts, specified bond proceeds and specified federal funds, collected or received by department.

Limits biennial expenditures from lottery moneys allocated from Parks and Natural Resources Fund to department.

Authorizes specified nonlimited expenditures.

Limits certain biennial expenditures by department from federal funds.

Prohibits biennial expenditures by department or Environmental Quality Commission to adopt or enforce rules imposing specified auto emission standards.

Declares emergency, effective July 1, 2005.

A BILL FOR AN ACT

Relating to state financial administration; appropriating money; limiting expenditures; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. There are appropriated to the Department of Environmental Quality, for the biennium beginning July 1, 2005, out of the General Fund, the following amounts for the following purposes:

(1)	Air quality	$ 3,306,252
(2)	Water quality	$ 13,364,309
(3)	Land quality	$ 1,043,961
(4)	Cross media	$ 672,716
(5)	Debt service	$ 4,387,306

SECTION 2. Notwithstanding any other law limiting expenditures, the following amounts are established for the biennium beginning July 1, 2005, as the maximum limits for payment of expenses from fees, moneys or other revenues, including Miscellaneous Receipts, the proceeds of bonds for the Orphan Site Account and federal funds from the Bureau of Land Management and United States Forest Service for smoke monitoring laboratory services, but excluding lottery funds and federal funds not described in this section, collected or received by the Department of Environmental Quality, for the following purposes:

(1)	Air quality	$ 35,641,920
(2)	Water quality	$ 15,798,192
(3)	Land quality	$ 41,421,616

NOTE: Matter in boldfaced type in an amended section is new; matter [*italic and bracketed*] is existing law to be omitted. New sections are in boldfaced type.

(4) Cross media ..... $ 1,561,244

(5) Agency management..... $ 19,883,593

SECTION 3. Notwithstanding any other law limiting expenditures, the amount of $3,719,599 is established for the biennium beginning July 1, 2005, as the maximum limit for payment of expenses from lottery moneys allocated from the Parks and Natural Resources Fund to the Department of Environmental Quality for activities and projects to implement section 4 (10), Article XV of the Oregon Constitution.

SECTION 4. For the biennium beginning July 1, 2005, expenditures by the Department of Environmental Quality for debt service, for loans made from the Pollution Control Fund and for loans made from the Water Pollution Control Revolving Fund are not limited.

SECTION 5. Notwithstanding any other law limiting expenditures, the following amounts are established for the biennium beginning July 1, 2005, as the maximum limits for payment of expenses from federal funds other than those described in section 2 of this 2005 Act collected or received by the Department of Environmental Quality, for the following purposes:

(1) Air quality..... $ 6,478,481

(2) Water quality..... $ 14,128,456

(3) Land quality..... $ 16,764,217

(4) Cross media ..... $ 742,483

SECTION 6. Notwithstanding any other law, neither the Department of Environmental Quality nor the Environmental Quality Commission may expend any moneys for the biennium beginning July 1, 2005, to adopt or enforce rules that impose California auto emission standards on motor vehicles sold, leased or titled in Oregon.

SECTION 7. This 2005 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2005 Act takes effect July 1, 2005.

Approved___
Approved with Corrections___

Minutes are not final until approved by the Commission.

Oregon Environmental Quality Commission
Minutes of the Three Hundredth and Twenty Sixth Meeting

June 23-24, 2005
Regular Meeting[1]

Beginning at 10:00 a.m. on June 23, the Environmental Quality Commission (EQC, Commission) toured local environmental projects for an on-site inspection of the Department of Environmental Quality's (DEQ) activities. After the tour, the Commission met in an executive session beginning at 12:45 p.m. to consult with counsel concerning legal rights and duties regarding current and potential litigation against the DEQ[2]. The executive session was held in room 3B of the DEQ Headquarters building, located at 811 SW Sixth Avenue in Portland.

The following Commissioners were present for the regular meeting, which was held in Room 3A of the DEQ Headquarters building.

Mark Reeve, Chair
Lynn Hampton, Vice Chair
Deirdre Malarkey, Member
Judy Uherbelau, Member

Chair Reeve called the regular meeting to order at approximately 1:45 p.m., and introduced the Commission members, DEQ Director Stephanie Hallock, Assistant Attorney General Larry Knudsen, and Commission Assistant Jane Hickman. Agenda items were taken in the following order.

B. Rule Adoption: General Permit Renewal 700PM/NPDES

Lauri Aunan, DEQ Water Quality Administrator and Scott Manzano, DEQ Acting Surface Water Manager proposed adoption of a rule that renews the expired NPDES General Permit for suction dredge operations. The General Permit applies statewide, and limits turbidity discharges from dredges equipped with an inside diameter suction hose no larger than 6 inches. The rule affects some 2,000 individual suction dredge operators, primarily located in the Baker and Grants Pass areas. States regulate suction dredge mining in different ways, some, like DEQ, through NPDES permits. Scott Manzano explained that the 700PM/NPDES General Permit had been simplified during the public comment period of the rulemaking, in response to public concern that the permit was overly complex. Commissioners raised a number of questions about the rulemaking process. Commissioner Malarkey moved that the rule be adopted with minor corrections. Commissioner Hampton seconded the motion and it passed with four "yes" votes.

C. Rule Adoption: Annual Inflation Adjustment to Air Quality Title V Permit Fees

Andy Ginsburg, DEQ Air Quality Administrator and David Kauth, DEQ, proposed increasing the permitting

[1] The staff reports for this meeting can be viewed and printed from DEQ's Web site at http://www.deq.state.or.us/about/eqc/eqc.htm. To request a copy to be sent by mail, contact DEQ, Office of the Director, 811 SW Sixth Avenue, Portland, Oregon 97204; phone: (503) 229-5990.
[2] Pursuant to ORS 192.660(1)(h)

fees for the Oregon Title V Operating Permits Program by 2.7 percent, an amount equal to the CPI increase in 2004. Dave Kauth pointed out that staff costs have increased more rapidly than the CPI and may require DEQ to seek a legislative amendment to increase fees accordingly. Andy Ginsburg explained that the fee, which is tied to the amount of emissions, is not clearly tied to the amount of work the DEQ does, since inspection costs remain the same even when the amount of emissions decreases. Commissioner Uherbelau suggested that, in the future, DEQ work with the Legislature to streamline the fee increase process, rather than spending staff time on an annual rule change to revise the fee. Commissioner Hampton moved to adopt the proposed rule as presented. The motion was seconded and passed with four "yes" votes.

D. Rule Adoption: Phase-out of Vehicle Inspection Program (VIP) Enhanced Test

Ted Kotsakis, DEQ Vehicle Inspection Program Manager and Jerry Coffer, DEQ Vehicle Inspection Program Engineer, proposed adoption of a rule that would phase out one of three tests performed by VIP stations, the Enhanced Vehicle Emissions Tests, which is relatively expensive to perform and reduces emissions only moderately. The proposed rule would preserve the Basic and On-Board Diagnostic tests. Chair Reeve encouraged DEQ to publicize this cost-saving measure. Commissioner Malarkey moved to adopt the proposed rule change. The motion was seconded and passed with four "yes" votes.

E. Action Item: Pollution Control Facility Tax Credits

Sally Puent, DEQ Acting Administrator of Management Services, and Maggie Vandehey, DEQ, recommended certification of 37 facilities and recommended alternate action on several other certificates. Commissioner Uherbelau asked for a comparison of state revenues lost through tax credits vs. the environmental benefits of the program. Maggie Vandehey explained that the state provides $25 million per biennium in tax credits in exchange for a considerable (though not quantified) reduction in waste to streams. All recommendations presented were adopted with minor corrections.

X. Refunding of Selected Pollution Control Bonds

Jim Roys, DEQ Budget Manager, proposed adoption of a resolution authorizing the Department and the State Treasurer to issue and sell State of Oregon General Obligation Pollution Control Bonds, which would be used to "refund" a number of existing bonds. The refund would take advantage of lower interest rates and reduce future debt service obligations. The resolution passed with four "yes" votes.

F. Director's Dialogue

Stephanie Hallock, DEQ Director, discussed with Commissioners current events and issues involving the Department and the state.

Friday, June 24, 2005

Commissioner Reeve called the meeting to order at approximately 8:30 a.m.

H. Informational Item: Update of the Status of the Umatilla Chemical Agent Disposal Facility

Dennis Murphey, DEQ Chemical Demilitarization Program Administrator, gave an update on the status of recent activities at the Umatilla Chemical Agent Disposal Facility (UMCDF), since it reopened after a May 2005 fire. Murphey detailed steps taken to prevent future fires, including relocation of fire detectors and modification of the deluge system.

A. Adoption of Minutes

The Commission reviewed draft minutes of the April 21-22, 2005, EQC meeting and adopted them as presented with four "yes" votes.

G. Contested Case No. AQ/AB-WR-02-046 regarding Jack D. Price

The Commission considered a contested case between DEQ and Jack D. Price, in which Mr. Price appealed a Final Order imposing three civil penalties totaling $28,042 for violations of asbestos management regulations. Larry Knudsen, Assistant Attorney General, summarized the Administrative Law Judge's (ALJ) findings of fact and asked Commissioners to declare any *ex parte* contacts or conflicts of interest regarding the case. They declared that they had none. Anne Price, DEQ Manager of the Office of Compliance and Enforcement, and Jane Hickman, DEQ Environmental Law Specialist, presented arguments on behalf of DEQ. Commissioners raised questions about facts in the case and about the Commission's role in reviewing contested cases. After discussion, the Commission upheld the ALJ's order in the case with four "yes" votes.

I. Rule Adoption: Alignment of Land Quality Rules

Alan Kiphut, DEQ Land Quality Administrator and Jeff Christensen, DEQ, proposed rule amendments to align existing Land Quality Division rules with changes previously adopted by the Oregon legislature or the federal government. DEQ explained that the changes were minor and created no new policy. All amendments were adopted with 4 "yes" votes.

J. Action Item: Three Basin Rule – Big Valley Woods Water Pollution Control Facilities (WPCF) Permit Modification

Dick Pedersen, DEQ Northwest Region Administrator and Anne Cox, DEQ, requested Commission approval for Big Valley Woods manufactured home park to construct a new sewage treatment plant to serve all existing and planned home sites on the basis that upgrading and expanding the system would meet the "Three Basin Rule." The Commission approved the upgrade and expansion of the treatment facilities by a unanimous vote, based on findings that the expansion will eliminate a significant number of failing individual on-site sewage disposal systems and better protect groundwater.

K. Public Forum

At approximately 11:30 a.m., Chair Reeve invited members of the audience to provide public comment to the Commission. The following people testified.

Bruce Beatty, Dave Kelsey and Butch Wilson, suction dredge miners; Jim Foley, representing the National Land Rights League and Oregon Representative Gordon S. Anderson all expressed concerns about the economic impact on small-scale suction dredge miners and mining equipment vendors as a result of changes to the 700PM NPDES General Permit and asked that the EQC re-evaluate its recent decision to adopt permit changes.

Larry Alexander, representing Big Valley Woods Tenants Association, registered objections to the EQC-approved expansion of Big Valley Woods' sewage treatment plant.

Michael Woods, Steven Wise, and K&D Engineering's John Wise, all representing Big Valley Woods, LLC, registered support for the EQC-approved expansion of Big Valley Woods' sewage treatment plant.

Kathleen Feehan, representing the Confederated Tribes of the Umatilla Indian Reservation registered objections to recently-adopted water quality criteria that were based on a representative fish consumption rate for the general population, rather than the Tribal population. Ms. Feehan requested continuation of a government-to-government dialogue between DEQ and CTUIR leadership.

L. Commissioner Reports

Commissioner Malarkey announced a joint presentation between the Lane Regional Air Pollution Authority and the Chamber of Commerce regarding new diesel trucks. She also shared with the Commission the Department of Energy's 2005-2007 Energy Plan and Renewable Energy Action Plan.

Chair Reeve thanked DEQ's Jane Hickman for her temporary service to the Commission while DEQ filled the vacant EQC Assistant position.

At approximately 12:30 p.m. the Commission adjourned.

State of Oregon
Department of Environmental Quality Memorandum

Date: July 28, 2005

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item G, Informational Item: Amendments to Water Quality Turbidity Standards, August 11-12, 2005 EQC Meeting

Purpose of Item

This is an informational item to brief the Environmental Quality Commission (EQC, Commission) on draft rules that revise the turbidity criteria for Oregon's water quality standards. This briefing paper provides an overview of the following:

- Current turbidity criteria for Oregon's water quality standards
- Department of Environmental Quality (DEQ) plans for rulemaking to modify turbidity criteria
- Key issues around revision of turbidity criteria

No action is required of the EQC at this time.

Background

Water quality standards shape DEQ decisions

DEQ is delegated by the Environmental Protection Agency (EPA) to carry out the federal Clean Water Act in Oregon. Under the Clean Water Act, states are required to adopt water quality standards and submit them to EPA for approval. Water quality standards are benchmarks for assessing whether the quality of Oregon's rivers and lakes is adequate for fish and other aquatic life, recreation, drinking, agriculture, industry and other uses. Water quality standards are the basis for DEQ actions including:

- Issuing Clean Water Act Section 401 certifications.
- Amending Clean Water Act Section 303(d) impaired waters list.
- Development of total maximum daily loads (TMDLs).
- Setting discharge limits in National Pollutant Discharge Elimination System (NPDES) point source permits.

Turbidity means water cloudiness

Turbidity is a measure of cloudiness in water, which can be caused by soil erosion, waste discharge, and runoff. In more technical terms, turbidity describes the optical condition of water when suspended particles scatter and absorb light rays instead of transmitting them in straight lines through the water column. Turbidity is measured in *nephlometric turbidity units* (NTUs), which describe the amount of light-scattering occurring in water. The presence of turbidity and the resulting reduction in transmitted light affect

aquatic ecosystems and other beneficial uses of water bodies. *Background turbidity* is a new term proposed in the rule to replace the term "natural stream turbidity." Both terms describe the naturally occurring cloudiness typical of a particular water body.

Current criteria are outdated

The current turbidity criteria were established in 1977 based on EPA-recommended measurement methods. EPA subsequently determined the methods to be out-of-date, and DEQ revised the turbidity rule in 1990 to include new methods that measure low levels of turbidity more accurately. At that time (as now), the criteria capped turbidity at 10% over the stream's natural turbidity. Where natural turbidity was already low, even small turbidity increases might exceed the 10% cap.

During the 1990 rule change, the EQC expressed concern that the new testing methods would result in a significant number of sources falling out of compliance with the rule by margins not likely to affect aquatic life. Over time, those concerns have proved valid. In response, the standard currently being developed proposes to measure exceedances as an absolute amount over background turbidity when background turbidity is low (eg. 2 NTU's), rather than as a percentage increase (see Table 1, next page). A comparison of the current and proposed standards would show, for example, that in water with a background turbidity of 2 NTUs, a 10% turbidity increase would be a 0.2 NTU increase. Under the current standard, the activity creating this 0.2 NTU increase in turbidity would be prohibited. Under the proposed standard, an activity would be prohibited only if it increased turbidity by 3 NTU's over background—an amount 15 times greater than the turbidity increase in this example.

Proposed rule is based on scientific research

To develop the proposed criteria, DEQ reviewed scientific research about the effects of turbidity on aquatic life, drinking water treatment costs and water aesthetics, recreational use and safety. DEQ also reviewed data from water quality monitoring stations to characterize ambient turbidity statewide.

Rules compared

The table below provides a summary comparison of the proposed and existing turbidity rules. The proposed rules would apply to a wide range of activities and facilities including:

- Industrial and municipal wastewater discharges
- Storm water management facilities
- Runoff from construction activities
- In-stream operations such as dredging
- Agricultural and forestry activities

Table 1: Rule comparison

Proposed Rule	Current (1990) rule
Rule component: Numeric criteria [Section 2)(a) and (2)(b)]	
Turbidity must not exceed an increase of 3 *nephlometric turbidity units* (NTUs) over background turbidity as a monthly average and 5 NTUs as a maximum. Applies to all sources or activities. The criteria shift to a percent base at higher background levels (≥30 NTUs) to allow measurability.	Turbidity capped at an increase of 10% over background turbidity for any period, when applied as a maximum. Applies to all sources or activities.
Rule component: Background turbidity [See draft rule definitions]	
For establishing NPDES permit limits, background turbidity may be calculated as the up-stream historical turbidity associated with low flows, excluding episodic run-off events, for the time period covered by the permit. If background data is unavailable, 1 NTU may be used as a default value.	Background turbidity is undefined. Turbidity increases are measured as a percentage increase over "natural stream turbidities." No default value is specified when natural turbidity data is unavailable.
Rule component: Limited duration criteria [Section (2)(d) and (2)(f)]	
For limited periods of turbidity-causing activity, a source is allowed to exceed the numeric turbidity criteria. This section applies to all sources that have a regulatory process establishing time frames (*e.g.*, 401 certification and NPDES permits).	Limited duration activities are not specifically addressed; however, under the existing rule, DEQ has broad discretion to set site specific criteria in 401 certifications or waive the turbidity standard entirely.
Rule component: Waiver [Section (2)(e)]	
Waiver of turbidity limits is available for emergencies, channel restoration, essential dredging under a 401 certification and specific findings of best management practices implementation and use protection.	Waiver of turbidity requirements is available for emergencies, dredging, construction or other legitimate activities authorized through 401 certifications or 404 removal/fill permits.
Rule component: Visual turbidity criteria and compliance distances [Section 2(c)]	

Proposed Rule	Current (1990) rule
If a source of turbidity cannot show (through existing relevant data or monitoring with a turbidimeter) that it meets the numeric criteria, the visual criteria apply. When turbidity is distinctly visible when compared to background turbidity, the source of turbidity is in violation if the turbidity plume extends beyond the *compliance point*. Compliance points are the points downstream from a turbidity source at which compliance with turbidity criteria is measured. Compliance distances vary depending on the width of the water and may be measured within a *mixing zone* if one has been established under an NPDES permit. A mixing zone is a designated segment of the water body where discharged water is diluted by the receiving water and mixed thoroughly.	Visual turbidity criteria and compliance distances are not addressed in the current rule; however, DEQ currently uses visual criteria and establishes compliance distances case by case, based on professional judgment.

Policy issues

In 2004-2005, DEQ held 10 meetings with environmental groups, home builders, ports, local governments, small scale suction dredge miners, industrial facilities, and several state and federal agencies to gather input on the turbidity criteria and discuss the draft rule.

Environmental groups have expressed concern that the current standard, which caps turbidity at 10% over background turbidity, is more stringent than the proposed standard, which caps turbidity at 3 NTUs above background turbidity. DEQ agrees that the current standard, when applied to low level turbidity areas, is more stringent than the proposed criteria and may have the undesired effect of prohibiting turbidity-causing activities that pose no threat to aquatic life.

Some sources have expressed concern that they will have difficulty complying with the proposed rule, because they lack monitoring data to evaluate background turbidity or to measure the effect of turbidity-causing activity.

Turbidity is a new parameter for some permits

Due in part to permit backlogs and in part to the outdated existing turbidity criteria, DEQ has not always evaluated turbidity when establishing NPDES permits. Turbidity will be a new permit parameter for some sources under the proposed rule. The change may affect permits for sewage lagoons, storm water discharges, pulp and paper plants, and fish processing plants. The implementation strategy will allow for compliance schedules in permits to collect data or implement actions necessary for compliance with the turbidity standard.

Miners are concerned about 700-PM Permit changes

Small scale suction dredge miners are concerned that the draft rule will tighten conditions in the 700–PM General Permit (adopted by the EQC on June 23, 2005) when it is renewed in five years. Specifically, suction dredge miners object to creation of a default background turbidity measure of 1 NTU as too low. The default value applies when data about a stream's natural turbidity levels is unavailable. In the current rule, background turbidity is undefined and no default value is specified.

Miners also object to a proposed change that will tighten requirements in the 700-PM General Permit by limiting compliance distance for suction dredge operations to 50 feet (the mixing zone in the current permit—the point at which compliance is currently measured—is 300 feet from the source). Miners assert that the proposed revised limits will unduly restrict their activities, which should be exempt from turbidity limits on the basis that suction dredge mining improves water quality.

Limited duration activities

Some stakeholders expressed concern that the limited duration criteria are not broad enough to address all limited duration activities. Other stakeholders were concerned about how these criteria would be implemented without a specific permit or certification from DEQ.

Subjectivity of visual criteria raises questions

Stakeholders are concerned that visible detection of turbidity is too subjective and use of visual criteria to determine compliance could result in undue restriction of activities that meet the standards.

The visual criteria allow for rapid assessment and correction of turbidity-causing activities without the need for analytical measures. Codifying visual criteria, particularly compliance distances, will accomplish the following:

- Eliminate ambiguity that results when DEQ establishes compliance distances case by case.
- Ease permit-writing workload by eliminating the need to develop mixing zones for turbidity.
- Eliminate time-consuming subjective debates regarding limits established in 401 certifications.

Although it improved the permit process, the rule will eliminate much of DEQ's discretion to determine compliance case by case.

Next Steps

DEQ plans to initiate formal public comment on the proposed standard in fall 2005.

EQC Involvement No action required at this time.

Attachments
A. Draft turbidity rule
B. Summary of Other States' Turbidity Standards

Approved:

Section: _____
Robert P. Baumgartner

Division: _____ For
Lauri Aunan

Report Prepared By: Tom Rosetta
Phone: 503-229-5053

Draft Turbidity Criteria Rule. *The following includes: new (draft) definitions that would be added to* ***OAR 340-041-0002;*** *and a draft turbidity criteria rule* ***(OAR 340-041-0036)*** *that would replace the current turbidity criteria rule* ***(OAR 340-041-0036)*** *in its entirety.*

340-041-0002
***Draft* Definitions**

(XX) "Background turbidity" means turbidity in the immediate vicinity of and outside the area of influence of the discharge or discharges from the source or sources under consideration. For establishing NPDES permit limits, background turbidity may be calculated as the up-stream historical turbidity associated with low flows, excluding episodic run-off events, for the season(s) or period(s) for which the turbidity discharge limit is established. If background data are unavailable, 1 NTU may be used as a default value.

(XX) "Best management practices" or "BMPs" mean physical, chemical, structural, and managerial practices used to prevent or reduce pollutant discharges.

(XX) "Conspicuous turbidity plume" means a plume from a turbidity-causing activity that is distinctly discernable when visibly compared to the background turbidity.

(XX) "Ecological restoration activity" means a project designed to modify channel bed or banks, in-stream structures, or adjacent riparian areas, with the primary objective of improving ecological functions, thereby promoting water quality or beneficial use protection.

(XX) "Emergency activity" means a work response to conditions in a channel bed or bank, wetlands, or adjacent riparian area that could not have been reasonably foreseen or prevented, requiring immediate repair in order to avoid imminent threat to life, public health, environment, or structures.

(XX) "Essential dredging" means dredging needed to maintain or improve existing navigational channels and ports.

(XX) "Maximum turbidity" means the level of anthropogenic turbidity measured at a discrete time and location as an increase above the background turbidity level.

(XX) "Monthly average turbidity" means the average turbidity for any consecutive 30-day period, or a calendar month as established in a permit or §401 certification.

(XX) "NTUs" means nephelometric turbidity units.

(XX) "Turbidity" means the optical condition of waters caused by suspended or dissolved particles or colloids that scatter and absorb light rays instead of transmitting

light in straight lines through the water column. Turbidity may be expressed as nephelometric turbidity units (NTUs) measured with a calibrated turbidity meter.

(XX) "Turbidity-causing activity or activities" means single or multiple discharges from any anthropogenic point or nonpoint source or sources that introduce or re-suspend turbidity-causing materials into waters of the state.

(XX) "Turbidity-causing material" means any material that causes turbidity, including but not limited to soil, sediment, dissolved materials, algae, or organic materials. Where algal concentrations qualify as nuisance phytoplankton growth regulated under OAR 340-041-0019, Algae will be subject to OAR 340-041-0019, and not regulated under the turbidity criteria.

(XX) "Wetted stream width" means the lateral distance across a stream from waters edge to waters edge.

340-041-0036
***Draft* Turbidity**

(1) A person may not introduce or re-suspend turbidity-causing materials into waters of the state if the introduction or re-suspension causes the turbidity in waters of the state to exceed the levels set out in section (2) of this rule at points of compliance specified in section (3) of this rule or in accordance with OAR 340-041-0053.

(2) Turbidity criteria for waters of the state.

(a) Maximum turbidity.

(A) Where background turbidity is 33 NTUs or less, turbidity must not exceed 5 NTUs above background.

(B) Where background turbidity is greater than 33 NTUs, turbidity must not exceed 15% above background.

(b) Monthly average turbidity.

(A) Where background turbidity is 30 NTUs or less, monthly average turbidity must not exceed 3 NTUs above background.

(B) Where background turbidity is greater than 30 NTUs, monthly average turbidity must not exceed 10% above background.

(c) Visual Criteria. A conspicuous turbidity plume must not extend further than the compliance point distances in section (3) of this rule, except as consistent with the numeric or other applicable criteria stated in this rule.

(d) If specifically authorized by an NPDES permit, CWA §401 water quality certification, or other regulatory mechanism, a person may exceed the instantaneous turbidity criteria in subsection (2)(a), as described below:

(A) Turbidity may exceed an increase of 5 NTUs above background during a single period of not greater than eight hours for each calendar day allowed. During that period, turbidity increases above background may exceed 30 NTUs for no more than two hours and must not exceed 50 NTUs above background turbidity; and

(B) Limited duration criteria under paragraph (2)(d)(A) are allowed for no more than 6 calendar days out of any consecutive 30-day period, unless turbidity monitoring or existing relevant data demonstrate compliance with the monthly average turbidity criteria in section (2).

(e) In a CWA §401 water quality certification, the Department may authorize ecological restoration, emergency, or essential dredging activities to exceed the criteria in subsections (2)(a) through (2)(d) for a period defined in the certification, and in accordance with the following:

(A) The Department finds that the source cannot practicably comply with criteria in subsections (2)(a) through (2)(d);

(B) The Department finds for channel restoration or essential dredging that the activity will achieve long-term gains in the protection of beneficial uses that outweigh its potential adverse impacts to beneficial uses, or will offset or mitigate negative impacts to beneficial uses by achieving positive gains on the site or else ware in the basin;

(C) The Department finds that there will be no permanent impairment to any beneficial use from the activity due to or as a result of turbidity, sediment, or sedimentation impacts; and

(D) The Department coordinates with the Department of Fish and Wildlife regarding water quality and resource protection before authorizing exceedances under this section.

(f) The Department may establish criteria for limited duration exceedances more stringent than the criteria in subsection (2)(d) to protect beneficial uses from activities that occur in areas or situations such as:

(A) In scenic waterways;

(B) In waters listed under §303(d) of Clean Water Act for turbidity or sedimentation;

(C) Upstream of public drinking water intakes;

(D) Upstream of redds or active spawning areas;

(E) Activities occurring outside the in-water work period as defined by ODFW; or

(F) At any location where special circumstances, cumulative impacts, or other conditions require additional protection.

(g) Persons using authorizations granted under subsections 2(d) through 2(f) must:

(A) Utilize all reasonable and practicable measures to maintain activity-related turbidity at the lowest achievable level;

(B) Monitor best management practices and other control measures to demonstrate that the conditions allowing for the exceedance have been met; and

(C) Document and monitor turbidity to demonstrate BMP effectiveness and/or compliance with allowed turbidity levels.

(3) Turbidity criteria points of compliance for activities not subject to an NPDES permitted mixing zone. Compliance with the numeric turbidity criteria established in section 2 of this rule is determined within the following distances directly downstream, and within any existing turbidity plume, from a source or activity discharge point:

(a) For wetted stream widths no greater than 30 feet at the discharge point: 50 feet.

(b) For wetted stream widths greater than 30 feet but not greater than 100 feet at the discharge point: 100 feet.

(c) For wetted stream widths greater than 100 feet but not greater than 200 feet at the discharge point: 200 feet.

(d) For wetted stream widths greater than 200 feet at the discharge point: 300 feet.

(e) For ponded systems such as lakes, reservoirs, ponds, wetlands, backwater systems, and similar waterbodies: 100 feet, or the maximum surface dimension of the water body, which ever is less.

Turbidity Criteria for other Western States and British Columbia.

Jurisdiction & State Law Reference	Turbidity Criteria or Guidelines (by Beneficial Use)	Justification
Alaska 18 ACC 70, 2003	**Water Supply (Aquaculture) and Growth and Propagation of Fish, Shellfish, other Aquatic Life and Wildlife:** 25 NTU above natural condition level **Water Supply (Drinking, Culinary, and Food Processing):** 5 NTU above natural background conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU. **Water Supply (Agriculture, Including Irrigation and Stock Watering):** May not cause detrimental effects on intended use. **Livestock Watering:** Shall not cause detrimental effects on intended use. **Contact Recreation:** 5 NTU above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. **Secondary Contact Recreation:** 10 NTU above natural background conditions when the natural turbidity is 50 NTU or less, and may not have more than 20% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. **Industrial Water Supply:** Shall not cause detrimental effects on established water supply treatment levels.	Based on the criteria established by USEPA, 1976.
California NCRWQCB 2001	**North Coast Region, All Uses:** shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.	Adopted in 1975, but no reference source.
CVRWQCB 1994	**Central Valley Region, All Uses:** Where natural turbidity is between 0-5 NTU, increases shall not exceed 1 NTU. Where natural turbidity is between 5-50 NTU, increases shall not exceed 20 percent. Where natural turbidity is between 50-100 NTU, increases shall not exceed 10 NTU. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.	Adopted in 1975, but no reference source available, and modified in 1994 for waters with turbididty between 0-5 NTU due to inaccuracy of turbidimeters below 1 NTU. Same range (0-5 NTU) currently being amended.
CCRWQCB 2002	**Central Coast Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.	Adopted in 1975, but no reference source.
SFBRWQCB	**San Francisco Bay Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely	Adopted in 1975, but no reference source.

Turbidity Criteria for other Western States and British Columbia.

Jurisdiction & State Law Reference	Turbidity Criteria or Guidelines (by Beneficial Use)	Justification
1995	affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.	
LARWQCB 1994	**Los Angeles Region, Drinking Water:** shall not exeed 5 NTU, All Other Uses: Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, shall not exceed 10%.	Adopted in 1975, but no reference source
SDRWQCB 1994	**San Diego Region, All Uses:** Natural Turbidity — Maximum Increase 0-50 NTU — 20% 50-100 NTU — 10 NTU Greater than 100 NTU — 10%	Adopted in 1975, but no reference source.
SARWQCB 1995	**Santa Ana Region, Drinking Water:** The secondary drinking water standard for turbidity is 5 NTU. All Other Uses: Natural Turbidity — Maximum Increase 0-50 NTU — 20% 50-100 NTU — 10 NTU Greater than 100 NTU — 10%	Adopted in 1975, but no reference source.
LRWQCB 2002	**Lahontan Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.	Adopted in 1975, but no reference source.
CRBRWQCB 2002	**Colorado River Basin Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.	Adopted in 1975, but no reference source.
Idaho IDAPA 58.01.02.250 IDAPA 58.01.02.252	**Cold Water Aquatic Life:** shall not exceed background turbidity by more than fifty (50) NTU instantaneously or more than twenty-five (25) NTU for more than ten (10) consecutive days. (8-24-94) **Small Public Water Supplies:** shall not exceed background turbidity by more than 5 NTU above natural background, when background turbidity is 50 NTU or less, or increase by more than 10% above natural background, not to exceed 25 NTU, when background turbidity is greater than 50 NTU.	Justification for criteria is not available. Similarity to USEPA Guidelines prior to 1986 allows for the presumption of this reference.
Washington WAC 173-201A	**Char; Salmon and Trout spawning, core rearing, and migration; Salmon and Trout spawning, noncore rearing, and migration; and Non-anadromous Interior and Redband Trout :** 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10% increase in turbidity when the background turbidity is greater than 50 NTU. **Salmon and Trout Rearing and Migration Only; and Indigenous Warm Water Species:** 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20% increase in turbidity when the background turbidity is greater than 50 NTU. **Points of compliance** for in-water construction: 100, 200, and 300 feet for flowing systems, for ≤ 10 cfs, 10 to 100 cfs, and > 100 cfs, respectively; 150 ft for ponded systems.	Justification for criteria is not known. Criteria first established in 1967 in JTUs and changed between 1973-1977 following USEPA Guidelines 1976.
British Columbia MWLAP 1997 & 2001	**Raw Drinking Water: untreated:** 1 NTU when background is ≤ 50 NTU, treated: 5 NTU when background is less than or equal to 50, 10% when background is > than	Health Canada 1991, USEPA 1978, Alaska DEC 1982, Manitoba DE 1983.

Turbidity Criteria for other Western States and British Columbia.

Jurisdiction & State Law Reference	Turbidity Criteria or Guidelines (by Beneficial Use)	Justification
1995	affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.	
LARWQCB 1994	**Los Angeles Region, Drinking Water:** shall not exeed 5 NTU, All Other Uses: Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, shall not exceed 10%.	Adopted in 1975, but no reference source
SDRWQCB 1994	**San Diego Region, All Uses:** Natural Turbidity — Maximum Increase 0-50 NTU — 20% 50-100 NTU — 10 NTU Greater than 100 NTU — 10%	Adopted in 1975, but no reference source.
SARWQCB 1995	**Santa Ana Region, Drinking Water:** The secondary drinking water standard for turbidity is 5 NTU. All Other Uses: Natural Turbidity — Maximum Increase 0-50 NTU — 20% 50-100 NTU — 10 NTU Greater than 100 NTU — 10%	Adopted in 1975, but no reference source.
LRWQCB 2002	**Lahontan Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.	Adopted in 1975, but no reference source.
CRBRWQCB 2002	**Colorado River Basin Region, All Uses:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.	Adopted in 1975, but no reference source.
Idaho IDAPA 58.01.02.250 IDAPA 58.01.02.252	**Cold Water Aquatic Life:** shall not exceed background turbidity by more than fifty (50) NTU instantaneously or more than twenty-five (25) NTU for more than ten (10) consecutive days. (8-24-94) **Small Public Water Supplies:** shall not exceed background turbidity by more than 5 NTU above natural background, when background turbidity is 50 NTU or less, or increase by more than 10% above natural background, not to exceed 25 NTU, when background turbidity is greater than 50 NTU.	Justification for criteria is not available. Similarity to USEPA Guidelines prior to 1986 allows for the presumption of this reference.
Washington WAC 173-201A	**Char; Salmon and Trout spawning, core rearing, and migration; Salmon and Trout spawning, noncore rearing, and migration; and Non-anadromous Interior and Redband Trout :** 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10% increase in turbidity when the background turbidity is greater than 50 NTU. **Salmon and Trout Rearing and Migration Only; and Indigenous Warm Water Species:** 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20% increase in turbidity when the background turbidity is greater than 50 NTU. **Points of compliance** for in-water construction: 100, 200, and 300 feet for flowing systems, for ≤ 10 cfs, 10 to 100 cfs, and > 100 cfs, respectively; 150 ft for ponded systems.	Justification for criteria is not known. Criteria first established in 1967 in JTUs and changed between 1973-1977 following USEPA Guidelines 1976.
British Columbia MWLAP 1997 & 2001	**Raw Drinking Water: untreated:** 1 NTU when background is ≤ 50 NTU, treated: 5 NTU when background is less than or equal to 50, 10% when background is > than	Health Canada 1991, USEPA 1978, Alaska DEC 1982, Manitoba DE 1983.

Turbidity Criteria for other Western States and British Columbia.		
Jurisdiction & State Law Reference	Turbidity Criteria or Guidelines (by Beneficial Use)	Justification
	50. **Aquatic Life:** 8 NTU in 24 hours when background is ≤ 8, mean of 2 NTU in 30 days hours when background is ≤ 8 or 8 NTU when background is between 8 - 80 NTU, 10% when background is ≥ 80.	WA and MT criteria 1997.
	Wildlife, Livestock, Irrigation, Industrial Water Supplies: should not exceed 10 NTU when background is ≤ 50 NTU, nor should be greater than 20% of background when background is > 50 NTU.	Enviro Saskatchewan 1975, Alberta DE 1977, Alaska DEC 1979, Montana Health & Enviro Sci 1980, Idaho DHW 1980, State of WA 1982.
	Recreation & Aesthetics: Maximum 50 NTU, secchi disc visible at 1.2 m.	BC Health 1969, Enviro Canada 1972, Enviro Saskatchewan 1975, Alberta DE 1977, Ontario Min of Enviro 1979, Manitoba DE 1979 & 1983, Alaska DEC 1979 & 1982, Montana Health & Enviro Sci 1980, Idaho DHW 1980, State of WA 1982.

BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS
STATE OF OREGON
for the
DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:	) **PROPOSED AND FINAL ORDER**
	)
THE UNITED STATES ARMY CORPS OF ENGINEERS,	)
	) OAH Case No. 115312
Respondent.	) Agency Case No. LQ/HW-NWR-03-060

HISTORY OF THE CASE

On November 18, 2003, the Department of Environmental Quality (Department) issued a Notice of Violation and Assessment of Civil Penalty to Respondent United States Army Corps of Engineers (USACE). On December 10, 2003, USACE requested a hearing and admitted violations 1 through 4, but challenged the economic benefit penalty assessed for violation 2.

On May 6, 2004, the Department referred the hearing request to the Office of Administrative Hearings (OAH). Administrative Law Judge (ALJ) Andrea H. Sloan was assigned to preside at hearing.

A prehearing conference was convened on June 24, 2004. The Department was represented by Jeff Bachman, Environmental Law Specialist with the Department's Office of Compliance and Enforcement. Respondent was represented by Misty Lactu, Assistant District Counsel for the USACE, Portland District. During the prehearing conference the parties agreed to stipulate to relevant facts and submit briefs, in lieu of a full hearing.

The parties submitted the stipulated facts on August 10, 2004. On September 1, 2004, Respondent withdrew its initial denial of violation 5 and the penalty assessed for that violation. The only remaining issue is whether the Department can assess economic benefit penalties against Respondent for violation 2.

The Department submitted its opening brief on September 16, 2004. Respondent's brief was submitted on October 18, 2004. The Department's rebuttal brief was submitted on November 15, 2004. The record closed on that date.

ISSUE

Whether Respondent is subject to the economic benefit penalty assessed by the Department.

This hearing decision has been copied to:
Anne, field person & his/her mngr; Staff Folder; EQC; DA; Business Office; Hearing Decision Notebook; West Publishing; & LexusNexus. Let me know if anyone else needs a copy. Deb

EVIDENTIARY RULINGS

Exhibits A1 through A3 were admitted without objection.

FINDINGS OF FACT

1. The United States Army Corps of Engineers (USACE), an agency of the United States Government, operates the Bonneville Locks and Dam located in Multnomah County, Oregon. (Stipulated facts.)

2. USACE's Bonneville Locks and Dam facility is a large quantity generator of hazardous wastes, operates under hazardous waste generator identification number OR 0140113218, and generates the following hazardous wastes: paint thinner (Environmental Protection Agency Hazardous Waste Code Numbers D001, D035, F005, and D009); paint waste (D001, F003, and F005); and lead-contaminated sandblast grit (D008). (Stipulated facts.)

3. Representatives of the Oregon Department of Environmental Quality (the Department or DEQ) conducted a compliance inspection at Respondent's facility on November 19, 2002. (Stipulated facts.)

4. As a result of the November 19, 2002 compliance inspection, the Department issued Notice of Violation and Assessment of Civil Penalty No. LQ/HW-NWR-03-060 (Notice) on November 18, 2003. The Notice cited five alleged violations and assessed a total civil penalty of $116,995. (Stipulated facts.)

5. On December 10, 2003, USACE filed an Answer to the Notice and a Request for Hearing. The Answer admitted violations 1, 2, 3 and 4 of the Notice, but denied Violation 5. USACE did not contest the civil penalties for Violations 1, 3 and 4 of the Notice or the gravity-based portion of the penalty for Violation 2. USACE did appeal the penalty for Violation 5 and the economic benefit portion of the penalty assessed for Violation 2. (Stipulated facts.)

6. On July 12, 2004, the Department amended the civil penalty calculation for Violation 2 of the Notice. The Department reduced the economic benefit portion of the penalty from $108,555 to $76,500. (Ex. A2; stipulated facts.)

7. The Department based its the economic benefit calculation on a statement from a February 26, 2003 letter from James R. Mahar, P.E., Operations Manager for the Bonneville Locks and Dam. Mr. Mahar's letter, was in response to a Notice of Noncompliance issued by the Department after its November 19, 2002 inspection of the Bonneville facility. (Ex. A1; stipulated facts.)

8. In the February 26, 2003 letter, Mr. Mahar stated that USACE's violation of the 90-day interim hazardous waste storage limit occurred "partially [as] a result of heavy workload and [we] responded by obtaining temporary Environmental Compliance Coordinator (ECC) assistance from other Corps facilities. In September 2002 we received approval to add a second permanent ECC to our staff." The temporary staff assistance referred to in Mr. Mahar's letter

was obtained in May 2002 and continued until USACE hired a second ECC in April 2003. (Ex. A1; stipulated facts.)

9. The Department determined that USACE received an economic benefit from avoiding the cost of paying for a second ECC at Bonneville for a period of 18 months, from November 2000[1] through April 2002. In determining the monthly salary amount for an ECC, the Department relied on a job announcement for an Environmental Protection Specialist (Environmental Compliance Coordinator) position at the Bonneville facility attached to Mr. Mahar's February 26, 2003 letter to the Department. The announcement does not list a salary but states that that the position is series/grade "GS-0028-11." (Ex. A1; stipulated facts.)

10. DEQ performed an internet search of government job listings and found an announcement for an Environmental Protection Specialist with the United States Environmental Protection Agency (USEPA) in Portland. The announcement lists the Series/Grade as GS-0028-9/11 and states that the salary range for the position is $40,176 to $63,198. (Ex. A3; stipulated facts.)

11. Choosing the mid-range of the salary in the EPA announcement, the Department estimated that USACE would pay an ECC at the Bonneville facility $51,000 a year or $4,250 a month. DEQ estimated that by avoiding the labor cost of $4,250 per month for 18 months, USACE would have allegedly received an economic benefit of $76,500. (Ex. A3; stipulated facts.)

CONCLUSION OF LAW

Respondent is subject to the economic benefit penalty assessed by the Department.

OPINION

The sole issue before me is whether the Department can assess an economic benefit penalty against Respondent, and if so, in what amount. USACE argues that the Department lacks the authority to do so; the Department argues that the assessment of this penalty is within its authority.

"The burden of presenting evidence to support a fact or position in a contested case rests on the proponent of the fact or position." ORS 183.450(2). Here, the Department has the burden of proving its allegation. *See, Harris v. SAIF,* 292 Or 683, 690 (1982) (general rule regarding allocation of burden of proof is that the burden is on the proponent of the fact or position); *Cook v. Employment Div.,* 47 Or App 437 (1980) (in the absence of legislation adopting a different standard, the standard in administrative hearings is preponderance of the evidence). Proof by a preponderance of evidence means that the fact finder is persuaded that the facts asserted are more likely true than false. *Riley Hill General Contractors v. Tandy Corp.,* 303 Or 390 (1989). Following my review of this record and the cited authorities, I conclude that the Department has met its burden.

[1] Storage in Drum #20-7-7 began on July 27, 2000. USACE exceeded the 90-day storage limit for this container on October 26, 2000.

Authority. The legislature has authorized the Environmental Quality Commission (EQC) to "adopt such rules and standards as it considers necessary and proper in performing the functions vested by law in the commission." ORS 468A.020(1). Within this authority, the EQC promulgated rules authorizing the Director of the Department to assess civil penalties for any violations of the Department's rules or statutes. OAR 340-012-0042. This includes economic benefit penalties. An economic benefit is "the monetary benefit that an entity gained by not complying with the law." ORS 468.130(2)(h) authorizes the Department to consider "any relevant rule of the commission" in calculating the economic benefit. The Department is required to include in its penalty assessments an "approximated dollar sum of the economic benefit." OAR 340-012-0045(1)(c)(F). In this case, the Department chose not to utilize the EPA's BEN computer model to make its economic benefit calculation, and instead based its calculation on the cost of employing an ECC for 18 months at the mid-salary range for that position. This was within the Department's discretion.

Specifically, the Department is authorized to impose penalties and fines for violations of its hazardous waste laws. ORS 466.990 provides, in part, as follows:

> In addition to any other penalty provided by law, any person who violates ORS 466.005 to 466.385 and 466.992, a license condition or any Environmental Quality Commission rule or order pertaining to the generation, treatment, storage, disposal or transportation by air or water of hazardous waste, as defined by ORS 466.005, shall incur a civil penalty not to exceed $10,000 for each day of the violation.

Oregon environmental laws are, by their terms, applicable to federal entities, such as the USACE. *See* ORS 466.005(13) ("'Person' means the United States, the state or a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate or any other legal entity.") The applicable statutes do not limit the authority of the Department to impose fines for economic benefit.

Respondent argues that the Department does not have the authority to impose an economic benefit penalty because the federal government, through USACE, has not specifically waived its sovereign immunity. Respondent alleges that economic benefit penalties may be imposed in cases dealing with other federal environmental acts because the term "economic benefit" is specifically mentioned in these statutes.[2] Counsel argues that unless there is a specific reference to economic benefit penalties, the federal government has not waived sovereign immunity and subjected itself to those penalties. I do not agree.

The Solid Waste Disposal Act (SWDA), 42 USC §6001, subjects federal facilities to state solid and hazardous waste disposal and management regulations, including the imposition of administrative penalties and fines. Section 6961 provides, in part, as follows:

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[2] Specifically, counsel cites the Clean Water Act, the Clean Air Act, and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

> Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government * * * engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste *shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural*, * * *, respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements * * * . The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, *all administrative orders and all civil and administrative penalties and fines,* regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. *The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).*

(Emphasis added.) The terms of SWDA make it clear that the federal government has waived its sovereign immunity and is subject to administrative penalties or fines based on USACE's violation of Oregon hazardous waste laws. The waiver is broad and does not prohibit economic benefit penalties.

I am persuaded that the Department has the authority to impose economic benefit penalties against Respondent for violation of Oregon environmental laws.

Calculation of penalty. Respondent also argues that the Department erred in concluding that USACE received an economic benefit of $76,500 by not hiring an ECC sooner. Specifically, Respondent asserts that, once an ECC was hired, only a fraction of this person's work time was used to bring USACE into compliance. Respondent argues that the cost of disposing of the twelve drums of waste material was *de minimis*, and that the Department is overreaching by assessing economic benefit penalties equal to 18 months of salary for an ECC.

The Department responds by arguing that USACE hired an additional ECC to ensure compliance with Department regulations, and although only a fraction of this person's time was needed to ensure compliance, USACE realized an economic benefit by not hiring the ECC sooner. The Department argues that the ECC's entire salary over an 18-month period was an avoided cost, and thus, is the amount of economic benefit realized by Respondent by its non-compliance.

As noted above, an economic benefit is "the monetary benefit that an entity gained by not complying with the law." The Department is required to include in its penalty assessments an "approximated dollar sum of the economic benefit." OAR 340-012-0045(1)(c)(F). In this case, there are no facts to support Respondent's argument that only a fraction of the second ECC's time was spent bringing USACE into compliance. There is evidence that the salary range for an ECC (GS-0028-0/11) is between $40,176 and $63,198 per year. Without evidence of the specific pay

rate for the ECC, it was reasonable for the Department to utilize the mid-range salary in making its penalty calculations.

Based on this record, I conclude that the Department's calculation of economic benefit realized by Respondent was reasonable and accurate, based on the information available to the Department. Respondent is subject to $84,900 in civil penalties, [3] $76,500 of which is due to economic benefit realized by non-compliance with Department regulations.

PROPOSED AND FINAL ORDER

I propose the Department issue the following order:

USACE is subject to civil penalties in the amount of $84,900.

Andrea H. Sloan, Administrative Law Judge
Office of Administrative Hearings

MAILING AND ISSUE DATE: December 29, 2004

APPEAL RIGHTS

If you are not satisfied with this decision, you have the right to have the decision reviewed by the Oregon Environmental Quality Commission. To have the decision reviewed, you must file a "Petition for Review" within 30 days of the date this order is served on you as provided in Oregon Administrative Rule (OAR) 340-011-0132(1) and (2). The Petition for Review must be filed with:

Environmental Quality Commission
c/o Stephanie Hallock, Director, DEQ
811 SW Sixth Avenue
Portland, OR 97204.

Within 30 days of filing the Petition for Review, you must also file exceptions and a brief as in provided in OAR 340-011-0132(3). If the petition, exceptions and brief are filed in a timely manner, the Commission will set the matter for oral argument and notify you of the time and place of the Commission's meeting. The requirements for filing a petition, exceptions and briefs are set out in OAR 340-011-0132.

Unless you timely and appropriately file a Petition for Review as set forth above, this Proposed Order becomes the Final Order of the Environmental Quality Commission 30 days from the date of service on you of this Proposed Order. If you wish to appeal the Final Order,

[3] The total penalty assessment includes $8,400 in penalties for the other violations, which Respondent did not contest.

you have 60 days from the date the Proposed Order becomes the Final Order to file a petition for review with the Oregon Court of Appeals. See ORS 183.400 *et. seq.*

LIST OF EXHIBITS CITED

Ex. 1: Letter to DEQ from Department of the Army, dated February 26, 2003

Ex. 2: Letter from DEQ to USACE and ALJ and "Amended Exhibit 2," dated July 12, 2004.

Ex. 3: USEPA vacancy announcement for GS-0028-09/11 position.

CERTIFICATE OF SERVICE

I certify that on December 29, 2004, I served the attached Proposed and Final Order by mailing certified and/or first class mail, in a sealed envelope, with first class postage prepaid, a copy thereof addressed as follows:

MISTY LACTU
ASSISTANT DISTRICT COUNSEL
US ARMY CORPS OF ENGINEERS
PO BOX 2946
PORTLAND OR 97208

BY FIRST CLASS MAIL AND CERTIFIED MAIL
BY CERTIFIED MAIL RECEIPT # 7002 2410 0001 7410 4287

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