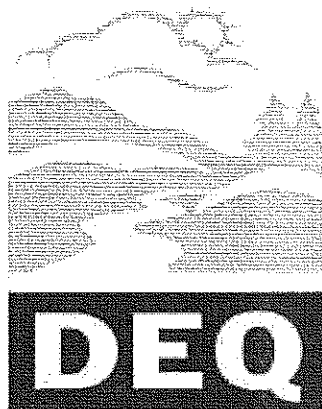


**10/25/1972**

**OREGON  
ENVIRONMENTAL QUALITY  
COMMISSION MEETING  
MATERIALS**



State of Oregon  
**Department of  
Environmental  
Quality**

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AGENDA

Environmental Quality Commission Meeting

October 25, 1972

Second Floor Auditorium, Public Service Bldg.

920 S.W. 6th Avenue, Portland

9:00 a.m.

- A. State Pollution Control Bonds (Open Bids and Authorize Sale)
- B. Minutes of September 5, 1972 EQC Meeting
- C. Project Plans for September 1972
- D. City of Portland Transportation Control Strategy (Commission Approval)
- E. Proposed State Motor Vehicle Inspection Program (Commission Approval)
- F. Proposed State-wide Noise Pollution Control Program (Commission Approval)
- G. State-wide Solid Waste Management Action Plan (Citizen's Advisory Committee Report)
- H. Authorization for Hearings
  - 1) Proposed Amendment of Rules Pertaining to Aluminum Reduction Facilities
  - 2) Proposed Emission Standards for Hazardous Air Pollutants (asbestos, beryllium and mercury)
  - 3) Proposed Emission Regulations for Kraft Pulp Mills (Replacement of Existing Rule)
- I. Boise Cascade, St. Helens Kraft Mill (Approval of Air Quality Emission Compliance Plan)
- J. Parking Facilities (Request for Approval)
  - 1) GSA Parking Facility, Portland
  - 2) Portland Commons (Hotel) Parking Facility, Portland
- K. Page Paving Co., Estacada Site (Approval of CWAPA Variance)
- L. Steve Wilson Lumber Co., Trail Mill (Amendment to Stipulation & Order)
- M. Tax Credit Applications
- N. Report from Advisory Committee on Natural, Scenic and Recreational Areas

7:00 p.m.

- O. Zidell Explorations, Inc., Portland (Hearing on Waste Discharge Permit)

Agenda Addenda

October 25, 1972, EQC Meeting

Three items were added after final printing of the agenda.

These are:

- P. Clatsop Plains, Clatsop County (Application for Regional Sewerage Planning Grant)
- Q. Knott Pit Sanitary Landfill, Deschutes County (Application for Construction Grant and Loan)
- R. Regional Air Pollution Authorities' Permit Programs (Request for EQC Approval)

Note: To Chairman McPhillips

- Item G should be heard as near as possible to 11:00 a.m. because of the scheduled presence of members of the Citizen's Advisory Committee on Solid Waste.
- Item P should be heard before noon if possible in order that Fred Bolton may attend the Sewage Works Conference in the afternoon.
- Item O will not be heard because Zidell Explorations, Inc. failed to confirm to the Department that continuation of the hearing was desired at the scheduled time.

MINUTES OF THE THIRTY-NINTH MEETING  
of the  
Oregon Environmental Quality Commission  
October 25, 1972

The thirty-ninth regular meeting of the Oregon Environmental Quality Commission was called to order by the Chairman at 9:05 a.m., Wednesday, October 25, 1972 in the Second Floor Auditorium of the Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. Members present were B.A. McPhillips, Chairman, Arnold M. Cogan, George A. McMath and Edward C. Harms, Jr. Storrs S. Waterman was unable to attend because of illness.

Participating staff members were L.B. Day, Director; E.J. Weathersbee and K.H. Spies, Deputy Directors; Harold M. Patterson, Air Quality Control Division Director; E.A. Schmidt, Director, Solid Waste Management Control Division; Fred M. Bolton, Field Services Division Director; W.E. Gildow, Director, Administrative Services Division; Michael J. Downs, Air Pollution Sources Program; Ronald C. Householder, Motor Vehicle Visible Emissions Program; Gary K. Sandberg, Noise Pollution Control Program; T.M. Phillips, Chief, AQC Technical Services Section; F.A. Skirvin, Program Supervisor, Metal Products Program; Clinton A. Ayer, Kraft and Pulp Mills Program; R. Bruce Snyder, Meteorologist; H.H. Burkitt, Chief, Air Quality Control Engineering Services Section; Robert D. Jackman, Supervisor, Solid Waste Management Technical Assistance and Regional Program Development Section; D. Richard Armstrong, EIS Review Program; and R.P. Underwood and A.B. Silver, Legal Counsel.

STATE POLLUTION CONTROL BONDS

Mr. William Gildow, Administrative Services Director for the DEQ, stated that the purpose of the sale of \$45,000,000 State of Oregon Pollution Control Bonds was to carry out the provisions of Article XI-H of the Constitution of the State of Oregon to meet the projected requirements of Construction Grant and Solid Waste Management Programs, and that the necessary resolution as adopted on July 27, 1972 authorized the sale of these bonds.

Mr. Ralph Antico, Administrative Manager, was present to represent the State Treasurer. Six bids were received and were read by Mr. Antico. The bids were as follows:

(1) Name of bidder: First National City Bank; Bankers Trust Company, Kuhn, Loeb and Co.; Weeden & Co., Incorporated and Associates (By: The Bank of California)

Interest Rate (%)

1975 to 1981	6.00		
1982	4.70	Premium Bid:	\$8,235.00
1983	4.40		
1984	4.50	Net Interest Cost:	\$27,240,390.00
1985	4.60	Net Effective Rate:	4.6998
1986	4.70		
1987 to 1990	4.75		
1991 and 1992	4.00		

(2) Name of Bidder: Morgan Guaranty Trust Company of New York; Salomon Brothers; W.H. Morton & Co.; United California Bank; Bear, Stearns & Co.; First Pennco Securities, Inc.; Donaldson, Lufkin & Jenrette, Inc.; Mellon National Bank & Trust Co.; United States National Bank of Oregon. (By: United States National Bank of Oregon)

Interest Rate (%)

1975 to 1980	6.00		
1981	5.90	Premium Bid:	\$918.00
1982	4.60		
1983 & 1984	4.50	Net Interest Cost:	\$27,230,157.00
1985	4.60	Effective Rate:	4.6980
1986	4.70		
1987 to 1990	4.75		
1991 & 1992	4.00		

(3) Name of Bidder: Harris Trust and Savings Bank; First National Bank of Oregon and Associates, in association with Bank of America, N.T. & S.A.; The First Boston Corporation and Associates. (By: First National Bank of Oregon)

Interest Rate (%)

1975 to 1981	5.50		
1982	4.75		
1983	4.40	Bid per \$100 par value:	\$100.02039177
1984	4.50		
1985	4.60	Net Interest Cost:	\$27,245,973.70
1986	4.70	Effective Rate	4.7008
1987 to 1989	4.80		
1990 & 1991	4.90		
1992	3.50		

(4) Name of Bidder: First National Bank of Chicago and Associates

Interest Rate (%)

1975 to 1980.	6.00		
1981	5.90		
1982	4.30	Premium Bid:	\$11,367.00
1983	4.40		
1984	4.50	Net Interest Cost:	\$27,316,224.00
1985	4.60		
1986	4.70	Effective Rate:	4.71294
1987 & 1988	4.80		
1989 & 1990	4.90		
1991 & 1992	4.00		

(5) Name of Bidder: Halsey, Stuart & Co., Inc.; Smith, Barney & Co.; Merrill Lynch, Pierce, Fenner & Smith; Continental Illinois National Bank and Associates.

(By: Bruce C. Lind, for the managers)

Interest Rate (%)

1975 through 1979	6.00		
1980	4.60		
1981	4.20		
1982	4.25	Net Interest Cost:	\$27,352,350.00
1983	4.40	Effective Rate:	4.7191
1984	4.50		
1985	4.60		
1986	4.75		
1987 through 1988	4.80		
1989 through 1991	4.90		

(6) Name of Bidder: The Chase Manhattan Bank, N.A.; Dillon, Read Municipals (Division of Dillon, Read & Co., Inc.); Blyth Eastman Dillon & Co.; First National Bank of Miami. (By: The Oregon Bank)

Interest Rate (%)

1975 through 1981	6.00		
1982	4.60		
1983 & 1984	4.50	Premium Bid:	\$11,821.50
1985	4.60	Net Interest Cost:	\$27,258,403.50
1986 through 1990	4.75	Effective Rate:	4.7029
1991 & 1992	4.00		

The meeting was then recessed while Mr. Antico and Mr. Gildow reviewed the bids for the purpose of checking their accuracy. The meeting was reconvened at 9:30 a.m. Mr. Antico reported that he had checked the bids and found them all to be in order and because it was the lowest he recommended that the bid submitted by Morgan Guaranty Trust Company of New York and Associates be accepted.

It was MOVED by Mr. Harms, seconded by Mr. Cogan and unanimously carried that the bid submitted by Morgan Guaranty Trust Company of New York for itself and others be accepted.

The checks submitted by the unsuccessful bidders were returned to them.

MINUTES OF SEPTEMBER 5, 1972 MEETING

It was MOVED by Mr. McMath, seconded by Mr. Harms and carried that the minutes of the September 5, 1972 meeting be approved as prepared.

PROJECT PLANS FOR SEPTEMBER 1972

It was MOVED by Mr. Cogan, seconded by Mr. McMath and carried that the actions taken by the Department during the month of September 1972 as reported by Mr. Weathersbee regarding the following 50 domestic sewerage projects, 7 industrial waste, 7 air quality control and 5 solid waste disposal projects be approved:

Water Quality Control

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
<u>Municipal Projects (50)</u>			
9-5-72	East Salem Sewer & Drainage Dist. I	Jan Ree Estates I & II sewers	Prov. app.
9-5-72	Salem	Boxwood Subdivision sewers	Prov. app.
9-5-72	Aumsville	Wildwood Addition sewers	Prov. app.
9-5-72	Gresham	Penny Ridge Subdivision sewers	Prov. app.
9-5-72	USA (Tigard)	S.W. Sandburg St. sewer	Prov. app.
9-5-72	USA (Aloha)	Two sanitary sewer projects	Prov. app.
9-7-72	Garibaldi	Change Order No. 1 to sewage treatment plant contract	Prov. app.
9-7-72	Lincoln County	Inn at Otter Crest outfall	Prov. app.
9-7-72	Sutherlin	Rasmussen Subdivision sewer	Prov. app.
9-7-72	Salem (West)	Hope Avenue, N.W. sewer	Prov. app.
9-7-72	Oregon City	Barclay Hills, Phase I sewers	Prov. app.
9-7-72	Hillsboro (West)	Addendum No. 1 to sewer projects	Prov. app.
9-7-72	Aumsville	Fair Oak Estates sewers	Prov. app.
9-7-72	Central Point	Mon Desir sewer project	Prov. app.
9-8-72	Inverness	Interceptor sewers, 5A-1, 5B-1, and 5B-2	Prov. app.
9-11-72	Multnomah County	Hayden Island sewage treatment plant expansion	Prov. app.
9-11-72	USA (Sherwood)	April Meadows I & II sewers	Prov. app.
9-11-72	Government Camp	Mazama Lodge sewer	Prov. app.
9-11-72	Dallas	North Heights Subd. sewers	Prov. app.

Water Quality Control - continued

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
<u>Municipal Projects (50 continued)</u>			
9-11-72	Portland	S.W. 27th Avenue sewer	Prov. app.
9-11-72	Bear Creek Valley San. Auth. (Talent)	Jackson County complex sewers	Prov. app.
9-12-72	Salem (Willow Lake)	Marion Street trunk sewer	Prov. app.
9-12-72	Waldport	Addendum No. 1 to sewage treatment plant project	Approved
9-12-72	Gresham	Scarboro Heights Subd. sewers	Prov. app.
9-15-72	Multnomah Co. (West)	Franciscan Villa Apts. sewer	Prov. app.
9-18-72	North Bend	Pony Creek interceptor	Prov. app.
9-19-72	Oak Lodge San. Dist.	Woodland Court Subd. sewers	Prov. app.
9-19-72	Veneta	Park Side Drive sewer	Prov. app.
9-19-72	Gresham	Shelburne Subd. sewers	Prov. app.
9-19-72	Gresham	Pinebrooke Subd. sewers	Prov. app.
9-19-72	Coquille	Change Orders #1, 2 & 3 to sewage treatment plant	Approved
9-20-72	Bandon	Sanitary sewer lateral A-2	Prov. app.
9-20-72	Coos Bay	Hub Area sewers, Phase III	Prov. app.
9-20-72	Inverness	Rivercliff Estates sewers	Prov. app.
9-20-72	Eugene	Two sewer projects	Prov. app.
9-20-72	Inverness	Highwood sewer project	Prov. app.
9-21-72	Oregon City	Joyce Subd. sewers	Prov. app.
9-22-72	Gresham	Sky Blue Estates sewers	Prov. app.
9-22-72	Portland	Emanuel Hospital sewers, Phase II	Prov. app.
9-22-72	Crook County	Ochoco West San. Dist. sewage treatment plant, 0.020 MGD non- overflow lagoon	Prov. app.
9-25-72	Ashland	1. Tolman Creek Road sewers 2. Strawberry Lane sewers 3. Sheridan Street sewers	Prov. app. Prov. app. Not approved
9-25-72	USA (Aloha)	Newcastle Park Subd. sewers	Prov. app.
9-25-72	Eugene	Two storm sewer projects	Approved
9-25-72	Coos Bay	Addendum No. 1, Hub Area sewers, Phase III	Approved
9-25-72	USA (Fanno Creek)	Barnes LID #5 sewers	Prov. app.
<u>Industrial Projects (7)</u>			
9-19-72	Winston	Roy F. Wells - Dairy, animal waste facilities	Prov. app.
9-19-72	Myrtle Creek	Donald M. Auer Dairy, animal waste facilities	Prov. app.
9-19-72	Myrtle Creek	Alvin W. Helgeson Dairy - animal waste facilities	Prov. app.
9-19-72	Bay City	Don Averill Hog Farm - animal waste facilities	Prov. app.



Water Quality Control - continued

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
<u>Industrial Projects (7) continued</u>			
9-28-72	Nyssa	Amalgamated Sugar, waste-water treatment facilities	Prov. app.
9-15-72	Ontario	Ore-Ida Foods - secondary treatment pre-design report	Prov. app.
9-26-72	The Dalles	City of The Dalles - IW collection/disposal pre-design report	Prov. app.

Air Quality Control

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
9-1-72	Columbia Co.	Boise Cascade Corp. Proposal for compliance with Kraft Mill Regulations	Deferred until new kraft mill regulation is finalized
9-12-72	Malheur	J.R. Simplot, Inc. Plans & specifications for installation of fertilizer blender	Conditional Approval
9-19-72	Josephine	Southern Oregon Plywood Co. Plans & specifications for sanderdust handling and collection system	Approved
9-20-72	Wallowa	Boise Cascade Corporation Plans and specifications for fly ash collection system for hog fuel boilers	Approved
9-21-72	Douglas	Superior Lumber Company Plans and specifications for wigwam waste burner modification	Approved
9-22-72	Douglas	Sun Studs, Inc. Plans and specifications for bark handling and processing system as part of hog fuel boiler compliance program	Approved
9-27-72	Benton	Good Samaritan Hospital. Plans to construct 300-space surface parking facility	Approved

Variances Received from Regional Authorities

9-12-72	Washington	Wasteco, Inc. Operation & testing of incinerators	Approved
9-12-72	Clackamas	Publishers Paper Co. Operation of modified WWB	Approved
9-20-72	Clackamas	J.C. Compton Company Operation of drier drum for asphalt plant at Alder Creek	Approved

Solid Waste Management

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
9-5-72	Marion Co.	Stayton Compactor & Transfer Station	Prov. app.
9-7-72	Lane Co.	Grant Application to EPA	Comments
9-8-72	Multnomah Co.	LaVelle & Yett Sanitary Landfill	Prov. app.
9-25-72	Columbia Co.	Peterson Disposal Site	Not app.
9-27-72	Clackamas Co.	Tire Disposal Co. Landfill	Not app.
9-29-72	Crook Co.	Consolidated Pine Wood Residue Fill	Not app.

CITY OF PORTLAND TRANSPORTATION CONTROL STRATEGY

Mr. Downs presented a 15-page staff report dated October 18, 1972 regarding this subject, a copy of which has been made a part of the Department's permanent files.

Mr. Downs advised that basically we are working toward reducing CO and related pollutants including hydrocarbons.

Carl Halvorson of the Portland Chamber of Commerce spoke endorsing the plan, with the recommendation of one modification to item 10, page 6 of the Portland Plan relative to the last sentence in that statement which said "shuttle bus should be tried." He felt, and said Commissioner Lloyd Anderson agreed, that because of the theaters, art centers, churches and retail shops in the area that shuttle service was a requirement, and with that modification he recommended approval of the Plan.

Mr. Day commended the City of Portland for the Plan being submitted on time, and stated that no other city in the United States of comparable size could make that statement. They had all copped out asking for a 2-year extension, and he was very proud of the City of Portland.

It was MOVED by Mr. McMath, seconded by Mr. Cogan and carried that approval be given the City of Portland's transportation control strategy and other recommendations of the Director, as follows:

1. Adopt the City of Portland's transportation control strategy as submitted.
2. Adopt the interim guidelines for review of parking facilities set forth in this staff report.

3. Request the Director to obtain assistance from the Oregon State Highway Division in determining the air quality effects of the Stadium Freeway.
4. Request the Director to establish a permanent committee to monitor the impact and effectiveness of the transportation control strategy.

The interim guidelines referred to in Recommendation 2 above are to be in effect until the city has completed its parking study and has established its own guidelines. They are as follows:

1. The construction of long-term (more than 4 consecutive hours) commuter parking in new office building developments in downtown Portland shall not exceed that necessary to provide parking for 50% of the employees expected to occupy the building at capacity assuming an average automobile occupancy of 1.5 persons per car. This is equivalent to approximately 50% of the employees using mass transit to get to and from work, which is a goal implicit in the City's plan for increased transit patronage set forth in the transportation control strategy.
2. The construction of non-commuter parking facilities for all other new development land uses in downtown Portland shall be based upon what the developer considers necessary for the economic viability of the project and consistency with the City's transportation control strategy.
3. The construction of all new parking facilities not incidental to another new development land use in downtown Portland shall be prohibited except for the parking structures set forth in the City's transportation control strategy.

#### PROPOSED STATE MOTOR VEHICLE INSPECTION PROGRAM

Mr. R.C. Householder presented a 19-page staff report dated October 18, 1972 regarding this subject, a copy of which has been made a part of the Department's permanent files.

Joe Bernard, Jr., representing the Independent Garage Owners of Oregon and also a member of the Technical Advisory Committee Motor Vehicle Emission Control Program to the Department objected to State owned inspection stations.

Wally Priestly spoke on the problems encountered by the elderly, ADC mothers, et al, who could not afford repairs or a newer automobile.

A MOTION was made by Mr. McMath, seconded by Mr. Cogan and carried that the Director's recommendations be approved as follows: Approve the basic concept of the vehicle inspection program as outlined in this report, and authorize the Director to: (a) Proceed with arrangements for holding a public hearing in Portland during the first quarter of 1973 for the purpose of designating those counties in which motor vehicles registered therein shall be required to obtain a certificate of approval prior to annual registration; (b) Prepare legislative proposals to provide specific authorization and funding means for the construction or acquisition of vehicle inspection facilities in the four county Portland Metropolitan area, and to clarify the authority of the state to conduct vehicle inspections or to contract or issue franchises for such inspections; and (c) Request funds from the State Emergency Board for the acquisition of two mobile emission testing units and four technicians to begin vehicle testing to obtain a larger scale data base for use in developing the emission control standards and testing procedures for use in the inspection program.

#### PROPOSED STATE-WIDE NOISE CONTROL PROGRAM

G.K. Sandberg presented a 12-page staff report regarding this subject, dated October 12, 1972, a copy of which has been made a part of the Department's permanent files.

He explained that snow-mobiles were excluded from the proposed regulation because those manufactured after January 4, 1973 were controlled by 1971 legislation to a level of 82 decibels or below (ORS 483.730).

Representative Keith Skelton read a prepared speech, a copy of which has been made a part of the Department's permanent files. He complimented the Commission and the Director for getting the program going so rapidly, and offered all possible assistance to the staff. He did not believe the standards should be tied to physical hearing damage only, but also to other effects on people such as tiredness, irritability, etc.

Wally Priestly stated that the newly created legislative district in which he resides would be quite susceptible to airport noise. In talking to

people in the district, he found 28% felt there was undue or bothersome aircraft noise. He said that area also receives considerable noise from the Portland Speedway.

A MOTION was made by Mr. McMath, seconded by Mr. Cogan and carried that the Commission authorize and direct development of a comprehensive noise pollution control program as outlined in the report.

#### STATE-WIDE SOLID WASTE MANAGEMENT ACTION PLAN

The Director called upon Senator Betty Roberts, Chairman of the Citizens' Advisory Committee on Solid Waste Disposal for the Department of Environmental Quality. She said that her Committee is in support of Mr. Day's recommendations to accept the Committee's report on the proposed Action Plan and that the report be submitted to the Emergency Board on November 9 and 10 for funding of the proposed Action Plan.

Senator Roberts introduced the members of the Committee who were present and stated that there were three members who would like to make statements today. She then gave a brief synopsis of the purpose and goals of the Committee.

Senator Roberts then called on Midge Siegel, Chairman of the Short-range Committee who stated that her committee had joined with the Long-range Committee to review 36 applications which came in from all over the State. She said the two committees had toured the State to gain an accurate picture of what could be done immediately. Ms. Siegel stated that her committee is a very hard working committee and one thing they had accomplished which she thought was most valuable was in the area of public relations.

Commissioner Joe Peden from Deschutes County was called on next. He said that there had been a population increase of about 15% in Central Oregon. He went on to say that 4 or 5 dumps had been closed and that just recently a sanitary landfill had been opened and that the funding was needed to get on top of the situation and keep Central Oregon a show place.

Mr. Harry Carson, Jr., Marion County Commissioner, was the next member of the Committee to speak. He stated that the solid waste problem is statewide. He said if this Action Plan is received favorably and endorsed it will go a long way toward solving the problem and urged the Commission to support Mr. Day's recommendations.

Senator Roberts said that public hearings will be held in the regions and in the counties after approval of this proposed plan which is the starting point for analyses and public discussions.

It was MOVED by Mr. Cogan, seconded by Mr. McMath and carried that the Director's recommendation be approved to authorize the Department to proceed with development of the State-wide Solid Waste Management Implementation Plan according to the schedule outlined below, including presentation of a formal request for funding before the State Emergency Board on November 9 and 10, 1972.

By November 1, 1972, DEQ should distribute application packets to the counties and regions, informing them of the CAC and EQC action, announcing the E Board presentation and requesting official application to the Department by November 15, 1972 on forms provided. The Department would in addition provide examples of inter-local governmental agreements; a staff critique of what is needed from each applicant supplemental to the proposal already received; criteria and examples of adequate specific justification of their grant request and itemization of in-kind services to be contributed to guide preparation of supplemental information. Staff will assist with the application as needed.

During November, the CAC should compare each application with its previous proposal, review the staff report and recommend action to the Director.

By December 1, 1972, detailed conditional contracts should be distributed to applicants for signature and return by December 15, 1972.

By January 1, 1973, money should be allocated by the Department to cover the first three months of planning under each contract. Planning should begin, or continue, in each county, whether or not funded with state monies.

During 1973, the Department and CAC should review the progress of and guide the planning.

By February 1, 1973, each contractor should submit a detailed time schedule for completion of planning tasks, and expending of funds. All inter-local governmental agreements should be submitted, also.

By April 1, 1973, a Progress Report covering the first three months' activities should be submitted, including preliminary conclusions.

By April 15, 1973, the CAC should review and act on the staff report regarding contractor progress, and make a recommendation to the Director on further guidance and release of the next three months' monies to the contractor.

By June 1, 1973, the contractor should submit the rough draft of the completed plan for interim needs.

By June 15, 1973, the CAC should review and act on the staff analysis of the plan draft and recommend revisions to the Director.

By July 1, 1973, the final draft of each regional plan should be submitted.

By August 1, 1973, the CAC should consider the completed state-wide plan to meet interim needs as assembled by staff, and recommend to the Director on its adoption.

#### PROPOSED AMENDMENT OF RULES PERTAINING TO ALUMINUM REDUCTION FACILITIES

F.A. Skirvin presented a 9-page staff report dated October 18, 1972 regarding this subject, a copy of which has been made a part of the Department's permanent files. The report contains proposed revisions to the Primary Aluminum Plant Regulation.

Joseph L. Byrne of Martin-Marietta Co. read a prepared statement, a copy of which has been made a part of the Department's permanent files.

A MOTION was made by Mr. Harms, seconded by Mr. McMath and carried that the Director's recommendation be approved as follows: That the Director be authorized to schedule a public hearing at a time and place to be determined for the purpose of receiving testimony relevant to the proposed revisions to the Primary Aluminum Plant Regulation.

#### PROPOSED EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

T.M. Phillips presented a staff report on Beryllium, Mercury and Asbestos, dated October 16, 1972, a copy of which has been made a part of the Department's permanent file.

A MOTION was made by Mr. Harms, seconded by Mr. McMath and carried that the Director be authorized to schedule a public hearing at a time and place to be determined, for the purpose of receiving testimony relevant to the adoption of regulations setting limits on the emission of beryllium, mercury and asbestos, and to establish procedures for obtaining the delegation of authority from the Environmental Protection Agency to enforce the proposed standards.

PROPOSED EMISSION REGULATIONS FOR KRAFT PULP MILLS

C.A. Ayer presented a 7-page staff report dated October 18, 1972 regarding this subject, a copy of which has been made a part of the Department's permanent files. Attached to the staff report was a copy of the proposed kraft mill emission regulations.

A MOTION was made by Mr. McMath, seconded by Mr. Cogan and carried that the Commission authorize the Director to schedule a public hearing before the Commission for the adoption of this regulation at the next appropriate Commission meeting, which will allow adequate time for public notice and conferences with interested persons.

BOISE CASCADE - ST. HELENS KRAFT MILL

C.A. Ayer presented a staff report, dated October 18, 1972, regarding subject matter, a copy of which has been made a part of the Department's permanent files.

It was stated that the project costs range upward to about \$11 million dollars.

A MOTION was made by Mr. Cogan, seconded by Mr. McMath and carried that the company's proposal be approved, subject to complying with the Kraft Mill Emission Regulations, and demonstration prior to May 1, 1973 of the existing black liquor oxidation system's reliability for delivering a consistently high degree of oxidation efficiency and to improving the lime kiln scrubbers as necessary early enough to demonstrate compliance with the applicable particulate emission limit in advance of the July 1, 1975 deadline.

GSA PARKING FACILITY, PORTLAND

Michael J. Downs presented a 3-page report dated October 18, 1972 covering the subject matter, a copy of which has been made a part of the Department's permanent files.

A MOTION was made by Mr. Harms that the Commission approve the Director's recommendations as written. Mr. Cogan advised he did not think it good practice to give a green light to a 200-space parking facility in downtown Portland. Mr. McMath agreed. Motion died for lack of second.

Mr. McMath MOVED that action on the 200-space parking facility be deferred until the study proposed by the staff that GSA undertake was completed and reviewed. Mr. Cogan seconded the motion. Motion carried 2 to 1 with Mr. Harms dissenting.



PORTLAND COMMONS (Hotel) PARKING FACILITY, PORTLAND

Michael Downs presented a 5-page staff report regarding this matter, dated October 16, 1972, a copy of which has been made a part of the Department's permanent files.

Mitchell Drake of Portland Commons, Inc. spoke in behalf of the project, explaining that the parking for the hotel and office buildings was below what was normally allowed if taken individually, and that Portland Commons would be controlling the parking so as to prevent long term parking.

Don Waggoner, President of the Oregon Environmental Council, commended the Commission and Director for their stand on transportation control strategy. He voiced objection to the parking facility, and felt they could utilize other parking facilities in the area.

Mr. Drake remarked that one of the problems in urban renewal areas is lack of transit, and parking was needed. Also they could not finance the project without Commission approval. He also advised that another lot to the east of the project was available for interim parking, but had not been included in the request.

A MOTION was made by Mr. Cogan, seconded by Mr. McMath and carried that the Commission approve construction of the 346 parking spaces ancillary to the Portland Commons hotel development on block #115 with the condition that none of the 346 spaces shall be used for long-term (more than 4 consecutive hours) commuter parking before 1979, and that this would also allow review of the interim lot and approval at the discretion of the Director.

PAGE PAVING COMPANY, Estacada Site

R.B. Snyder presented a staff report on the Columbia-Willamette Air Pollution Authority Variance 72-6 to Page Paving Co., dated October 13, 1972, a copy of which has been made a part of the Department's permanent file.

Mr. Cogan MOVED, Mr. McMath seconded and the motion was carried for the approval of CWAPA Variance 72-6 to Page Paving Co. as submitted.

STEVE WILSON LUMBER COMPANY, Trail Mill

The Director summarized a staff report dated October 25, 1972 in this matter, a copy of which has been made a part of the permanent files. He recommended that the Stipulation and Order be extended until June 1, 1973.

It was MOVED by Mr. McMath, seconded by Mr. Cogan and carried that Steve Wilson Company be granted an extension of time for modification of the wigwam waste burner until June 1, 1973, and that Stipulation and Order #72-0610029 be so amended subject to the following conditions:

1. The company shall notify the Department by the fifth day of each month as to the exact status of the company's remaining tax liabilities to the federal government.
2. The company shall negotiate a firm contract for modification of the wigwam waste burner to commence and complete construction at the earliest possible date after final payment on the existing tax lien. A copy of this contract is to be submitted by the company to the Department on or before January 31, 1973.
3. The company shall operate the unmodified wigwam waste burner in the best possible manner to keep smoke emissions to a minimum during all periods of operation.

TAX CREDIT APPLICATIONS

F.A. Skirvin presented the review report on T-323, Empire Building Material Company tax application in the amount of \$36,849, for a storm water control system.

Richard Hubble of Empire Building Material Company advised that they had spent \$36-1/2 thousand dollars on what they considered a bonafide device. The project was completed in December of 1971 and the only disagreement between the State Engineer and their engineer was the length of culvert. They would welcome inspection by the agency.

A MOTION made by Mr. Harms, seconded by Mr. Cogan and Mr. McPhillips and carried provided that action on this application be formally deferred until the November 30 Environmental Quality Commission meeting to evaluate the effectiveness of the facilities.

Mr. Skirvin then presented the reports on the tax applications for Tillamook Veneer Company, Tillamook in the amount of \$25,905; Publishers Paper Company, Tillamook in the amount of \$32,971 for modification of wigwam waste burners; Webfoot Fertilizer Company, Inc., Portland in the amount of \$17,894.72 for a baghouse; and International Paper Co., Gardiner in the amount of \$71,008.18 for a strong black liquor oxidation system.

A MOTION was made by Mr. Harms, seconded by Mr. McMath and carried that Pollution Control Facility Certificates for applications T-333 for Tillamook Veneer Company in the amount of \$25,905 with 80% or more allocated to pollution control; T-366 for Publishers Paper Company, Tillamook in the amount of \$32,971 with 80% or more allocated to pollution control; T-377 for Webfoot Fertilizer Company, Portland in the amount of \$17,894.72 with 80% or more allocated to pollution control; and T-381 for International Paper Company, Gardiner in the amount of \$71,008.18 with 80% or more to pollution control be issued.

REPORT FROM ADVISORY COMMITTEE ON NATURAL, SCENIC AND RECREATIONAL AREAS

Mr. D.R. Armstrong presented the staff report dated October 25, 1972 which reviewed the present status of the Preliminary Recommendations and Proposed Regulations of the Advisory Committee on Natural, Scenic and Recreational Areas, outlining what has been accomplished in this area and what is intended to be done in the future.

No action on the part of the Commission was considered necessary at this meeting regarding this matter.

ZIDELL EXPLORATIONS, INC., Portland

Mr. Silver, Legal Counsel, said he would like to bring the Commission up to date regarding the Zidell Explorations, Inc. He said that the staff of the DEQ had forwarded a letter, together with a revised permit, to Zidell on October 16 with copies to Mr. Alterman, Zidell's attorney, Mr. John Hough, attorney for Oregon Environmental Council and Thomas Levak, attorney for the Metal Trades Council, that the letter expressed the intention of the EQC to issue a waste discharge permit to Zidell, and that the essential difference between this permit and all other permits previously considered by the Commission is solely based upon provision No. 4 which is as follows: "In the event the permittee is unable during the period of this permit to provide adequate control of spillage of oil or debris in the Willamette River, it institute a method of positive collection and containment of spilled oil or debris outside of and separate from the Willamette River."

Mr. Silver went on to say that the letter stated a hearing would be held by the Commission in the matter on October 25, 1972 at 7:00 p.m. if Zidell would be willing to proceed. The letter also stated that if Zidell

would desire additional time for a hearing to advise the Commission in order for the Commission to cancel this date and time and establish a new date. Mr. Silver said that as of this date neither he nor Mr. Day had formally received a response from Zidell regarding this permit. He suggested that with the concurrence of the Commission he would recommend that the Commission not plan on holding a hearing on this date and time. Mr. Silver suggested to the Commission that the permit sent to Zidell should be treated as issued and grant Zidell 20 days from the date of October 17, which would be the date they received the letter, in which to ask for a hearing. He said that should Zidell ask for a hearing between October 25 and the 20-day period, he would recommend that the Commission authorize the Director to appoint a hearing officer to hear their objections and let the hearing officer make the recommendation to the Commission as to what action should be taken.

Mr. Silver went on to say that if no hearing is requested between October 25 and the 20-day period, the Commission is then authorized to issue the permit as drafted in the form it is now written which would become the final formal permit of the Commission not subject to a hearing.

The Director said he would support this recommendation as he had had a call from Zidell's legal counsel who stated he would like a couple of days more to study this matter and then advise his intention.

It was MOVED by Mr. Harms, seconded by Mr. McMath and carried that the Director be authorized to appoint a hearing officer to hear this matter in the event that Zidell responds within the 20 days requesting a hearing.

CLATSOP PLAINS, CLATSOP COUNTY

Mr. Fred Bolton summarized a staff report dated October 25, 1972 in this matter, a copy of which has been made a part of the permanent files.

Mr. Cogan asked approximately when the plan would be completed.

Mr. Bolton said that once the funding is received, it will take approximately one year to map the area, do the study, etc. He said that part of the work is under way such as the land-use study.

Mr. McPhillips said some of the people might think it a bit odd that the Department be directed to make written demand upon the county for the full repayment of the then unpaid balance of the loan with accrued interest thereon if Clatsop County does not comply with the ban on buildings in the

Clatsop Plains area as set forth in the Resolution of the EQC dated April 24, 1972. He stated that the resolution came about when several of the Commission members spent a day looking over the situation and were determined not to have a mishmash of septic tanks and private sewer developments in that beautiful area and therefore the Commission is taking these steps to see that this does not happen.

It was MOVED by Mr. Cogan, seconded by Mr. McMath and carried that the recommendation of the Director be approved that:

1. The Commission authorize the use of \$125,000 of the State Pollution Control Funds for the purpose of preparing a Regional Sewerage Study for the North Clatsop County area as outlined in a grant-loan application submitted to the Department.
2. The Department present the loan application in the amount of \$125,000 to the State Emergency Board for funding at the earliest possible time.
3. That the Department be directed to make written demand upon the county for the full repayment of the then unpaid balance of the loan with accrued interest thereon if Clatsop County does not comply with the ban on buildings in the Clatsop Plains area as set forth in the Resolution of the Environmental Quality Commission dated April 24, 1970.

KNOTT PIT SANITARY LANDFILL, DESCHUTES COUNTY APPLICATION FOR CONSTRUCTION GRANT AND LOAN

Mr. E.A. Schmidt summarized a staff report dated October 25, 1972 regarding this subject, a copy of which has been made a part of the Department's permanent files.

Mr. Harms said he noticed the reference to Crook and Jefferson Counties and wondered if there were anything inconsistent with the regional approach if the people of that area should be successful in adopting such an approach.

Mr. Schmidt said there would not be anything inconsistent with the regional approach, that the Knott Pit Facility has the potential of being the show-place sanitary landfill for the state, it is an excellent site and the county needs some assistance.

Mr. Cogan asked if the requested money is for the development of the project only and not for operating expenses.

Mr. Schmidt said that is correct.

Mr. Cogan asked what the county is going to do to get through the next year or two.

Mr. Schmidt replied that part of the request is to reimburse the money that was borrowed from the county's operating fund. The county has already borrowed from another county department to get the landfill in operation and really had no choice in this matter because the other site was full. This money will have to be paid back to the Public Works Department and the only source of revenue they have at present is from their serial levy and this automatically puts them in the hole in operating.

Mr. McPhillips asked if this facility would be self supporting.

Mr. Schmidt replied that the serial levy was for a 3-year period and it expires next July 1. The county does not plan on asking the voters for another serial levy as they want to go to a fee system. He said if the Emergency Board approves our request for increasing the solid waste grant and loan limitation, then an agreement will have to be made with Deschutes County similar to sewage works construction grant and loan agreements whereby the facility has to be 75% self supporting and a number of other things.

Mr. Tom Donaca, Vice-Chairman of the Long Range Citizens' Advisory Committee said a problem had been encountered regarding the issuance of bonds in order to obtain funds. Mr. Donaca and his committee were under the impression that when the pollution bond program was passed in 1969 that one of two devices could be used by local government. One is to go through the election procedure, get the authorization from the public, advertise and put the bonds out for bid, come back to the EQC and then issue bonds. The second approach would be to contract directly with the EQC. He said in order for the county to obtain \$136,150 for solid waste management facility construction funding, 75% of which would come from the State Pollution Control Bond Program, would require a special election of the county. This in turn would require \$5,000 to \$6,000 of the funds to be used for issuance of bonds.

Mr. Donaca said he would like the Attorney General to look at this situation again and see if there is a methodology which can be used via the direct contract route.

Mr. Harms agreed with Mr. Donaca and said it is ridiculous to have bond elections for such small amounts of money.

It was MOVED by Mr. Harms, seconded by Mr. McMath and carried that the recommendations of the Director be approved that the Commission authorize the Director to request the Emergency Board on November 9-10, 1972 to increase the Department's limitation for making solid waste facility construction grants and loans by \$136,150 and upon approval of the increase to develop appropriate grant and loan agreements with Deschutes County.

REGIONAL AIR POLLUTION AUTHORITIES' PERMIT PROGRAMS

H.H. Burkitt presented a staff report, dated October 24, 1972, regarding subject matter, together with copies of the proposed rules and procedures for the permit program for each Regional Authority and a signed copy of the Memorandum of Understanding which have been made a part of the Department's permanent files.

A MOTION was made by Mr. McMath, seconded by Mr. Cogan and carried that the Commission approve the Permit Programs as submitted by the Columbia-Willamette Air Pollution Authority, Lane Regional Air Pollution Authority, and Mid-Willamette Valley Air Pollution Authority.

There being no further business the meeting was adjourned at 3:40 p.m.



## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

ENVIRONMENTAL QUALITY  
COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. A, October 25, 1972, EQC Meeting

Sale of Oregon Pollution Control Bonds, Series 1972  
in the amount of \$45,000,000

### Background

Article XI-H of the Constitution of the State of Oregon authorizes Pollution Control Bonds up to one percent true cash value of taxable property in state to provide funds to municipal corporations, cities, counties and agencies of state, or combinations thereof, to construct facilities for control of pollution on land, in air and water of state, such facilities to be at least 70 percent self-supporting and self-liquidating from revenues, gifts, federal grants, user charges, assessments and fees.

ORS 449.672 states that, "In order to provide funds for the purposes specified in Article XI-H of the Constitution of Oregon, the Environmental Quality Commission, with the approval of the State Treasurer, is authorized to issue and sell such general obligation bonds of the State of Oregon, of the kind and character and within the limits prescribed by Article XI-H of the Constitution of Oregon as, in the judgment of the Environmental Quality Commission, shall be necessary. The bonds shall be authorized by resolution duly



adopted by a majority of the members of the Environmental Quality Commission. The principal amount of the bonds outstanding at any one time, issued under authority of this section, shall not exceed \$100 million par value."

From the proceeds of the bonds authorized by ORS 449.672, as amended by section 1, chapter 662, Oregon Laws 1971 (Enrolled House Bill 1185), the Environmental Quality Commission may loan or grant funds, as provided under ORS 449.685, as amended by section 3, chapter 662, Oregon Laws 1971 (Enrolled House Bill 1185), in an aggregate amount not to exceed:

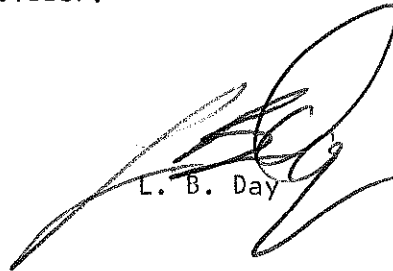
- a) For construction of sewage treatment facilities . . . . . \$80,000,000
- b) For construction of solid waste facilities . . . . . \$ 1
- c) For planning of facilities or methods relating to the disposal of solid waste and of facilities for sewage treatment . . . . . \$ 1

On April 6, 1971, the first issue of \$45,000,000 par value of Oregon Pollution Control Bonds, Series 1971, were sold to the First National Bank of Oregon. Of this amount \$31,500,000 was dedicated to purchase of local bonds and \$13,500,000 to grants. To date, \$31,233,000 has been committed to purchase of local bonds to assist in construction of sewerage treatment facilities. The current bond status report is attached.

On July 27, 1972, a resolution was adopted authorizing the sale of an additional \$45,000,000 in bonds on October 25, 1972, for the purpose of carrying out the provisions of Article XI-H of the Constitution of the State of Oregon to meet the projected requirements of Construction Grant and Solid Waste Management Programs.

Recommendation

The Director recommends that the Environmental Quality Commission receive and open all bids for the bonds and with the approval of the State Treasurer authorize to issue and sell the bonds to an acceptable bidder.



L. B. Day

WEG:ahe  
10/13/72  
Attachment

October 1, 1972

BOND STATUS REPORT

C- 410 No.	City	AMOUNT BONDS	Est. Date Required	Date Received
224	Philomath	\$ 145,000		11-23-71
302	Florence	125,000		12-16-72
304	Gardiner S.D.	235,000		11- 3-71
329	Wilsonville	600,000		11- 3-71
309	Myrtle Point	200,000		7-26-72
246	Bay City	80,000		9-23-72
234	Clackamas County S.D. #1	5,700,000	(received 1,570,000 on 12-23-71) (advanced 1,000,000 on 9-1-72 based on 11-29-72 bond sale)	
336	Coquille	250,000		11-16-71
340	Woodburn	240,000		12-10-71
270	The Dalles	575,000		11-29-72
272	Portland	15,140,000		5-24-72
300	Gresham	1,530,000		3-21-72
218	Sheridan	165,000		9-11-72
306	Tri-City S.D.	565,000		Rec. Bid 7-17-72
206	Umatilla	90,000	1-1-73	
327	Grants Pass	1,305,000		Rec. Bid 9-22-72
354	Waldport	150,000		Rec. Bid 9- 7-72
330	Garibaldi	160,000		Rec. Bid 9-25-72
316	Rainier	165,000		Rec. Bid 10-2-72
291	Astoria	3,665,000	12-1-72	Bid Date 10-25-72
259	Wallowa (may only need \$40,000)	148,000	1-1-73	

Total Amount Local Bonds Received (10-1-72)	\$20,855,000
Total Amount Local Bonds Committed by Agreement	<u>10,378,000</u> \$31,233,000
Amount State Bonds Available	\$31,500,000
Total Local Bonds Received or Committed	<u>31,233,000</u>
Total Uncommitted	267,000

BOND STATUS REPORT

October 1, 1972

Municipalities Interest Payments to Date

C- 410 No.	City	Interest Received April 1, 1972	Interest Received Oct. 1, 1972	Total Received To Date
246	Bay City	\$ 1,887.50	\$ 1,887.50	\$ 3,775.00
234	Clackamas County S.D.#1	36,993.75	36,993.75	73,987.50
336	Coquille	6,033.50	6,033.50	12,067.00
302	Florence	2,923.50	2,023.50	5,847.00
304	Gardiner S.D.	5,530.75	5,530.75	11,061.50
300	Gresham	--	35,830.00	35,830.00
309	Myrtle Point	--	4,840.00	4,840.00
224	Philomath	3,400.00	3,400.00	6,800.00
272	Portland	--	353,877.50	353,877.50
218	Sheridan	--	3,858.50	3,858.50
270	The Dalles	13,467.50	13,467.50	26,935.00
329	Wilsonville (G.O.)	1,178.75	1,178.75	2,357.50
329	Wilsonville (Rev.)	12,990.00	12,990.00	25,980.00
340	Woodburn	<u>5,815.50</u>	<u>5,815.50</u>	<u>11,631.00</u>
TOTAL		\$88,333.25	\$486,739.25	\$578,847.50



## DEPARTMENT OF ENVIRONMENTAL QUALITY

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TOM McCALL  
GOVERNOR

L. B. DAY  
Director

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ARNOLD M. COGAN  
Portland

Memorandum

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. C, October 25, 1972, EQC Meeting

Project Plans for September 1972

During the month of September 1972 staff action was taken relative to plans, specifications and reports as follows:

Water Quality Control

1. Fifty (50) domestic sewage projects were reviewed:
  - a) Provisional approval was given to:
    - 40 plans for sewer extensions
    - 2 plans for sewage treatment works improvements
    - 2 contract modifications
  - b) Approval without conditions given to:
    - 2 storm sewer projects (Eugene)
    - 3 contract modifications
  - c) Seven (7) Industrial Waste Projects were given Provisional Approval:
    - 4 Animal Waste Control Facilities
    - 2 Pre-design reports (Ore-Ida Foods and City of The Dalles)
    - 1 Waste control plan (Amalgamated Sugar)

Air Quality Control

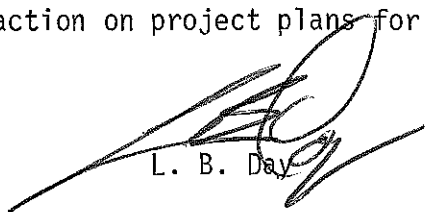
1. Seven (7) project plans, reports or proposals were received and reviewed:
  - a) Approval was given to:
    - 1 Sanderdust Handling System (Southern Oregon Plywood, Josephine County)
    - 1 Fly Ash Collection System (Boise Cascade Corp., Wallowa County)
    - 1 Wigwam Burner Modification (Superior Lumber Co., Douglas County)
    - 1 Bark Handling and Processing System (Sun Studs, Inc. Douglas County)
    - 1 Parking Facility (Good Samaritan Hospital, Corvallis)
  - b) Conditional approval was given to:
    - 1 Plans and specifications for installation of Fertilizer Blender (J. R. Simplot, Inc., Malheur County)
  - c) Action was deferred on a new kraft mill emission control proposal (Boise Cascade Corp., St. Helens mill)

Solid Waste Disposal

1. Five (5) Solid Waste Disposal project plans were reviewed:
  - a) Provisional approval was given to:
    - 1 Compactor and transfer site (Marion County)
    - 1 Sanitary Landfill (Multnomah County)
  - b) Not approved were:
    - 2 Woodwaste disposal sites (Columbia and Crook Counties)
    - 1 Tire disposal landfill (Clackamas County)

Directors Recommendation

It is recommended that the Commission give its confirming approval to staff action on project plans for the month of September 1972.

  
L. B. Day

PROJECT PLANS

Water Quality Division

During the month of September, 1972, the following project plans and specifications and/or reports were reviewed by the staff. The disposition of each project is shown, pending ratification by the Environmental Quality Commission.

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
<u>Municipal Projects (50)</u>			
9-5-72	East Salem Sewer & Drainage Dist. I	Jan Ree Estates I & II sewers	Prov. approval
9-5-72	Salem	Boxwood Subdivision sewers	Prov. approval
9-5-72	Aumsville	Wildwood Addition sewers	Prov. approval
9-5-72	Gresham	Penny Ridge Subdivision sewers	Prov. approval
9-5-72	USA (Tigard)	S.W. Sandburg St. sewer	Prov. approval
9-5-72	USA (Aloha)	Two sanitary sewer projects	Prov. approval
9-7-72	Garibaldi	Change Order No. 1 to sewage treatment plant contract	Prov. approval
9-7-72	Lincoln County	Inn at Otter Crest outfall	Prov. approval
9-7-72	Sutherlin	Rasmussen Subdivision sewer	Prov. approval
9-7-72	Salem (West)	Hope Avenue, N.W. sewer	Prov. approval
9-7-72	Oregon City	Barclay Hills, Phase I sewers	Prov. approval
9-7-72	Hillsboro (West)	Addendum No. 1 to sewer projects	Prov. approval
9-7-72	Aumsville	Fair Oak Estates sewers	Prov. approval
9-7-72	Central Point	Mon Desir sewer project	Prov. approval
9-8-72	Inverness	Interceptor sewers, 5A-1, 5B-1, and 5B-2	Prov. approval
9-11-72	Multnomah County	Hayden Island sewage treatment plant expansion	Prov. approval
9-11-72	USA (Sherwood)	April Meadows I & II sewers	Prov. approval

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
9-11-72	Government Camp	Mazama Lodge sewer	Prov. approval
9-11-72	Dallas	North Heights Subd. sewers	Prov. approval
9-11-72	Portland	S.W. 27th Avenue sewer	Prov. approval
9-11-72	Bear Creek Valley San. Auth. (Talent)	Jackson County complex sewers	Prov. approval
9-12-72	Salem (Willow Lake)	<del>Marion Street trunk sewer</del>	Prov. approval
9-12-72	Waldport	Addendum No. 1 to sewage treatment plant project	Approved
9-12-72	Gresham	Scarboro Heights Subd. sewers	Prov. approval
9-15-72	Multnomah Co. (West)	Franciscan Villa Apts. sewer	Prov. approval
9-18-72	North Bend	Pony Creek interceptor	Prov. approval
9-19-72	Oak Lodge San. Dist.	Woodland Court Subd. sewers	Prov. approval
9-19-72	Veneta	Park Side Drive sewer	Prov. approval
9-19-72	Gresham	Shelburne Subd. sewers	Prov. approval
9-19-72	Gresham	Pinebrooke Subd. sewers	Prov. approval
9-19-72	Coquille	Change Orders #1, 2 & 3 to sewage treatment plant	Approved
9-20-72	Bandon	Sanitary sewer lateral A-2	Prov. approval
9-20-72	Coos Bay	Hub Area sewers, Phase III	Prov. approval
9-20-72	Inverness	Rivercliff Estates sewers	Prov. approval
9-20-72	Eugene	Two sewer projects	Prov. approval
9-20-72	Inverness	Highwood sewer project	Prov. approval
9-21-72	Oregon City	Joyce Subd. sewers	Prov. approval
9-22-72	Gresham	Sky Blue Estates sewers	Prov. approval
9-22-72	Portland	Emanuel Hospital sewers, Phase II	Prov. approval



<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
9-22-72	Crook County	Ochoco West San. Dist. sewage treatment plant, 0.020 MGD non-overflow lagoon	Prov. approval
9-25-72	Ashland	1. Tolman Creek Road sewers 2. Strawberry Lane sewers 3. Sheridan Street sewers	Prov. approval Prov. approval Not approved
9-25-72	USA (Aloha)	Newcastle Park Subd. sewers	Prov. approval
9-25-72	Eugene	Two storm sewer projects	Approved
9-25-72	Coos Bay	Addendum No. 1, Hub Area sewers, Phase III	Approved
9-25-72	USA (Fanno Creek)	Barnes LID #5 sewers	Prov. approval

Water Pollution Control

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
<u>Industrial Projects (7)</u>			
9-19-72	Winston	Roy F. Wells - Dairy, animal waste facilities	Prov. app.
9-19-72	Myrtle Creek	Donald M. Auer Dairy, animal waste facilities	Prov. app.
9-19-72	Myrtle Creek	Alvin W. Helgeson Dairy - animal waste facilities	Prov. app.
9-19-72	Bay City	Don Averill Hog Farm - animal waste facilities	Prov. app.
9-28-72	Nyssa	Amalgamated Sugar, waste- water treatment facilities	Prov. app.
9-15-72	Ontario	Ore-Ida Foods - secondary treatment pre-design report	Prov. app.
9-26-72	The Dalles	City of The Dalles - IW collection/disposal pre- design report	Prov. app.

AP-9 - PROJECT PLANS, REPORTS, PROPOSALS FOR AIR QUALITY CONTROL  
DIVISION FOR SEPTEMBER, 1972

Sept.	<u>DATE</u>	<u>LOCATION</u>	<u>PROJECT</u>	<u>ACTION</u>
	1	Columbia Co.	<u>Boise Cascade Corp.</u> Proposal for compliance with Kraft Mill Regulations	Deferred until new kraft mill regulation is finalized.
	12	Malheur	<u>J. R. Simplot, Inc.</u> Plans and specifications for installation of fertilizer blender	Conditional Approval
	19	Josephine	<u>Southern Oregon Plywood Company</u> Plans and specifications for sanderdust handling and collection system.	Approved
	20	Wallowa	<u>Boise Cascade Corporation</u> Plans and specifications for fly ash collection system for hog fuel boilers.	Approved
	21	Douglas	<u>Superior Lumber Company</u> Plans and specifications for wigwam waste burner modification	Approved
	22	Douglas	<u>Sun Studs, Inc.</u> Plans and specifications for bark handling and processing system as part of hog fuel boiler compliance program.	Approved
	27	Benton	<u>Good Samaritan Hospital</u> Plans to construct 300- space surface parking facility.	Approved

AP-9 - PROJECT PLANS, REPORTS, PROPOSALS FOR AIR QUALITY CONTROL  
DIVISION FOR SEPTEMBER, 1972.  
(Variances Received from Regional Authorities)

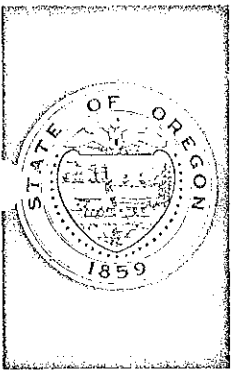
<u>Sept.</u>	<u>DATE</u>	<u>LOCATION</u>	<u>PROJECT</u>	<u>ACTION</u>
	12	Washington	<u>Wasteco, Inc.</u> Operation and testing of incinerators	Approved
		Clackamas	<u>Publishers Paper Co.</u> Operation of modified WWB	Approved
	20	Clackamas	<u>J. C. Compton Company</u> Operation of drier drum for asphalt plant at Alder Creek	Approved

PROJECT PLANS

SOLID WASTE MANAGEMENT DIVISION

During the month of September, 1972, the following project plans and specifications and/or reports were reviewed by the staff. The disposition of each project is shown, pending confirmation by the Environmental Quality Commission.

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
5	Marion Co.	Stayton Compactor & Transfer Station	Prov. Approval
7	Lane Co.	Grant Application to EPA	Comments
8	Multnomah Co.	LaVelle & Yett Sanitary Landfill	Prov. Approval
25	Columbia County	Peterson Disposal Site	Not Approved
27	Clackamas Co.	Tire Disposal Company Landfill	Not Approved
29	Crook County	Consolidated Pine Wood Residue Fill	Not Approved



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

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## MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. D , October 25, 1972, EQC Meeting  
City of Portland Transportation Control Strategy,  
Request for Approval

### Background :

On October 10, 1972 the Department received a Transportation Control Strategy to Achieve Air Quality Standards In Downtown Portland from the City of Portland as required by the Clean Air Act Implementation Plan for Oregon. This plan sets forth various transportation control measures to be implemented by appropriate local, regional and state governmental agencies, as a means to achieve compliance with state and national air quality standards by May 31, 1975.

On October 12, 1972, the Portland City Council held a public hearing on the plan and subsequently adopted Resolution No. 31146 which states in part, ". . . now, therefore, be it resolved that the Portland City Council adopts as a guideline policy the attached Transportation Control Strategy To Achieve Air Quality Standards In Downtown Portland." A copy of the City Council resolution and transportation control strategy has been attached as an appendix to this staff report.

### Contents of the Plan :

The scope of the transportation control strategy adopted by the City Council on October 12, 1972 is a broad-based and

comprehensive endeavor which seeks not only to achieve the mandated air quality standards but which also addresses the equally important goals of maintaining a viable downtown Portland, relieving traffic congestion, maintaining open space, and providing a viable, convenient, and efficient multi-modal transportation system for Portland.

Many of the measures included in the transportation control strategy are measures currently under consideration in several related planning projects. These projects include the 1990 Public Transportation Master Plan, the Portland Downtown Planning Guidelines and associated Downtown Parking and Traffic Circulation studies, and the 1975 Immediate Bus Improvement Plan.

The Department fully supports the concept of a broad-based plan which speaks to many environmental, economic and social issues and attempts to integrate the transportation control measures with other planning processes underway. The intricate and delicate interrelationships that exist between the various environmental, economic and social amenities in the downtown area make this type of comprehensive planning approach to the solution of air quality problems a necessity.

The basic elements of the transportation control strategy developed by the City are contained within five (5) major categories:

1. Measures to increase mass transit patronage.

The major effort of the strategy is to achieve improved accessibility to and mobility within downtown by transit. The principal goal is to

divert trip making to downtown Portland from automobiles by providing high quality transit service.

2. Measures to reduce the number and length of automobile trips by reorganizing and controlling parking and inducing more efficient use of the automobile.
3. Measures to improve traffic flow by removing on-street parking on certain heavily traveled streets, improving the traffic signalization system, and altering major service and loading hours.
4. Measures to obtain adequate financing to insure implementation of the plan in a timely manner.
5. Measures to monitor the effectiveness of the plan. Details of the specific measures to be implemented are contained in a copy of the City's transportation control strategy, attached to this staff report.

Analysis of the Plan;

The motor vehicle emission reductions required to achieve compliance with air quality standards in 1975 were set forth in the Clean Air Act Implementation Plan for Oregon. Briefly, the Implementation Plan states that a 48% reduction in 1975 carbon monoxide emissions in downtown Portland will be required to achieve compliance by 1975 in addition to the



emission reduction expected from the Federal Motor Vehicle Control Program. The Implementation Plan projected that a 20% reduction in carbon monoxide emissions would be obtained through implementation of a mandatory motor vehicle inspection and maintenance program. This leaves a 23% reduction to be achieved by implementation of the City's transportation control strategy.

A. Effect on air quality

Due to the relative scarcity of reliable transportation data and the limitations of the calculations and methodology for estimating carbon monoxide pollution levels in the ambient air, the analysis presented in the staff report of the City's transportation control strategy must be reviewed as a preliminary effort to determine the probable effectiveness of the plan in achieving air quality standards. However, the fact that a prediction cannot be made at this time with absolute certainty that the plan submitted by the City will achieve compliance by 1975 does not invalidate the review process, but merely reinforces the concept that a strong commitment must be made to constantly monitor the effectiveness of the plan as it is implemented and make revisions as they prove to be necessary.

It should be noted that the City's transportation control strategy, as presented, is a plan for achieving compliance with air quality standards in downtown Portland where specific automobile related air pollution problems have been adequately identified and recorded by

long-term ambient air monitoring at the Department's Continuous Air Monitoring Station at 718 W. Burnside Street. Thus, the Department's evaluation will be concerned with the effect of the plan upon downtown air quality.

This does not preclude the possibility that, at a later date, if reliable long-term sampling results in other areas of the City or region indicate motor vehicle air pollution problems exist or persist, additional transportation control measures may be necessary for these other areas.

Figure 1 illustrates the area of Portland referred to in this staff report as downtown Portland and for which the City's plan will attempt to achieve compliance. The Department's analysis of this area based upon long-term carbon monoxide data from the CAMS, other short-term data from various

Columbia Willamette Air Pollution Authority and Department sampling sites (also identified in Figure 1), and rollback calculation methodologies developed by CWAPA and the Department reveal that certain areas of downtown Portland experience or are predicted to experience more severe carbon monoxide air pollution problems than other downtown areas. These areas are identified in Figure 2 as the Broadway-Burnside area and the Washington-Alder-Fourth Street area. Clearly, if the City's transportation control strategy will achieve compliance by 1975 in these two areas, then it can reasonably be expected that it will also achieve compliance in all other areas of downtown experiencing less severe automobile air quality problems, unless there is some unique characteristic of a certain area that may require a specialized set of transportation control measures to achieve compliance. A unique area of this type exists in downtown Portland along the Stadium Freeway (I-405). A discussion of the problems of this area will follow later in this staff report.

1. Broadway-Burnside Area. This area probably experiences the most consistent and highest levels of ambient air carbon monoxide con-

centrations in downtown Portland. The intersection of Broadway and Burnside Streets has the highest daily traffic volumes of any intersection in downtown Portland with fairly low speed (approximately 12 mph average speed in 1970) traffic movement.

The City's plan calls for removal of on-street parking on both sides of W. Burnside Street from S. W. Second Avenue to S. W. Ninth Avenue and a computerized signal control system to increase the average vehicle speed on W. Burnside to approximately 18 mph. by 1975.

Based upon the assumption that the average vehicle speed on W. Burnside will increase to 18 mph by 1975 and that the other transportation control measures in the City's plan will be successfully implemented, it can reasonably be predicted that the Broadway-Burnside area will be in compliance by 1975.

2. Washington-Alder-Fourth Street Area - this area is much more representative of the downtown core area with respect to traffic flows and associated

carbon monoxide levels than the Broadway-Burnside area. It is predicted to have the highest ambient carbon monoxide concentration of any area in downtown Portland, with the exception of the Broadway-Burnside area.

The implementation of the mass transit improvements delineated in the City's plan will have a significant impact upon improving air quality in the downtown core area. These measures in combination with the computerized signalization program will achieve compliance in most of the downtown area, but they will probably fall short of achieving compliance in the Washington-Alder-Fourth Streets area. However, the City has provided for this eventuality by leaving the option open to remove on-street parking on Washington and Alder Streets in 1975 if this proves to be a necessary step.

Detailed calculations of the predicted levels of carbon monoxide in other areas of downtown and the effectiveness of the City's plan in reducing these levels to acceptable concentrations indicates that the implementation of the measures set forth in the transportation control

strategy will result in obtaining compliance with the state and national air quality standards by 1975.

3. Stadium Freeway (I-405) Area - the swath of sunken roadway which forms the south and west boundary of downtown Portland presents a unique problem to be dealt with in the transportation control strategy. The Stadium Freeway will be carrying a large volume of traffic at relatively high speeds most of which is not destined for downtown Portland. The City's transportation control strategy, which is oriented to enhancing air quality downtown, will not have a significant effect upon the carbon monoxide emissions emanating from this freeway.

In addition, sufficient long-term air quality monitoring data is not available at the present time in the vicinity of the freeway to allow realistic predictions to be made of future carbon monoxide levels. The Department has obtained limited short-term sampling data at the intersection of S.W. Morrison Street and the

freeway which would seem to indicate that this area is presently in compliance with the ambient air standards. However, a three-fold increase in daily traffic volume is expected on this freeway by 1975. If this large increase in traffic volume is accompanied by a significant decrease in average vehicular speed then air quality violations may result.

B. Additional Measures

The successful implementation of a large portion of the City's transportation control strategy is dependent upon the ability of mass transit to significantly increase ridership. The City has recognized in its plan that parking is an important component of the total transportation system and as such its availability, location, duration and cost have a significant impact upon the choice of transportation modes.

The City plan calls for a study to determine if the City has the authority and the need to regulate commercial off-street parking that is not inci-

dental to another land use. In addition, the City recommended the construction of two large parking structures to replace on-street parking removed as recommended in the plan and to provide centrally located short-term parking for the retail core area.

The Department fully supports the principals of reorganizing and regulating parking as a means to effecting a more desirable and efficient transportation system. However, the City's plan does not provide guidelines for the amounts and location of new parking facilities in downtown Portland other than the two parking structures recommended in the plan.

Since the Department will be reviewing applications for construction of parking facilities in downtown Portland under OAR Chapter 340, Section 20-050 through 20-070 it would seem worthwhile to establish interim guidelines for review of parking facilities which would be consistent with the intent of the City's plan and the necessity to limit



long-term parking such that mass transit may more effectively compete with the automobile.

The following guidelines should be in effect until the City has completed the parking study and has established its own guidelines.

1. The construction of long-term (more than 4 consecutive hours) commuter parking in new office building developments in downtown Portland shall not exceed that necessary to provide parking for 50% of the employees expected to occupy the building at capacity assuming an average automobile occupancy of 1.5 persons per car. This is equivalent to approximately 50% of the employees using mass transit to get to and from work, which is a goal implicit in the City's plan for increased transit patronage set forth in the transportation control strategy.
2. The construction of non-commuter parking facilities for all other new development land uses in downtown Portland shall be based upon what the developer considers necessary for the economic viability of the project and consistency with the City's transportation control strategy.

3. The construction of all new parking facilities not incidental to another new development land use in downtown Portland shall be prohibited except for the parking structures set forth in the City's transportation control strategy.

Conclusions :

1. The implementation of the City's transportation control strategy is expected to result in compliance with state and national air quality standards by May 31, 1975 in downtown Portland.
2. The Stadium Freeway is a unique area relative to the downtown core area and as such presents special air quality control problems which may not be adequately handled by the City's transportation control strategy. It is suggested that the area be carefully monitored by the Columbia-Willamette Air Pollution Authority, the Oregon State Highway Division and the Department to determine if air quality problems are imminent. If it is determined that additional transportation control measures are required for this area, the Department may request the Oregon State Highway Division to implement a program of computer controlled metering of freeway on-ramps in the City of Portland.

3. The establishment of interim guidelines by the Department for review of new parking facilities in downtown Portland under OAR Chapter 340, Section 20-050 through 20-070 will be necessary to insure the successful implementation of the mass transit improvements set forth in the City's transportation control strategy. These interim guidelines would be in effect until the City completes its parking study and establishes its own guidelines.
  
4. The inherent uncertainties involved in attempting to predict future traffic loadings, speed, transit patronage and subsequent ambient air quality makes it mandatory that adequate means be established by which the transportation control strategy may be periodically reviewed and updated. A permanent committee should be assigned the task of monitoring the implementation of the plan and periodically making suggestions to the Department for revisions to the plan.

Director's Recommendation:

In view of the fact that detailed analysis of the effectiveness of the City's transportation control strategy indicates that its implementation

would be expected to result in compliance with air quality standards in downtown Portland by 1975;

The Director recommends that the Commission :

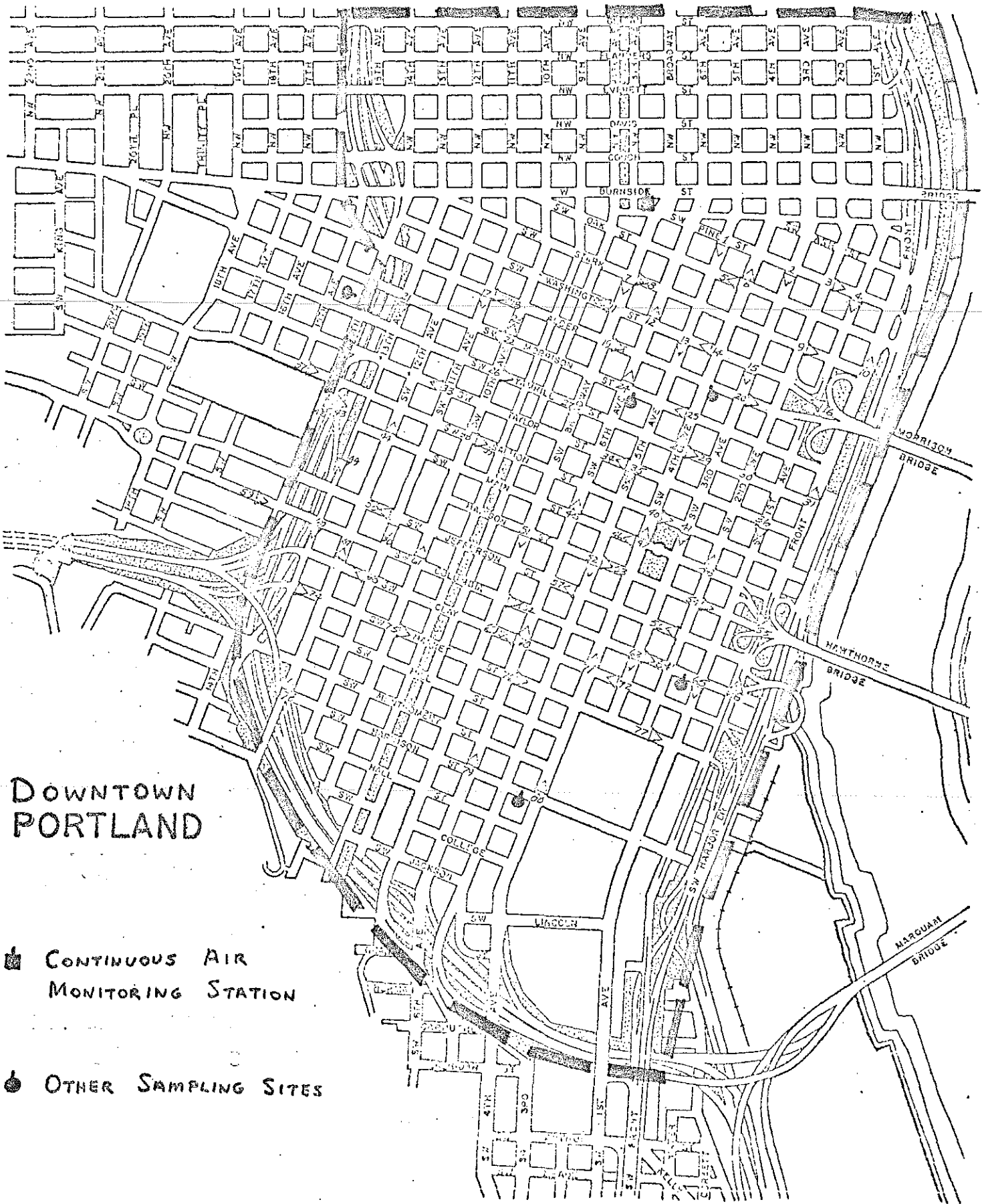
1. Adopt the City of Portland's transportation control strategy as submitted.
2. Adopt the interim guidelines for review of parking facilities set forth in this staff report.
3. Request the Director to obtain assistance from the Oregon State Highway Division in determining the air quality effects of the Stadium Freeway.
4. Request the Director to establish a permanent committee to monitor the impact and effectiveness of the transportation control strategy.

MJD:em 10/18/72



L. B. Day

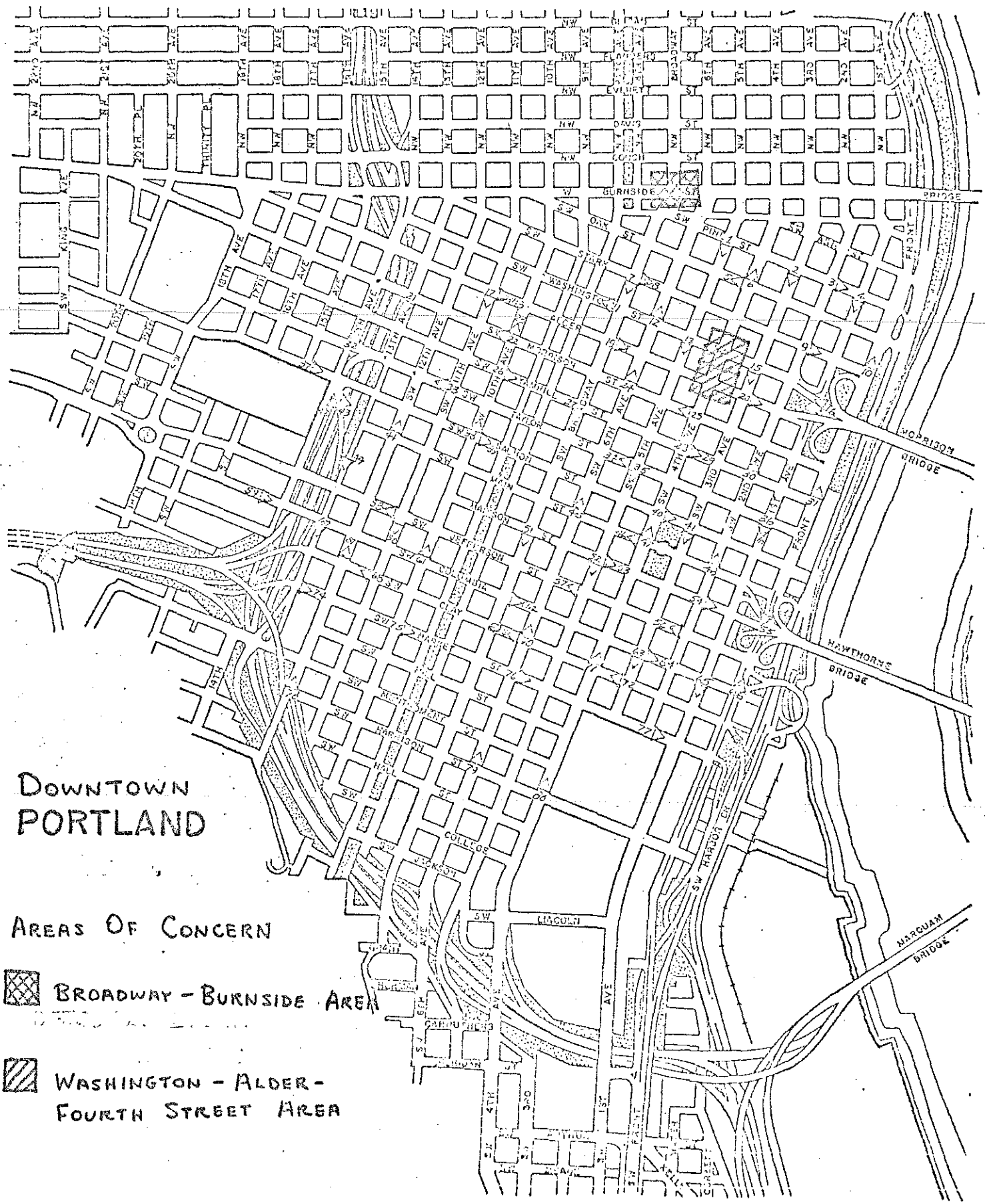
FIGURE 1



DOWNTOWN  
PORTLAND


- CONTINUOUS AIR MONITORING STATION
- OTHER SAMPLING SITES


FIGURE 2



DOWNTOWN  
PORTLAND

AREAS OF CONCERN

 BROADWAY - BURNSIDE AREA

 WASHINGTON - ALDER -  
FOURTH STREET AREA

RESOLUTION NO. 31146

WHEREAS, the City Council believes it essential to improve the economic and environmental quality of downtown Portland; and

WHEREAS, it is the Council's desire to improve air quality standards in the City; and

WHEREAS, elements of the Downtown Plan and the 1990 Transit Plan are included in the attached Transportation Control Strategy and contribute significantly to these ends; and

WHEREAS, it is the intent of the City Council to develop an implementation plan in the near future; now

THEREFORE, be it resolved that the Portland City Council adopts as a guideline policy the attached TRANSPORTATION CONTROL STRATEGY TO ACHIEVE AIR QUALITY STANDARDS IN DOWNTOWN PORTLAND.

Adopted by the Council

Auditor of the City of Portland

Lloyd Anderson, Commissioner  
WSD:bg  
10/6/72

TRANSPORTATION CONTROL STRATEGY  
TO ACHIEVE AIR QUALITY STANDARDS  
IN DOWNTOWN PORTLAND

1. Introduction

As directed by the Department of Environmental Quality, the following Transportation Control Strategy Plan is submitted for approval.

A letter dated September 29, 1972, from DEQ indicated that the City should not confine its efforts to meeting the specific air quality standards in each grid as described by CWAPA but should seek broader goals in addition.

A number of citizen groups and public agencies have been involved extensively in the development of this transportation control strategy. Attachment D lists these groups. There is a consensus of these groups that the economic and social vitality of downtown must be maintained or enhanced.

This plan is based on the following conclusions:

- The major effort of this strategy is to achieve improved accessibility and mobility within downtown by transit. A high quality of transit service to divert trip making from autos is our principal goal.
- This Transportation Control Strategy must not adversely affect accessibility to downtown functions. We note that retail activity is considered especially fragile and susceptible to relocation to suburban centers if accessibility including parking is impaired.
- Other measures to reduce the number and length of auto trips are also recommended.
- Traffic control measures are recommended where necessary to achieve the desired air quality improvements.
- Several proposals to finance this program are also included. It should be recognized that the City presently does not have the fiscal resources to carry out this plan. Substantial new financial assistance generated at the State and Federal level will be required.



# TRANSPORTATION CONTROL STRATEGY

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Several related planning projects have been active concurrently with the development of this control strategy. These plans are the 1990 Public Transportation Master Plan and the Downtown Guideline Plan, with its accompanying studies of Downtown parking and traffic circulation.

The City Council has indicated that it will not further consider the Downtown Plan for formal adoption until the City has received the final parking and traffic circulation studies, still in preparation. Both of these documents are expected to be forwarded to the City on or before November 30, 1972.

The effort in drafting this control strategy has been to make it as consistent as possible with the Downtown Plan. However, in submitting this transportation control strategy to the Department of Environmental Quality, it should be made clear that there are elements of this plan that are directly contingent upon Council approval of the Downtown Plan. (Those elements will be identified in the body of the plan below.)

It is the feeling that to achieve an orderly planning process for the City of Portland, the Council must adopt the Downtown Plan before it gives final approval to any section of this transportation control strategy that is based on recommendations in the proposed Downtown Plan.

Therefore, until the Council officially acts on the Downtown Plan, those elements of this plan that are specifically identified should be considered as proposals subject to further review by the Council.

It is the present hope that the Council will act on the Downtown Plan by December 15, 1972.

## 2. Background

The Federal Clean Air Act of 1970 sets certain air quality standards which must be met by May 30, 1975. The Oregon Department of Environmental Quality (DEQ) has enacted certain regulations to implement this. The Columbia Willamette Air Pollution Authority (CWAPA) is designated as the agency to develop a regional plan for the Portland Area. The City of Portland is required by CWAPA and DEQ to develop a plan by October 10, 1972, to accomplish certain reductions of carbon monoxide (CO) in the downtown area.

Carbon Monoxide is a product of the vehicle-miles traveled and average speed. Vehicle-miles is determined by the number of autos, the number of trips per auto and length of trip.

Attachment A contains technical data and references.

# TRANSPORTATION CONTROL STRATEGY

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CWAPA has developed a methodology to determine CO levels. The results are shown on the map, Attachment B., and Table, Attachment C. It is recognized that any methodology dealing with this topic is subject to a number of assumptions and estimates and is, at best, of uncertain reliability.

The criteria established by this method is that if a 0.033 sq. mile grid square does not receive more than 325 tons of CO per year, it is probable that that grid will not exceed more than once a year, the federal standard of 10 millegrams of CO per cubic meter of air, (8.7 PPM).

Attachment B illustrates the conditions that will be experienced in 1975, given the following assumptions.

1. The State will have undertaken an inspection program of auto emission control devices to improve their continuing effectiveness.
2. Tri-Met will have implemented the 1975 Bus Improvement Plan. This is being done. It provides for the 5th-6th Street Transit Mall and other improvements.
3. Harbor Drive will have been closed when the Fremont Bridge is open later next year.
4. The Fremont Bridge and the Stadium Freeway (I-405) will be open.

### 3. Transportation Control Strategy Plan.

(NOTE: The items in this plan marked by an asterisk are directly contingent upon the approval by the City Council of the Downtown Plan and should be considered as subject to further review by the Council.)

- A. Transit Measures: Tri-Met shall be asked as a goal to design and implement a program to increase daily ridership to and from the Central Business District by 50% by June, 1975 (from 25,000 to 37,500).

Develop an expanded downtown Loop Shuttle System with a goal of 5000 passengers per day by June, 1975. Experiment with innovative equipment emphasizing ease of getting on and off, operating at frequent intervals. Initial expansion should occur immediately and a complete high quality system should be in operation by 1975.

Tri-Met should accomplish this by implementing some or all of the following suggestions but should not be limited to these suggestions.

1. Accelerate construction of 7 primary Park and Ride Stations recommended in the 1975 Immediate Bus Improvement Plan in the following vicinities:
  - a. Kelly Butte (1974)
  - b. Gateway
  - c. Milwaukie
  - d. Cedar Hills
  - e. Tigard
  - f. Vancouver
  - g. Lake Oswego

TRANSPORTATION CONTROL STRATEGY

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2. Development of secondary Park and Ride stations using parking areas such as shopping centers, churches, etc. An immediate test program of one or two sites should be followed with a rapid expansion if experience indicates success. This expansion should be coupled with an accelerated bus acquisition program to increase the fleet to at least 400. (1973.)
3. Develop express service between primary and secondary Park and Ride stations and downtown. (1973-75.)
4. Develop exclusive bus lanes where feasible. Consider using reverse flow lanes at peak hour on such arterials as Barbur Blvd., Sandy Blvd., Sunset Highway, and Interstate Avenue. Permanent, exclusive lanes such as Division-Clinton Streets and others recommended in the 1990 plan should be accelerated. (1973-75.)
5. Initiate at earliest possible time high quality service on the 23rd Street line and the Broadway-Powell line with increased frequencies, bus shelters, and other improvements. (1973.) If successful, these improvements should be made on all major commuter lines.
6. Initiate a widespread aggressive transit information program using modern graphics and maps, simplified route designations, prominent vehicle identification, media, etc. (1972-73.)
7. Accelerate implementation of 1975 Immediate Bus Improvement Plan recommendations for bus shelters and other amenities. (1973.)
8. Implement a shop and ride program which can be in operation by early 1973.
9. Develop a commuter-oriented ticket discount system by 1975. Improve the pricing zone fare system and transfer freedom.

10. Portland State University, the largest single activity in downtown, should initiate a subsidized reduced transit fare plan for faculty and students. Their present remote parking and shuttle bus operation should be encouraged.

Nearby student residences and reduction of 8:00 a.m. peak should also be encouraged. Other major employers, especially those exempt from Tri-Met payroll tax, should develop similar employee transit fare programs. (1973.)

11. Continue earliest possible development of transit mall on SW 5th and 6th Street. (1974.)

- \* 12. Initiate development and financing of East-West Transit Mall recommended in the Downtown Plan on SW Morrison or nearby streets. (1975.)

13. Tri-Met to monitor, evaluate and provide required evening or non-business day shuttle service from new parking locations to major activities at theatres, museums, hotels, stadium, and other concentrated intermittent heavy use areas. Cooperation of use facilities would be quickly assured.

#### B. Measures to Reduce Auto Travel

The principal thrust of these measures is to reorganize parking in downtown and to encourage limitations on auto use.

1. Initiate a study to determine if the City has authority and need to regulate the commercial off-street parking that is not incidental to another land use. Parking is a component of the transportation system just as much as traffic operations and public transportation. It must be managed on a comprehensive basis along with the other elements of the system to achieve the transportation, land use, economic and environmental goals of the City.
- \* 2. Develop first phase parking structures as recommended in the Downtown Plan tied to the retail and commercial districts with bus shuttle service as called for in (7) above, and connected to the retail core with the first phase skyway from new parking facilities on Third and Fourth to Meier and Frank and Lipman Wolfe.

- a. Between Third and Fourth (two blocks, 1200 spaces.) (With retail on 1st and 2nd floors.)
  - b. Tenth Street area, (two blocks, 800 spaces.) (With retail on 1st and 2nd floors.)
  - c. North of Burnside - initiate first phase multi-mode transportation center. Create Tri-Met center and move over-the-road bus depots to this location. Provide adequate parking as required to service these facilities.
- \* 3. Parking set forth in 2.- a. and b. above to be operational before curb parking is removed in retail core area.
  4. Increase basic short term meter rate from 20¢ to 30¢ per hour. Replace long-term meters with short-term in downtown area,
  - \* 5. Build second level pedestrian skyways connecting the short term garages near 4th and 10th streets to the major retail stores as recommended in the Downtown Plan. These should be built in conjunction with the garages as a required condition.
  6. The City should request a federal grant or the State Highway Division to determine methods and feasibility of establishing car pools.
  7. The City, in a leadership role, should adopt a policy of encouraging alternatives to the auto in the conduct of business. Officials and employees should be urged to telephone, walk, use the bus or use taxis if necessary. This may also have the desirable effect of reducing the cost of operating the City-owned vehicle fleet. Other public agencies and private organizations should be urged to follow this example.
  8. Provide a public system of color coded directional signs to parking facilities as soon as possible to reduce auto travel searching for parking.
  9. Change applicable regulations to remove requirement for minimum off-street parking spaces in downtown.
  10. Close Park and 9th Avenues to through automobile traffic between Burnside and Market Streets. Redevelop these streets as pedestrian and bicycle ways with provision for service vehicles and access to off-street parking (by 1975). A shuttle bus should be tried on Park and 9th after those streets are closed to through traffic.

*3. ...*

11. Undertake a study of the Downtown Plan and Parking Plan that relates the availability of parking to the ability of downtown to achieve and maintain air quality standards.
12. The Mayor should request the business and government community to create a strong committee to establish a staggered work hour program in which the City would fully cooperate.

C. Measures to Improve Traffic Flow

- \* 1. Remove on-street parking as recommended in the Downtown Circulation Plan as replacement off-street parking is provided.
  - a. Clay and Market Streets from Front to 13th Street.
  - b. Burnside Street between 2nd and 9th Streets.
  - c. Columbia and Jefferson Streets, both sides from Front to 10th and one side from 11th to 13th.
  - d. Front and 1st from Steel Bridge to Market Street

If supplemental measures are still necessary to meet air quality standards by June, 1975, parking should be removed from Washington and Alder from 2nd to 13th Streets only for the interim period required. They then should be developed as the Downtown Plan recommends.

2. Improve traffic signal computer program to smooth flow of traffic in core area and reduce stop and go driving.
3. Prohibit turns into pedestrian crosswalks at selected intersections as experience indicates appropriate. Considerable turning restrictions will occur with the new transit malls and excessive use of this measure could result in increased circuitous auto travel.
4. Alter general services and loading in downtown to off-peak hours. Encourage night deliveries wherever possible. Restrict major service and loading such as refuse pick-up and large van loading to non-working and non-shopping hours (between 7:00 p.m. & 7:00 a.m.).
- \* 5. City should acquire the Meier and Frank parking block and phase out upper level parking as replacement parking is provided. This should be developed as a central park square as recommended in the Downtown Plan, complementing the adjacent redeveloped Pioneer Courthouse block. One lower level of parking should be maintained to support financing of the acquisition. A study should be initiated on the feasibility of a central truck terminal on the lower level connecting to various retail stores by tunnels and conveyors.

6. Any design or development affecting the Downtown Waterfront area should not preclude possible future construction of an underground road along the waterfront possibly replacing Front Street. Such construction might have the effect of alleviating congestion not only on the downtown streets but also on the freeway loop.

D. Financing

1. It is recommended that the State Legislature refer to the people a measure that would authorize diversion of State gas tax revenues for public transportation in areas of the State where the need for public transportation is considered critical to the improvement of mobility and the environment.
2. It is recommended that the State Legislature authorize ... an air pollution discharge fee for individual automobiles and authorize it to be spent for measures to alleviate automobile air pollution.
3. If the above resources cannot be made available to Tri-Met to improve transit service, it is recommended that they increase the payroll tax a sufficient amount to meet the goals set forth in this plan.
4. Increased revenue from parking meter rates should be allocated to measures to implement this plan.

E. Monitoring

1. Action by public agencies to implement this strategy will be monitored by interested groups, the general public and the press.
2. Technical results in Air Quality of Transportation Control Measures will be monitored by CWAPA and DEQ.

A I R Q U A L I T Y T E C H N I C A L D A T A

A T T A C H M E N T "A"

A. Federal and State Air Quality Standards concerned with Motor Vehicles emissions.

1. 10 millegrams of Carbon Monoxide per cubic meter of air shall not be exceeded for more than one 8 hour period per year.
2. This 10 millegrams/cubic meter<sup>3</sup> is restated as 8.7 parts per million.
3. A probability analysis developed by CWAPA indicated that this standard will be met if total annual CO emissions do not exceed 325 tons per 0.033 square mile grid square (about 16 blocks)

B. The effect of improved traffic flow, especially at low speeds, is illustrated by the following table. Source: Environmental Protection Agency, Compilation of Air Pollution Emission Factors, February 1972

1975 Vehicle Emission Factors

Average Vehicle Speed (MPH) :

	10	15	20	25	35	40	45
CO Emissions Factor (G/veh) ( mi. )	132	96	72	60	41	38	35
Index	100	73	55	45	31	29	27



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C.

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12. Harbor Drive Study, De Leuw Cather & Company, December 1970.
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14. Air Quality Study, Harbor Drive Closure, Oregon Highway Division, April 1972

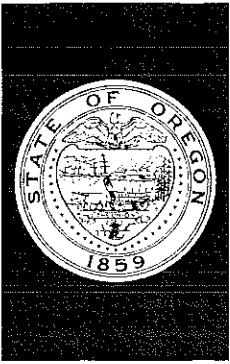
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Department of Environmental Quality, July 27, 1972
19. Draft Air Quality Implementation Plan, Special Committee  
on Clean Air and The Downtown Plan, Portland Chamber of  
Commerce, September 28, 1972.

## Attachment D

### Participating Citizen Groups and Public Agencies

1. Building Owners and Managers Association
2. Coalition for Clean Air
3. Columbia Region Association of Governments
4. Columbia-Willamette Air Pollution Authority
5. CWAPA Citizens Advisory Board
6. Department of Environmental Quality
7. Downtown Improvement, Inc.
8. Downtown Plan Citizens Advisory Committee
9. Downtown Plan Staff
10. League of Women Voters
11. Mass Transit Citizens Advisory Committee
12. Oregon Environmental Council
13. Oregon Public Interest Research Group (OSPIRG)
14. Portland Chamber of Commerce
15. Portland Traffic Engineering Bureau
16. Tri-Met
17. Western Environmental Trade Association
18. Sensible Transportation Options for People (STOP)



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

## MEMORANDUM

ENVIRONMENTAL QUALITY  
COMMISSION

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Portland

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item No. E , October 25, 1972, EQC Meeting

### Motor Vehicle Emission Inspection Program

#### Background:

Although control of motor vehicle emissions has become international in scope and interest, the major control thrust continues to be developed in the United States where motor vehicles have been recognized as a major air pollution source since the work of Dr. A.J. Haagen-Smit established that "Los Angeles smog" was an atmospheric photochemical reaction involving the products of automobile exhaust. Additionally, it has long been known that carbon monoxide was produced in major quantities by automobile exhaust and that this pollutant could cause adverse health effects when present in sufficient concentrations. As a result of the photochemical smog studies, California adopted standards which required new cars sold in

California, beginning with the 1961 models, to be equipped with control systems to restrict the amount of engine crankcase fumes vented to the atmosphere. By 1964 most new cars sold in the United States were equipped with positive crankcase ventilation (PCV) systems to control crankcase fumes, and California had begun a program which required many used cars within the state to be equipped with crankcase fume control systems.

Beginning with the 1966 model year, California established standards for new automobiles sold in California which set the maximum allowable concentrations of carbon monoxide and hydrocarbon gases in the engine exhaust. These standards required that a test fleet for each basic production model be emission tested during a specific driving cycle and testing procedure. Compliance with the standards had to be certified prior to that model being offered for sale in California.

During 1966 the Department of Health, Education, and Welfare issued national motor vehicle emission standards applicable to 1968 and later model year new vehicles. These national standards were based upon the California exhaust emission standards and testing procedures, and further required closed engine crankcase systems to prevent the escape of any crankcase fumes to the atmosphere. The initial national standards for new motor vehicles have since become more restrictive and complex and now also include controls on gaseous emissions from gasoline powered trucks and smoke from diesel powered trucks.

The Clean Air Amendments of 1970 included several provisions which affect motor vehicle emission control programs. Most directly were the requirements that the allowable emissions of carbon monoxide and hydrocarbon gases from 1975 model year automobiles be reduced 90% from that allowed for 1970 model year cars, and that standards for nitrogen oxides emissions be set at a level 90% below the emission rate from 1971 model cars. The amendments further required the Environmental Protection Agency to establish national ambient air standards for various pollutants, including carbon monoxide, and required the state governments to develop implementation plans for achieving compliance with the national standards.

During 1971 the Environmental Protection Agency established national ambient air standards for various pollutants including carbon monoxide and developed the criteria for development of state implementation plans to meet those standards. Also in 1971, Oregon Legislation was adopted which directed the Department of Environmental Quality to develop a periodic motor vehicle emission inspection program. Applicable Oregon Laws are included with this report in Appendix A. Further, a more complete background description of motor vehicle emission control programs than could be presented here is included with this report as Appendix B.

In January 1972, Governor McCall submitted Oregon's Implementation Plan to the Environmental Protection Agency. This plan included provisions for both transportation control measures and a periodic motor vehicle inspection program to bring automotive related pollutants into compliance with national standards. The Oregon plan was one of few approved in total by the Environmental Protection Agency when originally submitted. The purpose of this report is to analyze the basic development of a periodic motor vehicle emission inspection program in Oregon.

Analysis:

Oregon's motor vehicle emission inspection act (Oregon Laws 1971, Chapter 454) has been codified into three major sections of Oregon statutes. However, for the purposes of this report the act can be considered as comprised of four major subdivisions, as shown in Figure 1 together with the specific statutes involved. Before discussing each sub-division in detail it should be pointed out that the department recognizes the close inter-action of a vehicle emission inspection program with any projected vehicle safety inspection program. For this reason the department has maintained a close liaison with the Motor Vehicle Division and with the administrator of the Traffic Safety Commission to help assure that proposed vehicle safety inspection programs would be made compatible with the vehicle emission inspection program.

FIGURE 1  
MAJOR DIVISIONS  
OF OREGON'S MOTOR VEHICLE  
EMISSION INSPECTION ACT

OREGON LAWS 1971  
CHAPTER 454

ORS 449.949-449.965  
ORS 481.190  
ORS 483.800-483.320

COUNTY  
DESIGNATION ORS 481.190

CERTIFICATION ORS 449.953

EMISSION  
STANDARDS ORS 449.957

PROGRAM  
MANAGEMENT ORS 483.805-820  
ORS 449.955-965



The department further recognized that implementing a sound motor vehicle inspection program will be complex and found it advisable to form a technical advisory committee to assist in this development. Such a committee was formed earlier this year with representation from certain affected state agencies and a number of motor vehicle manufacturing, sales, and service industry associations cognizant of motor vehicle operations. This committee has met throughout the year and their initial report is included as Appendix C to this report.

A. County Designation--The first sub-division of the inspection act to be discussed in this report is that of County Designation. Oregon Revised Statute 481.190 reads in part as follows:

"The Environmental Quality Commission shall, after public hearing in the affected area and pursuant to the standards, policies and goals of ORS 449.951:

(a) Designate by rule or regulation a county or counties in which motor vehicles registered therein shall be equipped with a motor vehicle pollution control system;"

Thus, the Environmental Quality Commission has been given specific legislative authority to determine if a vehicle emission inspection program should be statewide or restricted to selected counties. The department has determined various factors, as shown in Figure 2, which need to be considered in making such a decision.

Figure 2  
COUNTY DESIGNATION

ORS 481.190  
Oregon's Motor Vehicle Emission  
Inspection Act

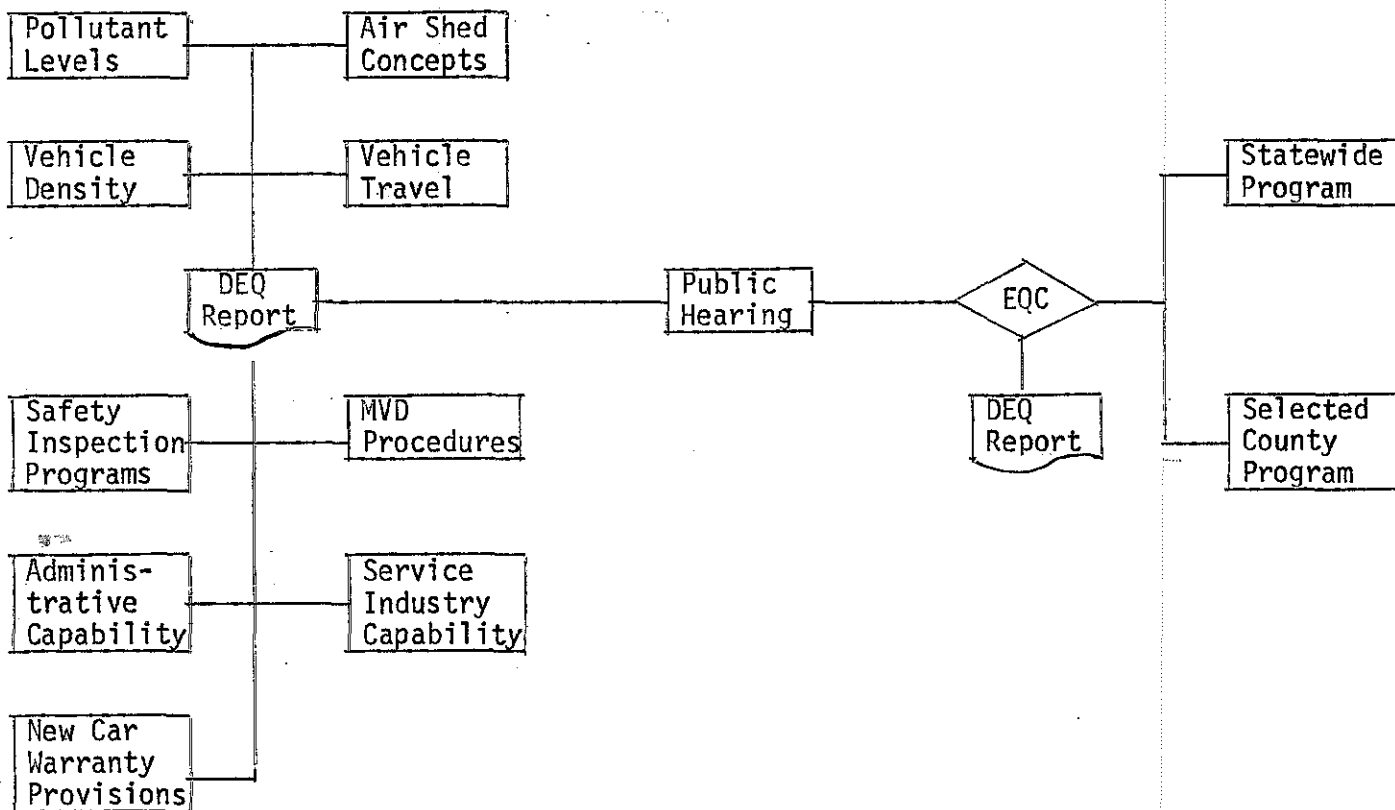
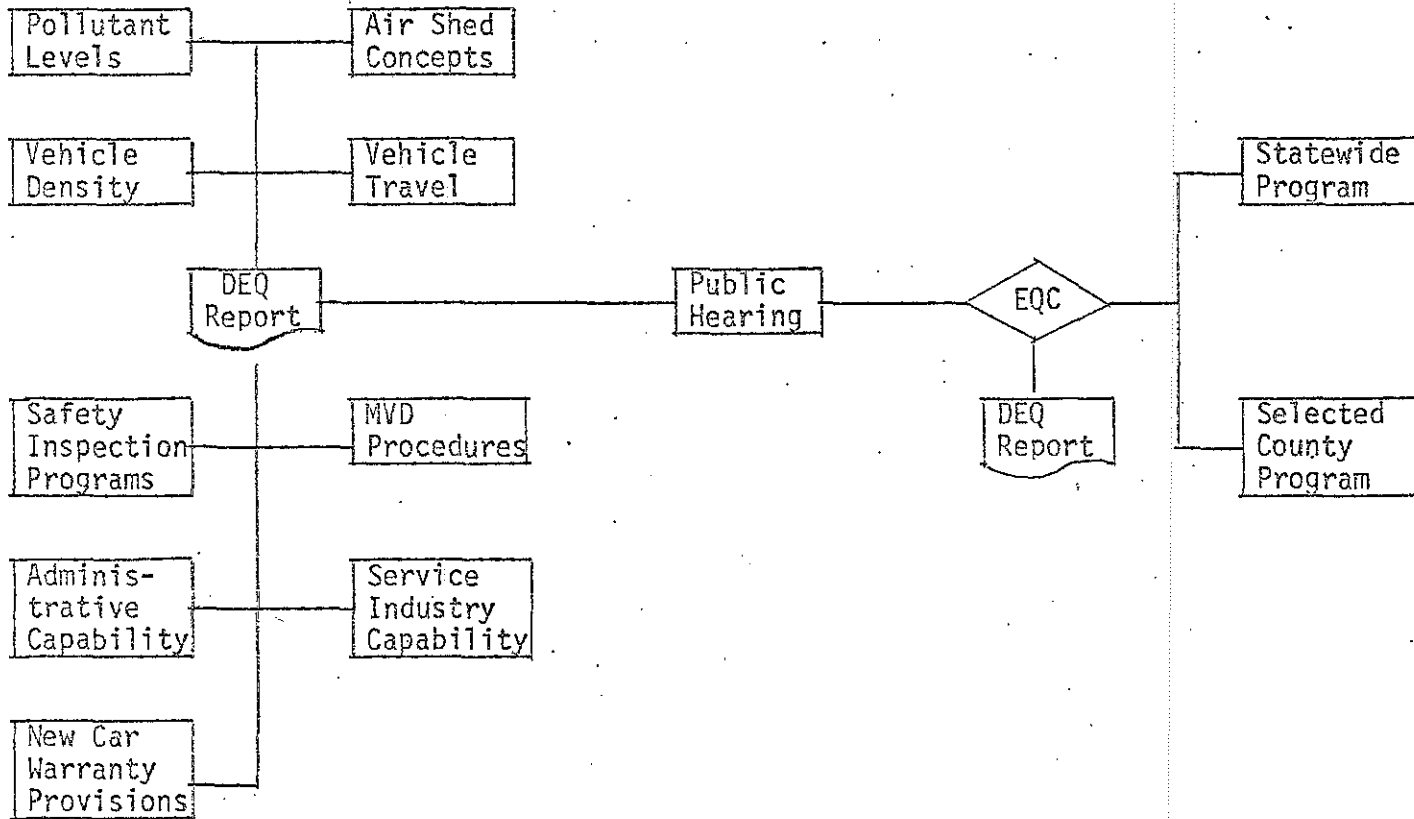


Figure 2  
COUNTY DESIGNATION

ORS 481.190  
Oregon's Motor Vehicle Emission  
Inspection Act



One of the primary factors is the current and projected levels of automotive related pollutants. As detailed in the Implementation Plan, the national ambient air standards for carbon monoxide, hydrocarbons, and nitrogen dioxide, (the automotive related pollutants) are projected to be exceeded past 1975 only in the Portland area. These projected reductions, in spite of increased traffic volume, result from the federal program of requiring emission controls on new vehicles.

Of the automotive pollutants, carbon monoxide will require the greatest control effort in Portland since the department ambient air measurements and projections show it to exceed the standards by the largest degree. It should be noted that this situation is quite different from that in California where the air shed pollution resulting from hydrocarbon and nitrogen oxides emissions results in high oxidant levels and is of greatest control priority. Carbon monoxide's primary effects in Oregon are not as an air shed pollutant and thus concepts dealing with air shed pollution control are of secondary importance to a vehicle emission inspection program in Oregon. However, an inspection program will provide additional hydrocarbon and nitrogen oxide emissions control and thus also assist to reduce levels in the air shed.

The department has analyzed in detail the effects of vehicle density and travel upon the requirements of an inspection program. This analysis is included as Appendix D. In brief it is estimated that an inspection program restricted to the four counties of the Portland metropolitan area (Clackamas, Columbia, Multnomah, and Washington) could affect 85% of the gasoline-powered vehicles which operate in the Portland central area. Approximately 5% of the vehicles operating in the area are of out-of state registration and thus would not be affected by expansion of the inspection area. A four county inspection program could involve over 40% of the passenger vehicles registered in the state--that is, about 600,000 vehicles--and 90% of the Oregon registered vehicles which operate in Portland central area where carbon monoxide levels are of greatest concern.

Department discussions with Motor Vehicle Division and with the Traffic Safety Commission indicate that a decision to make an emission inspection program either statewide or restricted to selected counties would not be incompatible with vehicle safety inspection requirements. The Motor Vehicle Division has further indicated that it can administer the vehicle registration requirements of the inspection program on either a statewide or restricted to selected counties basis.

The Department is of the opinion that many segments of the automotive service industry are not properly prepared for the impact which will result from a periodic vehicle emission inspection program. Further, as the Implementation Plan projected full effectiveness of the inspection program by the beginning of 1975, both administrative and technical requirements will be substantial to achieve this goal. It would appear that effective program development would be enhanced if the program were, at least initially, restricted to those counties shown to be of highest need and hence provide maximum air quality control benefits from an inspection program.

B. Certification and Emission Standards--For the purposes of this report, the sub-divisions of the Inspection Act dealing with certification and setting of emission standards will be discussed as one section. Oregon Revised Statutes 449.953 provides the Commission with authority to establish criteria for the approval of motor vehicle pollution control systems; to establish criteria, examinations, and regulations for the qualification of persons eligible to inspect control systems and the equipment, apparatus and methods used for such inspections; to issue individually numbered licenses to qualified inspectors, types of equipment, apparatus, and inspection methods; to establish and collect fees for application, examination, and licensing

of persons, equipment, apparatus or methods and for the issuance or renewal of the certificates of approval required by each inspected vehicle, and to designate suitable methods and standards of testing the motor vehicle pollution control systems. Additionally ORS 449.957 authorizes the Commission to prescribe motor vehicle emission standards.

The Department in developing inspection program proposals has concluded that the program which offers the greatest potential for emission reduction and vehicle owner satisfaction is one utilizing special inspection stations equipped with sophisticated testing equipment and capable of loading the vehicle engine to simulated specific driving modes. Such inspection stations would not perform repair or adjustments to bring vehicles into compliance, but would provide the vehicle owner with a diagnosis of the emission control defects and the type of compliance action required. The stations would be designed to inspect a large number of vehicles rapidly under an engine load condition, and could be either state owned or privately operated under state supervision.

In reaching this conclusion the Department has taken into account the recommendation of its Technical Advisory Committee for the Motor Vehicle Emission Control Program. The committee recommended that: "The emission control program use state-owned and operated inspection stations, contingent upon receipt of federal

funding." While the recommendation was not an unanimous decision, the committee did concur that if the inspection were to be conducted in private leased garages then state operated inspection facilities of some type should still be made available for those persons who chose not to have their vehicle inspected by a facility involved with repair work.

The Department has also considered the recommendation regarding motor vehicle inspection in the report "Air Pollution from Motor vehicles in the State of Oregon" prepared by GCA Corporation for the Environmental Protection Agency. This report recommended an emission inspection program operated by the State, using state owned facilities, in the four county Portland metropolitan area. The report noted that the inspection program could be expanded to other areas as warranted and that the use of State facilities would ensure uniformity of testing procedures and control of quality. A very important feature of state-owned and operated testing facilities, the report stated, was the public acceptance aspect. The idle mode test was recommended for the basic emission test, and it was further recommended that the Department of Environmental Quality be the agency responsible for overall control of inspection procedures, standards and compliance.

A third study which has been reviewed in depth by the Department is the report "Mandatory Vehicle Emission Inspection and Maintenance" prepared under contract with the California Air



Resource Board by Northrop Corporation. The major study concluded that a mandatory periodic vehicle inspection program in California was possible and would significantly reduce carbon monoxide and hydrocarbon emissions. It further concluded that there was public acceptance of an inspection program as a means to reduce air pollution, and to be most cost effective this inspection should be performed by the state with repairs performed by private industry. The report also concluded that the present California program of Certificates of Compliance, as conducted by the service industry, produces the least benefits of the programs studied in terms of emission reduction.

Numerous other studies and reports (as well as discussions and correspondence with agencies in other states considering vehicle emission inspection) have been considered by the Department prior to reaching conclusions. Also considered were federal proposals and legislation concerning vehicle safety inspection programs.

The federal highway safety standards still include a requirement for periodic vehicle equipment inspection, and the concept of vehicle inspection stations, as proposed by the Department, is compatible and complementary to the inspection proposals under consideration by the National Highway Traffic Safety Administration.

Figure 3 shows the location of inspection stations within Administrative District #2 as projected by the Department for a system designed to process 25,000 light duty vehicles a year per inspection lane. The more rural areas are to be served by mobile inspection units, and heavy duty vehicles through a separate program using private inspection stations regulated by the state. The projected format is designed to provide maximum convenience to the public with a minimum of traffic congestion at each station.

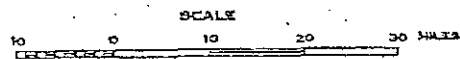
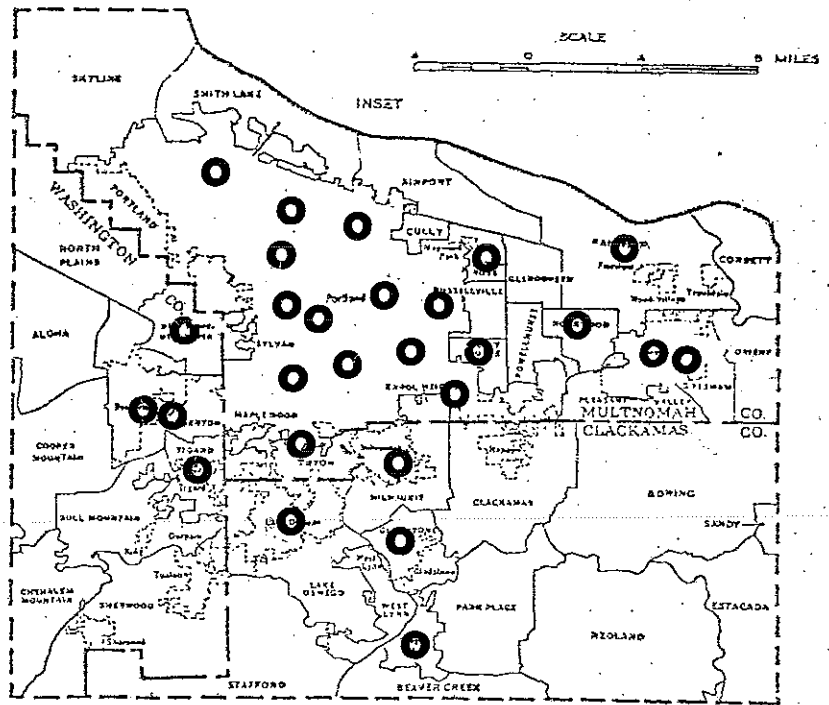
Based upon the Northrup study cost figures for emission inspection alone, the capital investment required for this system of 19 single lane stations, 6 double lane stations and 4 mobile units to serve Administrative District #2 would be approximately \$1.9 million. The total inspection system staff is projected as 85 persons with an annual operating cost of \$1 million. The anticipated inspection fee would be in the range of \$2.00 to \$2.50 per vehicle.

If vehicle safety inspection were to be incorporated into the emission inspection system, the base cost for an inspection station could be increased significantly. The National Highway Safety Administration has indicated that the equipment cost of the sophisticated, computerized, inspection centers projected by

FIGURE 3

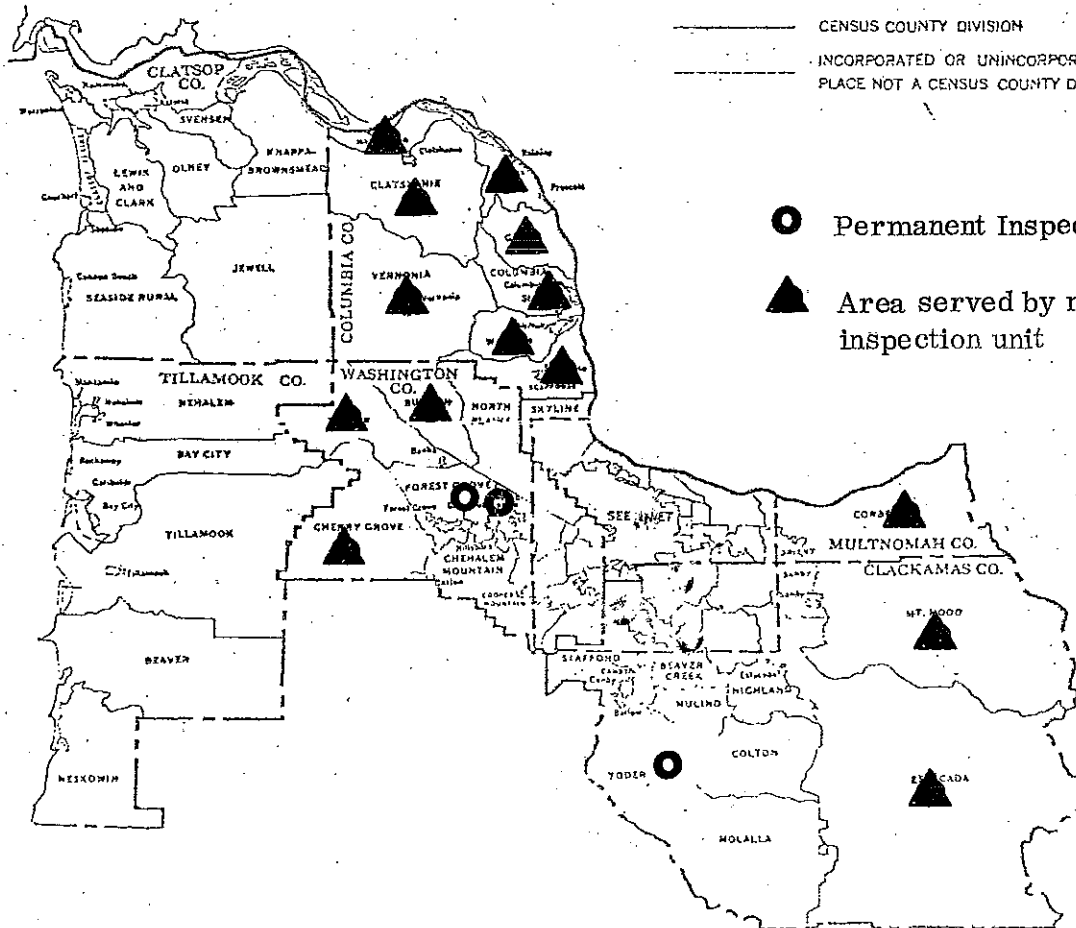
EMISSION CONTROL INSPEC-  
TION SYSTEM - LANE  
LOCATIONS

AQC 9/19/72



- SYMBOLS
- COUNTY
  - CENSUS COUNTY DIVISION
  - INCORPORATED OR UNINCORPORATED PLACE NOT A CENSUS COUNTY DIVISION

- Permanent Inspection Lane
- ▲ Area served by mobile inspection unit



Enclaves within incorporated places are ordinarily included in the same census county division as the incorporated place. Very small enclaves are not shown on these maps.

their agency would be as much as \$75,000. These centers, however, would be open 24 hours per day, seven days a week, to obtain maximum utilization of the investment and provide convenient service to the motorist. Because of the increased vehicle throughput, a lesser number of stations than shown in Figure 3 would be required. Employee requirements could be as low as one person per shift per station, this resulting in reduced direct operating cost. The motorist would receive a computer printout pinpointing the defects of the vehicle for use by his garage in making necessary repair. This is the same type of service that the Department considers also to be extremely important for an emission testing program.

As the current law apparently anticipated the use of private repair facilities for the inspection program, and thus gave the Commission specific authority to designate suitable methods and standards for testing systems; to establish criteria, examinations, and regulations for the qualification of persons eligible to inspect the pollution control systems and to issue the certificates of approval; to establish criteria, examinations, and regulations for the qualification of equipment, apparatus, and methods used by persons to inspect the pollution control systems; and to collect fees for licensing and for the certificate of approval. The law however does not specifically authorize the Commission to construct or operate inspection facilities nor to inspect individual vehicles or issue

certificates of approval. Thus specific legislation may be necessary to clarify the Commission's authority prior to implementing the type of inspection program recommended by the Department.

C. Program Management -- Certain management aspects of the motor vehicle emission control program are specified in the Oregon law. This report, however, is not intended to project the format of the inspection program management. It should be noted though that various agencies, and particularly the Motor Vehicle Division, will be involved in the developmental and operational phases of the program.

Conclusions:

As a result of committee activities, studies, and reviews, the Department has concluded:

1. As stated in Oregon's Clean Air Implementation Plan, the Portland area is the only area in the state projected to exceed the national ambient air standards for automotive pollutants beyond 1975. In order to achieve compliance in Portland with these standards by 1975, traffic control measures and

a motor vehicle emission inspection program will be necessary. The vehicle inspection program is projected to achieve an emission reduction of 20% for carbon monoxide and 25% for hydrocarbon gases beyond that resulting from the effects of federally required emission control systems on new vehicles.

2. A motor vehicle inspection program restricted to those vehicles registered in Clackamas, Columbia, Multnomah, and Washington counties would effect 90% of the Oregon registered vehicles operating in the Portland central area where the need for control of automotive pollutants is the most severe.

3. To have an effective vehicle inspection program in operation by January 1, 1975, vehicle testing should be initiated by January 1, 1974. As recommended by the Technical Advisory Committee, compliance with the emission control criteria should not be required until January 1, 1975, thus allowing a one-year period for the program to be properly sorted-out and to accIimate both the public and the service industry to the impact of the inspection program.

4. In order to implement the inspection program within the specified time period, a public hearing should be held during the first quarter of 1973 to designate Clackamas, Columbia,

Multnomah, and Washington counties as counties in which, under the provisions of ORS 481.190, vehicles registered therein shall be required to obtain a certificate of approval prior to annual registration. Such requirements should be initiated by January 1, 1974.

5. To obtain a large scale data base for use in developing the emission control standards and testing procedures to be used in the inspection program, emission control testing should begin as soon as practical.

6. For the prototype testing phase discussed in 5, two mobile testing units should be immediately acquired together with four technicians to operate the test program. The mobile units would also be intended for use later in the inspection program.

7. A program utilizing special inspection stations equipped with sophisticated testing equipment and capable of loading the vehicle to simulate driving conditions offers the greatest potential for emission reduction and vehicle owner satisfaction.

8. The inspection stations should not perform repairs nor adjustments, but should provide the vehicle owner with a diagnosis of the emission control defects and the type of compliance action required to comply with the emission control and noise standards established by the Commission.

9. Based upon recommendation of the advisory committee, consultants report and other studies the most cost effective program and the one which should achieve the greatest public confidence is a state owned and operated program.

10. The option of allowing state owned inspection stations to be privately operated under strict state supervision, or to franchise inspection stations, should be further considered.

11. The fee for the required periodic inspection should be collected by the vehicle registration process rather than by the inspection station. The cost of an emission inspection for an automobile is estimated to be in the range of \$2.00 to \$2.50. The average range of repair cost for automobiles failing the emission control criteria would be approximately \$25 to \$35 based upon the Northrup study and the New Jersey experience and studies.

12. Vehicle safety inspection is projected to be incorporated with the emission regulation program, however, legislative action is understood to be required if more than a cursory safety inspection were to be made. The Department will work closely with the Motor Vehicle Division and with the Legislature in the development of legislative proposals. The projected capital and operating cost of



a program including safety inspection could be significantly higher than that of an emission inspection program alone. An inspection cost of \$5 to \$6 may be a reasonable estimate for a combined program, however the federal Department of Transportation is studying proposals costing \$10 to \$15.

13. Legislation may be necessary to provide specific authorization and funding means for the construction or acquisition of the inspection stations. Program operation can however be self-supporting through the inspection fee received.

Director's Recommendations:

The Director recommends that the Commission approve the basic concept of a vehicle inspection program as outlined in this report.

The Director also recommends that the Commission authorize the Director to:

(a) Proceed with arrangements for holding a public hearing in Portland during the first quarter of 1973 for the purpose of designating those counties in which motor vehicles registered therein shall be required to obtain a certificate of approval prior to annual registration.

(b) Prepare legislative proposals to provide specific authorization and funding means for the construction or acquisition of vehicle inspection facilities in the four county Portland Metropolitan area, and to clarify the authority of the state to conduct vehicle inspections or to contract or issue franchises for such inspections.

(c) Request funds from the Emergency Board for the acquisition of two mobile emission testing units and four technicians to begin vehicle testing to obtain a larger scale data base for use in developing the emission control standards and testing procedures for use in the inspection program.



L. B. Day

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APPENDIX A  
MOTOR VEHICLE EMISSION CONTROL PROGRAM  
APPLICABLE OREGON LAWS

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**481.190 Motor vehicle pollution control systems required for registration; certificates of approval; rules and regulations; standards.** (1) The Environmental Quality Commission shall, after public hearing in the affected area and pursuant to the standards, policies and goals of ORS 449.951:

(a) Designate by rule or regulation a county or counties in which motor vehicles registered therein shall be equipped with a motor vehicle pollution control system; or

(b) When motor vehicle emission standards have been adopted by the Environmental Quality Commission pursuant to ORS 449.957, designate by rule or regulation a county or counties in which motor vehicles registered therein shall comply with the motor vehicle emission standards.

(2) As a part of the hearing provided for in subsection (1) of this section, the Environmental Quality Commission shall determine the effective date of the rule or regulation which shall be not less than 180 days from the date of adoption of the rule or regulation.

(3) Upon adoption of a rule or regulation provided for in subsection (1) of this section, the Environmental Quality Commission shall furnish a certified copy of the rule or regulation including its effective date to the Motor Vehicles Division. After the effective date of the rule or regulation the Motor Vehicles Division shall not issue a registration or renewal of registration for a vehicle in a designated county unless the Motor Vehicles Division receives, with the registration or reregistration application and license fee, a completed certificate of approval signed by a person licensed and qualified pursuant to ORS 449.953 and dated within 180 days of the motor vehicle registration or reregistration renewal date. No certificate is required to accompany the initial registration application made as a result of the initial retail sale of a new motor vehicle or new motor vehicle engine, nor for those vehicles not designated by the Environmental Quality Commission pursuant to subsection (4) of ORS 449.953.

(4) A certificate of approval shall be required of the applicant for registration and reregistration and shall be on a form supplied by the Environmental Quality Commission

and shall include space for the following information:

(a) Make, model, year and body style of the motor vehicle.

(b) Manufacturer's number of the motor vehicle.

(c) Motor number of the motor vehicle.

(d) License plate number of the motor vehicle and month.

(e) Registered owner of the motor vehicle.

(f) Name of the operator of the motor vehicle.

(g) Type of functioning motor vehicle pollution control system of the motor vehicle.

(h) Date of inspection.

(i) Type of inspection and license number of equipment, apparatus or method of inspection.

(j) Results of the inspection.

(k) The fee charged by the commission for the certificate.

(l) Name, signature and license number of the person performing the inspection.

(5) No certificate shall be issued unless the motor vehicle is equipped with the required functioning motor vehicle pollution control system and unless the motor vehicle otherwise complies with the standards, rules and regulations of the Environmental Quality Commission. The certificate shall be signed by a person qualified under subsection (8) of ORS 449.953.

(6) As used in this section, "certified system" and "motor vehicle pollution control system" have the meanings given those terms in ORS 449.949.

[1971 c.454 §11, 12]

**483.810 Application of ORS 481.190 and 483.805.** Subsection (3) of ORS 481.190 and ORS 483.805 do not apply to:

(1) A motor vehicle manufactured prior to 1942.

(2) A motor vehicle for which a certified system is not available.  
[1971 c.454 §15]

**483.815 Advertising, display, sale or installation of uncertified system prohibited.** It is unlawful to sell, display, advertise or represent as a certified system any system which, in fact, is not a certified system. After September 9, 1971, it is unlawful to install or sell for installation upon a motor vehicle any motor vehicle pollution control system which has not been certified under ORS 449.953.  
[1971 c.454 §17]

**483.820 Certain acts with respect to certification of vehicle pollution system prohibited.** (1) It is unlawful to falsely certify that a motor vehicle is equipped with the required functioning motor vehicle pollution control system or that the motor vehicle complies with the standards, rules and regulations of the Environmental Quality Commission.

(2) It is unlawful to falsify any information on the certificate of approval required by subsection (3) of ORS 481.190 and it is unlawful, with a purpose to defraud, to alter any such certificate of approval.

(3) It is unlawful to require as a condition to the issuance of a certificate of approval required by subsection (3) of ORS 481.190 repairs or services to a motor vehicle when in fact such repairs or services are unnecessary in order for the motor vehicle to comply with the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsections (17) to (19) of ORS 483.991.  
[1971 c.454 §18]

#### MOTOR VEHICLE POLLUTION CONTROL SYSTEMS

**483.800 Definitions for ORS 483.800 to 483.820.** As used in ORS 483.800 to 483.820 and subsections (17) to (19) of ORS 483.991, "certified system" and "motor vehicle pollution control system" have the meanings given those terms in ORS 449.949.  
[1971 c.454 §14]

**483.805 Operation of vehicle without required air pollution control system prohibited; repair of unsafe or defective system required.** (1) A motor vehicle which is required to be equipped with a certified or factory-installed system as a condition to registration under subsections (1) to (5) of ORS 481.190 shall not be operated or left standing upon a highway unless the motor vehicle is equipped with the system in operating condition. A certified or factory-installed system shall not be modified or altered in a manner which will decrease its efficiency or effectiveness in the control of air pollution.

(2) If the revocation, suspension or restriction of a certificate of approval is based upon a finding that the certified system has been found to be unsafe in actual use or is otherwise mechanically defective, or if a factory-installed system is found to be unsafe in actual use or otherwise mechanically defective, within 30 days after such finding, any motor vehicle equipped with such a system shall be brought into compliance with subsection (1) of this section.

[1971 c.454 §15]

449.845 Disconnection of factory-installed motor vehicle air pollution control device prohibited. No person shall disconnect or permit to be disconnected a factory-installed motor vehicle air pollution control device, nor shall any person knowingly and wilfully permit such device to become or remain inoperative.

[1989 c.504 §1]

Note: See note under ORS 449.840.

MOTOR VEHICLE POLLUTION  
CONTROL SYSTEMS

449.949 Definitions for ORS 449.949 to 449.957. As used in ORS 449.949 to 449.957:

(1) "Certified system" means a motor vehicle pollution control system designed to ...

control the emission of pollutants from a motor vehicle from a particular source, including but not limited to, the exhaust system, the crankcase, the carburetor and the fuel tank, for which a certificate of approval has been issued under subsection (3) of ORS 449.953.

(2) "Motor vehicle" means any self-propelled vehicle used for transporting persons or commodities on public roads and highways.

(3) "Motor vehicle pollution control system" means equipment designed for installation on a motor vehicle for the purpose of reducing the pollutants emitted from the vehicle, or a system or engine adjustment or modification on a motor vehicle which causes a reduction of pollutants emitted from the vehicle.

(4) "Factory-installed system" means a motor vehicle pollution control system installed by the manufacturer which meets criteria for emission of pollutants in effect under federal laws and regulations applicable on September 9, 1971, or which meets criteria adopted pursuant to subsection (1) of ORS 449.953, whichever criteria are stricter. [1971 c.454 §31]

**449.951 Policy.** The Legislative Assembly finds:

(1) That the emission of pollutants from motor vehicles is a significant cause of air pollution in many portions of this state.

(2) That the control and elimination of such pollutants are of prime importance for the protection and preservation of the public health, safety and well-being and for the prevention of irritation to the senses, interference with visibility, and damage to vegetation and property.

(3) That the state has a responsibility to establish procedures for compliance with standards which control or eliminate such pollutants.

(4) That the Oregon goal for pure air quality is the achievement of an atmosphere with no detectable adverse effect from motor vehicle air pollution on health, safety, welfare and the quality of life and property. [1971 c.454 §2]

**449.953 Authority of commission over motor vehicle pollution control systems.** In addition to the powers granted by ORS 449.727 to 449.741, 449.760 to 449.830 and 449.949 to 449.965, and subject to the standards, policies and goals of ORS 449.951, the Environmental Quality Commission shall:

(1) Determine and publish the criteria for approval of motor vehicle pollution control

systems. In determining the criteria the commission shall take into consideration:

(a) The experience of any other state or the Federal Government;

(b) The cost of the system and its installation;

(c) The durability of the system;

(d) The ease and facility of determining whether the system, when installed on a motor vehicle, is properly functioning; and

(e) Any other factors which, in the opinion of the commission, render such a system suitable for the control of motor vehicle air pollution or for the protection of the health, safety and welfare of the public.

(2) Prescribe the manner in which a motor vehicle pollution control system shall be tested for certification.

(3) Issue certificates of approval for classes of motor vehicle pollution control systems which, after being tested by the commission or by a method acceptable to the commission, the commission finds meet the criteria adopted under subsection (1) of this section.

(4) Designate classifications of motor vehicles for which certified systems are available.

(5) Revoke, suspend or restrict a certificate of approval previously issued or an exemption previously granted, upon a determination by the commission that the system or the motor vehicle no longer meets the criteria adopted under subsection (1) of this section or no longer should be exempted.

(6) Designate suitable methods and standards of testing systems designed to meet the criteria established by the commission.

(7) Contract for the use of or the performance of tests or other services within or without the state.

(8) Establish criteria, and examinations and regulations for the qualification of persons eligible to inspect motor vehicle pollution control systems and execute the certificates required by subsection (4) of ORS 481.190, and for the procedures to be followed in such inspections.

(9) Establish criteria, examinations and regulations for the qualification of equipment, apparatus and methods used by persons to inspect motor vehicle pollution control systems pursuant to subsection (8) of this section.

(10) Issue individually numbered licenses to any person, type of equipment, apparatus

or method qualified pursuant to subsections (8) and (9) of this section.

(11) In accordance with the applicable provisions of ORS chapter 183, and with the standards, policies and goals of ORS 449.951, revoke, suspend or modify licenses issued pursuant to subsection (10) of this section.

(12) Establish and collect fees for application, examination and licensing of persons, equipment, apparatus or methods in accordance with this section.

(a) The fee established by the commission for licensing shall not exceed \$5.

(b) The fee established by the commission for renewal of such licenses shall not exceed \$1.

(13) Establish and collect fees for the issuance or renewal of certificates of approval. The fee established by the commission for the issuance or renewal of such certificates shall not exceed \$1.

(14) Establish the method of collection of the fees provided in subsections (12) and (13) of this section.

(15) Seek federally granted funds pursuant to the provisions of the Clean Air Amendments of 1970 (P.L. 91-604) to assist in the cost of developing and maintaining the programs instituted in accordance with ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991. Whenever the commission receives federally granted funds to assist in programs instituted under ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991, the commission shall reduce the amount of fees charged pursuant to ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991 accordingly.

[1971 c.454 §4]

**449.955 Commission to establish minimum requirements for certificates.** The Environmental Quality Commission shall establish and maintain procedures and programs for determining whether motor vehicles which must have a certificate of approval required by ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991 do in fact meet the minimum requirements necessary to secure said certificate. Such procedures and programs include, but are not limited to, the installation of a certified motor vehicle pollution control system and the adjustment, tune-up, or other mechanical work performed on the motor vehicle in accordance

with the requirements of the Environmental Quality Commission.

[1971 c.454 §5]

**449.957 Motor vehicle emission standards.** In accordance with the applicable provisions of ORS chapter 183, the commission may prescribe, and from time to time revise, in accordance with ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991, motor vehicle emission standards.

[1971 c.454 §6]

**449.959 Surety bond required of businesses issuing certificates; action of bond by private persons; cancellation of license if bond canceled.** (1) Any business issuing certificates pursuant to ORS 449.953 shall file with the Environmental Quality Commission a surety bond. The bond shall be executed to the State of Oregon in the sum of \$1,000. It shall be approved as to form by the Attorney General, and shall be conditioned that the business which receives the bond will cause inspections and certifications to be made only by persons who meet the requirements of ORS 449.953 and to be made without fraud or fraudulent representations and without violating any of the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(2) In addition to any other remedy that he may have, if any person suffers any loss or damage by reason of the fraud, fraudulent representations or violation of any of the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991 by a person licensed pursuant to ORS 449.953, he has the right of action against the business employing such person and a right of action in his own name against the surety upon the bond.

(3) The license issued pursuant to ORS 449.953 of any person whose bond is canceled by legal notice shall be canceled immediately by the Environmental Quality Commission. If the license is not renewed or is voluntarily, or involuntarily canceled, the sureties of the bond shall be relieved from liability accruing subsequent to such cancellation by the commission.

[1971 c.454 §7]

**449.961 Procedure when application or exemption denied or license revoked, suspended or restricted.** Proceedings under ORS

449.953 with respect to the denial of applications for the issuance of certificates of approval or the granting of exemptions, or for the revocation, suspension or restriction of certificates of approval previously issued, or exemptions previously granted, by the Environmental Quality Commission shall be conducted in the manner provided by ORS 449.805.

[1971 c.454 §8]

**449.963 Notice to certain state agencies when certificates approved.** The Environmental Quality Commission shall notify the Motor Vehicles Division and the Oregon State Police whenever systems for the control of emissions of pollutants from a particular source of emissions from motor vehicles are issued certificates of approval by the commission, or whenever certificates of approval are revoked, suspended or restricted.

[1971 c.454 §9]

**449.965 Environmental Quality Commission Motor Vehicle Pollution Account; sources; uses.** On or before the 15th day of each month, the Environmental Quality Commission shall pay into the State Treasury all moneys received as fees pursuant to the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991 during the preceding calendar month. The State Treasurer shall credit such money to the Environmental Quality Commission Motor Vehicle Pollution Account, which is hereby created. The moneys in the Environmental Quality Commission Motor Vehicle Pollution Account are continuously appropriated to the Environmental Quality Commission to be used by the commission solely or in conjunction with other state agencies and local units of government for:

(1) Any expenses incurred by the commission in the certification, examination, inspection or licensing of persons, equipment, apparatus or methods in accordance with the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(2) Employment of inspectors or examiners who will:

(a) Perform field inspections of motor vehicles.

(b) Perform field inspections of persons licensed to execute certificates pursuant to ORS 449.953.

(c) Perform field inspections of equip-

ment, apparatus or methods licensed pursuant to ORS 449.953.

(d) Perform initial certification examinations of such persons, equipment, apparatus or methods.

(e) Perform such other tests, inspections and examinations that will further the standards, policies and goals of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(3) Employment of any necessary staff of administrative, consultive or secretarial personnel.

(4) Provision of office facilities, supplies and equipment necessary to implement the standards, policies and goals of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(5) Provision of any necessary testing equipment, apparatus or methods, any monitoring devices, any training programs or provision for any studies, experiments or other programs necessary in accordance with the standards, policies and goals of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(6) Publication of reports, data and analysis.

(7) Provision of forms, certificates, licenses, examinations and other papers made necessary by the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(8) Transportation and other necessary travel expenses incurred by Department of Environmental Quality personnel pursuant to the provisions of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991.

(9) Any new expenses incurred by the Motor Vehicles Division of the Department of Transportation as a result of ORS 449.949 to 449.965, 481.190, 483.800 to 483.820 and subsection (17) of ORS 483.991 and which the Governor has approved.

(10) Such other expenses as are necessary to inspect, regulate and control the emission of pollutants from motor vehicles in this state.

[1971 c.454 §20]



## Subdivision 4

## Motor Vehicles

## VISIBLE EMISSIONS

[ED. NOTE: Unless otherwise specified, sections 24-005 through 24-045 of this chapter of the Oregon Administrative Rules Compilation were adopted by The Department of Environmental Quality March 31, 1970, and filed with the Secretary of State April 7, 1970 as Administrative Order DEQ 8].

24-005 DEFINITIONS. As used in these regulations unless otherwise required by context:

(1) Dealer means any person who is engaged wholly or in part in the business of buying, selling, or exchanging, either outright or on conditional sale, bailment lease, chattel mortgage or otherwise, motor vehicles.

(2) Department means Department of Environmental Quality.

(3) Motor Vehicle means any self-propelled vehicle designed and used for transporting persons or property on a public street or highway.

(4) Motor Vehicle Fleet Operation means ownership, control, or management or any combination thereof by any person of 5 or more motor vehicles.

(5) Opacity means the degree to which transmitted light is obscured, expressed in percent.

(6) Person means any individual, public or private corporation, political subdivision, agency, board, department or bureau of the state, municipality, partnership, association, firm, trust, estate or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

(7) Regional Authority means a regional air quality control authority established under the provisions of ORS 449.760 to 449.840 and 449.850 to 449.920.

(8) Visible Emissions means those gases or particulates, excluding uncombined water, which separately or in combination are visible upon release to the outdoor atmosphere.

24-010 VISIBLE EMISSIONS - GENERAL REQUIREMENTS, EXCLUSIONS. (1) No person shall operate, drive, or cause or permit to be driven or operated any motor vehicle upon a public street or highway which emits into the atmosphere any visible emission.

(2) Excluded from this section are those motor vehicles:

(a) Powered by compression ignition or diesel cycle engines.

(b) Excluded by written order of the Department by ORS 449.810.

24-015 VISIBLE EMISSION - SPECIAL REQUIREMENTS FOR EXCLUDED MOTOR VEHICLES. No person shall operate, drive, or cause or permit to be driven or operated upon a public street or highway, any motor vehicle excluded from Section 24-010 which:

(1) When operated at an elevation of 3,000 feet or less, emits visible emissions into the atmosphere;

(a) Of an opacity greater than 40%.

(b) Of an opacity of 10% or greater for a period exceeding 7 consecutive seconds.

(2) When operated at an elevation of over 3,000 feet, emits visible emissions into the atmosphere;

(a) Of an opacity greater than 60%.

(b) Of an opacity of 20% or greater for a period exceeding 7 consecutive seconds.

24-020 UNCOMBINED WATER-WATER VAPOR. Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of Section 24-010 or 24-015, such sections shall not apply.

24-025 MOTOR VEHICLE FLEET OPERATION. (1) The Department may, by written notice, require any motor vehicle fleet operation to certify annually that its motor vehicles are maintained in good working order, and if applicable, in accordance with the motor vehicle manufacturers' specifications and maintenance schedule as may or tend to affect visible emissions. Records pertaining to observations, tests, maintenance and repairs performed to control or reduce visible emissions from individual motor vehicles shall be available for review and inspec-

tion by the Department.

(2) The Department, by written notice, may require any motor vehicle of a motor vehicle fleet operation to be tested for compliance with Sections 24-010 and 24-015 of these regulations.

(3) A regional authority, within its territory, may perform the functions of the Department as set forth in Items 1 and 2, upon written directive of the Department permitting such action.

**24-030 DEALER COMPLIANCE.** No dealer shall sell, exchange or lease or offer for sale, exchange or lease, any motor vehicle which operates in violation of Sections 24-010 or 24-015 of these regulations, except as permitted by federal regulations.

**24-035 METHOD OF MEASUREMENT.**

(1) The opacity observation for purposes of these regulations shall be made by a person trained as an observer; provided, however, that

(2) The Opacity Chart, marked "Exhibit A", with instructions for use, attached hereto and by reference incorporated into these regulations, may be used in mea-

suring the opacity of emissions for purposes of these regulations.

**24-040 ADOPTION OF ALTERNATIVE METHODS OF MEASURING VISIBLE EMISSIONS.** (1) The Department may permit the use of alternative methods of measurement to determine compliance with the visible emissions standards in Sections 24-010 and 24-015 of these regulations, when such alternative methods are demonstrated to be reproducible, selective, sensitive, accurate and applicable to a specific program.

(2) Any person desiring to utilize alternative methods of measurement shall submit to the Department such specifications and test data as the Department may require, together with a detailed specific program for utilizing the alternative methods. The Department shall require demonstration of the effectiveness and suitability of the program.

(3) No person shall undertake a program using an alternative method of measurement without having obtained prior written approval of the Department.

24-045 [Repealed 2-15-72 by DEQ 37]

APPENDIX B

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BACKGROUND

MOTOR VEHICLE EMISSION CONTROL PROGRAMS

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## BACKGROUND

### MOTOR VEHICLE EMISSION CONTROL PROGRAMS

The purpose of this section is to provide a brief overview of the world-wide activities regarding motor vehicle emission control programs.

#### International:

Motor vehicle emission control has received attention throughout the world. Figure B-1, which has been taken from the report "Cumulative Regulatory Effects on the Cost of Automotive Transportation (RECAT)", prepared earlier this year for the Office of Science and Technology, shows that most of the industrialized nations have begun to establish or have in effect controls on motor vehicle emissions. It is seen that the common-market countries have developed an emission test procedure for certification of new model vehicles, as well as single idle carbon monoxide test for in-use vehicle testing. The certification test procedure developed for the common-market countries is different than that used in the United States, and presumably more accurately reflects the driving patterns in these countries than would the American test procedure.

Sweden, which has a nation-wide periodic vehicle safety inspection program, has expanded its vehicle inspection program to include emission testing. Beginning in July, 1970, an idle carbon monoxide emission test was introduced as part of the vehicle inspection requirements. The emission standard has been set at 4.5% carbon monoxide, however a 1% tolerance is included in the inspection to account for possible errors in measurement. Vehicles which exceed 5.5% but do not exceed 7% are warned of the excessive

FIGURE B-1

Table III-2  
Vehicle Emission Requirements - Current and Future Legislation by Country

Country	Effective Date	Status	Procedure	Applicability	Emissions Standards			Remarks
					Exhaust		Crankcase	
					CO	HC		
Belgium* France* Italy* Luxemburg* Netherlands* W. Germany*		Law	ECE idle		4.5 M%	NR	NR	ECE Type II test certification and inspection test
France*	Sept. 71 -- New Models Sept. 72 -- Carryover Models	Law	ECE driving	Motor vehicles 400 KG (882 lb) up thru 3500 kg (7716 lb)	100 to 220 gm/test	8 to 12.8 gm/test	—	Prototype certification ECE Type I test
Belgium* Italy* Luxemburg* Netherlands* W. Germany*	Oct. 71 Oct. 71 Oct. 71 Oct. 71 Oct. 71	Law Forecast Forecast Forecast Law			120 to 264 gm/test	10.4 to 16.6 gm/test	—	Inspection test. Avg of tests for conformity of prod vehicles
Belgium* France* Italy* Luxemburg* Netherlands* W. Germany*	Oct. 71 Current Oct. 71 Oct. 71 Oct. 71 Current	Law Law Forecast Forecast Forecast Law	ECE crankcase				0.15% of mass of fuel consumed	Prototype certification ECE Type III test
W. Germany*	Jan. 72 Jan. 76 Jan. 81	Forecast Forecast Forecast	None	Gasoline	—	—	—	Max lead content: 0.4 gm/l (1.5 gm/gal); 0.15 gm/l (0.57 gm/gal)
Australia	Current	Law	None	All vehicles with gasoline engines	NR	NR	PCV reqd	Design evaluation
	Jan. 72	Forecast	ECE idle	Thru 3500 kg	4.5 M%	NR		Types I and II procedures and standards expected to be same as for Common Market countries
	Jan. 74	Forecast	ECE driving		Same as ECE	Same as ECE		
Austria	1973	Forecast	ECE	—	—	—	—	Procedures and standards expected to be same as for Common Market countries
Canada	Current	Law	7-mode, 7-cycle, and Evap	Thru 6000 lb	23 gm/mi	2.2 gm/mi	PCV reqd	Intent is to parallel U.S. standards
	Sept. 71	Forecast	CVS		39 gm/mi	3.4 gm/mi		
Denmark	Current	Law	ECE idle	<3500 kg	4.5 M%	NR	NR	Inspection test
				Diesel <3500 kg				3.5 Bosch Units (Smoke)
				Diesel >3500 kg				4.5 Bosch Units (Smoke)
Finland	1972 or later	Forecast	ECE	—	—	—	—	ECE Procedures; ECE or Swedish standards expected
Japan	Current	Law	Idle measurement	New, Used	4.5 M%, 5.5 M%	NR	PCV reqd	Control inspection with each new owner
	Apr. 73	Forecast	Japanese (4-mode)	All vehicles except motorcycles	2.5 M%	NR		Certification test
	Apr. 75	Forecast			11.0 gm/km (17.7 gm/mi)	1.7 gm/km (2.7 gm/mi)		Proposed standards include also 3.0 gm/km NO <sub>x</sub> (4.8 gm/mi); 6 gm/dry evap
					7.0 gm/km (11.3 gm/mi)	0.3 gm/km (0.48 gm/mi)		0.6 gm/km NO <sub>x</sub> (1.0 gm/mi); 0.06 gm/km particulates
Mexico	Current	Law	None	Thru 6000 lb	NR	NR	PCV reqd	—
	1973 Models	Forecast	7-mode, 7-cycle, and evap		Approx 23 gm/mi	Approx 2.2 gm/mi		1971 U.S. type evap, and exhaust controls to be proposed for 1973 vehicles
Norway	Current	Law		Diesel	NR	NR	NR	Smoke control
S. Korea	Current	Law	Japanese (4-mode)	All vehicles except motorcycles	2.5 M%	NR	PCV reqd	Certification test
			Idle measurement	New, Used	4.5 M% 5.5 M%	NR		Control inspection with each new owner
Spain	Current	Law	Idle measurement		5.0 M%	—	—	—
Sweden	Current	Law	None	Engines over 800 cc; Vehicle weight to 2.5 metric tons (5512 lb)	—	—	PCV reqd	Closed crankcase system reqd
			ECE idle		4.5 M%			Inspection test
			ECE driving		Max 4.5 gm/km (75 gm/mi)	Max 2.2 gm/km (3.5 gm/mi)		Prototype certification test
	For 1973 model year	Forecast			Max 30 gm/km (48 gm/mi)	Max 1.8 gm/km (2.9 gm/mi)		An alternative proposal would require '74 models to meet all '73 U.S. stds; '77 models to meet '76 U.S. stds. by CVS including NO <sub>x</sub> plus evap.
	For 1975 model year	Forecast			Max 23 gm/km (37 gm/mi)	Max 1.5 gm/km (2.4 gm/mi)		
		Forecast	None	Gasoline	—	—	—	Max. lead content to be 0.7 gm/l reduced 0.1 gm/l each 2 yrs
Switzerland	Jan. 70	Law	ECE idle	Engines over 800 cc	4.5 M%	NR	PCV reqd	Inspection test
United Kingdom	July, 71	Forecast	ECE crankcase	All 4-cycle gasoline engines	NR	NR	0.15% of mass of fuel consumed	Procedures and standards expected to be same as for Common Market countries
	1972	Forecast	ECE idle		4.5 M%	NR	—	
	1973	Forecast	ECE driving		Same as ECE	Same as ECE	—	

\*An asterisk indicates common-market countries.  
Dash indicates data not available.  
Notes: NR - No requirement. Forecast - Legislation under discussion. Inspection Test - Government test of privately owned vehicles. ECE - Economic Commission of Europe. CVS - Constant Volume Sampling Test Procedure.  
ECE emission requirements are as follows:  
Type I Test (driving) - 15-minute driving cycle repeated 4 times on a chassis dynamometer following 6-hr soak; exhaust emission collected in bag. HC and CO standards increase within ranges shown above as vehicle weight increases from 750 to 2150 kg.  
Type II Test (idle) - Warm-up idle CO test. Some standard must be met for certification and inspection.  
Type III Test (crankcase) - Chassis dynamometer procedure for crankcase emissions. System certified if crankcase operates at partial vacuum (as in PCV systems), or if crankcase emissions meet the standard stated above.

emissions. If over 7% carbon monoxide is measured, the vehicle is failed. During the first quarter of 1971 it was reported that almost 20% of the vehicles inspected exceeded 7% carbon monoxide at idle. The Swedish emission control procedure, however, allows for carburetor adjustment during the inspection if the vehicle exceeds the emission test limits and if the adjustment can easily be made. Again, during the first quarter of 1971, carburetor adjustments during the inspection were made on almost 80% of the vehicles which exceeded the test limit, and of these over 98% were able to be adjusted to 5.5% idle carbon monoxide or less.

Japan, as detailed in Figure B-2, has enacted emission standards for both new and in-use vehicles. These standards are currently restricted to a carbon monoxide emission limit during the idle mode of engine operation. It is seen that 5.5% carbon monoxide concentration is the allowable level for in-use vehicles. During the first quarter of the program operation, 987,147 in-use vehicles were inspected for emission rates and 6% were found to exceed the allowable level.

Canada has basically adopted the United States' standards for certification of new vehicles, and apparently intends to continue to parallel the United States' new vehicle certification standards as much as is appropriate to their needs. The Province of British Columbia has adopted regulations for new vehicles which are very similar to the Canadian Federal Government regulations, and further has shown an interest in controlling vehicle emissions through an inspection of in-use vehicles. The provincial government has expressed its intention to require compliance with an idle emission test at its government operated vehicle safety

FIGURE B-2

JAPANESE REGULATIONS, ROAD TRAFFIC AND TRANSPORTATION  
VEHICLE CONTROL LAW

1. CO EMISSION FROM ANY NEWLY MADE VEHICLE WITH 4-CYCLE GASOLINE ENGINE WHOSE DISPLACEMENT EXCEEDS 360CC, MANUFACTURED AFTER AUGUST 1, 1970 AT LINE-OFF INSPECTION, SHALL NOT EXCEED 2.5% BY 4-MODE OPERATION TEST AND 4.5% AT IDLING. (EFFECTIVE AUGUST 1, 1970.)
2. CO EMISSION FROM ANY VEHICLE WITH 4-CYCLE GASOLINE OR LPG ENGINE OF DISPLACEMENT EXCEEDING 360CC, AT LINE-OFF INSPECTION OR AT REGULAR INSPECTION (MONTHLY FOR COMMERCIAL VEHICLES, BIANNUALLY FOR NON-COMMERCIAL VEHICLES), SHALL NOT EXCEED 2.5% BY 4-MODE OPERATIONAL TEST OR 4.5% BY IDLING TEST. (AFTER AUGUST 1, 1970).
3. CO EMISSION FROM ANY VEHICLE WITH 4-CYCLE GASOLINE OR LPG ENGINE OF DISPLACEMENT EXCEEDING 360CC, AT ANY TIME, SHALL NOT EXCEED 5.5% BY IDLING TEST (EFFECTIVE AUGUST 1, 1970).
4. CO EMISSION FROM ANY VEHICLE NEWLY PRODUCED AFTER JANUARY 1, 1971, WITH 4-CYCLE GASOLINE OR LPG ENGINE OF DISPLACEMENT EXCEEDING 360CC, AT LINE-OFF INSPECTION, SHALL NOT EXCEED 1.5% BY 4-MODE OPERATIONAL TEST AND 4.5% BY IDLING TEST (EFFECTIVE JANUARY 1, 1971).
5. CO EMISSION FROM ANY MINI-VEHICLE WHOSE ENGINE DISPLACEMENT DOES NOT EXCEED 360CC, NEWLY PRODUCED AFTER JANUARY 1, 1971, AT LINE-OFF INSPECTION SHALL NOT EXCEED 3.0% BY 4-MODE OPERATIONAL TEST AND 4.5% BY IDLING TEST (EFFECTIVE JANUARY 1, 1971).
6. ANY AUTOMOTIVE SERVICE STATION AUTHORIZED BY MINISTRY OF TRANSPORTATION FOR REGULAR INSPECTION OF THE ROAD TRAFFIC AND TRANSPORTATION VEHICLE SHALL BE EQUIPPED WITH AUTOMOTIVE EXHAUST CO TESTER APPROVED BY THE MINISTRY.
7. FOR SECURING THE ABOVE, TRAFFIC POLICE DEPARTMENT OR LOCAL AIR POLLUTION CONTROL DEPARTMENT SHALL OCCASIONALLY CARRY OUT A ROAD-SIDE INSPECTION. THE VEHICLE FOUND IN SUCH ROAD-SIDE INSPECTION EMITTING CO EXCEEDING THE ABOVE THRESHOLD SHALL HAVE STUCK ON ITS FRONT SHIELD A RED TICKET MARKED "MALFUNCTION", AND SUBJECT TO MANDATORY TUNE-UP AND RE-EXAMINATION AT AN AUTHORIZED INSPECTION STATION WITHIN 7 DAYS. IF THE OWNER OF THE VEHICLE FAILS IN DOING THE ABOVE AND/OR RE-EXAMINATION WITHIN 7 DAYS, HE SHALL BE PUNISHED FOR VIOLATION OF TRAFFIC REGULATIONS.

ACCORDING TO THE COMPUTATION BY AIR POLLUTION CONTROL DISTRICT, TOKYO METROPOLITAN PREFECTURAL GOVERNMENT, THE TOTAL CO EMISSION FROM VEHICLES IN TOKYO BY THE YEAR 1980 WILL BE 1/2 OF WHAT IT WAS IN 1969, IF THE ABOVE RESTRICTIONS ARE HELD FIRM. IT WOULD BE DOUBLED IN THE SAME PERIOD WITHOUT THE RESTRICTION.

inspection stations located in metropolitan areas, as noted in Figure B-3.

In the more remote areas where private inspection garages may be used for safety inspection, an emission test may not be included. The use of mobile inspection units for the more remote areas is also under consideration.

United States - Federal: The first national emission standards for automobiles were published in the Federal Register of March 30, 1966, and became effective with the 1968 model year vehicles. These standards prohibited the venting of any engine crankcase fumes to the atmosphere and established limits on the concentration of carbon monoxide and hydrocarbon gases in the engine exhaust. In an attempt to equalize the amount or weight of pollutants emitted by various size cars, three engine size classes were established with allowable concentrations of pollutants being less with the larger engine sizes than with the smaller engine sizes.

It should be emphasized here that the exhaust emissions from an automobile had been found to vary considerably with the driving pattern of the vehicle. For this reason, the federal standards specified a driving cycle to be used when testing for exhaust emissions. This cycle, the 7-mode cycle, was basically developed in California during the early 1960's and was intended to represent the driving pattern of a typical commuter.

Since the test procedure required a considerable length of time to complete, emission testing of each vehicle produced was not feasible.

For this reason, the emission tests were conducted using a test fleet of pre-production model cars with a separate test fleet being required for each basic model that the manufacture intended to have certified for sale. The procedures



PLEASE ADDRESS ALL COMMUNICATIONS TO:  
SUPERINTENDENT OF MOTOR-VEHICLES  
MOTOR-VEHICLE BRANCH  
VICTORIA, BRITISH COLUMBIA

FIGURE B-3



THE GOVERNMENT OF  
THE PROVINCE OF BRITISH COLUMBIA

PLEASE MARK REPLY FOR ATTENTION OF  
MOTOR VEHICLE INSPECTION  
DIVISION.

R. A. HADFIELD

SUPERINTENDENT OF MOTOR-VEHICLES

MOTOR-VEHICLE BRANCH  
VICTORIA

TELEPHONE EV 2-6111 (LOCAL 2634)

IN REPLY QUOTE FILE NO. 17

YOUR FILE NO.

SUBJECT: Vehicle Emissions

May 1, 1972

Mr. Ron C. Householder, Supervisor  
Motor Vehicle Emission Control  
Department of Environmental Quality  
1234 S. W. Morrison Street  
Portland, Oregon 97025

Dear Sir:

I have received your letter of April 19th in regard to the control of vehicle emission through our Inspection Programme.

Enclosed herewith are photostat copies of Division 29 of the British Columbia Motor Vehicle Act Regulations. These Regulations are very similar to the Canadian Federal Government Regulations for new motor-vehicles but which have been changed slightly for provincial use. You will find that they are again very similar to the U. S. Federal Government Regulations.

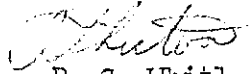
You will see that Division 29 refers to the control of new motor-vehicles and really applies to the condition of the vehicle when it is sold. In British Columbia we have a number of motor-vehicle Inspection Stations and it is our intention to test the exhaust emissions of vehicles in these Stations. We intend to do this with the engine at idle speed and at the present time we are conducting tests of vehicles using a Mexa 300 infra red indispersive gas analyzer. The purpose of these tests is to establish reasonable standards which will allow us to force certain vehicles to improve their engine performance with regard to emissions. Certainly any standard which we will set up will be a gross standard aiming only for those vehicles producing the most gases. I expect that when the Regulations are formed we will have different standards for the vehicles in service prior to the effect of Division 29 and a more stringent Regulation for those vehicles applying to Division 29 when they are sold.

The above are our intentions and have not yet been put into affect. As a result I am unable to give you figures with regard to costing, man power requirements or enforcement procedures. In British Columbia our

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main problems lie in the areas where we have established Inspection Stations. In the more remote areas we do not inspect vehicles for emission controls and with our low vehicle population in these areas we do not think it necessary. When the final procedures are settled and we have regulations allowing us to reject vehicles at our Stations for excessive emissions, I would be only too pleased to pass on any information I can to you.

Yours truly,



R. G. Whitlock  
Administrative Officer  
Motor Vehicle Inspection

RGW/lb  
Enc.

did not require each vehicle in a test fleet to comply with the emission standards, but rather the average of the fleet could not exceed the specified limits.

Of importance also was the recognition in the regulation that the exhaust emission control effectiveness could decrease with mileage accumulation. Thus a deterioration factor was determined by tests and used to adjust the initial emission data obtained, in order to arrive at an average exhaust emission value for the expected life of the vehicle. This deterioration factor was determined by driving the durability data vehicles, a separate test group from those used to obtain the initial exhaust emission data, for 50,000 miles under a specified driving pattern and maintenance schedule. The exhaust emissions were tested at least every 4,000 miles during this accumulation of 50,000 miles. The 50,000 mile value is based on the assumption that the normal service life of a vehicle is 100,000 miles.

On June 4, 1968, the national emission standards applicable to 1970 and later model vehicles and engines were published in the Federal Register. This regulation restricted exhaust emissions of carbon monoxide and hydrocarbon gases from gasoline powered trucks and also, again for the first time nationally, smoke from diesel powered trucks. As in the case for automobiles, emissions were measured from test fleets of vehicles under specified driving cycles. A test cycle was developed for the heavy duty gasoline powered vehicles to represent truck driving patterns in metropolitan areas, and a separate driving pattern developed for heavy duty diesel powered vehicles. The method used to determine the deterioration of the control system effectiveness was very similar to that used with automobiles.

The exhaust emission standards for gasoline powered cars were revised from the concentration and engine size classification basis to one

of allowable weight of pollutant per vehicle mile during the specified test cycle. The standards read 2.2 grams per vehicle mile for hydrocarbons, and 23 grams per mile for carbon monoxide, however the values were actually still measured in concentrations and mathematically converted to a weight basis using factors relating to vehicle weight. For the first time nationally, limitations on fuel evaporation losses from carburetors and fuel tanks of automobiles were established and these became effective with the 1971 model year.

On November 10, 1970, the national emission standards applicable to 1972, 1973 and 1974 model year automobiles were published. The test procedure, test instrumentation, and test cycle were changed from those previously used. The new test procedure collects a bag sample of exhaust gas from the entire test cycle for analysis, and uses more sensitive analyzers. The new test cycle is believed to be more closely representative of current urban driving patterns than the 7 mode cycle, and represents a trip of 7.5 miles requiring not quite 23 minutes to complete, and with speed changes of from idle to over 56 miles per hour.

Beginning with the 1973 model year, automobiles will be subject for the first time to national standards limiting the amount of nitrogen oxides in the exhaust gas. Beginning in 1974, heavy duty vehicles - both gasoline powered and diesel powered - are subject to national exhaust emission standards for carbon monoxide, hydrocarbon gases, and nitrogen oxides. Additionally, exhaust standards for light duty diesel powered vehicles have been proposed for 1975 and later vehicles, and it has been announced that emission standards will be set for gaseous fueled vehicles also.

The exhaust emission standards for 1975 and later model gasoline powered automobiles were established by the Federal Clean Air Act, as Amended in 1970. This Act set the federal standards for carbon monoxide and hydrocarbon gases at 10% of the 1970 federal standards, and for nitrogen oxides at 10% of the emission values of the 1971 model vehicles. The final detailed regulations for these standards have yet to be published.

United States - California: The California motor vehicle emission control program predates the Federal program and has actually served as a prototype in many instances. The California program can be considered as consisting of two basic divisions: New motor vehicle emission control and in-use vehicle emission control.

The effects of the new motor vehicle emission control program began in 1963 with the requirement for crankcase emission control systems on new cars sold in California. Beginning with the 1966 models, exhaust emission control systems for carbon monoxide and hydrocarbon gases were required on new cars sold in California. In 1969 California obtained a federal waiver to enforce more stringent new motor vehicle emission standards than the federal standards that were proposed for the 1970 through 1974 model cars. This waiver was necessary in order for California to adopt standards as the Federal Air Quality Act of 1967 preempted the states in the field of new vehicle emission regulations unless specifically granted a waiver. Under the law, only California is able to obtain such a waiver. In 1970, California's request for a waiver to allow it to enforce its own standards beginning with the 1975 models was rejected.

One year ahead of federal requirements, new 1970 model cars sold in California had to be equipped with fuel evaporation control systems. Beginning with the 1971 model year, exhaust emission controls for nitrogen oxides were required for California cars. California has also obtained a waiver for assembly line testing of new vehicles. For the 1972 model year, this procedure called for a simplified assembly line test on 25% of the vehicles produced for sale in California, and 100% testing beginning with the 1973 models. It should be noted that California has also adopted new vehicle emission standards for both heavy duty gasoline and diesel powered vehicles.

The California program affecting in-use vehicle began in 1964 when crankcase emission control systems were required to be installed on 1950 through 1960 model year used cars upon registration transfer in 13 metropolitan counties of California. The California Highway Patrol began to license pollution control device installation and inspection stations in the affected counties during late 1963, and by mid-1964 more than 8,600 had been authorized.

At their June 17, 1964 meeting, the California Motor Vehicle Pollution Control Board approved four exhaust emission control systems including one for installation on used automobiles back to the 1962 model year. This Board rejected approval of a second used car exhaust emission control system at its December 16, 1964 meeting because of its excessive cost and further requested a resolution of discrepancy in cost figures of the first used car control device approved. The Motor Vehicle Pollution Control Board Bulletin reported that 99% of the communications it had received were opposed to approval of a second exhaust control system for used vehicles because of excessive cost. If the Board had approved a second control system, then a mandatory used car installation program would have begun.

In 1970 the California Air Resources Board selected the Northrop Corporation to conduct a \$400,000 study on the feasibility, costs, and benefits of mandatory in-use vehicle emission inspection programs. This study was funded by the California Highway Commission and the Motor Vehicle fund as appropriated by the 1970 California Legislative session. This study was completed in 1971 and recommended the following:

1. Immediately initiate the planning for a State-owned and operated network of Key-Mode inspection stations. The recommended area of implementation is the State's first five largest air basins - South Coast (including Los Angeles, Orange County, Riverside), San Francisco Bay Area, San Joaquin Valley, Sacramento Valley, and San Diego Air Basins. These five basins contain approximately 92 percent of California's cars, all of which could be inspected annually by approximately 97 stationary and 18 mobile Key-Mode inspection facilities.
2. During the planning and the subsequent period of construction, initiate a training program to develop the necessary skill levels to staff the facilities.
3. Immediately upgrade present Class A stations to conduct a mandatory Modified Certificate of Compliance inspection and maintenance program which includes Idle test capability. This will occur on all vehicles at transfer of ownership.
4. The Certificate of Compliance program should be phased out when the State inspection becomes operational; those stations that will have been upgraded during this period should be

certified as repair facilities.

5. As the State air pollution control agency, the Air Resources Board should be authorized to administer the inspection program; such a program also would be in accordance with the directives as outlined in the amendments to the Federal Clean Air Act of December 1970.

6. Studies should be conducted to develop simple and effective ways of evaluating the performance of emission control systems.

California has not initiated a state-owned and operated network of emission inspection stations, but has incorporated an emission inspection into the random vehicle safety inspection program conducted by the California Highway Patrol. In mid-1972, the California Air Resources Board adopted idle emission standards for highway inspection of light duty vehicles as shown in Figure B-4. A pilot phase program to obtain a large scale data source and to acquaint the public with the program has been completed and the Commissioner of the California Highway Patrol has announced that enforcement documents will now be issued whenever the standards are violated. Figure B-5 is a copy of the informational letter provided to vehicle owners whose vehicles was inspected during the pilot phase of the program.

A California Air Resources Board staff report of September 27, 1972, which analyzed data obtained during the pilot phase reported that "The failure rate of 41.2% for the 1970-71 models is higher than that of the other categories, and the sample size of 3,566 cars is substantial.



FIGURE B-4

State of California

AIR RESOURCES BOARD

Idle Emission Standards for Highway Light  
Duty Vehicle Inspection

	<u>*Hydrocarbons</u> ppm	<u>Carbon Monoxide</u> %
<u>Standard Domestic Vehicles</u> <u>140 CID or Greater</u>		
a. 1955 - 1965	1200	8.0
b. 1966 - 1969		
Air Injection	400	4.0
Engine Modification	500	7.0
c. 1970 - 1971 (EM & AI)	350	4.0
d. 1972 - 1973		
Air Injection	275	2.5
Engine Modification	350	4.0
<u>Imported Vehicles and Compact</u> <u>Domestic Vehicles Under 140 CID</u>		
a. 1955 - 1967	1900	8.0
b. 1968 - 1969		
Air Injection	500	5.0
Engine Modification	700	7.0
c. 1970 - 1973		
Air Injection	300	3.0
Engine Modification	600	5.0

\* Refers to parts per million by volume as hexane measured by a non-dispersive infrared analyzer.

5/17/72

## DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

BOX 698

SACRAMENTO, CALIFORNIA 95804



Dear Fellow Motorist:


As an additional step in the control of air pollution caused by the operation of motor vehicles, legislation was enacted in 1970 by the California Legislature and signed by Governor Reagan. This legislation gave authority to the Air Resources Board to establish standards for exhaust emissions and requires the California Highway Patrol to measure emissions from vehicles operated on the highway. The emissions from your vehicle have been tested as part of a pilot phase of that program.

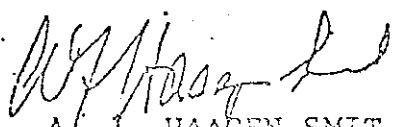
The analyzer measures hydrocarbons (HC) and carbon monoxide (CO) in your vehicle's exhaust. Hydrocarbons are expressed in parts per million (ppm) and carbon monoxide is shown in percentage (%) of exhaust gases.

For the class and year model of your vehicle the established standards are: HC \_\_\_\_\_ ppm CO \_\_\_\_\_ %, and your vehicle emissions are: HC \_\_\_\_\_ ppm CO \_\_\_\_\_ %

A properly conducted engine tune-up including a check of the emission control systems can reduce your vehicle's emissions. All Official Motor Vehicle Pollution Control Stations have been provided detailed inspection and adjustment procedures.

I know you, as a concerned citizen, are interested in reducing smog. Having the suggested engine adjustments will reduce the emissions from your vehicle and should improve performance. Although enforcement authority was provided in this new law, such action is not being taken during the pilot study.

  
H. W. SULLIVAN  
Commissioner  
California Highway Patrol

  
A. J. HAAGEN-SMIT  
Chairman  
Air Resources Board

The actual CO standard of 4%, however is well above design specifications. The failures may represent a general tendency to deliberately maladjust new vehicles." The overall failure rate in the pilot phase was 29.5%.

At the April 19, 1972, meeting of the California Air Resources Board, two exhaust emission control devices were certified as meeting the criteria set by the California legislature. This action initiated a program which will require the installation of a certified exhaust control system on 1955-1965 model cars upon ownership change in the South Coast (Los Angeles area), San Francisco Bay Area, and San Diego air basins. A staggered installation schedule based upon predicted availability of the devices and urgency of their need has been established with an initiation date of September 1, 1972, for the Los Angeles area. In further action, the Air Resources Board has also approved two control devices for nitrogen oxides in the engine exhaust and installation of a certified system will be required on 1966 through 1970 automobiles upon re-registration by February, 1974.

United States - New Jersey: The major thrust of the New Jersey motor vehicle emission control program has been to develop tests and procedures for control of emissions from in-use individual vehicles. In 1967 the New Jersey State Department of Health was awarded a Federal demonstration grant totaling \$545,746. The grant was extended in 1968 with an additional \$543,794, and the grant period extended through fiscal year 1970. This money was used to develop both a diesel smoke control program and

an annual vehicle emission inspection program for incorporation into the state operated safety inspection program.

The visible emission standards adopted by New Jersey for diesel-powered vehicles, Figure B-6, became effective June 18, 1971. It has been reported that during the first year since enactment, state enforcement agencies have issued approximately 4,000 summons for violations of the standards. The New Jersey Department of Environmental Protection has recorded a significant decline in the number of diesels emitting visible smoke in a survey involving over 50,000 trucks during a three-year period.

The test procedure developed with the demonstration grant money for emission testing of light duty vehicles in the state safety inspection program has not been adopted by the state. A 4-mode test cycle, the ACID cycle, which required only one and one-half minutes to conduct, had been developed and reportedly correlated well with the Federal 7-mode cycle then in use for certification testing of new vehicles. This test was also reported to provide the vehicle owner with some degree of engine diagnosis. A prototype system was installed at one of the state inspection lanes near Princeton, New Jersey, and by mid-1970 had tested about 1,000 vehicles.

Following public hearings in August, 1971, the New Jersey State Department of Environmental Protection adopted a "no visible emission" standard for light duty vehicles operating on the highways, and idle emission standards for carbon monoxide and hydrocarbon gases. The idle emission test procedure, requiring approximately 35 seconds to complete, was added

# CHAPTER 14 -- DIESEL SMOKE

## Control and Prohibition of Smoke From Diesel-Powered Motor Vehicles



### NEW JERSEY AIR POLLUTION CONTROL CODE

New Jersey State  
Department of Environmental Protection  
John Fitch Plaza, P.O. Box 1390  
Trenton, New Jersey 08625

The Air Pollution Control Code consists of a group of administrative regulations published as chapters. These regulations have the force and effect of law. By law, the authority to promulgate such regulations after public hearing is vested in the New Jersey State Department of Environmental Protection.

**NOTE:** The chapters of the New Jersey Air Pollution Control Code are:

1	Definitions	8	Sulfur Compounds from Industrial Processes
2	Open Burning	9	Permits
3	Municipal Regulations	10	Sulfur in Fuels (Oil)
4	Smoke	10-A	Sulfur in Coal
5	Solid Fuel	11	Incinerators
6	Prohibition of Air Pollution	12	Emergencies
7	Solid Particles	13	Air Quality Standards (SO <sub>2</sub> & Particulates)

14 Diesel Smoke

Filed in Secretary of State's Office.

on December 21, 1970

Effective Date: June 18, 1971

### SECTION 1 - DEFINITIONS

- 1.1 **PERSON:** Includes corporations, companies, associations, societies, firms, partnerships and joint stock companies as well as individuals, and shall also include all political subdivisions of this State or any agencies or instrumentalities thereof.
- 1.2 **MOTOR VEHICLE:** Includes all vehicles propelled otherwise than by muscular power, excepting such vehicles as run only upon rails or tracks.
- 1.3 **AUTOBUS:** Includes all motor vehicles used for the transportation of passengers for hire.
- 1.4 **DIESEL-POWERED MOTOR VEHICLE:** A self-propelled vehicle designed primarily for transporting persons or property on a public street or highway which is propelled by a compression ignition type of internal combustion engine; for purposes of this chapter passenger automobiles and motorcycles are excluded.
- 1.5 **DIESEL-POWERED ENGINE:** A mechanism for converting energy into mechanical force and motion by using a compression ignition type of internal combustion engine.
- 1.6 **SMOKE:** Small gasborne and airborne particles, exclusive of water vapor, arising from a process of combustion in sufficient number to be observable.
- 1.7. **OPACITY:** The property of a substance which renders it partially or wholly obstructive to the transmission of visible light expressed as the percentage to which the light is obstructed.
- 1.8 **EXHAUST EMISSIONS:** Substances emitted into the atmosphere, from any opening downstream from the exhaust ports of a motor vehicle engine.
- 1.9 **SMOKEMETER:** A device constructed in such manner as to measure smoke opacity by light obstruction between a light source and photoelectric cell which will indicate the percent opacity of smoke at a point approximately six (6) inches from the engine exhaust

outlet. The device shall be of design meeting "Specification for Diesel-Powered Vehicle Smokemeter" on file with the State Commissioner of Environmental Protection and approved for use in accordance with manufacturers' recommended procedures for calibration, mounting and maintenance.

- 1.10 **OPERATING MODE:** A procedure for operating a diesel-powered motor vehicle or a diesel-powered engine during measurement of smoke opacity in the exhaust emissions.
- 1.11 **CHASSIS DYNAMOMETER:** A device constructed in such a manner as to simulate highway driving conditions on a stationary motor vehicle.
- 1.12 **RPM - Revolutions per minute**
- 1.13 **MPH - Miles per hour**

### SECTION 2 -- PUBLIC HIGHWAY STANDARD

- 2.1 No person shall operate any diesel-powered motor vehicle or permit any diesel-powered motor vehicle which he owns to be operated upon the public highways of the State if the vehicle, when in motion, emits visible smoke in the exhaust emissions within the proximity of the exhaust outlet, for a period of more than five (5) seconds.

### SECTION 3 -- INSPECTION STANDARD

- 3.1 Any motor vehicle propelled by a diesel-powered engine which is subject to inspection at the premises or places of business of the owner or lessee by the Division of Motor Vehicles as a condition of compliance with said inspection, shall not emit smoke in the exhaust emissions in excess of the smoke opacity standards set forth in Table 1.
- 3.2 Any autobus propelled by a diesel-powered engine which is subject to inspection at the premises or places of business of the owner or lessee by the Public Utilities Commission as a condition of compliance with said inspection shall not emit smoke in the exhaust emissions in excess of the smoke opacity standard set forth in Table 2.

Continued on reverse side

**TABLE 1**  
**INSPECTION STANDARDS**

**VEHICLES SUBJECT TO INSPECTION BY THE DIVISION OF MOTOR VEHICLES**  
(Reference P. L. Title 39:8-10)

<u>Type of Inspection</u>	<u>Operating Mode*</u>	<u>Smoke Opacity Standard</u>
Self inspection authorized by Division of Motor Vehicles at the premises or places of business of the owner or lessee	(1) Vehicle driven on chassis dynamometer with simulated load by power absorption	20%
	-alternate-	
	(2) Vehicle driven in low gear with simulated load by braking action	20%

**\*PROCEDURES:**

(1) VEHICLE DRIVEN ON CHASSIS DYNAMOMETER WITH SIMULATED LOAD BY POWER ABSORPTION - with smokemeter firmly positioned on the exhaust outlet and vehicle positioned on the chassis dynamometer proceed with the following steps:	(2) VEHICLE DRIVEN IN LOW GEAR WITH SIMULATED LOAD BY BRAKING ACTION - with smokemeter firmly positioned on the exhaust outlet, proceed with the following steps:
STEP 1 With vehicle on a chassis dynamometer under no power absorption, select a gear ratio which will produce a maximum vehicle speed of 45-60 MPH at governed engine RPM.	STEP 1 Select a gear ratio which will produce a maximum speed of 10-15 MPH, at governed engine RPM, drive vehicle at 10-15 MPH at governed engine RPM.
STEP 2 With engine running at governed engine RPM, apply power absorption load to the dynamometer until such loading reduces the engine RPM to 80 per cent of the governed speed, the peak smoke opacity measured over a period of 5 to 10 seconds with the engine under such loading shall be the smoke opacity.	STEP 2 Load the engine by applying brakes until engine RPM is lugged down to 80 per cent of the governed engine RPM, the peak smoke opacity measured over a period of 5-10 seconds with the engine under such brake loading shall be the smoke opacity.

**NOTE:**

- |  |  |
|--|--|
| (a) All measurements are to be made after engines have been run a sufficient period of time to be at normal operating temperature. | (b) Separate measurements shall be made on each exhaust outlet on vehicles equipped with dual exhaust outlets. |
|--|--|

**TABLE 2**  
**INSPECTION STANDARDS**

**VEHICLES SUBJECT TO INSPECTION BY THE PUBLIC UTILITIES COMMISSION**  
(Reference P. L. Title 48: 402.1 and 2.1A, Title 48: 4-18)

<u>Type of Inspection</u>	<u>Operating Mode*</u>	<u>Smoke Opacity Standard</u>
Inspection of Public Utilities Commission at the premises or places of business of the owner or lessee	Autobus driven with rapid acceleration	40%

**\*PROCEDURE**

Step 1. With smokemeter firmly positioned on exhaust outlet and transmission engaged, drive autobus by accelerating as rapidly as possible to approximately 20 MPH.	Step 2. Release accelerator pedal and brake to full stop.
	Step 3. The peak smoke opacity measured during the acceleration to 20 MPH shall be the smoke opacity.

**NOTE:**

- |  |   |
|--|---|
| (a) All measurements are to be made after engines have been run a sufficient period of time to be at normal operating temperature. | each exhaust outlet on vehicles equipped with dual and separated exhaust outlets.   |
| (b) Separate measurements shall be made on   | (c) A single, combined measurement shall be made on the exhaust outlets on vehicles equipped with dual, adjacent exhaust outlets. |

to the state annual vehicle inspection program. The initial idle emission standards, as shown in Figure B-7, became effective July 5, 1972, with more stringent standards scheduled to become effective.

New Jersey has awarded a contract for 125 testing units to be used in the 73 inspection lanes at 40 inspection stations throughout the state. Deliveries of these units were to be completed in September so that all inspection stations would be able to administer the tests by September 25, 1972. The emission testing is begun at each station as the equipment is brought on line, however, until July 1, 1973, compliance with the emission standards is not a requirement of the inspection program. The first year of the program is advisory and intended also to provide additional data on emission reduction potential and total program cost.

During the first month of operation, with only two stations conducting the test, 18% of the vehicles tested failed to meet the standards. It had been expected that 10% would not be in compliance. The Department reported that excessive carbon monoxide levels, which could be corrected by simple carburetor adjustment, were the overwhelming reason for non-compliance. Ignition defects were the second most frequent emission fault. The Department also reported that 86% of the repairs voluntarily made by the vehicle owner and reported to them, cost less than \$50 and 30% of these repairs cost less than \$10. As part of the program's first year of operation, the vehicle owner is provided a pre-paid mailer, as shown by Figure B-8, to provide the Department with information on the program effect.

United States - New York: The State of New York, like several other states, has adopted emission standards for in-use vehicles, but as yet has



NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AIR POLLUTION CONTROL CODE

CHAPTER 15  
CONTROL AND PROHIBITION OF AIR POLLUTION FROM  
LIGHT-DUTY GASOLINE-FUELED MOTOR VEHICLES

Filed in Secretary of State's Office: January 6, 1972

EFFECTIVE DATE: JULY 5, 1972

**Section 1 -- Definitions**

1.1 PERSON: Includes corporations, companies, associations, societies, firms, partnerships and joint stock companies as well as individuals, and shall also include all political subdivisions of this State or any agencies or instrumentalities thereof.

1.2 MOTOR VEHICLE: Includes all vehicles propelled otherwise than by muscular power, excepting such vehicles as run only upon rails or tracks.

1.3 LIGHT-DUTY: Light-duty shall mean any motor vehicle designed primarily for transportation of persons or property and registered at 6,000 pounds gross weight or less.

1.4 MODEL YEAR OF VEHICLE: The production period of new motor vehicles or new motor vehicle engines designated by the calendar year in which such period ends. If the manufacturer does not designate a production period, the model year with respect to such vehicles or engines shall mean the 12-month period beginning January of the year in which production begins.

1.5 EXHAUST EMISSIONS: Substances emitted into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.

1.6 CRANKCASE EMISSIONS: Substances emitted into the atmosphere from any portion of the engine crankcase ventilation or lubrication systems.

1.7 SMOKE: Small gasborne and airborne particles, exclusive of water vapor, arising from a process of combustion in sufficient number to be observable.

1.8 CARBON MONOXIDE: A non-irritating, colorless, odorless gas at standard conditions which has the molecular form of CO.

1.9 HYDROCARBONS: Compounds whose molecules consist of atoms of hydrogen and carbon only.

1.10 APPROVED EXHAUST GAS ANALYTICAL

SYSTEM: A device for sensing the amount of air contaminants in the exhaust emissions of a motor vehicle. For purposes of this Chapter this shall mean analyzing devices of the nondispersive infrared type sensitized to measure carbon monoxide at the 4.74 micron band expressed as percent carbon monoxide in air and to measure hydrocarbons as hexane at the 3.41 micron band expressed as parts per million of hydrocarbons (Hexane) in air. The device shall be a design meeting "SPECIFICATIONS FOR EXHAUST GAS ANALYTICAL SYSTEM" on file with the State Commissioner of Environmental Protection and approved for use in accordance with the manufacturer's recommended procedures for calibration and maintenance.

1.11 NEW MOTOR VEHICLE: A newly manufactured motor vehicle registered in New Jersey, prior to delivery to the ultimate purchaser.

1.12 NEW MOTOR VEHICLE DEALER: A sales agency, his employees, and/or agents licensed pursuant to N.J.S.A. 39:10-19 to sell new motor vehicles.

1.13 ULTIMATE PURCHASER: Any person, other than a motor vehicle dealer purchasing in his capacity as a motor vehicle dealer, who in good faith purchases a motor vehicle for purposes other than for resale as a motor vehicle dealer.

1.14 PRE-DELIVERY CHECKLIST: A schedule of items and procedures which a new motor vehicle dealer is required or requested by a manufacturer to check or follow prior to delivery of a new motor vehicle to the ultimate purchaser.

**Section 2 -- Public Highway Standard**

2.1 No person shall operate any light-duty, gasoline-fueled motor vehicle or permit such vehicle which he owns to be operated upon the public highways of the State if the vehicle emits visible smoke in the exhaust emissions or in the crankcase emissions.



2.2 The provisions of this section shall become effective July 1, 1973.

**Section 3 – New Motor Vehicle Dealer Inspection Compliance Standards**

3.1 Any light-duty, gasoline-fueled new motor vehicle subject to inspection by any new motor vehicle dealer in accordance with regulations promulgated by the New Jersey Division of Motor Vehicles shall, prior to delivery by the new motor vehicle dealer to the ultimate purchaser, conform to the emission specifications prescribed by the manufacturer and/or to such specifications as may be prescribed by the manufacturer in the new motor vehicle pre-delivery checklist to assure proper functioning of emission control devices. Whenever emission specifications are not prescribed, the inspection standards as set forth in Section 4.2 shall apply to such new motor vehicles.

3.2 The provisions of this section shall become effective July 5, 1972.

**Section 4 – Motor Vehicle Inspection Standard**

4.1 Any light-duty gasoline-fueled motor vehicle which is subject to inspection by the Division of Motor Vehicles in accordance with the provisions of N.J.S.A. Title 39:8-1, as a condition of compliance with said inspection, shall not emit visible smoke in the exhaust emissions or in the

crankcase emissions when using the prescribed inspection test procedure.

4.2 Any light-duty, gasoline-fueled motor vehicle which is subject to inspection by the Division of Motor Vehicles in accordance with the provisions of N.J.S.A. Title 39:8-1, as a condition of compliance with said inspection, shall not emit carbon monoxide (CO) and/or hydrocarbons (HC) in the exhaust emissions in excess of standards set forth in Table 1, when measured using an approved exhaust gas analytical system and the prescribed inspection procedure.

4.3 The provisions of this section shall become effective July 5, 1972 subject to the exception set forth in Section 5.1 of this Chapter.

**Section 5 – Exceptions**

5.1 Non-compliance with standards set forth in Section 4 of this Chapter by any motor vehicle during the period July 5, 1972 to June 30, 1973 shall not be cause for rejection or reinspection.

5.2 The provisions of Section 3 and Section 4 of this Chapter shall not apply to motorcycles or to motor vehicles with an engine displacement of less than 50 cubic inches.

5.3 Nothing in this Chapter is intended to limit or deny the inspection of motor vehicles for exhaust systems in accordance with regulations established pursuant to N.J.S.A. Title 39:8-1.

**TABLE I**  
**INSPECTION STANDARDS**  
**VEHICLES SUBJECT TO INSPECTION**  
**BY THE DIVISION OF MOTOR VEHICLES**  
(Reference N.J.S.A. Title 39:8-1)

MODEL YEAR OF VEHICLE	EFFECTIVE July 5, 1972		EFFECTIVE July 1, 1974		EFFECTIVE July 1, 1975	
	CO(%)	HC(PPM)	CO(%)	HC(PPM)	CO(%)	HC(PPM)
Up to and including 1967	10.0	1600	8.5	1400	7.5	1200
1968-1969	8.0	800	7.0	700	5.0	600
1970-1974	6.0	600	5.0	500	4.0	400
1975 and Later					*	.....

\*To be promulgated by amendment.

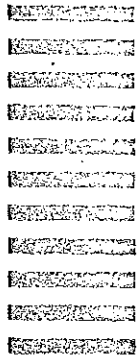
**PRESCRIBED INSPECTION TEST PROCEDURE**

STEP 1: With the vehicle in neutral gear, all accessories off, handbrake secured, accelerate engine and observe for visible smoke in the exhaust emissions and crankcase emissions.

STEP 2: With the engine running at idle, insert sampling probe of gas analytical system into the engine exhaust outlet. The steady State levels measured as percent carbon monoxide and parts per million of hydrocarbons in the exhaust gas shall be the inspection test result.

NOTE: All measurements are to be made after engine has been operating a sufficient period of time to attain normal operating temperature.

FIGURE B-8



TRENTON, NEW JERSEY 08666  
25 SOUTH MONTGOMERY STREET  
DIVISION OF MOTOR VEHICLES  
STATE OF NEW JERSEY

Postage Will Be Paid By—

BUSINESS REPLY MAIL  
No Postage Stamp Necessary If Mailed in The United States

FIRST CLASS  
PERMIT NO. 624  
Trenton, N. J.

(2/72) 811-1114

IMPORTANT NOTICE TO THE OWNER  
OF THIS MOTOR VEHICLE

Your motor vehicle has failed our air pollution inspection for one of the following reasons:

- 1. Visible Smoke
- 2. Excessive Carbon Monoxide
- 3. Excessive Hydrocarbons

Chapter 15 of the New Jersey Air Pollution Control Code requires that after July 1, 1973, we reject a motor vehicle which produces any visible smoke. We must also reject a vehicle which emits carbon monoxide or hydrocarbons in excess of the amounts shown below.

	1967 and Earlier Models	1968 and 1969 Models	1970 and later Models
Percent of Carbon Monoxide	10%	8%	6%
Hydrocarbons (parts per million)	1600 PPM	800 PPM	600 PPM

If your car failed to meet the standards above, it would not be permitted to operate under the Chapter 15 requirements which go into effect on July 1, 1973.

Here are some of the reasons why your car didn't pass our pollution test.

1. Visible smoke is generally caused by:
  - Improper or inadequate maintenance of the engine.
  - Worn piston rings or valves.
  
2. Excessive carbon monoxide emissions are generally caused by:
  - Restrictive or dirty air cleaner.
  - Incorrect carburetor adjustment.
  - Improper or inadequate maintenance of emission control devices.
  
3. Excessive hydrocarbon emissions are generally caused by:
  - Faulty ignition or engine misfire.
  - Improper timing.
  - Improper or inadequate maintenance of emission control devices.

Usually a simple tune-up will correct the pollution problem and also improve your engine's performance and increase your gas mileage.

Until July 1973 we won't require you to repair your car and return it for reinspection—but we hope you will.

If you have your car repaired and should decide to return for reinspection, please complete the attached card and bring it with you. If you are unable to have your car reinspected but have made repairs, detach the completed card and mail it back to us.

Thank you for contributing to New Jersey's campaign for cleaner air.

Ray J. Marini, Director  
Division of Motor Vehicles

CAR MAKE	LICENSE PLATE NO.	YEAR OF VEHICLE
REPAIRS MADE	WORK DONE BY	COST OF REPAIRS
<input type="checkbox"/> 1. Carburetor	<input type="checkbox"/> 1. New Car Dealer	<input type="checkbox"/> 1. \$ 0-\$ 10
<input type="checkbox"/> 2. Ignition	<input type="checkbox"/> 2. Independent Garage	<input type="checkbox"/> 2. \$10-\$ 25
<input type="checkbox"/> 3. Rings	<input type="checkbox"/> 3. Service Station	<input type="checkbox"/> 3. \$25-\$ 50
<input type="checkbox"/> 4. Valves	<input type="checkbox"/> 4. Self	<input type="checkbox"/> 4. \$50-\$100
<input type="checkbox"/> 5. Other	<input type="checkbox"/> 5. Other	<input type="checkbox"/> 5. Over \$100
Remarks .....		1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/>

no effective capability for enforcement of these standards. Beginning September 1, 1973, the idle emission standards adopted will be legally enforceable in roadside inspections, and a reject rate of 40-45% has been projected. New York does have a state-wide periodic safety inspection program using private licensed garages, but other inspection means are being actively considered for emission inspection.

Under provisions of a recent state law, 5¢ of the vehicle registration fee is to be used for motor vehicle air pollution control programs. The Department of Environmental Conservation is using a portion of these funds to purchase two mobile vans with capability of conducting the full Federal test cycle.

United States - City of Chicago: The City of Chicago has adopted motor vehicle emission standards applicable to all vehicles operating within the City on and after June 1, 1973. These standards set allowable smoke levels for both gasoline powered and diesel powered vehicles, and allowable idle carbon monoxide and hydrocarbon emission rates for gasoline powered vehicles. The idle emission standards adopted have differing allowable levels not only by age class of the vehicle (pre-1968, 1968-1969, 1970-1974, 1975+) but also by type of vehicle (non-fleet, fleet, passenger carriers for hire).

The Chicago law requires an annual emission inspection of every motor vehicle registered or subject to registration in the City on or after June 1, 1973. The inspection and testing is to be performed at testing stations operated or designated by the Department of Environmental Control and a certificate of compliance is to be issued to the registered owner

of vehicles tested and found in compliance with the standards. The City Commissioners are reportedly giving serious consideration to a \$5 increase in the City's annual motor vehicle registration fee to pay for the construction and operation of emission inspection stations. One proposal would require the construction of three inspection stations having a total of 19 lanes. These stations would then operate 16 hours a day and 7 days a week in order to inspect the 1 million affected vehicles.

APPENDIX C

TECHNICAL ADVISORY COMMITTEE

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REPORT 1

MOTOR VEHICLE EMISSION CONTROL

INSPECTION

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REPORT 1

by the

Technical Advisory Committee

Motor Vehicle Emission Control Program

to the

Department of Environmental Quality

State of Oregon

July 31, 1972

## CONCLUSIONS AND RECOMMENDATIONS

The Technical Advisory Committee concludes that:

1. A State motor vehicle emission control program must be initiated in order to achieve compliance with national ambient air standards in Portland by 1975.
2. An inspection program will be effective in controlling emissions.
3. Government funds (state or federal) must be available to affected state agencies for implementation of a vehicle inspection program.
4. State-owned and operated inspection stations would be the most practical and effective inspection system.

The Technical Advisory Committee recommends that:

1. Any state-wide periodic vehicle safety inspection program or vehicle noise inspection program which may be implemented, be compatible and concurrent with the emission control inspection.
2. The vehicle emission control program be made operational in Clackamas, Multnomah, and Washington Counties.
3. Initially only those vehicles which were originally equipped with exhaust emission control systems under provisions of Federal laws be subject to emission control inspection.
4. Fleet operations be permitted to inspect their own vehicles.
5. Exhaust smoke emission inspection on diesel vehicles be performed to meet the Oregon Opacity Standards.
6. Only during the first year of the emission control inspection program, vehicle owners not be required to bring this vehicle into compliance with the established criteria.



7. Publicly owned vehicles be required to comply with the emission control criteria during the first year of program operation.

8. The emission control program use state-owned and operated inspection stations, contingent upon receipt of federal funding.

## INTRODUCTION

The Motor Vehicle Emission Control Program Technical Advisory Committee was formed at the request of the Department of Environmental Quality to assist in the development and implementation of a motor vehicle emission control inspection program, as authorized by the 1971 Oregon Legislative Session (Oregon Laws 1971, Chapter 454).

The associations and agencies represented on the Technical Advisory Committee are as follows:

Automobile Manufacturers Association  
Consumer Services Division, State of Oregon  
Environmental Protection Agency, Region X,  
U. S. Government  
Independent Garage Owners Association  
Motor Vehicle Division, State of Oregon  
Oregon Automobile Dealers Association  
Oregon Board of Education, State of Oregon  
Oregon Gasoline Dealers Association  
Oregon Independent Automobile Dealers Association  
Oregon Trucking Association  
Portland Automotive Trades Association  
Western Oil and Gas Association

Of these associations and agencies represented on the Committee, the following participated in the technical discussions of the Committee and furnished valuable technical information to the Committee, but did not participate in formulating policy decisions:

Automobile Manufacturers Association  
Environmental Protection Agency, Region X  
Western Oil and Gas Association

The first Committee meeting was held on February 23, 1972, at which time a booklet prepared by the Department staff to provide Committee members with a general background of pertinent Federal laws and regulations regarding motor vehicle emissions, of the State of Oregon Clean Air Act Implementation Plan, and of pertinent Oregon laws and regulations was distributed and the information in the booklet was discussed in detail. This booklet, as well as the minutes of the Committee meetings and information provided to the Committee members by the Department, is attached to this report as an appendix.

Mr. Stan Bennett, representing the Oregon Independent Automobile Dealers Association, was selected Committee Chairman at the third meeting of the Committee. At this same meeting sub-committees on Emission Control, Fleet Operations, Education, and Inspection were established and Committee goals and objectives adopted. It was recognized that the interactions of the various sub-committee investigations and recommendations and the fulfillment of the Committee goals and objectives were such that simultaneous undertaking and completion of all work tasks was not possible. However, the early establishment of sub-committees initially known to be beneficial in carrying out the goals and objectives of the Committee was deemed advisable.

This initial Technical Advisory Committee report to the Department of Environmental Quality has been deliberately kept brief and concise so that it will be read, discussed, debated, and used in the development of an Oregon motor vehicle emission control inspection program. The Committee intends to continue to provide the Department of Environmental Quality technical assistance during the implementation of an emission inspection program and will supplement this initial report with additional studies and reports as necessary.

#### NECESSITY OF A VEHICLE EMISSION CONTROL INSPECTION

The Federal Clean Air Act of 1970 required the Environmental Protection Agency to establish national ambient air quality standards for various air pollutants including carbon monoxide. The national ambient air standards for carbon monoxide are 10 mg/m<sup>3</sup> (8.7 ppm) averaged over an 8-hour period, and 40 mg/m<sup>3</sup> (34.9 ppm) averaged over a one-hour period. The standard is allowed to be exceeded only once during any given year.

In metropolitan areas and particularly in the central city, motor vehicle operation is the predominant source of carbon monoxide.

Measurements taken by the Department of Environmental Quality at its continuous ambient air monitoring station in Portland show that the national ambient air standard for carbon monoxide is, and has been, regularly exceeded. The standard was exceeded in every month in 1971 (a total of 124 days in which the 8-hour average was exceeded), with maximum 8-hour averaged levels of 22.2 mg/m<sup>3</sup> being recorded in both February and November of 1971. A maximum 8-hour average of 27.1 mg/m<sup>3</sup> occurred in March, 1972, and on 63 occasions during the first six months of 1972 the 8-hour standard has been exceeded.

Projections made by the Department of Environmental Quality and an engineering consultant to the Environmental Protection Agency, are that compliance with the national ambient air standards will not be achieved by 1975 through reliance upon the Federal new vehicle emission control program alone. These two projections are substantiated by Federal projected emission reduction curves also. The Department of Environmental Quality has projected that to achieve compliance with national ambient air standards in Portland by 1975, emissions of carbon monoxide must be reduced an additional 43% beyond what is projected to be achieved by the federal new car program alone. The requirement for achieving compliance with national ambient air standards was established by the Federal Government and was included in the State's Implementation Plan submitted by Governor McCall to the Environmental Protection Agency. This plan has been one of few approved in total by the Environmental Protection Agency.

The Committee recognizes that projections of future ambient air levels of automotive pollutants cannot, in view of the number of variables involved, be very precise. The Committee however has concluded that to achieve compliance with national ambient air standards in Portland by 1975, a State motor vehicle emission control program must be initiated and recognizes the possibility that specific traffic control measures may be required.

#### PRACTICALITY AND EFFECTIVENESS OF A VEHICLE EMISSION CONTROL INSPECTION

The Technical Advisory Committee has concluded that a vehicle emission control inspection program in Oregon can be implemented before 1975 and can be effective in reducing vehicle emissions. The committee has not yet reached a conclusion as to the emission reduction which will result from an inspection program, but has concluded that an inspection program is necessary and will be effective in controlling emissions.

The committee recommends that any state-wide periodic vehicle safety inspection program or vehicle noise inspection program which may be implemented, be compatible and concurrent with the emission control inspection. The committee believes that the administrative cost of a combined vehicle safety, noise, and emission inspection program would not be significantly greater than the administration of any single purpose state-wide vehicle inspection program.

The Technical Advisory Committee concludes that government funds (state or federal) must be available to affected state agencies for implementation of a vehicle inspection program. The operational expense to the State of administering an inspection program, however, can be covered by the fee charged for the certificate of compliance.

IMPLEMENTATION OF A  
VEHICLE EMISSION CONTROL INSPECTION PROGRAM

A. County Designation

In view of the pressing and clear need for additional vehicle emission control in Portland, and in view of the short lead time available, the Technical Advisory Committee recommends that the emission control inspection program be initiated in the Portland tri-county metropolitan area. The Department of Environmental Quality has provided information that 85% of the automobiles, subject to Oregon registration, which operate in the Portland central area, are registered in the tri-county (Clackamas, Multnomah, Washington) area. Further almost 40% of the automobiles registered in the State are registered in these three counties. The Committee recognizes that many difficulties will arise during implementation of the inspection program and believes that maximum benefits will be achieved most expeditiously if the area of program implementation is kept to the minimum required to achieve compliance with national ambient air standards.

Therefore, the Technical Advisory Committee recommends that the vehicle emission control inspection program be made operational in Clackamas, Multnomah and Washington Counties, and that the Environmental Quality Commission so designate these counties under provisions of ORS 481.190. This recommendation should not be taken as limiting the inspection program to these three counties. The Committee believes that ambient air pollution levels, the emission control systems on new vehicles, the effectiveness of the inspection program, and numerous other factors should be regularly evaluated to determine any necessary changes which should be made in the counties designated by the Environmental Quality Commission.

B. Vehicle Classification

The Committee recommends that initially only those vehicles which were originally equipped with exhaust emission control systems under provisions of Federal laws be subject to emission control inspection. For instance, in the case of automobiles, only 1968 and newer models would be required to obtain a certificate of compliance prior to registration. All vehicles, however, would be subject to operating in compliance with the motor vehicle visible emission standards of the State (OAR 340, Sections 24-005 through 24-040), and with the provisions of ORS

449.845 which prohibits disconnection of factory installed motor vehicle air pollution control devices. If a state-wide periodic vehicle safety inspection program is implemented, then all vehicles should be checked for compliance with these present requirements of Oregon Law.

The Technical Advisory Committee therefore recommends that the Environmental Quality Commission, under provisions of ORS 449.953, designate only those classes of vehicles which were originally equipped with exhaust emission control systems under provisions of Federal laws as having certified systems available. The Committee believes that at least during the period of program implementation, inclusion of pre-exhaust emission control vehicles will create more social-economic problems and repair facility overloading than can be justified by the potential emission reduction.

#### C. Inspector Certification

The Technical Advisory Committee recommends that the Environmental Quality Commission establish under provisions of ORS 449.953, with Committee assistance, criteria and examinations and regulations for the qualifications of persons eligible to inspect motor vehicle pollution control systems. Such criteria and examinations and regulations should be compatible with other programs for inspector or mechanic licensing, including those for any vehicle safety inspection program. The Committee recognizes the need for educational programs designed for these persons and believes that it will be able, through its sub-committee on education, to provide valuable assistance in this area.

#### D. Equipment Certification

The Technical Advisory Committee recommends that the Environmental Quality Commission establish under provisions of ORS 449.953, with Committee assistance, criteria and regulations for the qualification of equipment, apparatus and methods used by persons to inspect motor vehicle pollution control systems.

#### E. Fleet Operations

The Technical Advisory Committee recommends that fleet operations be permitted to inspect their own vehicles. Fleet is defined here as consisting of five or more vehicles operated or owned by an operator of a business. Fleet inspection stations should be issued special restricted licenses and should

be permitted to inspect and certify only the vehicles owned or licensed or operated by the fleet securing the license. These facilities should be required to have the proper certified emission control testing equipment; and, since the testing requirements and equipment requirements for diesel and gasoline engines differ so greatly, it will be necessary to issue two different type licenses. The emissions inspection personnel should be examined and licensed by the appropriate State agency and the license issued to these people should restrict them to inspecting fleet-owned vehicles only.

The Committee recommends that exhaust smoke emission inspection on diesel vehicles be performed to meet the Oregon Opacity Standards. Because of the variation in diesel engines and their complexity (naturally aspirated, turbocharged, supercharged, many different fuel systems,) the Committee finds that it would be virtually impossible to spell out a standard procedure for checking each engine type. The Committee concludes that the best overall results with diesel-powered vehicles would be obtained by following the manufacturer's recommended checking procedures. Fleet owned gasoline and other fuel powered vehicles should conform to the standards set forth for non-fleet owned vehicles.

#### F. Public Education

The Technical Advisory Committee recommends that only during the first year of the emission control inspection program, vehicle owners not be required to bring their vehicles into compliance with the established criteria - excepting for those in violation of ORS 449.845 or OAR, Chapter 340, Sections 24-005 through 24-045. The owner should be notified of the vehicle's condition and whether or not it would pass the emission control criteria. In order to de-bug the inspection program and to establish base conditions, a certificate of compliance would be issued to all vehicles inspected and required upon renewal of registration. During this introductory year of operation, intensive public and service industry education programs should be undertaken. Compliance with the emission control criteria would be required during the second and subsequent years of program operation.

#### G. Public Owned Vehicles

The Technical Advisory Committee recommends that publicly owned vehicles be required to comply with the emission control criteria during the first year of program operation.



## H. Inspection System

The Committee has not yet been able to unanimously agree on the approach which should be used for the inspection system. Three basic approaches have been considered separately or in combination for non-fleet vehicle inspection. These are:

Government (state or county) owned and operated inspection stations.

A franchised system of inspection stations quite similar to a state-operated system.

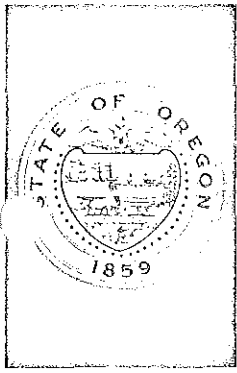
The licensing of private garages at which both inspection and repair could be undertaken.

Various combinations of these systems have been considered including the use of licensed garages in combination with state or franchised mobile inspection stations. The Committee recognizes and has discussed the interaction of the inspection system, the inspection test, program and repair cost, as well as educational needs; and the majority has concluded that state-owned and operated inspection stations would be the most practical and effective inspection system. The Committee therefore recommends adoption of this procedure, contingent upon receipt of federal funding (Section 210, Clean Air Act of 1970, does authorize such funds.)

APPENDIX D

COUNTY DESIGNATION

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DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL GOVERNOR

L. B. DAY Director

MEMORANDUM

ENVIRONMENTAL QUALITY COMMISSION

- B. A. McPHILLIPS Chairman, McMinnville
EDWARD C. HARMS, JR. Springfield
STORRS S. WATERMAN Portland
GEORGE A. McMATH Portland
ARNOLD M. COGAN Portland

To: Files
From: William P. Jasper, Associate Engineer
Subject: Motor Vehicle Inspection Program--County Designations
Date: June 29, 1972

WPG

SUMMARY:

Adoption of a motor vehicle emission control program in the Portland area, affecting the Counties of Multnomah, Clackamas, and Washington will affect approximately 85% of the gasoline-powered motor vehicles which operate in the Portland central area. Over 500,000 vehicles could be affected, representing almost 40% of the registered passenger vehicles in the State of Oregon.

\* \* \* \* \*

A major division of ORS 481.190 (HB 1067) affecting the Department and the Commission is the requirement for designation of counties in which a motor vehicle inspection program is to be established. The work outlined in the implementation plan indicates that the areas having the potential for exceeding ambient air standards due to excessive automotive emissions are areas of high vehicle density; and only greater control of CO than now in effect is needed in these areas.\* These by their nature are the metropolitan areas. Table 1 lists the counties in the State, their populations, vehicle populations, vehicle densities, and annual

\*As outlined in the Implementation Plan, auto exhaust emissions other than CO are "under control".

vehicle miles. Tables II, III, IV and V give the same information, but only for the top 10 counties in each category.

Table VI has divided the state into its five air quality control regions, and within the state the only region with CO levels in excess of ambient standards is the Portland Interstate Region. The Portland region is divided into three regional authorities and in this region the only area with Carbon Monoxide levels above ambient levels is the CWAPA area, Figure 1, notably the Portland commercial area. Continuous monitoring data from LRAPA, Table VII, shows that in 1971 ambient levels for CO were not exceeded, and with Eugene (Lane County) being more populous with more registered passenger cars than Salem (Marion County), neither of these areas need be prime targets for CO emission control strategies. In addition, traffic count data indicate that traffic flows in comparable areas are larger for Eugene than Salem.\*

Emissions from automobiles are declining as new car exhaust emission controls are implemented, therefore areas meeting federal ambient air standards should continue to comply with these standards, as far as automotive emissions are concerned. Control of automotive CO emissions should then center in the CWAPA region, since this area has the greatest population, vehicle registration, vehicle density, and a history of exceeding the federal CO ambient air standard. Portland, in the CWAPA region, is projected to continue to exceed these standards through 1978, even with the new car controls.

The Implementation Plan (Appendix 1) calls for a comprehensive auto control technique including emission control and traffic control strategies. Since it is necessary to meet established ambient levels by 1975, an area which exceeds a level

\*Eugene- Franklin Blvd. (20-003) 23,111 1970 ADT  
Salem-East Center St. (24-018) 12,622 1970 ADT

(CO) due to a specific source (motor vehicles) should not be left uncontrolled. ORS 481.190 requires a county wide designation of an emission control area.

Any program for control of CO emissions in the CWAPA area would require emission control of motor vehicles. The CWAPA area is formed from four counties in the Portland area, Clackamas, Columbia, Multnomah and Washington. In addition, the contiguous counties on Multnomah (Portland) also include Hood River County and Clark County, Washington. In order to properly assess an effective control area, the following criteria are set forth as being prime considerations for county designations (under ORS 481.190):

1. Counties where ambient levels exceeded.
2. Counties which contribute to excess CO levels.

From the first criteria, Multnomah County should be included since it is in this county that high CO levels are recorded. No data is available which indicates that any other county in the state exceeds the ambient standards on CO.

In applying the second criteria several considerations are involved:

1. Trans-county line traffic.
2. Amount of other-county residents and their automobiles going to areas of high CO levels.
3. Purpose and times of trans-county traffic.

### TRANS-COUNTY LINE TRAFFIC

To aid in this evaluation, Figure 2 was developed. This figure shows average daily traffic across county lines. This is two-way traffic and summarizing individual county contributions across the Multnomah line:

<u>County</u>	<u>% of Trans-County Traffic</u>
Clackamas County	23.5
Clark County, Wash.	25.7
Columbia County	2.9
Hood River County	3.7
Washington County	43.9

### AREA CONTRIBUTIONS

Several methods are available for gaging the effect of one county on another. As a large percentage of traffic is commuter directed, records on employers and employees should give an indication of commuter potential. The following data was obtained from HRD, Employment Department, Portland:

<u>County</u>	<u>No. People Working<sup>1</sup> in Respective Counties in 1969</u>	<u>No. People Who Reside<sup>2</sup> in Respective Counties &amp; Are Employed in 1970</u>
Multnomah	307,900	228,000
Washington	49,200	64,800
Clackamas	44,100	63,800
Columbia	8,000	10,000
Clark	40,600	47,000

1. Source--HRD, Portland, Study 1969

2. Source--HRD, Portland, 1970 U. S. Census

This table indicates that Multnomah County is the prime area of employment opportunity and that at least 80,000 workers must cross county lines to go to their jobs in Multnomah County.

Tax records also give an indication of the employment in the Portland metro area:

1969 OREGON STATE INCOME TAX FILINGS

<u>County</u>	<u>Number of Returns</u>	<u>Percent</u>
Clark, Wash.	12,804	3.6
Multnomah	223,257	63.1
Clackamas	55,871	15.8
Washington	52,511	14.8
Columbia	9,247	2.6
TOTAL	353,690	

These figures give a good estimation of the total contribution of out-of-state (Clark County, Washington) workers on the greater Portland area employment picture, and thus on traffic.

Attached in Appendix II is data supplied by DeLeuw, Cather and Company from a downtown parking study survey conducted November, 1970. A summary of the data indicating county of origin of parked autos is shown in Table VIII.

TRAFFIC COUNTS

Traffic counts (Appendix III) and estimating the effect of out-of-state vehicles are tools that are used to determine the

effect of the non-Multnomah County traffic on the Portland commercial area, (and non-Oregon vehicles). Table IX shows the effect of out-of-state vehicles on various routes into the city. From these data, and the traffic tables an estimated 10,000 ADT in the Portland commercial area are due to out-of-state vehicles. These are also an estimated 3,500 ADT through the trips, or a total of 13,500 ADT. This is about 5% of the over-all traffic. The tax figures and the DeLeuw, Cather and Company study tend to confirm this figure.

Traffic contribution from trucks and buses account for another 3 1/2 - 5% of the traffic through the commercial area. Again these figures are from the traffic volume tables.

Traffic in the core area has been estimated as 469,000 ADT (1970), and assuming a fairly uniform distribution over the core and general commercial areas, this gives 445,000 ADT due to gasoline-powered vehicles. With the 13,500 vehicles classified as out-of-state and through vehicles this leaves 97% of the gasoline powered vehicles as Oregon registered vehicles.

The contribution from Columbia County is defined as 4,000 auto ADT to the commercial area, and Hood River as 5,000 auto ADT to the commercial area. Columbia County then accounts for less than 1% (.89%) and Hood River County just over 1% (1.12%) or a total of 2%. As the total contribution from these counties is less than the out-of-state vehicles, and these counties do not have a CO "problem", these vehicles can be omitted from a control program without a significant program impairment to a Portland area emission control program.



The following classes of vehicles represent about 15% of the gasoline-powered vehicles in the Portland commercial area which are omitted from a mandatory emission inspection program because of lack of authority or insignificance.

Out-of-state Vehicles (Passenger)	3-5%
Columbia & Hood River County (Passenger)	2%
Through Vehicles & Vehicles from Outside CWAPA Area*	8%

Then, 85% of the gasoline-powered vehicles in the area would be due to traffic originating in Multnomah, Clackamas, and Washington Counties. Essentially all Washington County traffic, crossing the Multnomah-Washington county line; passes through or to the Portland commercial area. This represents 25% of Portland commercial area traffic. Clackamas County contributes an estimated 6-14% to the Portland commercial districts. The 14% is arrived at by assuming all vehicles trips go through the Portland commercial area, and the six percent figure by assuming that of all Clackamas County originated ADT's only 30,000 (65% West side, 35% East side) go to and/or through the commercial area. The DeLeuw, Cather and Company study estimates total Clackamas County automobile contribution at greater than 12% for the CBD. And by balance, Multnomah County has the remaining ADT's (50%) Summarizing:

Out-of-state Cars	3-5%
Columbia & Hood River	2%
Through & Outside Area	8%
Clackamas	6-14%
Washington	20-25%
Multnomah	50%

## BASE COUNTIES EMISSION INSPECTION

If Multnomah County alone were the only county designated as a controlled county under ORS 481.190, 50% of the vehicles contributing to the high levels of CO would be subject to regulation and control. If other combinations of counties were chosen the percent of vehicles affected are shown on Table X and Figure 3. For a tri-county program 85% of the vehicles in the Portland central area would be regulated.

For maximum control of CO from automobiles for the Portland area with the minimum number of designated counties; a three-county designation of Multnomah, Clackamas, and Washington County is preferred. As shown in Table X, increases in number of counties above this level does not appreciably affect the percentage and number of cars which can be considered to be contributing to the levels of CO in the Portland area.

The traffic count figures were used to estimate the non-Multnomah County traffic in the Portland commercial area, with the work from DeLeuw, Cather and Company tax and employment information being used to supplement and complement.

It is difficult, even with all these sources, to establish the exact location by county of origin of all other Oregon passenger vehicles. Lacking this information no other county in the state can be significantly established as contributing to levels of CO above the ambient in Portland.

## NUMBER OF VEHICLES AFFECTED

A program requiring vehicle emission inspections could affect over 500,000 vehicles in the tri-county area or almost 40% of the registered passenger vehicles in the state. Such a comprehensive program, together with the traffic control measures outlined in the Implementation Plan, would continue in Oregon's effort to meet the ambient air standards by 1975.

TABLE I  
STATE AND COUNTY

Populations, Motor Vehicle Populations, and Vehicle Densities

<u>County &amp; District No.</u>	<u>Population (1970 Census)</u>	<u>Passenger Car Registration (1971)</u>	<u>Vehicle Density Vehicle/sq. mi.</u>	<u>1970 Annual Vehicle Miles in Millions</u>
<u>District 1</u>				
Clatsop	28,473	16,561	33.8	181
Tillamook	18,034	11,219	10.0	165
<u>District 2</u>				
Clackamas	166,088	95,223	50.3	807
Columbia	28,790	17,590	42.5	141
Multnomah	554,668	331,488	725.4	2,683
Washington	157,920	100,673	140.6	703
<u>District 3</u>				
Marion	151,309	92,183	78.5	951
Polk	35,349	19,555	27.6	239
Yamhill	40,213	25,502	35.7	233
<u>District 4</u>				
Benton	53,776	28,244	42.3	238
Lincoln	25,755	16,287	16.3	232
Linn	71,914	44,102	19.2	657
<u>District 5</u>				
Lane	215,401	134,360	29.1	1,345
<u>District 6</u>				
Douglas	71,743	47,768	9.4	862
<u>District 7</u>				
Coos	56,515	35,495	21.8	303
Curry	13,006	9,263	5.7	99
<u>District 8</u>				
Jackson	94,533	64,717	23.0	610
Josephine	35,746	26,624	16.4	300
<u>District 9</u>				
Hood River	13,187	9,655	18.0	128
Sherman	2,137	1,564	1.9	58
Wasco	20,133	13,568	5.7	208
<u>District 10</u>				
Crook	9,985	7,304	2.4	69
Deschutes	30,442	22,708	7.4	217
Jefferson	8,548	6,522	3.6	102
<u>District 11</u>				
Klamath	50,021	34,584	5.6	377
Lake	6,343	5,480	0.7	73
<u>District 12</u>				
Gilliam	2,342	1,435	1.1	70
Grant	6,996	4,438	1.0	75
Morrow	4,465	3,000	1.5	73
Umatilla	44,923	29,885	9.2	324
Wheeler	1,849	1,164	0.7	21
<u>District 13</u>				
Baker	14,914	10,572	3.4	133
Union	19,377	12,651	6.2	123
Wallowa	6,247	3,912	1.2	42
<u>District 14</u>				
Harney	7,215	4,307	0.4	89
Malheur	23,169	15,653	1.6	191
County Total		1,305,256		
Out-of-state		4,885		
Publicly Owned		-		
GRAND TOTAL	2,091,385	1,310,141	13.5	13,125

TABLE II  
 10 MOST POPULOUS COUNTIES, POPULATION, VEHICLE DENSITIES

<u>County</u>	<u>Population 1970 Census</u>	<u>Vehicle Density (vehicles/mi<sup>2</sup>)</u>
1. Multnomah	554,668	725.4
2. Lane	215,401	29.1
3. Clackamas	166,088	50.3
4. Washington	157,920	140.6
5. Marion	151,309	78.5
6. Jackson	94,533	23.0
7. Linn	71,914	19.2
8. Douglas	71,743	9.4
9. Coos	56,515	21.8
10. Benton	53,776	42.3

TABLE III  
 10 COUNTIES WITH HIGHEST VEHICLE REGISTRATION, VEHICLE DENSITIES

<u>County</u>	<u>1971 Passenger Car Registration</u>	<u>Vehicle Density (v/m<sup>2</sup>)</u>
1. Multnomah	331,488	725.4
2. Lane	134,360	29.1
3. Washington	100,673	140.6
4. Clackamas	95,223	50.3
5. Marion	92,183	78.5
6. Jackson	64,717	23.0
7. Douglas	47,768	9.4
8. Linn	44,102	19.2
9. Coos	35,495	21.8
10. Klamath	34,584	5.6

TABLE IV  
 TOP TEN COUNTIES IN VEHICLE DENSITY

<u>County</u>	<u>Vehicle Density (v/m<sup>2</sup>)</u>
1. Multnomah	725.4
2. Washington	140.6
3. Marion	78.5
4. Clackamas	50.3
5. Columbia	42.5
6. Benton	42.3
7. Yamhill	35.7
8. Clatsop	33.8
9. Lane	29.1
10. Polk	27.6

TABLE V  
 TOP TEN COUNTIES IN ANNUAL VEHICLE MILES

<u>County</u>	<u>Annual Vehicle Miles in Millions</u>
1. Multnomah	2,683
2. Lane	1,345
3. Marion	951
4. Douglas	862
5. Clackamas	807
6. Washington	703
7. Linn	657
8. Jackson	610
9. Klamath	377
10. Umatilla	324

TABLE VI  
AIR QUALITY CONTROL REGIONS - VEHICLE DENSITIES

<u>Region (and Districts)</u>	<u>Population (1970)</u>	<u>Vehicle Popu- lation (1971)</u>	<u>Vehicle Density Vehicle/sq. mi.</u>
Portland Interstate Air Quality Control Region (Ore.)	1,475,428	888,920	63.9
Columbia-Willamette Air Pollution Authority	907,466	544,974	145.6
Mid-Willamette Valley Air Pollution Authority	352,561	209,586	37.7
Lane Regional Air Pollu- tion Authority	215,401	134,360	29.1
Northwest Air Quality Control Region	72,262	44,067	14.9
Central Air Quality Con- trol Region	140,796	101,385	3.9
Eastern Air Quality Con- trol Region	131,497	87,017	2.1

TABLE VII

Continuous Air Monitoring from  
Lane Regional Air Pollution Authority

1971

## CARBON MONOXIDE

Month	(mg/M <sup>3</sup> )		(mg/M <sup>3</sup> )		(mg/M <sup>3</sup> )	
	1 Hour Max. Aver.	Monthly Aver.	8 Hour Max. Aver.	Monthly Aver.	24 Hour Max. Aver.	Monthly Aver.
( January	3.4	1.5	2.0	1.2	1.6	0.9
1 ( February	4.6	1.3	3.3	1.0	2.3	0.8
( March	1.7	1.3	1.7	1.0	1.5	0.8
April						
( May	5.8	3.3	4.4	2.4	4.1	2.0
( June	5.8	2.7	3.2	2.0	2.4	1.6
( July	5.2	3.1	4.0	2.3	3.4	2.0
2 ( August	7.5	3.8	6.0	3.0	4.5	2.5
( September	9.2	5.1	5.0	3.2	4.1	2.6
( October	12.7	6.4	7.7	4.3	6.5	3.3
( November	16.1	7.8	9.9	4.8	5.7	3.5
( December	10.4	5.7	6.4	3.0	5.1	2.8

## National Ambient Air Quality Standard

1 hour average (maximum) 40 mg/M<sup>3</sup>8 hour average (maximum) 10 mg/M<sup>3</sup>

1. Continuous Air Monitoring Station  
Lane Regional Air Pollution Authority Bldg.

2. Continuous Air Monitoring Station  
11th at Willamette Street, Eugene

TABLE VIII  
ORIGIN OF TRIPS IN THE PORTLAND CENTRAL BUSINESS DISTRICT

Summary of Data from DeLeuw, Cather and Company  
(November 1970)

ALL TRIPS

<u>County of Origin</u>	<u>Percent</u>
Multnomah	59.48
Clackamas	12.35
Washington	16.53
Clark (Wash.)	2.57
Other	9.07

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WORK TRIPS ( ONLY )

<u>County of Origin</u>	<u>Percent</u>
Multnomah	59.22
Clackamas	13.51
Washington	18.33
Clark (Wash.)	2.77
Other	6.17

TABLE IX

TRAFFIC COUNTS AS A MEASURE OF VEHICLE  
IMPACT ON THE PORTLAND COMMERCIAL AREA(Compiled from Traffic Volume Tables & Traffic Count Summary Sheets)  
1970

<u>Location</u>	<u>Total</u>	<u>Oregon Vehicles</u>	<u>Out-of-State Passenger</u>	<u>Heavy Vehicles</u>
Interstate Bridge	69200 ADT	29700 (43.2%)	33700 (48.7%)	5600 (8.1%)
One Mile After Bridge	48000 ADT	20700 (43%)	23000 (48.7%)	3900 (8.1%)
Minnesota Traf- fic Counter	67800 ADT	46000 (67.9%)	15600 (23%)	6200 (9.1%)
Morrison Bridge	36000 ADT	32000 (89.2%)	2000 (5.7%)	1980 (5.5%)
Banfield Traf- fic Counter	92000 ADT	84000 (91.4%)	4400 (4.8%)	4400 (4.8%)
Baldock Traffic Counter	69000 ADT	60000 (87.1%)	3500 (5.0%)	5500 (7.9%)
At Salem	22000 ADT	-	2000	-



TABLE X  
 VEHICLES AFFECTED FOR DIFFERENT  
 DESIGNATED COUNTIES OF EMISSION CONTROL

<u>Designated Counties</u>	<u>Percent of Vehicles in Portland Commercial area affected</u>	<u>No. Passenger Ve- hicles Affected 1971</u>
Multnomah Only	50%	331488
Multnomah and Clackamas	60%	426711
Multnomah and Washington	75%	432161
Multnomah, Clackamas and Washington	85%	527384
Multnomah, Clackamas, Washington and Columbia	86%	544974
Multnomah, Clackamas, Washington Columbia and Hood River	87%	554629

Figure 1

Continuous Air Monitoring Station  
718 W. Burnside, Portland

National Ambient Air Quality Standard

1 hour average (maximum) 40. mg/M<sup>3</sup>

8 hour average (maximum) 10 mg/M<sup>3</sup>

CARBON MONOXIDE

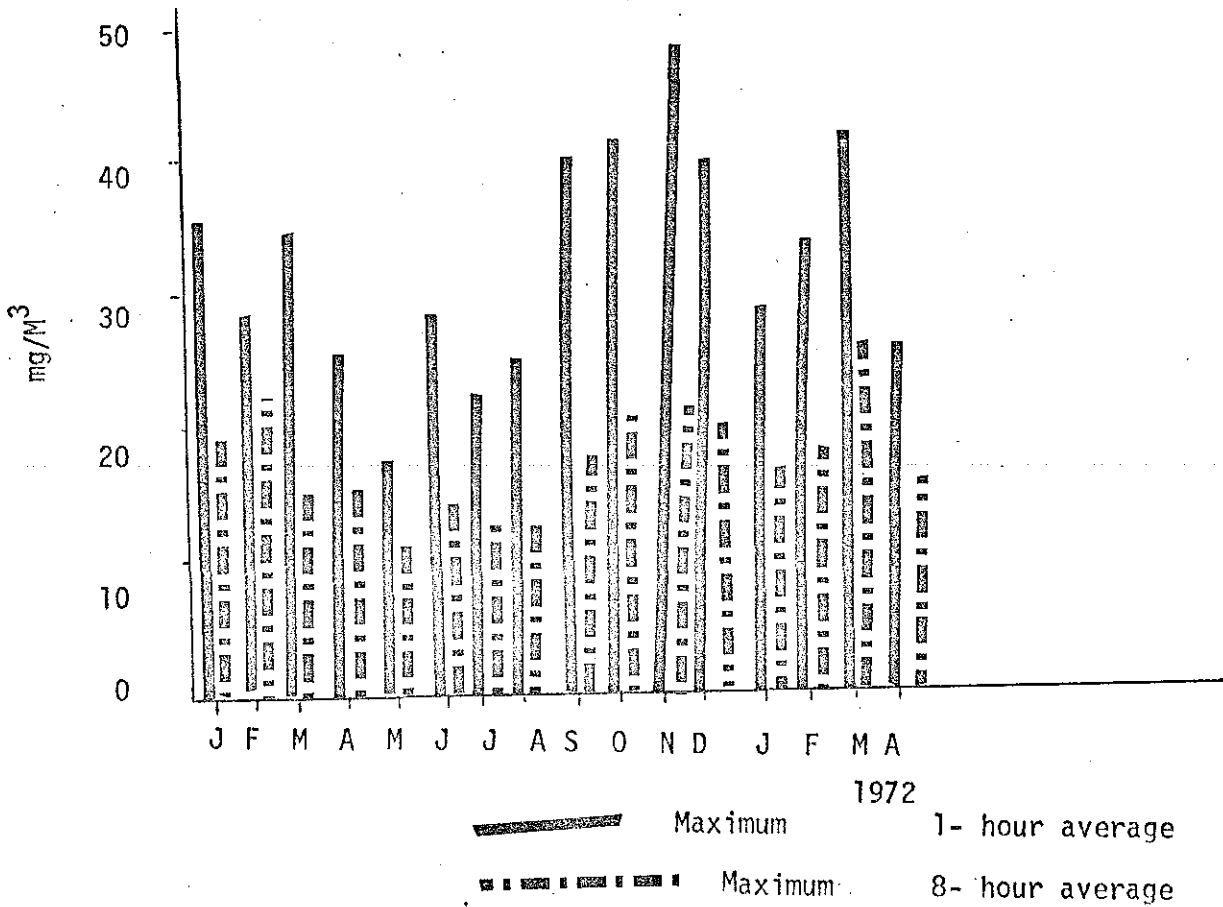
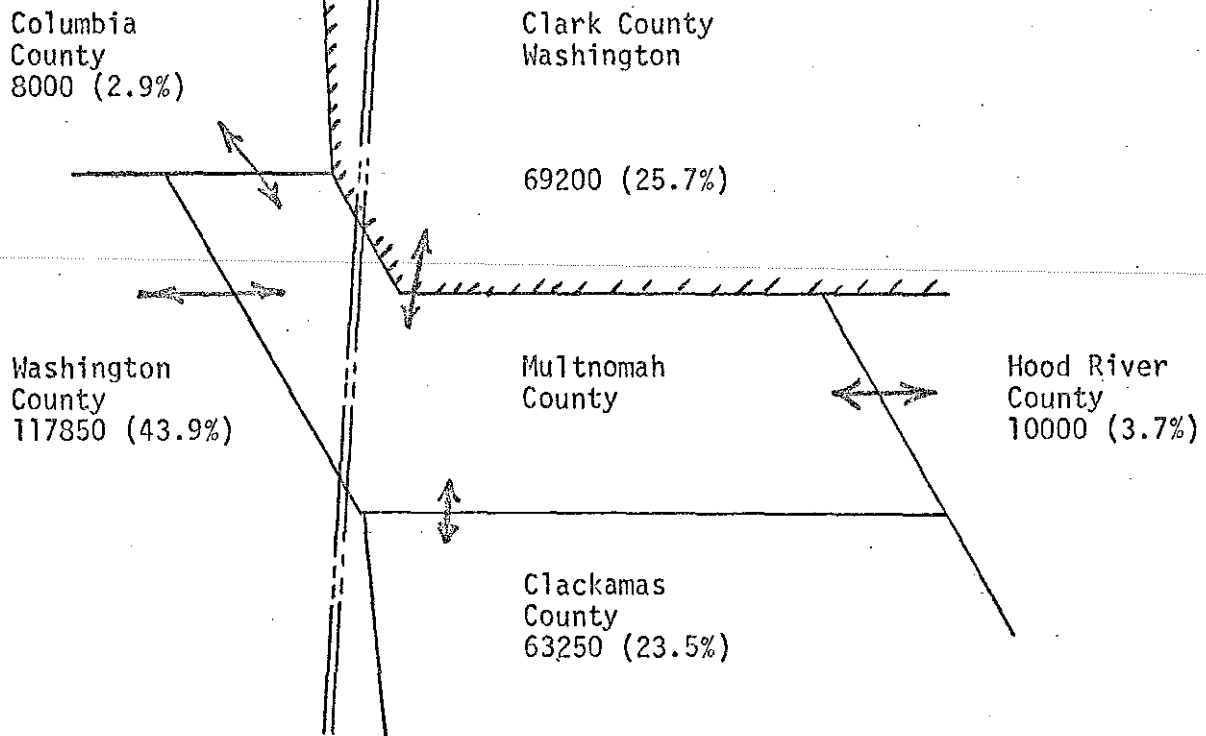


FIGURE 2  
 TRAFFIC ACROSS MULTNOMAH COUNTY BOUNDARY  
 AVERAGE DAILY TOTAL (ADT)



TRAFFIC COUNTS

Multnomah-Columbia  
 8000 ADT U. S. 30

Clark-Multnomah  
 69200 ADT I-5

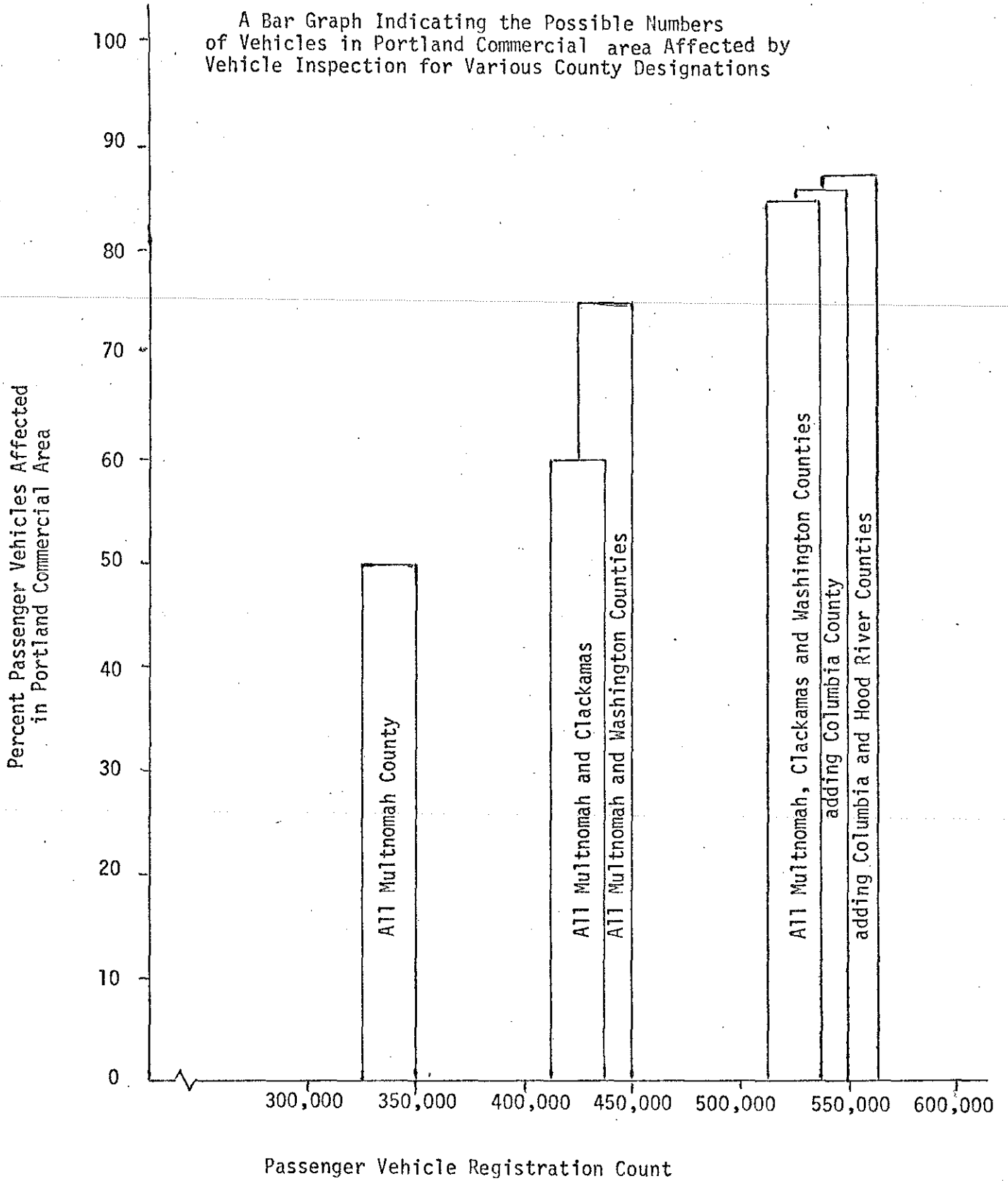
Hood River-Multnomah  
 10000 ADT I-80N

Clackamas-Multnomah  
 14000 ADT U. S. 26  
 30200 ADT U. S. 99E  
 2550 ADT ORE. 212  
 16500 ADT ORE. 34

Washington-Multnomah  
 32800 ADT I-5  
 24000 ADT Barbur Boulevard  
 50200 ADT U. S. 26 & ORE 8  
 6100 ADT Barnes Road  
 47000 ADT Thompson Road

Figure 3

A Bar Graph Indicating the Possible Numbers of Vehicles in Portland Commercial area Affected by Vehicle Inspection for Various County Designations



APPENDIX

## APPENDIX I

### REFERENCES TO STATE OF OREGON CLEAN AIR ACT IMPLEMENTATION PLAN

1. Introduction
2. Legal Authority Regarding Inspection and Testing of Motor Vehicles
3. Transportation Control Measures
4. Measures to Reduce Emissions of Carbon Monoxide, Nitrogen Oxide, and Hydrocarbons
5. Motor Vehicle Inspection Program
6. Transportation Control Measures - City of Portland
7. Review and Approval of Parking Facilities and Highways in Urban Areas
8. Adequacy of the Control Strategy for Carbon Monoxide, Hydrocarbons, Nitrogen Oxides, and Photo Chemical Oxidant
9. Motor Vehicle Inspection and Maintenance
10. Transportation and Traffic Control Measures
11. Summary of Emission Reduction Alternatives

A P P E N D I X   I I

1. Letter and Tables from DeLeuw, Cather & Company
  2. Zip Code Map
-

DE LEUW, CATHER & COMPANY  
CONSULTING ENGINEERS  
1500 S.W. FIRST AVENUE  
PORTLAND, OREGON 97201  
AREA CODE 503 • 224-4000

CHICAGO

NEW YORK

SAN FRANCISCO

SEATTLE

WASHINGTON, D.C.

June 12, 1972

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED  
JUN 13 1972

AIR QUALITY CONTROL

Mr. William Jasper  
Associate Engineer  
Department of Environmental Quality  
1234 S. W. Morrison Street  
Portland, Oregon 97205

Subject: Downtown Pedestrian Interview

Dear Mr. Jasper:

Enclosed for your information are copies of Tables 18 and 20, containing the home zip code of people interviewed at selected buildings in Downtown Portland. These tables are being sent to you in accordance with your request by telephone on June 12, 1972.

Table 18 indicates the home zip code by mode of travel to Downtown. The first row of each column indicates the number of people; the second row is a percent by columns; and the third row is a percent in the horizontal direction. Table 20 indicates the home zip code by mode of travel to Downtown for work purposes only. The same table format is used in Table 20 as in Table 18.

The information contained on these tables was obtained by passing out postcard questionnaires to approximately 37,000 people of some 67,000 people entering 27 buildings located in the Central Business District of Downtown Portland. Some 13,000 questionnaires, or 32 per cent of those distributed, were returned and usable.

I hope this information will be sufficient for your work dealing with Clackamas County and if you have any questions concerning the interpretation of these tables, please call me at your convenience.

Sincerely,

DE LEUW, CATHER & COMPANY

*Carl H. Buttke*

Carl H. Buttke

Chief Transportation Engineer

CHB:js  
encl.

cc: Mr. Donald Bergstrom



NO RESPONSE

95

22

107

311

212

UNIVERSITY PARKING STUDY - OREGON - DIVISION  
 DE LEUW, CATHER AND COMPANY 2057-00

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN

TABLE 18

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97005 <i>Beaverton</i>	2010 6.29 64.09	605 5.71 19.29	507 2.83 16.17		10 .30 .32	4 1.56 .13	3136 4.88 100.00	18
97015 <i>Clackamas</i>	38 .12 55.07	7 .07 10.14	24 .13 34.73				69 .11 100.00	
97027 <i>Gladstone</i>	67 .21 42.95	17 .16 10.90	72 .40 46.15				156 .24 100.00	8
97030 <i>Jusham</i>	347 1.09 62.08	73 .69 13.06	126 .70 22.54		4 .12 .72	9 3.50 1.61	559 .87 100.00	
97034 <i>Lake Oswego</i>	1883 5.89 75.71	350 3.31 14.07	233 1.30 9.37		11 .33 .44	10 3.89 .40	2487 3.87 100.00	5
97043 <i>N. Portland</i>	7 .02 100.00						7 .01 100.00	
97045 <i>Oregon city</i>	171 .53 69.51	39 .37 15.85	36 .20 14.63				246 .38 100.00	
97060 <i>Southeast</i>	106 .33 62.35	4 .04 2.35	60 .34 35.29				170 .26 100.00	
97133 <i>North Plains</i>	8 .03 100.00						8 .01 100.00	
97201 <i>Portland</i>	2268 7.09 44.25	626 5.91 12.21	857 4.79 16.72	57 25.56 1.11	1276 37.99 24.90	41 15.95 .80	5125 7.97 100.00	24
97202 <i>"</i>	1609 5.03 45.13	591 5.58 16.58	1276 7.13 35.79	18 8.07 .50	50 1.49 1.40	21 8.17 .59	3565 5.55 100.00	19
97203 <i>"</i>	364 1.14 35.17	167 1.58 16.14	496 2.77 47.92		6 .18 .58	2 .78 .19	1035 1.61 100.00	26

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN

TABLE 18

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97204 <i>Portland</i>	40 .13 31.25		11 .06 8.59		77 2.29 60.16		128 .20 100.00	3
97205 "	271 .85 21.51	73 .69 5.79	189 1.06 15.00	20 8.97 1.59	692 20.60 54.92	15 5.84 1.19	1260 1.96 100.00	3
97206 "	949 2.97 36.51	490 4.63 18.85	1134 6.34 43.63		24 .71 .92	2 .78 .08	2599 4.04 100.00	21
97209 "	145 .45 23.42	44 .42 7.11	214 1.20 34.57	14 6.28 2.26	202 6.01 32.63		619 .96 100.00	4
97210 "	698 2.18 36.00	206 1.95 10.62	537 3.00 27.69	5 2.24 .26	487 14.50 25.12	6 2.33 .31	1939 3.02 100.00	8
97211 "	644 2.01 40.30	272 2.57 17.02	666 3.72 41.68		11 .33 .69	5 1.95 .31	1598 2.49 100.00	4
97212	1020 3.19 42.36	436 4.12 18.11	853 4.77 35.42	29 13.00 1.20	67 1.99 2.78	3 1.17 .12	2408 3.75 100.00	2
97213	964 3.01 38.92	372 3.51 15.02	1112 6.22 44.89	3 1.35 .12	18 .54 .73	8 3.11 .32	2477 3.85 100.00	10
97214	693 2.17 30.99	364 3.44 16.28	1122 6.27 50.18		50 1.49 2.24	7 2.72 .31	2236 3.48 100.00	16
97215	617 1.93 40.41	262 2.47 17.16	627 3.51 41.06	10 4.48 .65		11 4.28 .72	1527 2.38 100.00	
97216	307 .96 36.33	150 1.42 17.75	386 2.16 45.68		2 .06 .24		845 1.31 100.00	6
97217	771 2.41 38.04	327 3.09 16.13	919 5.14 45.34	3 1.35 .15		7 2.72 .35	2027 3.15 100.00	18

97215	617 1.93 40.41	262 2.47 17.16	627 3.51 41.06	10 4.48 .65	4.28 .72	100.00	845 1.31 100.00	6
97216	307 .96 36.33	150 1.42 17.75	386 2.16 45.68	2 .06 .24			2027 3.15 100.00	18
97217	771 2.41 38.04	327 3.09 16.13	919 5.14 45.34	3 1.35 .15	2.72 .35			

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN TABLE 18

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97218 <i>Portland</i>	320 1.00 48.27	129 1.22 19.46	206 1.15 31.07	3 1.35 .45	5 .15 .75		663 1.03 100.00	4
97219	2202 6.89 54.93	749 7.07 18.68	1028 5.75 25.64	4 1.79 .10	19 .57 .47	7 2.72 .17	4009 6.24 100.00	25
97220	680 2.13 40.72	386 3.65 23.11	578 3.23 34.61	2 .90 .12	24 .71 1.44		1670 2.69 100.00	4
97221	992 3.10 60.71	297 2.80 18.18	320 1.79 19.58	7 3.14 .43	12 .36 .73	6 2.33 .37	1634 2.54 100.00	
97222	1406 4.40 56.92	300 2.83 12.15	743 4.15 30.08		17 .51 .69	4 1.56 .16	2470 3.84 100.00	2
97223 <i>Légard &amp; Rural</i>	1109 3.47 61.03	373 3.52 20.53	298 1.67 16.40	5 2.24 .28	18 .54 .99	14 5.45 .77	1817 2.83 100.00	2
97225 <i>Some Wash Cty</i>	2154 6.74 71.82	474 4.48 15.81	330 1.85 11.00	11 4.93 .37	30 .89 1.00		2999 4.66 100.00	12
97227 <i>Portland</i>	41 .13 28.28	19 .18 13.10	82 .46 56.55		3 .09 2.07		145 .23 100.00	
97229 <i>West Portland</i>	828 2.59 76.52	148 1.40 13.68	86 .48 7.95		10 .30 .92	10 3.89 .92	1082 1.68 100.00	5
97230 <i>East Portland Rural</i>	644 2.01 49.92	290 2.74 22.48	344 1.92 26.67		12 .36 .93		1290 2.01 100.00	4
97231 <i>Sauvie Island</i>	79 .25 55.24	35 .33 24.48	29 .16 20.28				143 .22 100.00	
97232 <i>Portland</i>	497 1.55 39.41	227 2.14 18.00	523 2.92 41.48		9 .27 .71	5 1.95 .40	1261 1.96 100.00	10

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN

TABLE 18

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97233 <i>East Portland</i>	499 1.56 47.80	242 2.29 23.18	292 1.63 27.97		11 .33 1.05		1044 1.62 100.00	13
97236 <i>East Portland</i>	363 1.14 47.27	149 1.41 19.40	256 1.43 33.33				768 1.19 100.00	6
97266 <i>East Portland</i>	438 1.37 46.95	151 1.43 16.18	337 1.88 36.12		7 .21 .75		933 1.45 100.00	
98604 <i>Washington</i>	23 .07 33.82	9 .08 13.24	36 .20 52.94				68 .11 100.00	
98606	1 .00 100.00						1 .00 100.00	
98607	60 .19 78.95	7 .07 9.21	9 .05 11.84				76 .12 100.00	
98616								
98625	10 .03 100.00						10 .02 100.00	
98629								
98642	9 .03 60.00	4 .04 26.67	2 .01 13.33				15 .02 100.00	
98660	111 .35 60.00	25 .24 13.51	45 .25 24.32		4 .12 2.16		185 .29 100.00	
98661	137 .43 55.92	54 .51 22.04	54 .30 22.04				245 .38 100.00	2

98660	60.00	111	25	1	4	185
		.35	.24	.5	.12	.29
	60.00	13.51	24.32	2.16	100.00	
98661		137	54	54		245
		.43	.51	.30		.38
	55.92	22.04	22.04		100.00	

DE LEUW, CATHER AND COMPANY 2057-00

PEDESTRIAN QUESTIONNAIRE - NOVEMBER, 1970

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN

TABLE 18

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
98662	59	19	7				85	
	.18	.04					.13	
	69.41	22.35	8.24				100.00	
98663	71	12	107				190	
	.22	.11	.60				.30	
	37.37	6.32	56.32				100.00	
98664	132	34	26				192	5
	.41	.32	.15				.30	
	68.75	17.71	13.54				100.00	
98665	192	33	34				259	5
	.60	.31	.19				.40	
	74.13	12.74	13.13				100.00	
98671	10						10	
	.03						.02	
	100.00						100.00	
98674	10						10	
	.03						.02	
	100.00						100.00	
OTHERS	2900	948	657	32	191	60	4788	18
	9.07	8.95	3.67	14.35	5.69	23.35	7.45	
	60.57	19.80	13.72	.67	3.99	1.25	100.00	
TOTAL	31974	10589	17886	223	3359	257	64288	312
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
	49.74	16.47	27.82	.35	5.22	.40	100.00	
NO RESPONSE	563	175	222		74	12	1046	115

*Vanover, Wash*

825

220

1346

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97005	1148 7.53 60.52	407 6.14 21.45	338 3.54 17.82		4 .31 .21		1897 5.77 100.00	18
97015	12 .08 30.77	7 .11 17.95	20 .21 51.28				39 .12 100.00	
97027	35 .23 37.23	7 .11 7.45	52 .54 55.32				94 .29 100.00	8
97030	179 1.17 61.09	34 .51 11.60	67 .70 22.87		4 .31 1.37	9 13.43 3.07	293 .89 100.00	
97034	1042 6.84 73.64	201 3.03 14.20	164 1.72 11.59		8 .61 .57		1415 4.30 100.00	5
97043								
97045	55 .36 69.62	10 .15 12.66	14 .15 17.72				79 .24 100.00	
97060	67 .44 87.01		10 .10 12.99				77 .23 100.00	
97133								
97201	939 6.16 41.38	362 5.46 15.95	402 4.21 17.72	43 41.35 1.90	500 38.17 22.04	23 34.33 1.01	2269 6.90 100.00	13
97202	710 4.66 41.45	387 5.84 22.59	605 6.34 35.32		11 .84 .64		1713 5.21 100.00	19
97203	131 .86 30.54	84 1.27 19.58	214 2.24 49.88				429 1.30 100.00	18

97201	6.16	5.46	4.21	41.35	38.17	34.33	6.00	
	41.38	15.95	17.72	1.90	22.04	1.01	100.00	
97202	710	387	605		11		1713	19
	4.66	5.84	6.34		.84		5.21	
	41.45	22.59	35.32		.64		100.00	
97203	131	84	214				429	18
	.86	1.27	2.24				1.30	
	30.54	19.58	49.88				100.00	

SEATTLEAN PARKING STUDY - PORTLAND, OREGON  
 DE LEUW, CATHER AND COMPANY 2057-00

PEDESTRIAN QUESTIONNAIRE - NOVEMBER, 1970

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97204	24		3		14		41	
	.16		.03		1.07		.12	
	58.54		7.32		34.15		100.00	
97205	95	47	63	20	298		523	
	.62	.71	.66	19.23	22.75		1.59	
	18.16	8.99	12.05	3.82	56.98		100.00	
97206	509	346	584		13	2	1454	21
	3.34	5.22	6.12		.99	2.99	4.42	
	35.01	23.80	40.17		.89	.14	100.00	
97209	45	29	45	6	117		242	
	.30	.44	.47	5.77	8.93		.74	
	18.60	11.98	18.60	2.48	48.35		100.00	
97210	250	98	223	1	182		754	2
	1.64	1.48	2.34	.96	13.89		2.29	
	33.16	13.00	29.58	.13	24.14		100.00	
97211	342	187	361		7	2	899	4
	2.24	2.82	3.78		.53	2.99	2.73	
	39.04	20.80	40.16		.78	.22	100.00	
97212	464	277	447	9	22		1219	
	3.04	4.18	4.68	8.65	1.68		3.71	
	38.06	22.72	36.67	.74	1.80		100.00	
97213	539	277	664	3	6		1489	4
	3.54	4.18	6.96	2.88	.46		4.53	
	36.20	18.60	44.59	.20	.40		100.00	
97214	294	218	624		19		1155	16
	1.93	3.29	6.54		1.45		3.51	
	25.45	18.87	54.03		1.65		100.00	
97215	223	128	290	10			651	
	1.46	1.93	3.04	9.62			1.98	
	34.25	19.66	44.55	1.54			100.00	
97216	99	132	239		2		472	3
	.65	1.99	2.50		.15		1.43	
	20.97	27.97	50.64		.42		100.00	
97217	361	202	497			7	1067	8
	2.37	3.05	5.21			10.45	3.24	
	33.83	18.93	46.58			.66	100.00	

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97218	169 1.11 41.32	94 1.42 22.98	146 1.53 35.70				409 1.24 100.00	
97219	971 6.37 47.02	482 7.28 23.34	599 6.28 29.01		13 .99 .63		2065 6.28 100.00	11
97220	341 2.24 35.85	271 4.09 28.50	335 3.51 35.23	2 1.92 .21	2 .15 .21		951 2.89 100.00	
97221	549 3.60 60.60	175 2.64 19.32	166 1.74 18.32	7 6.73 .77	3 .23 .33	6 8.96 .66	906 2.75 100.00	
97222	731 4.80 53.28	177 2.67 12.90	453 4.75 33.02		7 .53 .51	4 5.97 .29	1372 4.17 100.00	2
97223	628 4.12 59.64	240 3.62 22.79	178 1.86 16.90			7 10.45 .66	1053 3.20 100.00	2
97225	1018 6.68 67.06	298 4.50 19.63	178 1.86 11.73		24 1.83 1.58		1518 4.61 100.00	12
97227	11 .07 16.92	12 .18 18.46	42 .44 64.62				65 .20 100.00	
97229	478 3.14 76.97	95 1.43 15.30	46 .48 7.41		2 .15 .32		621 1.89 100.00	5
97230	409 2.68 48.92	224 3.38 26.79	199 2.08 23.80		4 .31 .48		836 2.54 100.00	4
97231	41 .27 41.41	35 .53 35.35	23 .24 23.23				99 .30 100.00	
97232	258 1.69 35.78	169 2.55 23.44	288 3.02 39.94		6 .46 .83		721 2.19 100.00	

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20



DOWNTOWN PARKING STUDY - PORTLAND, OREGON  
 DE LEUW, CATHER AND COMPANY 2057-00

PEDESTRIAN QUESTIONNAIRE - NOVEMBER, 1970

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
97233	259 1.70 40.16	183 2.76 28.37	192 2.01 29.77		11 .84 1.71		645 1.96 100.00	
97236	180 1.18 43.06	111 1.68 26.56	127 1.33 30.38				418 1.27 100.00	
97266	273 1.79 54.17	93 1.40 18.45	138 1.45 27.38				504 1.53 100.00	
98604	7 .05 31.82		15 .16 68.18				22 .07 100.00	
98606	1 .01 100.00						1 .00 100.00	
98607	7 .05 43.75		9 .09 56.25				16 .05 100.00	
98616								
98625								
98629								
98642	9 .06 60.00	4 .06 26.67	2 .02 13.33				15 .05 100.00	
98660	70 .46 53.44	20 .30 15.27	41 .43 31.30				131 .40 100.00	
98661	75 .49 57.69	16 .24 12.31	39 .41 30.00				130 .40 100.00	2

HOME ZIP CODE BY MODE OF TRAVEL TO DOWNTOWN (WORK PURPOSE ONLY)

TABLE 20

HOME ZIP CODE	AUTO DRIVER	AUTO PASS.	BUS	TAXI	WALK	OTHER	TOTAL	NO RESPONSE
98662	43 .28 74.14	8 .12 13.79	7 .07 12.07				58 .18 100.00	
98663	39 .26 31.20	12 .18 9.60	74 .78 59.20				125 .38 100.00	
98664	63 .41 60.00	22 .33 20.95	20 .21 19.05				105 .32 100.00	5
98665	101 .66 63.13	30 .45 18.75	29 .30 18.13				160 .49 100.00	
98671	5 .03 100.00						5 .02 100.00	
98674	2 .01 100.00						2 .01 100.00	
OTHERS	941 6.17 56.38	414 6.25 24.81	273 2.86 16.36	3 2.88 .18	31 2.37 1.86	7 10.45 .42	1669 5.07 100.00	4
TOTAL	15242 100.00 46.34	6625 100.00 20.14	9545 100.00 29.02	104 100.00 .32	1310 100.00 3.98	67 100.00 .20	32893 100.00 100.00	186
NO RESPONSE	272	113	109		14		508	17

REASON FOR MODE CHOICE TO DOWNTOWN BY MAIN TRIP PURPOSE

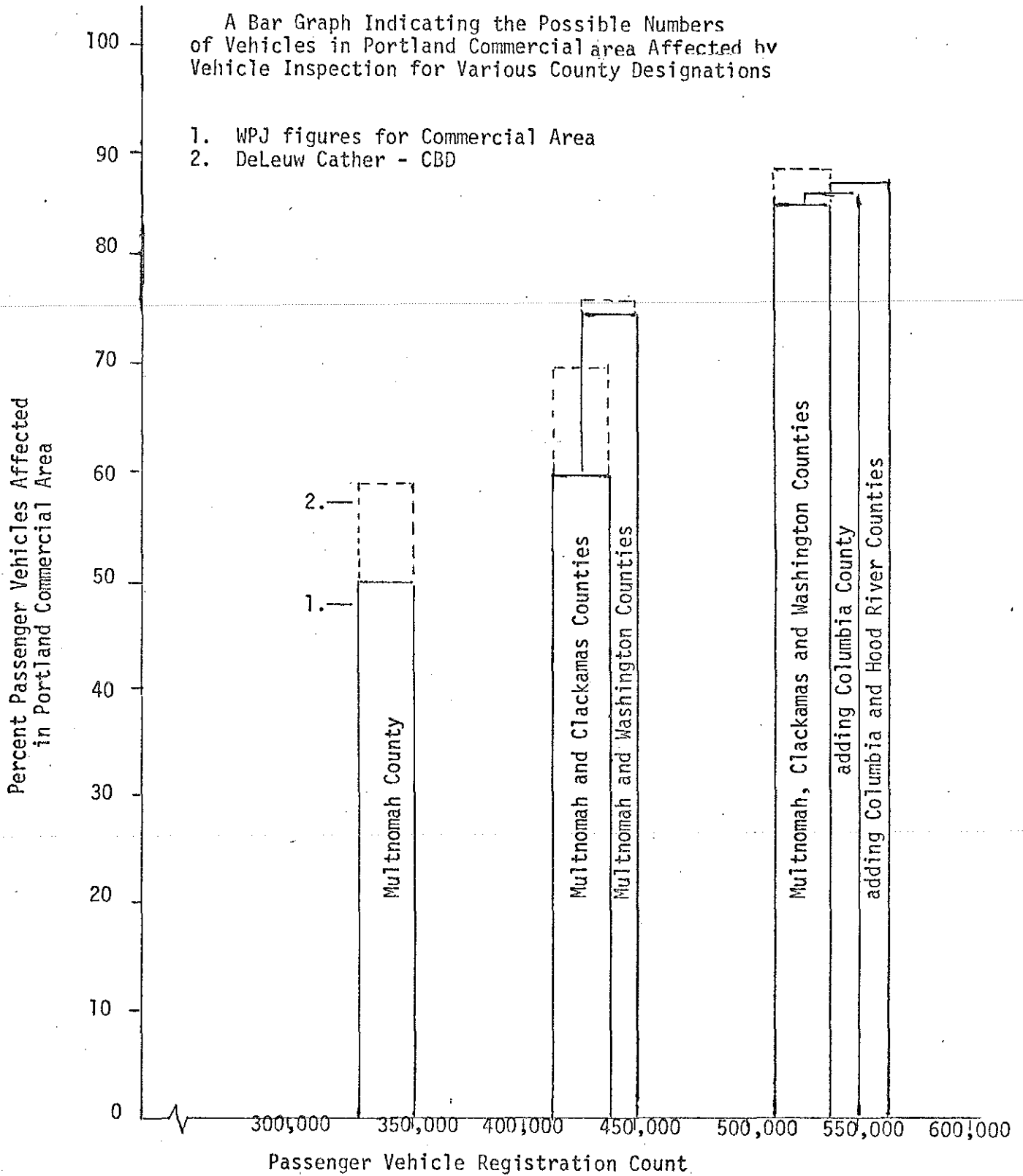
TABLE 21

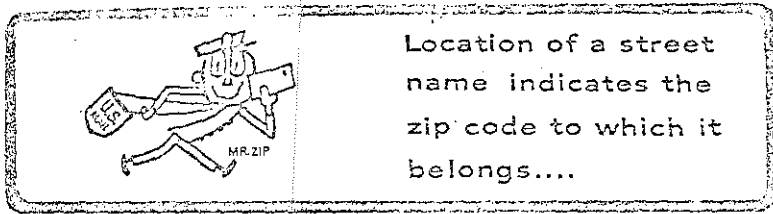
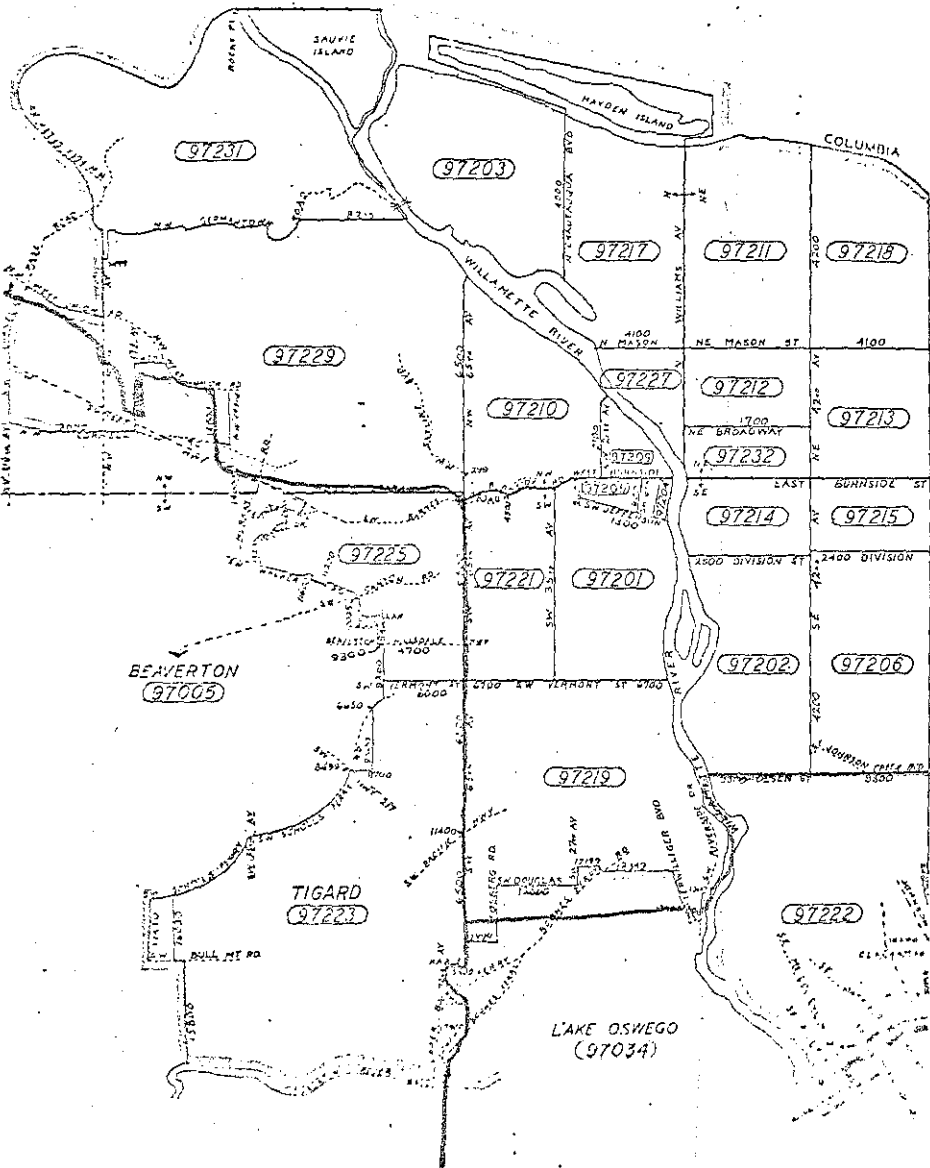
WORK	BUSINESS CALL	SHOPPING	EAT MEAL	SOCIAL REC.	SCHOOL COLLEGE	PERSONAL BUSINESS	OTHER	TOTAL	NO RESPONSE
				32	35	246	134	2508	93

Figure App III-2

A Bar Graph Indicating the Possible Numbers of Vehicles in Portland Commercial Area Affected by Vehicle Inspection for Various County Designations

- 1. WPJ figures for Commercial Area
- 2. DeLeuw Cather - CBD





# PORTLAND.

## POST OFFICE BOX NUMBERS

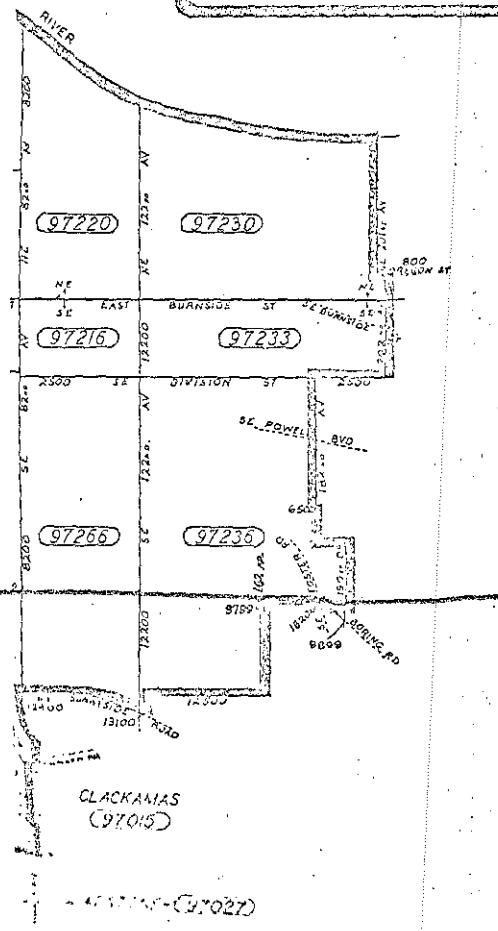
FEDERAL STATION	
Nos. 1-1799 & 8000-8599	97207
MAIN OFFICE	
Nos. 2700-4499 & 8700-9000	97203
BROOKLYN STATION	
Nos. 42001-42999	97242
JENNINGS LODGE BR.	
Nos. 67001-67999	97257
OAK GROVE BR.	
Nos. 68001-68999	97258

## RURAL ROUTES

ROUTE 1	97231
ROUTE 2	97231
ROUTE 3	97223

## List of ZIP Codes for nearby Communities

BEAVERTON, OREGON	97005
BURLINGTON, OREGON	97231
CLACKAMAS, OREGON	97015
GLADSTONE, OREGON	97027
GRESHAM, OREGON	97030
LAKE OSWEGO, OREGON	97034
NORTH PLAINS, OREGON	97133
NORTH PORTLAND, OREGON	97043
OREGON CITY, OREGON	97045
TROUTDALE, OREGON	97060



For additional Zip Code assistance please call your nearby Post Office listed in the Yellow Pages under Government.

A P P E N D I X   I I I  
S U M M A R Y   O F   T R A F F I C   C O U N T   D A T A

1. Description and Use of "Traffic Volume Tables"

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2. Map Outlining Freeway Contributions into the Portland Commercial Area
3. Traffic Count Summary Sheets (Example) and Traffic Volume Tables (Example)

The "Traffic Volume Tables" are compiled by the State Highway Division to reflect traffic volumes on major roads around the state. In using these tables to obtain the effect of out of Multnomah County traffic increases and decreases in ADT (average daily traffic) were noted for the major trans-Multnomah County routes. These data were augmented by a closer analysis of Traffic County summary sheets.

Where Figure 2 of the report can be directly computed from the tables, Figure Appendix III-1 on the other hand is derived from hourly and direction counts as made in Traffic Count Summary sheets. Exerpts from each type of summary are attached.

It is interesting to compare the relative magnitude of contributions as measured by different sources. Figure Appendix III-2 and Table Appendix III-A compare the effects by county of cars to the Portland commercial area (a more general area) with results obtained by DeLeuw, Cather and Company (Appendix II) for the Portland Central Business District. Generally the findings compare quite well, and show the importance of a tri-county inspection program to effect the greater number of vehicles.

The study was done using the 1970 Traffic Volume Tables. Since that time the 1971 Tables have become available. Comparison of the two tables indicate that while total traffic has increased, the relative contributions have remained fairly consistent.

TABLE APPENDIX III-A

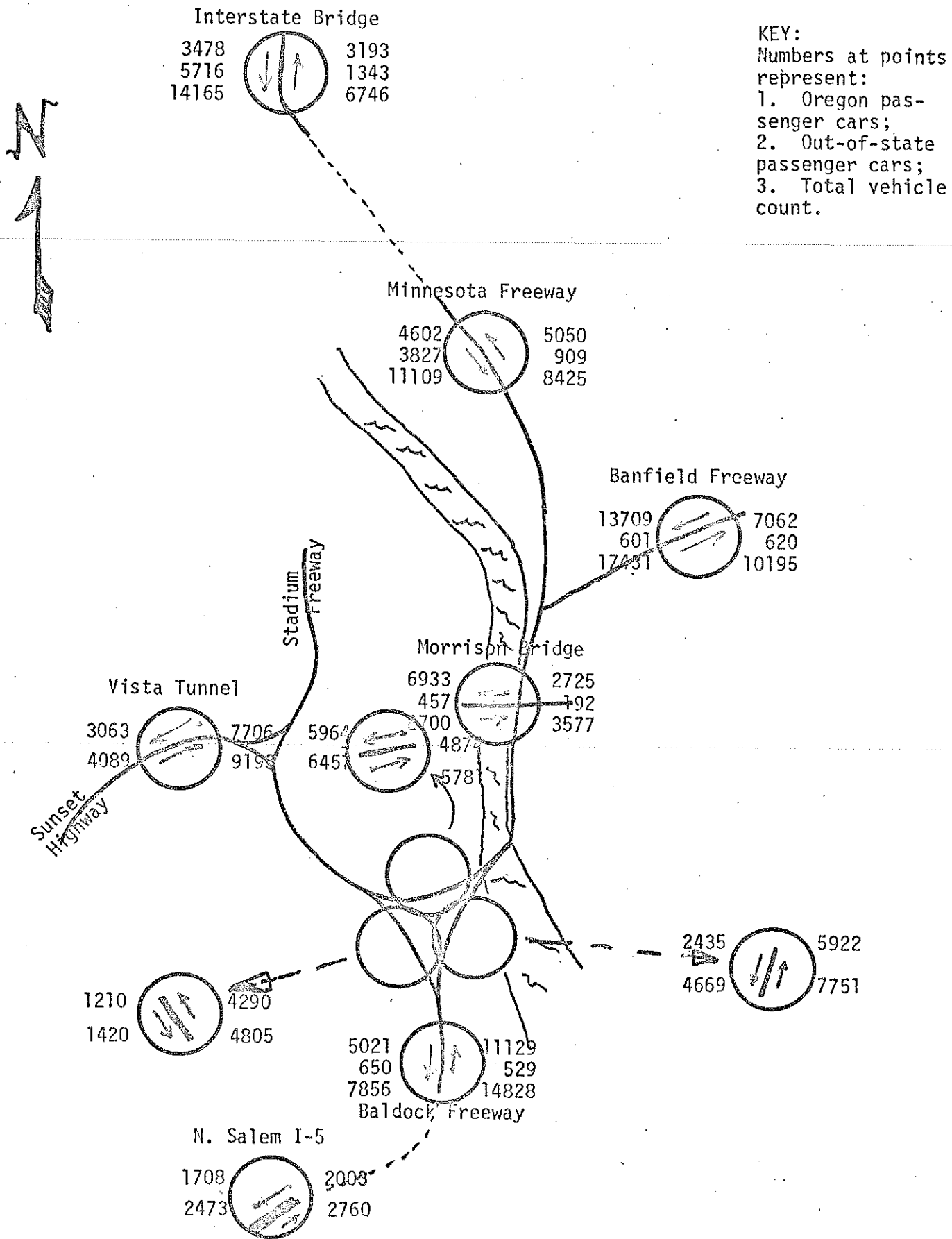
A COMPARISON OF THE RESULTS OF TWO APPROACHES TO MEASURE THE CONTRIBUTION OF VEHICLES BY COUNTY ON THE PORTLAND COMMERCIAL AREA.

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<u>County</u>	<u>Contribution of Vehicles in the Portland Commercial Area as Measured by Traffic Count Data</u>	<u>Contribution of Vehicles in the Portland Business District by Zipcode Personal Survey (DeLeuw Cather)</u>
Clark	3-5%	2.5%
Clackamas	6-14%	12.4%
Multnomah	50%	59.5%
Washington	20-25%	16.5%
Other	8%	9.1%

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FIGURE APPENDIX III-1  
 FLOW OF VEHICLES ON THE PORTLAND FREEWAY SYSTEM  
 from 6 a.m. to 11 a.m.-Nov. 1970





TRAFFIC VOLUMES ON PRIMARY AND SECONDARY STATE HIGHWAYS

Mile Post	Location Description	1970 ADT All Vehicles	Mile Post	Location Description	1970 ADT All Vehicles
<b>PACIFIC HIGHWAY NO. 1</b>			23.14	0.40 mile south of Fargo Road Interchange . . .	22,600
			29.63	0.10 mile south of Hillsboro-Silverton Highway (ORE214) . . . . .	23,400
Mile Post indicates distance from Columbia River Highway I-80N, in Portland			41.16	Chemawa Automatic Recorder, at N. Chemawa Road Undercrossing . . . . .	22,800
X6.56	Washington-Oregon State Line, Interstate Bridge Automatic Recorder . . . . .	69,200	43.23	0.40 mile south of Pacific Highway East (US99E) . . . . .	20,000
X6.24	0.20 mile north of Pacific Highway East (US99E) . . . . .	70,800	45.44	0.30 mile south of Market Street . . . . .	21,200
X5.63	0.51 mile south of Pacific Highway East (US99E) . . . . .	49,200	47.94	0.30 mile south of N. Santiam Highway (ORE22) . . . . .	16,700
X4.97	0.48 mile south of U-xing Pacific Highway West (US99W) . . . . .	43,100	52.89	0.50 mile south of Pacific Highway East (US99E) . . . . .	21,900
X4.22	0.20 mile north of Northeast Portland Highway (US30 By) . . . . .	49,600	53.10	0.10 mile south of Sunnyside-Turner Road . . .	20,900
X3.73	0.29 mile south of Northeast Portland Highway (US30 By) . . . . .	60,400	57.03	0.30 mile south of Jefferson Highway (North Junction) . . . . .	20,400
X3.25	Minnesota Freeway Automatic Recorder, 0.23 mile north of N. Killingsworth Street Interchange . . . . .	67,900	58.08	0.20 mile south of Ankeny Hill Road . . . . .	20,400
X2.76	0.26 mile south of N. Killingsworth Street Interchange . . . . .	64,600	59.59	0.30 mile south of Talbot Road . . . . .	20,400
X2.26	0.30 mile south of N. Going Street Interchange . . . . .	80,700	61.94	0.20 mile south of Dever Road . . . . .	20,400
X0.57	O-xing, N. E. Holladay Street . . . . .	81,400	63.29	0.10 mile south of Jefferson Highway (South Junction) . . . . .	21,700
X0.09	U-xing, Burnside Bridge . . . . .	51,500	64.04	0.30 mile south of Viewcrest Road . . . . .	21,500
0.32	U-xing, S. E. Morrison Street Bridge . . . . .	72,400	66.14	0.40 mile south of Murder Creek Interchange .	21,600
1.04	Marquam Bridge Automatic Recorder . . . . .	77,500	67.62	0.60 mile south of Albany-Junction City Highway (US99E) . . . . .	14,400
2.00	0.60 mile south of Stadium Freeway (I-405) . .	60,200	68.49	0.30 mile south of Santiam Highway (US20) . .	15,100
2.29	0.10 mile south of Macadam and Hood Avenue connections . . . . .	67,800	73.72	0.40 mile south of Corvallis-Lebanon Highway (ORE34) . . . . .	14,500
3.17	Iowa Street Automatic Recorder, 0.51 mile south of Corbett Avenue connection . . . . .	69,000	89.36	Bond Butte Automatic Recorder, 4.52 miles south of Halsey-Sweet Home Highway (ORE228) . . . . .	14,100
4.33	0.10 mile south of Terwilliger Blvd. U-xing . .	60,700	92.65	0.30 mile south of Diamond Hill Road . . . . .	14,400
4.97	0.10 mile south of Multnomah Blvd. U-xing . .	53,900	102.57	0.30 mile south of Coburg-East Road . . . . .	15,700
5.18	0.10 mile south of Spring Garden Road U-xing . . . . .	49,900	106.31	0.35 mile south of Belt Line Road Interchange . . . . .	17,300
5.98	0.10 mile south of Taylors Ferry Road connection . . . . .	50,500	107.97	0.50 mile south of Eugene-Springfield Highway (I-105) . . . . .	13,900
6.67	0.30 mile south of Capitol Highway . . . . .	47,800	109.27	0.10 mile south of Pacific Highway West (US99W) . . . . .	23,400
7.89	0.30 mile south of Pacific Highway West (US99W) at Tigard Junction . . . . .	33,800	109.74	0.30 mile south of Glenwood Interchange . . . .	21,900
8.41	0.30 mile south of Haines Road . . . . .	32,800	Equation: M.P. 109.96 = M.P. 127.00		
9.62	0.40 mile south of Beaverton-Tigard Hwy. (ORE 217) . . . . .	37,800	128.37	0.20 mile north of 30th Avenue U-xing . . . . .	16,600
10.25	0.10 mile south of Upper Boones Ferry Road U-xing . . . . .	35,300	129.55	0.40 mile north of Willamette Highway (ORE58) . . . . .	22,900
11.33	0.30 mile south of Lower Boones Ferry Road O-xing . . . . .	31,700	130.65	0.70 mile south of Willamette Highway (ORE58) . . . . .	15,700
12.02	0.10 mile south of Nyberg Road . . . . .	27,900	135.27	0.30 mile north of Springfield-Creswell Highway . . . . .	15,900
15.58	0.30 mile south of Stafford Road . . . . .	26,900	135.87	0.30 mile south of Springfield-Creswell Highway . . . . .	14,600
17.83	0.30 mile south of Wilsonville-Oregon City Road . . . . .	26,600	141.94	0.30 mile south of Saginaw Interchange . . . . .	14,900
20.94	0.20 mile south of Butteville Road Interchange (temporary) . . . . .	22,200	143.76	0.10 mile south of Cottage Grove Interchange .	11,300
			146.27	0.10 mile south of London Road Interchange .	10,400





State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: H. M. Patterson

Date: February 4, 1971

From: Ron Householder

Subject: An Estimation of the Numbers of Oregon Automobiles Entering Regional Areas

The purpose of this study was to obtain an estimation of the numbers of Oregon automobiles which may be operated within certain counties of the State and yet not registered in those counties. This information is of value when proposals for setting emission control criteria on motor vehicles in specific geographic areas is being considered.

The technique used was to take the traffic count data of the Oregon State Highway Division - Traffic Volume Tables for 1969 - on major roads crossing the boundaries of the specified area. On roads with permanent recorder stations, trucks and out-of-state automobiles were excluded from the traffic count. Where a permanent recorder station location was some distance from the specified boundary, a traffic count figure near the boundary was used and adjusted to exclude trucks and out-of state automobiles. On those roads without a permanent recorder station location, the gross count near or at the boundary was used. It was assumed that equal numbers of vehicles entered the specified area as left, and thus the vehicle count is one-half the traffic count. The traffic count on the Interstate Bridge is not considered as it was assumed that the Oregon vehicles crossing the bridge had either come from within the specified area or were recorded in another traffic count as they entered the specified area. All vehicles crossing the boundary are assumed to be registered outside the specified area.

Administrative Area #2 - Clackamas, Columbia, Multnomah and Washington Counties (CWAPA):

Number of passenger vehicles registered in area for period 1/1/69 to 12/31/69 513,266

Number of passenger vehicles entering area:

<u>Recorded Station</u>	<u>1969 ADT</u>	<u>% Oregon</u>	<u>Oregon passenger vehicles entering/day</u>
36-004	10,348	87.1	4,500
24-001	5,677	84.3	2,400
24-019	21,014	76.2	8,000
03-013	1,198	89.1	500
26-012	501	74.	200
26-001	9,636	67.6	3,300
05-006	3,367	70.5	1,200
34-001	2,963	86.1	1,300
34-004	2,210	76.4	900
			<u>22,300</u>

<u>Road</u>	<u>1969 ADT (Boundary)</u>	<u>Vehicles entering per day</u>
#102	170	90
#29	1550	800
#161	1500	800
#140	510	250
		<u>1950</u> - say 2,000
#26	2900 ADT (Boundary) Station 26-003 - 89.7% Oregon:	1300

Therefore daily inflow of Oregon automobiles into Administrative Area #2 is approximately 25,000. This number represents about 5% of the number of passenger vehicles registered in the area. Note that this value may not be related to vehicle mileage contribution.

Area covered by Regional Air Pollution Control Authorities (Lane, Benton, Linn, Marion, Polk, Yamhill, Clackamas, Columbia, Multnomah and Washington Counties).

Total number of passenger vehicles registered in area for period 1/1/69-12/31/69 - 832,476

<u>Recorder Station Code</u>	<u>ADT</u>	<u>% Oregon</u>	<u>Oregon passenger vehicles per day</u>
05-006	3367	70.5	1,200
34-001	2963	86.1	1,300
34-004	2210	76.4	900
26-012	510	74.	200
26-001	9636	67.6	3,300
27-001	6168	75.4	2,400
21-006	1568	76.9	600
20-107	1794	61.	600
09-014	2143	74.8	800
10-003	2148	72.5	800
10-007	2955	56.	2,300
			<u>14,400</u>

<u>Road</u>	<u>1969 ADT(Boundary)</u>	<u>Vehicles entering per day</u>
#102	170	90
#180	220	110
#9	2100	1100
#9	2850	1400
#26	2900 ADT (Boundary) Station 26-003 - 89.7% Oregon	<u>1300</u> 5000

Therefore daily inflow of Oregon automobiles into the area served by Regional Authorities is approximately 20,000. This number represents about 2% of the number of passenger vehicles registered in the area. Note that this value may not be related to vehicle mileage contribution.

APPENDIX E

MOTOR VEHICLE EMISSION CONTROL PROGRAM

INSPECTION SYSTEMS

EMISSION CONTROL INSPECTION SYSTEM  
STATE REGULATED AND LICENSED PRIVATE STATIONS

The use of private inspection stations which are licensed or regulated by a state agency has been the most common approach used by state governments for periodic vehicle equipment safety inspection programs. Of the 32 states with periodic vehicle equipment safety inspection programs, 29 make use of private inspection stations. Only 3 states use state owned and operated inspection stations exclusively, while Florida permits county governments to operate county owned inspection stations in lieu of private stations. The Florida Highway Patrol, however, is responsible for supervising the conduct of the inspection procedures in all counties.

States which use privately owned inspection stations require these stations to be certified by state agencies in order to obtain approval of an official inspection station. The operation is normally required to show compliance with state established criteria for space and facility requirements, equipment, operating hours, moral character, and personnel. In some cases the inspection area within the garage must be used exclusively for inspections. Generally the equipment requirements are relatively simple and much of it normally available in most repair facilities. The requirements on operating hours appear to be intended to eliminate moonlighting operations. In most instances the person conducting the inspection must also be certified and such certification may require proof of mechanical experience, attendance

at special training sessions or courses, or satisfactory passing of an examination.

No state using privately owned and operated inspection stations currently includes a gaseous emission inspection as part of the safety inspection program. However, the Northrop study "Mandatory Vehicle Emission Inspection and Maintenance", prepared under contract with the State of California, did investigate the use of privately owned and operated inspection facilities in an emission inspection program. In making this analysis, the report assumed that the vehicles being brought in for an inspection would be handled in the same manner as a vehicle coming in for repair work. In other words, existing repair facilities would be used and no particular attempt made to streamline the inspection process into a lane concept. Based upon this assumption, inspection times using one inspector per vehicle were estimated as follows for four different emission control test procedures:

<u>Test</u>	<u>Estimated Real Life Time Min.</u>	<u>Maximum No. Cars Inspected per Day</u>
Certificate of Compliance	45	10
Idle	30	16
Key-Mode	30	16
Diagnostic	45	10

Using these estimated inspection times, and based upon a 40-hour week and 52 work weeks per year, the maximum (100% utilization) number of vehicles that could be inspected in any single facility would be

2,600 per year for both the Certificate of Compliance and the Diagnostic test; and 4,160 per year for the Idle and Key-Mode tests. Thus, in the CWAPA area (Administrative District #2), in which the MVD registration data of 8/3/72 lists 637,469 passenger cars, 155 Idle or Key-Mode test inspection facilities would be required for annual testing of all registered passenger cars. To use the Certificate of Compliance or the Diagnostic test would require 245 inspection facilities. Of course, a single garage or station could have several inspection facilities if it so chose, and thus these figures may not represent the minimum number of separate inspection stations required; however, the figures are still representative of a minimum number of inspectors, inspection equipment sets, and inspection facilities required.

Since these Northrop study based estimations represent only a minimum number of inspectors and inspection facilities required to conduct emission testing in state regulated and licensed private stations, it is necessary to use another approach to estimate the probable number of facilities and inspectors which may be involved in this type of an inspection program. One approach is to use data from those stations conducting their safety inspection program in private licenses stations and pro-rate by the number of vehicles affected. To do this, several basic and major assumptions or qualifying limits need be made as follows:

1. Actual real inspection times are similar.
2. The interest to participate in an emission control program in this state is similar to the interest in these other states, to participate in a safety inspection program.



3. The capital investment and overall operating expense or return will be of the same order as for a safety inspection program.

Using this approach Table A was prepared from information on those states which operate a vehicle safety inspection program solely through private facilities. The minor exception being the inspection of publicly owned vehicles. This table shows the average number of registered automobiles in these states per inspection station as 575, and the corresponding number per inspector is 185. As seen, the range of garages and inspectors involved in the programs is quite large even when restricted to average plus or minus a computed standard deviation.

Table B projects, using the values obtained in Table A, various figures for the number of facilities and inspectors which could be involved in an emission inspection program in this state. The table shows figures for both a program restricted to Administrative District #2 (CWAPA) and for a state-wide program. The Northrup derived values are also shown for reference.

The Department of Human Resources, Employment Division, has provided statistics on the number of general automotive mechanics employed in the state. On a state-wide basis it appears that somewhat less than 7,200 general automotive mechanics are currently employed, with about 3,600 of these being employed in Administrative District #2. The Department of Environmental Quality has estimated that a minimum of 1,800 bona-fide automotive repair garages operate in Oregon. Of these, approximately 500 are located in Administrative District #2. This estimation of the

TABLE A

STATE SAFETY INSPECTION PROGRAM REFERENCE CHART  
STATE REGULATED AND LICENSED PRIVATE GARAGES

State	Registered Automobiles <sup>1</sup>	Inspection Garages <sup>2</sup>	Inspectors <sup>2</sup>	Automobiles /Inspection Garages <sup>3</sup>	Automobiles /Inspection Inspectors <sup>3</sup>	State Agency Total Staff <sup>2</sup>	State Agency Field Staff <sup>2</sup>
Arkansas	741,000		3,573		210	21	8
Colorado*	1,036,000	3,500	12,000	590	170	13	8
Georgia	1,990,000	1,600	5,000	1,250	400	47	30
Hawaii	328,000	348	936	940	350		
Idaho	327,000	1,460	3,750	225	90	10½	6
Indiana	2,274,000	3,748	13,700	610	165	38	22
Kentucky	1,361,000	2,680	6,800	510	200	33	28
Louisiana	1,359,000	944	5,000	1,450	270	27	18
Maine*	404,000	1,439	5,000	560	160	15	11
Massachusetts	2,179,000	3,180	9,800	1,375	445	65	45
Mississippi	815,000	1,085	4,368	750	185	24	18
Missouri	1,878,000	3,973	15,749	470	120	31	9
Nebraska	678,000	2,250		300		11	7
New Hampshire*	306,000	1,600	7,500	380	80	19	17
New Mexico	446,000	1,365	546	650	165	0	0
New York	5,837,000	10,700	40,000	545	145	58	3
North Carolina	2,130,000	5,565	16,000	380	135	99	82
Oklahoma	1,185,000	3,183	12,000	370	100	40	25
Pennsylvania*	5,030,000	16,152	80,000	655	130	120	68
Rhode Island	414,000	1,002	3,000	405	140	24	12
South Carolina	1,070,000	2,315	8,000	460	135	32	19
South Dakota	291,000	808	1,860	360	155	134	120
Texas	4,950,000	5,900	25,000	840	200	152	95
Utah	466,000	1,755	5,000	265	95		
Vermont*	178,000	910	3,100	390	115	8	8
Virginia	1,785,000	2,389	7,613	150	470	987	923
West Virginia	667,000	1,509	9,500	445	70	16	11
Wyoming	151,000	650		230	70	6	4

\* States requiring 2 inspections annually

- Ref: 1. ANA 1970 Automobile Facts and Figures  
 2. Air Pollution from Motor Vehicles in the State of Oregon, Appendix B  
 3. Adjusted to the number of inspections required annually

average 575  
 range 150-1,450  
 average  $\pm 6$   
 240-915

average 185  
 range 70-470  
 average  $\pm 6$   
 75-295

TABLE B

STATE REGULATED AND LICENSED PRIVATE GARAGES  
ESTIMATIONS OF NUMBER OF INSPECTION STATIONS AND  
INSPECTORS INVOLVED IN AN EMISSION INSPECTION PROGRAM

<u>Base Assumption</u>	<u>Administrative District #2 (CWAPA)</u>			<u>State-Wide</u>		
	<u>Stations</u>	<u>Inspectors</u>	<u>Aver. Inspections Per Week/Station</u>	<u>Stations</u>	<u>Inspectors</u>	<u>Aver. Inspections Per Week/Station</u>
Average ratio from Table	1,100	3,450	11	2,750	8,300	11
Smallest ratio from Table	4,250	9,100	3	10,700	22,900	3
Largest ratio from Table	440	1,350	28	1,100	3,400	27
Average -6 ratio from Table	2,650	8,500	5	6,400	20,500	5
Average +6 ratio from Table	700	2,150	17	1,700	5,200	17
Minimum for Key-Mode or Idle test from Northrup Study	155 (facilities)	155	79	385 (facilities)	385	77
Minimum for Certificate of Compliance or Diagnostic test from Northrup Study	245 (facilities)	245	50	615 (facilities)	615	48

Passenger Vehicle Registration Administrative District #2--637,468  
Passenger Vehicle Registration State-Wide-----1,537,064

number of repair garages is based upon the number of new car dealers in the state - all assumed to have repair facilities - and the number of businesses listed in the "Yellow Pages" of the telephone directories under "Automobile Repairing and Service." No specialized repair shops not obviously engaged in general repair or tune-up work (e.g. alignment shops, muffler shops, radiator repair shops, etc.) are included in this estimation.

Clearly gasoline service stations are not included unless the station was listed in a telephone directory under "Automobile Repairing and Service." A similar estimation made by the Department resulted in a count of 1,002 gasoline service stations in Administrative District #2.

If it is assumed that the actual inspections performed in the various states listed on Table A are of comparable complexity and require a similar length of time to complete, then an index of the inspection program convenient to the public may well be the ratio of vehicles to inspection stations and to inspectors. The smaller their ratios, the more convenient the inspection program would appear to be to the public, and thus presumably the more acceptable. If it is concluded that an inspection program in Oregon should achieve at least the public convenience provided by the average ratios of Table A, then, as shown by Table B, a state-wide inspection program would involve 2,750 inspection stations and 8,400 inspectors. Restricting the program initially to Administrative District #2 would reduce this number to 1,100 inspection stations and 3,450 inspectors. In either case, to achieve these numbers it would be necessary to include as inspection stations, facilities not considered as repair garages in the Department survey. Additional persons not considered as general automotive mechanics by the

Employment Division would need to be included as inspectors.

A major factor in determining the number of repair facilities that would participate in an inspection program is the cost of required equipment and training to become a licensed inspection station. The Department has found that such cost are relatively low in those states using private repair facilities for their inspection program. It appears that the investment costs for safety inspection equipment may only be a few hundred dollars. Training needs also appear quite limited due to the simplicity of much of the inspection process and also due to the expertise that the mechanics have gained in the course of their work experience.

Unlike these safety inspection programs, an emission inspection program using privately owned stations could require significant equipment investment and inspector training requirements on part of the private stations. The Northrop study estimated an investment cost of \$10,000 per facility for sophisticated idle mode inspection equipment of the type recommended for use in an inspection lane. If less accurate and sophisticated equipment were allowed to be used, Northrop estimated that the additional idle mode inspection equipment cost for an existing repair facility would be between \$1,600 and \$3,600. The Department is of the opinion that the additional equipment cost for most existing repair facilities to participate in an idle mode inspection program would not be less than \$1,500. If a loaded test cycle procedure were established these costs could increase to the range of \$4,000 to \$7,500 per facility.

The Northrop study estimated that the instruction time required for a inspector working in an idle mode inspection lane would be 87 hours including 27 hours of on the job training. While this may be an excessive amount of training for a mechanic employed by a repair facility, there is a general concurrence in all studies on emission inspection control programs that training needs will be substantial. These training requirements, together with the equipment cost requirements may be expected to eliminate many smaller facilities from participating in the inspection program.

A third approach to estimate the number of inspection facilities which may be involved in an inspection program, is to base the estimation upon the number of licensed inspection stations in California that may be expected to participate in an annual emission testing program. Currently there are 7,000 licensed Class A inspection stations in California which execute the Certificate's of Compliance upon change of vehicle ownership and when required by the Highway Patrol. The Northrop Corp. study estimated that 5,000 of these facilities would participate in an annual inspection program that required a substantial upgrading of their manpower skills, inspection capability and equipment investment. Using this estimated number and developing a ratio to the registered number of vehicles, as in the previous analysis, one determines that 320 inspection stations in Administrative District #2 and 770 stations state-wide could be expected. Note that these numbers are essentially twice the minimum determined for key-mode or idle testing from the Northrup study. Based upon the number of existing repair facilities, it appears reasonable that these numbers of inspection facilities could be obtained.

A factor in determining the interest of repair facilities to participate in an inspection program is the amount of income that could be expected by participating. In the Portland area, shop rates are around \$10.50 - \$13.50 per hour and up to \$15 per hour. Service station rates are generally lower. If the inspection requires one-half hour to complete, per the Northrop study estimation, then to maintain their profit level from the inspection process alone, the inspection cost (not including the charge for the Certificate of Approval) would need to be in the range of \$5.00 to \$7.50. If the inspection charge were lower and the inspection time required not shortened, the facility would need to obtain additional business from inspection process to justify its participation.

The Northrop study, using a reject rate of 50%, determined that the average repair cost to failed vehicles as ranging from \$8.40 to \$53.30 depending upon the inspection regime used. The average repair cost for the inspection regimes being considered by the Department range from approximately \$25 to \$35. Based upon a 50% reject rate, a facility inspecting 30 vehicles per week could expect a gross increase of about \$24,000 per year in repair work if the business generated were all acquired solely as a result of the inspection process. It should be noted that over one-half of the Northrop total repair cost figures were for labor charges.

If the inspection process generated gross income were based upon the early New Jersey results, gross income could be lower than the Northrop derived estimations. At a reject rate of somewhat less than 20%, New Jersey has reported that 86% of the required repairs cost less than \$50 and 30% were

less than \$10, based upon limited and early survey. Using a \$10 repair cost for 30% of the rejected vehicles, \$20 for 55%, and \$75 for 15%, the facility inspecting 30 vehicles a week could expect a gross return from the generated repair work of about \$9,500 per year if the reject rate were held at 20%. If the reject rate were increased to 50% and the repair cost distribution did not change from the early New Jersey results, it is seen that the Northrop study and the New Jersey results are in close agreement as to the total repair cost.

The state cost of administering and supervising a vehicle inspection program is estimated to be the same whether the program be for safety, emission control, or both. Table A lists the state agency manpower requirements for various states using privately owned safety inspection stations. The Department has projected a total agency staff requirement of 37 for a state-wide vehicle inspection program and a biennial budget estimate of \$1.4 million. Restricting the inspection program to Administrative District #2 would reduce the agency state requirements to 19.

The majority of the Department staff would be field men conducting both regular and spot investigations on the operation of the licensed inspectors and inspection stations. Because most Oregonians have only limited experience with vehicle inspection programs, the Department has concluded that surveillance of the licensed inspection station operations must be given considerable program priority in order to maintain public confidence in the inspection process. Also seen necessary is an extensive public informational program with an office staff able to properly process citizen inquiries. A technical staff able to analyze the data acquired during the program operation and able to recommend necessary operational changes and updating is to be included in the total program staff.



## EMISSION CONTROL INSPECTION SYSTEM

### EXCLUSIVE INSPECTION STATIONS

Three states (Delaware, Florida, New Jersey) and the District of Columbia currently use exclusive inspection stations for their vehicle safety inspection program. All of these, except Florida, use only government operated stations. In Florida, the county governments are allowed to operate their own vehicle inspection stations or to permit the inspection program to be handled through private licensed garages.

New Jersey has recently incorporated an emission inspection into their safety inspection procedure, and thus has become the first state to begin emission inspection of in-use vehicles on a periodic basis. Although the New Jersey Department of Environmental Protection extensively studied emission test procedures that could be rapidly conducted with the vehicle engine under an operating condition load, the test incorporated into the inspection program is an idle test only. The Department has concluded that the primary reason the New Jersey agency did not adopt a loaded test cycle procedure at this time, was that the incorporation of an idle test procedure into their existing inspection program was more expeditious.

The New Jersey safety inspection program began operation in 1938 and currently operates 40 inspection stations. These consist

of one four-lane station, 10 three-lane stations, 9 two-lane stations, and 21 single lane stations for a total of 73 lanes in the system to inspect the 3.3 million registered automobiles in New Jersey. The state has ordered 125 carbon monoxide and hydrocarbon testing units, at an approximate cost of \$2.5 million, to be added to the inspection station equipment.

In Florida, Duval County is one of the counties which have established county government operated safety inspection stations. The construction cost of the 5 inspection stations, having a total of 26 inspection lanes, was covered by the issuance of seven year revenue bonds. The inspection charge to the motorist is \$3.00, including a 40¢ fee returned to the state to cover their cost of supervising the program. The county employees - 34 people on a full time basis and 10 - 14 on a part time basis - operate the inspection program. Inspection requires  $3\frac{1}{2}$  to 5 minutes and reportedly the program has received good public acceptance. Approximately 227,000 vehicles are currently inspected. Ten working days are allowed for repair to reinspection and up to 30 days if parts need to be ordered. The stations operate a single shift during the weekend one-half day on Saturday. The state police make monthly checks on the program operation.

The Department has reviewed the report, "Feasibility Studies for State Owned Vehicle Inspection Centers", prepared by the Wisconsin Division of Motor Vehicles in 1969. Wisconsin currently has no periodic vehicle inspection program. The inspection system favored by the Wisconsin DMV in these studies was the one projected to use 72 inspection centers with a total of 109 inspection lanes, 34 of which were to operate on a double shift. This system had an inspection capability, for either safety inspection alone or in combination with emission testing, of between 1,777,500 and 2,358,000 vehicles per year. The reports noted that the buildings and equipment proposed in the report were sufficient to inspect between 2,943,000 and 3,924,000 vehicles per year if all centers were fully staffed and double-shaft operated. It has been estimated that vehicle registration in Oregon by 1975 will be 1,857,000 and by 1980 will be 2,257,000.

The capital investment in the 72 centers proposal was given as \$9,439,534, for a combined safety and emission testing program. A safety inspection program alone would have a capital cost of \$8,447,634. If the program were administered by a new bureau (Bureau of Motor Vehicle Inspection), a total of 1,161 employees were projected to be required. The Division is currently developing inspection proposals requiring less employees, however, based upon these figures an annual operating cost, including amortization, of \$9,568,269 was developed for a combined safety and emission inspection program. If safety alone

were conducted, the annual operating cost was given as \$9,430.064. The inspection cost per vehicle thus ranges between \$4.00 and \$5.38 depending upon the actual number of vehicles inspected and whether or not the inspection included emission testing. It should be noted that amortization cost were based upon a 7% interest rate and 10 year depreciation of the inspection equipment, with a 30 year depreciation used for the buildings and site preparation.

The Wisconsin cost figures for single lane stations capable of inspecting between 13,500 and 18,000 vehicles per year per shift for both safety and emissions was \$77,660, plus the cost of land. The cost of a 2 lane station for both safety and emission testing was given as \$124,632 plus land cost. The land required for a single lane center was given as 300 ft. by 150 ft. and for a 2 lane center as 300 ft. by 161 feet.

The Wisconsin studies held that uniformly high inspection standards could not be maintained if portable inspection stations or licensed garages were used in place of inspection centers in the low population areas. Those residing in these areas would need to travel to inspection center sites for testing. The vast majority of the car population in Wisconsin, however, was projected to be located within a 30 mile radius of an inspection center.

The projections made by the Department on the program cost of the 25 station emission inspection system for Administrative District #2 are based upon the figures derived for California by the Northrop Study. These values for the investment cost and operating cost of Key Mode (a loaded test cycle) Inspection Stations are shown in Table 1 for stations with up to seven lanes. The Northrop study determined that the operating capacity of this type of station was 25,000 registered vehicles per year.

In determining location areas for the inspection centers, the Department adopted the basic concept that the station locations would be made as convenient as possible for the public and that congestion at each center should be minimized. Essentially, a number of small inspection centers are projected rather than a few large centers. The criteria used to establish the inspection center zones included:

1. One inspection lane per 25,000 registered passenger cars (as projected for 1975).
2. No major geographic interferences.
3. Use of geographic boundaries.

As the provisions of ORS 483.190 require that the designation of an area wherein registered vehicles are required to obtain a certificate of approval be set by county, the county line does become a hard and fast boundary to an inspection zone. The remaining boundaries are set

Table 6-23. COST MODEL VARIABLES FOR KEY MODE INSPECTION STATIONS<sup>(1)</sup>

Cost Element	Station Type							
	Mobile	1	2	3	4	5	6	7
<b>Investment Costs</b>								
<b>- Equipment (EA)</b>								
Inspection (5 yr depr)	11,000	10,000	20,000	30,000	40,000	50,000	60,000	70,000
Inspection (10 yr depr)	2,000	2,000	4,000	6,000	8,000	10,000	12,000	14,000
Inspection Support	5,000	1,000	2,000	3,000	4,000	5,000	6,000	7,000
Administrative	0	1,000	1,700	2,000	2,000	2,800	3,000	3,200
Installation	0	1,000	2,000	3,000	4,000	5,000	6,000	7,000
<b>Site Acquisition</b>								
Land Area	0	10,900	15,110	26,010	30,220	41,120	45,330	56,230
Land Cost <sup>(2)</sup>	0	21,800	30,220	52,020	60,440	82,240	90,660	112,460
<b>Construction Cost</b>								
Facility Area	0	2,040	3,060	5,100	6,120	8,160	9,180	11,220
Facility Cost <sup>(2)</sup>	0	16,320	24,480	40,800	48,960	65,280	73,440	89,760
Total	18,000	53,120	84,400	136,820	167,400	220,320	251,100	303,420
<b>Operating Cost</b>								
<b>Personnel: Salaries and Fringe<sup>(3)</sup></b>								
Manager II	0	0	0	0	0	0	14,100	14,100
Manager I	0	0	0	0	12,600	12,600	0	0
Clerk	0	0	0	7,640	0	7,640	7,640	7,640
Technician II	13,900	12,600	25,200	37,800	50,400	63,000	75,600	98,200
Technician I	10,300	9,400	18,800	28,200	37,600	47,000	56,400	65,800
<b>Supplies and Maintenance</b>								
Inspection	1,300	1,200	2,400	3,600	4,800	6,000	7,200	8,400
Support	500	100	200	300	400	500	600	700
Administrative	0	100	170	200	200	280	300	320
Facility and Grounds	0	816	1,224	2,040	2,448	3,264	3,672	4,488
Total	26,000	24,216	47,994	79,780	108,448	140,284	165,512	199,648

(1) Costs invariant by test regime are shown in Table 6-19

(2) Average unit costs; actual values vary by Air Basin, Table 6-20

(3) Salaries and fringe benefits - 2000 hrs/year

Table I

in accordance with the three criteria used and are only intended to assist in conveniently locating the inspection centers, and in no way are intended to restrict vehicle owners from using any particular center they may choose. Figures 1 and 2 show the inspection zones developed by the Department for Administrative District #2, while Table 2 shows the projected vehicle loading for each zone and the required number of inspection centers. Figure 3 is an additional way to show the inspection center locations including those areas to be served by mobile units.

The data base for the number of vehicles in an inspection zone were derived from the 1970 census, current motor vehicle registration information, and projections on the number of vehicles in Oregon counties through 1975. The census data provided a complete breakdown by census district of passenger vehicles per household and this information was adjusted to reflect 1975 projected loadings.

Figure 1

Station Location in the  
Greater Portland  
Metropolitan  
Area

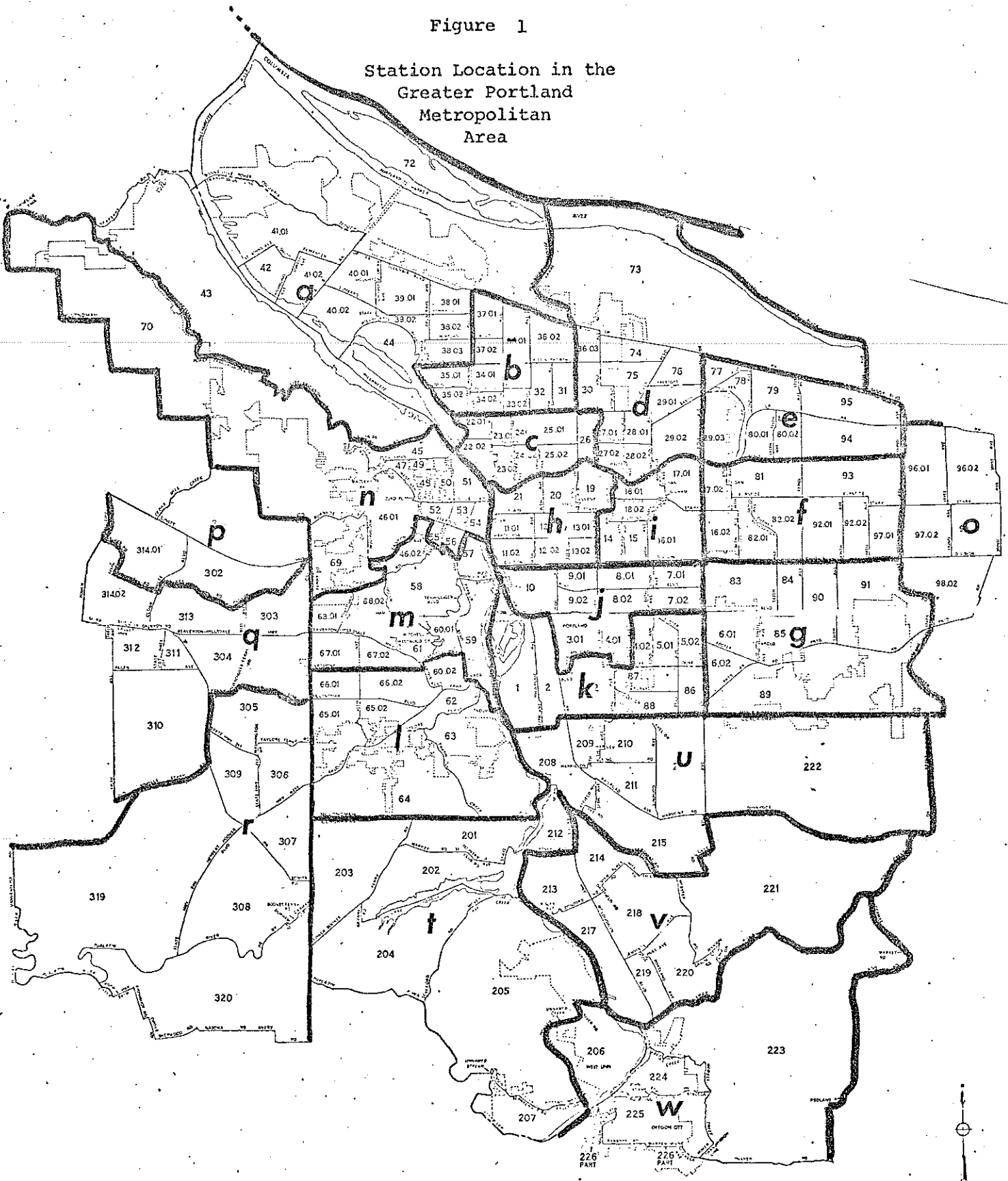




Figure 2

Station Locations in Clackamas,  
Multnomah, and Washington Counties

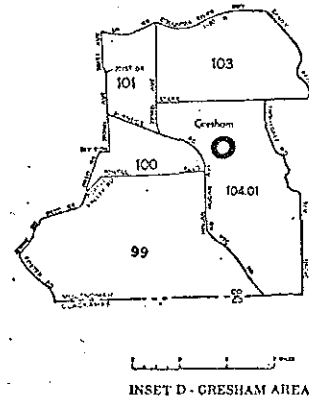
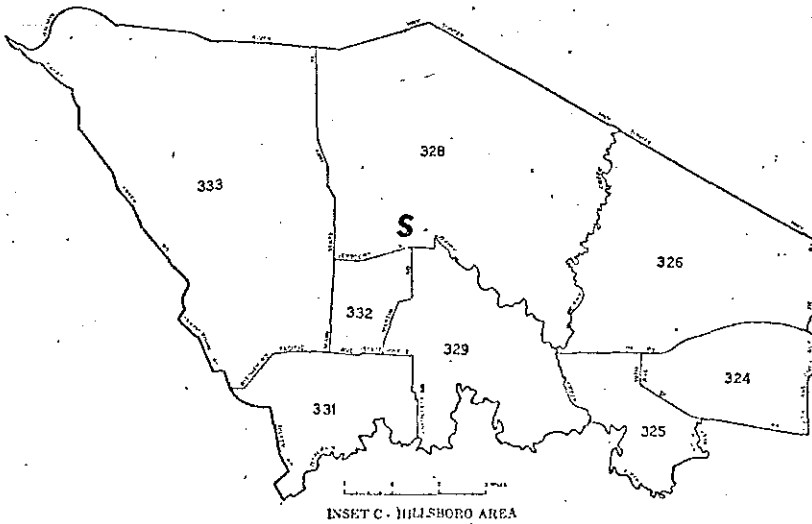
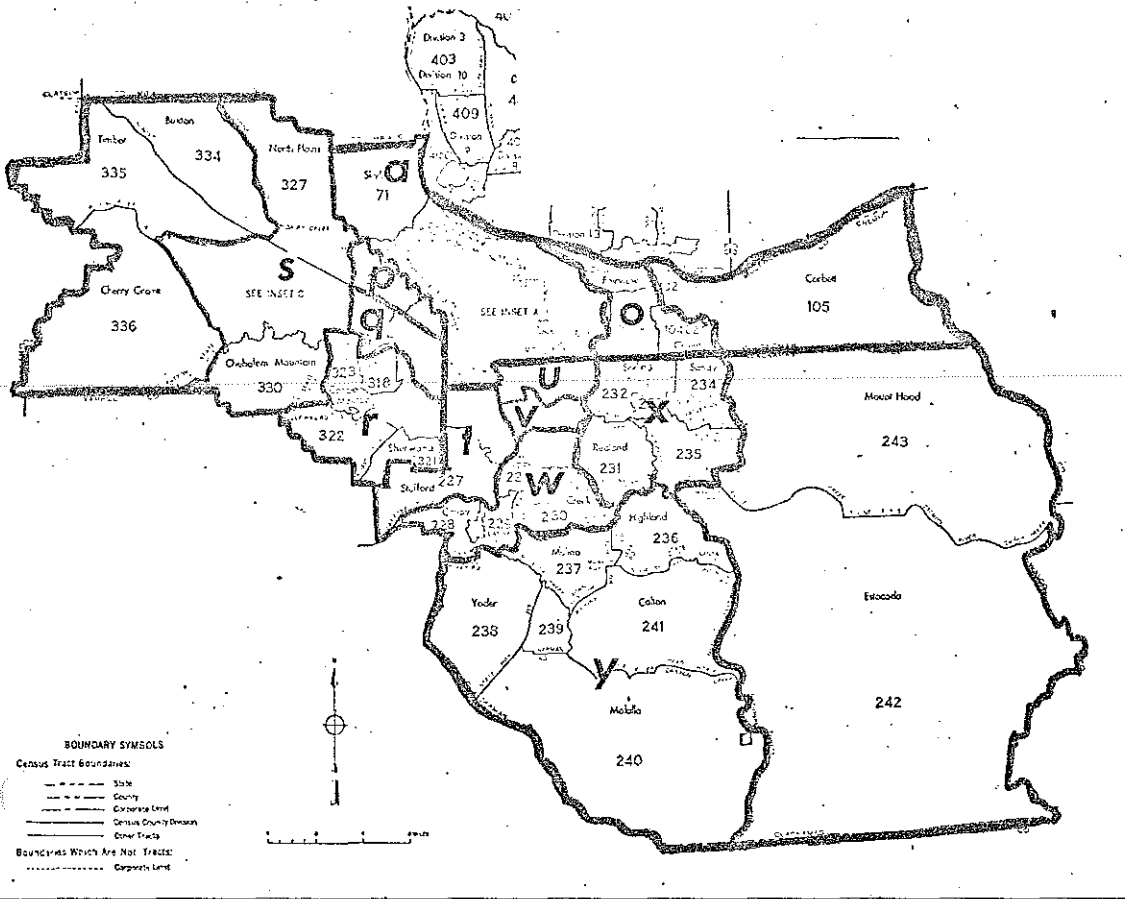


Table 2  
INSPECTION STATION LOCATIONS

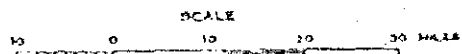
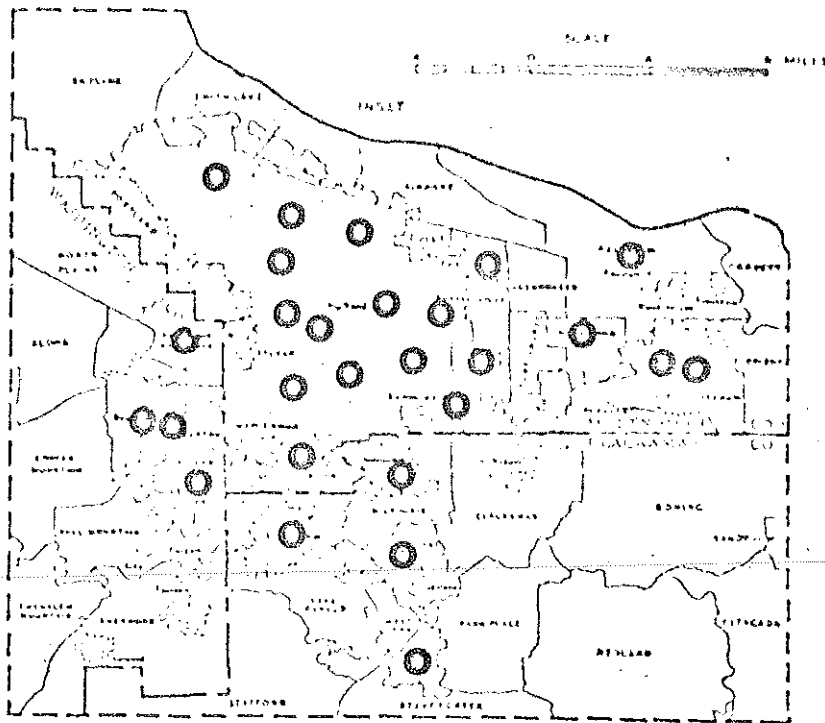
Zone Code *	Station Location	Number of Lanes	Estimated Local 1975 Volume (Vehicles/yr.)	Remarks
<u>MULTNOMAH COUNTY</u>				
a	North Portland--St. John's	1	29,000	Overflow to NW-downtown and Lloyd Center Stations
b	North Portland--Albina	1	25,000	
c	Northeast Portland--Lloyd Center	2	15,000	Anticipated loading due to shoppers, work trips, and overflow from other stations, in addition to local residents
d	Northeast Portland--Prescott	1	30,000	Overflow to Lloyd Center Station
e	Parkrose	1	27,000	Outside city of Portland
f	East Portland--122nd	2	40,000	Outside city of Portland
g	Foster Road	1	22,000	Outside city of Portland
h	Southeast Portland--Laurelhurst	1	20,000	
i	Southeast Portland--Mt. Tabor	1	20,000	
j	East Moreland--Woodstock	1	25,000	
k	Sellwood	1	25,000	
l	Taylor's Ferry	1	30,000	Overflow to NW-downtown and Lake Oswego Stations
m	Southwest Portland--Barbur	1	30,000	Overflow to NW-downtown and Beaverton Stations
n	Northwest Portland--Downtown	2	17,000	Anticipated loading from shoppers, work trips, and overflow from other stations, in addition to local residents
o	Gresham	2	45,000	Outside city of Portland
	Mobile Station	1	-	Available for rural areas and local stations as required
TOTAL FOR MULTNOMAH COUNTY		19	400,000	
<u>WASHINGTON COUNTY</u>				
p	Cedar Hills--West Slope	1	25,000	
q	Beaverton--Aloha	2	36,000	
r	Tigard	1	28,000	Overflow to Beaverton
s	Hillsboro--Forest Grove	2	32,000	
	Mobile Station	1	-	Available for rural areas and local stations as required
TOTAL FOR WASHINGTON COUNTY		6	121,000	
<u>CLACKAMAS COUNTY</u>				
t	Lake Oswego	1	27,000	
u	Milwaukie	1	18,000	
v	Oak Grove--Gladstone	1	25,000	
w	Oregon City	1	20,000	
x	Sandy	1	13,000	Fulltime operation NOT anticipated
y	Mo'alla	1	11,000	Fulltime operation NOT anticipated
	Mobile Station	1	-	Available for rural areas and local stations as required
TOTAL FOR CLACKAMAS COUNTY		6	114,000	
<u>COLUMBIA COUNTY</u>				
	All Mobile Locations	1	-	
<u>TOTAL FOR FOUR COUNTY AREA:</u>		19	One-lane Stations	
		6	Two-lane Stations	
		4	Mobile-lane Stations	

\* Zone Codes refer to zones on Figures

FIGURE 3

EMISSION CONTROL INSPECTION SYSTEM - LANE LOCATIONS

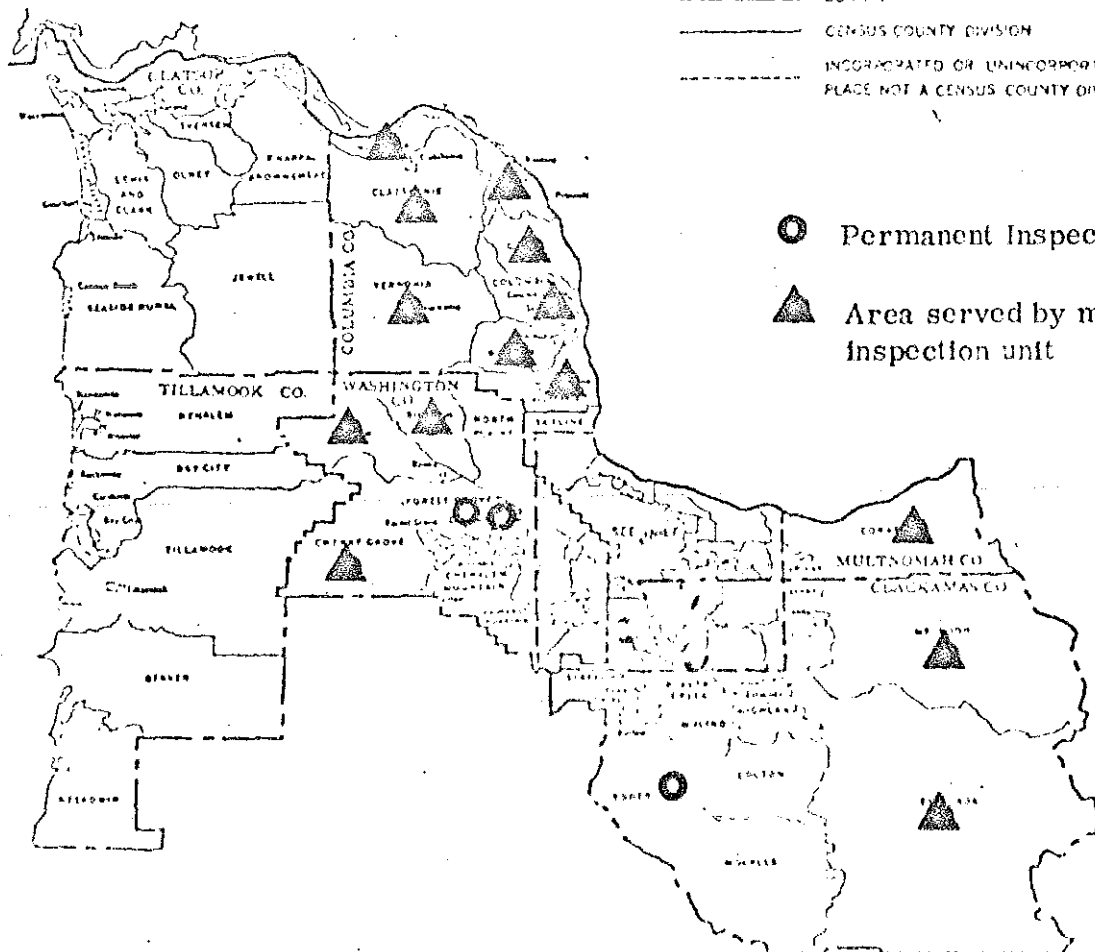
AQC 9/19/72



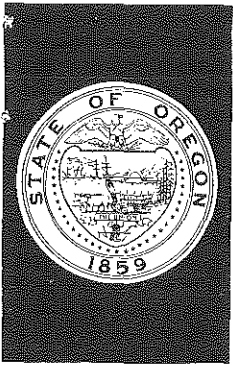
SYMBOLS

- COUNTY
- CENSUS COUNTY DIVISION
- INCORPORATED OR UNINCORPORATED PLACE NOT A CENSUS COUNTY DIVISION

- Permanent Inspection Lane
- Area served by mobile inspection unit



*Places with irregular shapes are arbitrarily included in the same census county division as the one they adjoin. They are not shown on these maps.*



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

## MEMORANDUM

### ENVIRONMENTAL QUALITY COMMISSION

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Portland  
GEORGE A. McMATH  
Portland  
ARNOLD M. COGAN  
Portland

TO: ENVIRONMENTAL QUALITY COMMISSION

FROM: Director

SUBJECT: Agenda Item F October 25, 1972 EQC Meeting  
Proposed State-wide Noise Control Program

### Background:

The 1971 Legislative Assembly found the increasing incidence of noise emissions in Oregon at unreasonable levels to be as much a threat to the environmental quality of life and to the health, safety and welfare of the people of Oregon as pollution of the air and waters. To protect the health, safety and welfare of Oregon citizens from the hazards and deterioration of the quality of life imposed by excessive noise emissions, the Legislative Assembly authorized the Environmental Quality Commission to implement standards for the emission of noise in Oregon and to enforce compliance with such standards.

The Department recognized that many noise sources exist in various locations and that they affect people in many ways. Therefore, one of the first activities undertaken by the Department was an evaluation of public concern, by three methods:

1. Thirteen public information meetings, co-sponsored by

the League of Women Voters, were held throughout the state. These meetings, publicized by local news media, provided two-way communications between the public and the Department.

2. Some newspapers printed the Department questionnaire and the resulting mail response was tabulated.
3. Citizens with specific noise problems called or wrote the Department and their complaints were summarized.

Following public meetings the staff conducted instrumented noise surveys of many noise sources causing complaint. These surveys and public input have provided guidance to the Department concerning the relative magnitude of Oregon's noise problems. Several Department requests for noise abatement, based on survey results, have been achieving positive results.

Department Evaluation of Surveys:

Details of public input are given in the attached interim report, "Noise Pollution Problems in Oregon". The Department's evaluation of that input is as follows:

1. Noise pollution is a significant problem in Oregon and citizens want immediate action.
2. Noise from motor vehicles, especially motorcycles, drew state-wide criticism and was the major source of complaint.
3. Noise on residential property from nearby racing events, highways and industry is a major problem. Such noise

interferes with sleep and communication, creates annoyance and in some cases has been measured at levels known to be potentially damaging to hearing. Many people feel deprived of the enjoyment of their property, and some leave their homes during periods of extreme noise. Schools also need to be protected from such noise.

4. Effectively enforced, revised and clarified noise ordinances are necessary. Existing state and local noise laws have not been adequately enforced, nor are ordinances comprehensive enough to effectively control today's varied noise sources.
5. Many noise problems arise from non-compatible land use. Planning Commissions are in a good position to eliminate many future noise problems, but they presently lack the tools to do a comprehensive job relative to noise. Guidelines for locating both noisy and quiet activities would aid planners in eliminating many potential noise problems.

#### Noise Measurement and Control:

The many sources of environmental noise require several methods of measurement and control. Noise sources can be broadly classified as those emitting:

1. A nearly constant sound level.
2. Impulsive noise.
3. A sound level fluctuating over a range of many decibels.

The fluctuations can be either random or periodic.

Noise from air conditioners and vehicles, typical of the first category, can be measured quickly with a simple sound level meter.

Hammering and other impulsive sounds require the use of an impulse sound level meter, or tape recorded data displayed on an oscilloscope.

Noise from highways, racing events and some industrial activities is not adequately described by single meter readings; statistical description of some of these noise levels is necessary. The statistical distribution can often be estimated by readings from a sound level meter during a 10 to 30 minute period. Accurate measurement requires the use of a tape recorder and a statistical distribution analyzer capable of sampling sound levels several times per second. Suitable tape recordings can be made in less than one hour for some sources, but many noise sources are recorded for 8 to 24 hour periods.

One of the Department's most challenging objectives is to develop, where technically feasible, simple standards measurable with simple instrumentation to minimize the cost of evaluation and noise control for all concerned. Unfortunately noise is a multi-dimensional problem and is not adequately described by the simplest measurements. Some noise sources, as indicated above, will require more complex standards, equipment, and procedures for measurement, evaluation and control.

The methods available for noise control fall into three broad categories:

1. Source control
2. Use control
3. Planning and zoning

Many noise problems require the use of more than one method of control. For example, source control has resulted in some reduction of aircraft noise, but planning is still very important to keep airports and residential areas separated.

Source control has been used principally for new products, but can be readily applied to products in use. Source control will then require replacement of faulty silencing equipment or require enclosure of inherently noisy equipment. Prohibition of sale of noisy equipment is an extreme example of source control which may be necessary for some automotive mufflers.

Use control can range from simple prohibition of using power lawnmowers before 8 a.m. to different weighting of daytime and nighttime flights in airport standards. Use control sometimes results in quieter alternative methods for manufacture or construction.

Planning and zoning will always be an important method of noise control. Some activities which are difficult to silence will continue to cause public complaint when located too close to residential areas.

Projections:

The Department concludes that an effective noise control program will depend upon coordinated efforts of federal, state and local governments.



The federal role should include control of aircraft noise, control of noise levels of new products, and assistance to state and local governments. Motor vehicle standards should be developed after consultation with states, and federal test procedures should be published which will provide a solid base for state vehicle noise programs. Minimum control, such as product labeling, should be acceptable for some products (e. g. household appliances).

The state should control industrial and motor vehicle noise, guide planning of its transportation system, and provide assistance to local governments. State control of environmental industrial noise is necessary to prevent jurisdictional problems. Occupational noise exposure is being regulated by the Occupational Health Division, and the Department of Environmental Quality should not duplicate that program. Noise levels specified in the Federal Highway Administration noise standard are too high, and a state standard is necessary for planning new highways and for identifying areas of existing highways which require noise abatement.

Local governments should include noise in their planning and zoning activities and in building codes, assist in motor vehicle noise control, and improve their control over nuisance noises. Few local ordinances are readily enforced, and comprehensive revision of ordinances is necessary.

A legislative change is essential to eliminate the current statutory requirement of using Perceived Noise Level (PNL). Commercially available sound level meters measure A, B or C-weighted sound pressure level, however, there is no meter which measures PNL. Correct measure-

ment of PNL requires real time analyzers and computerized data analysis, although PNL can be approximated with less expensive equipment. Furthermore, A-weighted sound level has been shown to be a reliable indicator of human response to noise.

Additional technical work is necessary before standards and guidelines can be completed, as follows:

1. Develop a single noise rating system for use with major noise sources. Airport, highway and industrial noise are all typically described by different rating methods. Some useful planning guidelines have been developed for single noise sources, but they are not adequate for different types of noise sources. Several potential noise rating systems are available, such as Community Noise Equivalent Level (CNEL) and Noise Pollution Level (NPL). The available methods must be evaluated and possibly modified for use as planning tools.
2. Develop motor vehicle test procedures. Most vehicle noise standards specify the Society of Automotive Engineers (SAE) test procedure, which requires the vehicle to be operated at full throttle, beginning at 30 mph. Vehicles are then monitored on the road and are in violation if they are operated in a manner to produce more noise than specified for the SAE test. This procedure works reasonably well for trucks, but is ineffective for cars and motorcycles for two reasons. First, an officer must monitor all

violations with a sound level meter even though some noisy areas are not adequate test sites because of building location. Second, the driver of a car or motorcycle can easily control the amount of noise generated and quickly learns how to identify a sound level meter. An inspection procedure, in conjunction with air quality and safety inspection, for motor vehicles would be much more effective, but the SAE test procedure should not be used because it requires special test facilities around the state and requires that the car owners drive according to the test procedure. The Department should attempt to develop a test procedure without these deficiencies. Such a procedure is projected for the motor vehicle inspection program, where the vehicle would be stationary and the engine to be run at full throttle for a brief period or run at rated speed.

3. Determine the accuracy of the present ambient noise measurement procedure. Ambient noise levels have been observed with variations in excess of 50 decibels. Such noises cannot be adequately described with a few meter readings, and a procedure has been developed which requires meter readings at 5 second intervals for a minimum of 10 minutes. The procedure is relatively easy for one person to use when the dynamic range of ambient noise is less than 20 decibels. Data analysis of Department noise surveys indicates that

the method provides an acceptable estimate of ambient noise but it probably cannot be used to enforce a standard if the noise source is within 5 decibels of the standard. The accuracy of the procedure must be checked by means of electronic data analysis of tape recorded data. The visual sampling procedure is potentially very useful, and if it can be modified for improved accuracy it should save some time and money in data acquisition and enforcement.

Additional noise surveys should be conducted in a variety of residential areas. Department noise surveys have been limited in number. Realistic standards must be based on noise levels which are considered acceptable to most people, and a broader data base is important to the development of standards.

Outlines of standards, as presently envisioned, are attached.

Conclusions:

The Department concludes that its responsibilities are to:

1. Control noise of motor vehicles in use.
2. Control the noise impact of highways, especially on residential property.
3. Control environmental industrial noise, especially on residential property.
4. Evaluate airport noise problems and control airport noise if effective federal action does not appear likely within a reasonable time (e.g. two years).

5. Insure that local governments act to eliminate serious noise problems which now exist, especially residential noise due to racing events.
6. Provide technical assistance to local governments, especially in developing guidelines and a model ordinance.
7. Coordinate noise control activities with federal, state and local agencies.
8. Conduct or sponsor technical projects as required to develop effective noise regulations.

Proposed Program Development and Time Schedule:

1. Before December 1, 1972, draft a proposed legislative change to eliminate the requirement of using Perceived Noise Level.
2. By April, 1973 -
  - a) Adopt an ambient noise objective
  - b) Develop guidelines for noise from racing events.
3. By July, 1973 -
  - a) Develop standards and adopt regulations for noise emission from motor vehicles (including motorcycles) and replacement mufflers, and establish procedures for incorporating noise measurement in the motor vehicle inspection program now being developed.
  - b) Develop standards and adopt regulations for existing and proposed highways.

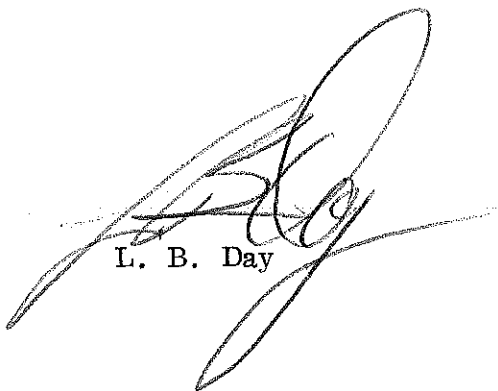
- c) Develop standards and adopt regulations for industrial noise transmitted across property lines.
  - d) Develop a guideline for hearing conservation of students exposed to amplified music. Provide school officials with a simple method for determining acceptable levels without the need of a sound level meter.
- 
4. By October, 1973, require, by rule, local governments, the Oregon Marine Board and the U. S. Coast Guard, prior to issuing a permit, to submit plans for racing events for Department approval.
  5. By January, 1974, develop a model ordinance and planning guidelines for use by local governments. Seek adoption by local governments and provide training and technical assistance.
  6. By June 1974, review federal action on motor vehicle, airport and new product noise standards, and evaluate the need for state regulations.
  7. Send a resolution to Oregon's Senators and Representatives and to the Federal Environmental Protection Agency urging federal standards for new products and requesting the appropriate Federal agency to coordinate its work with the Department, especially when developing motor vehicle standards and test procedures.
  8. Notify by letter, all manufacturers of motor vehicles (including motorcycles) sold in Oregon, except snowmobile manufacturers,

specifically noting:

- a. Oregon's interest in noise abatement.
- b. The need for Federal new vehicle standards to eliminate the possibility of varied or conflicting state standards.
- c. Oregon's intention of waiting at least two years for federal standards, but not for quiet vehicles, and
- d. Requesting that all new vehicles, especially motorcycles and trucks sold in Oregon meet California standards for the interim period.

Director's Recommendation:

It is the Director's recommendation that the Commission authorize and direct development of a comprehensive noise pollution control program as outlined above.



L. B. Day

APPENDIX B

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CONTROL DIVISION

October 16, 1972

DRAFT OF  
PROPOSED NOISE OBJECTIVES

Ambient noise objectives are listed below in terms of statistical A-weighted noise levels (Ref. terminology) for various land uses. Measurement of noise levels for comparison with this objective must be done in accordance with the established ambient noise measurement procedures.

<u>Land Use</u>	<u>Daytime</u>				<u>Night</u>			
	<u>L<sub>90</sub></u>	<u>L<sub>50</sub></u>	<u>L<sub>10</sub></u>	<u>L<sub>1</sub></u>	<u>L<sub>90</sub></u>	<u>L<sub>50</sub></u>	<u>L<sub>10</sub></u>	<u>L<sub>1</sub></u>
Residences, outside	45	50	55	60	35	40	45	50
Schools, outside	-	55	60	-	-	-	-	-
inside	-	40	45	-	-	-	-	-
Hospitals, inside	-	40	45	-	-	35	40	-
Churches, inside	-	35	40	-	-	35	40	-
Parks, outside	-	50	55	-	-	-	-	-

Note 1: Standards for industrial, highway and airport noise should specify the same levels as given in the objective for noise transmitted to other property. However, there should be two exceptions:

- a. For an area with many noise sources it will be necessary to establish the relative contribution of each major source, but the method to accomplish this is not yet established.



- b. For approval of new noise sources (or expansion of existing sources), the Department should attempt to retain existing quiet areas. Therefore if the ambient noise in the area is 5 dB or more below the objective then the noise source should be limited to 5 dB above the ambient level.

Note 2: Planning guidelines should be based on the noise objectives.

Approval of land uses would require noise measurement and/or prediction as follows:

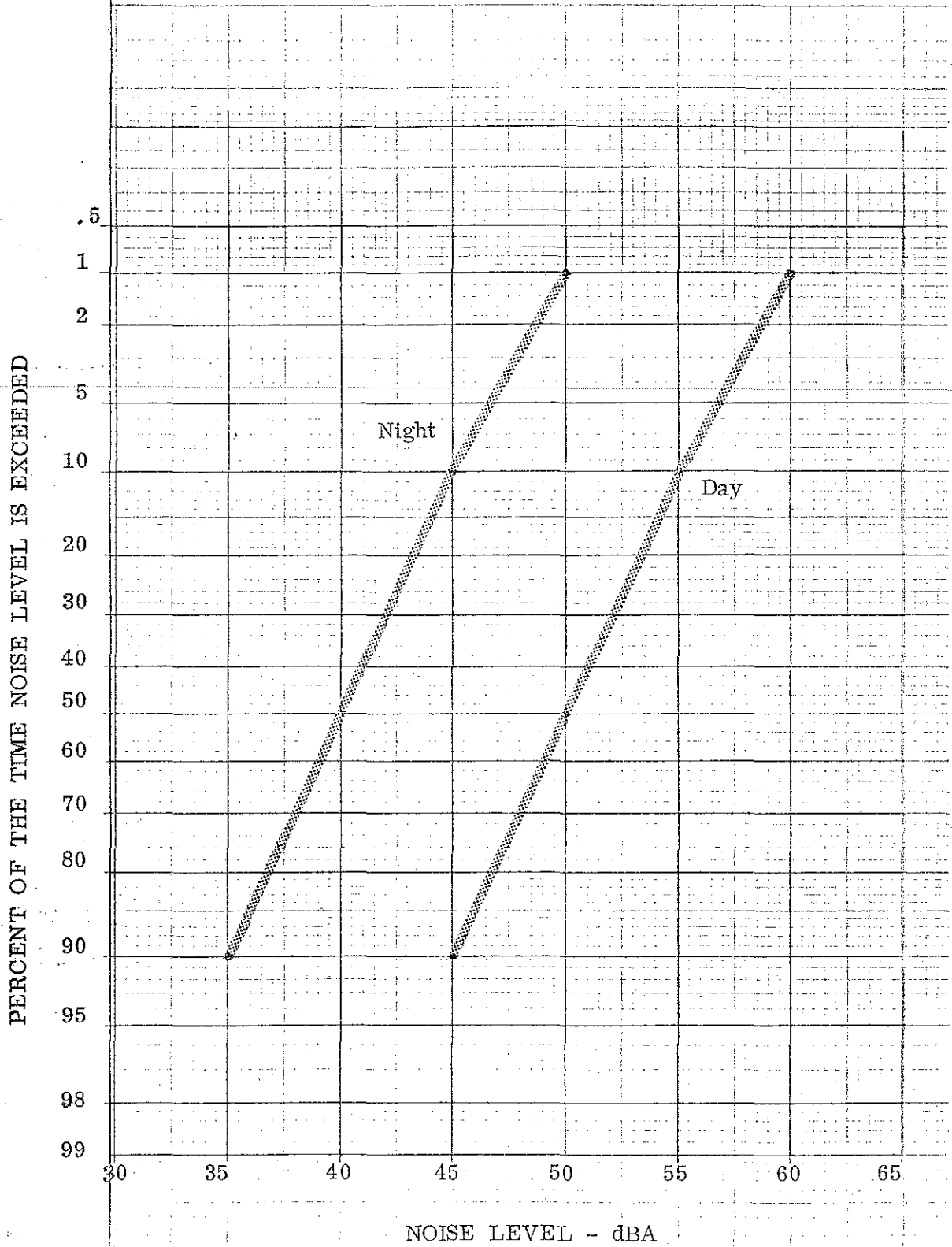
- a. For locating residential and other quiet land uses, ambient noise surveys must be conducted or ambient levels must be estimated.
- b. For locating noise sources, ambient noise levels in the area must first be determined and then the increase in noise due to the noise source must be estimated. The techniques for estimating the noise impact are not yet established.

Note 3: To keep the measurement and evaluation of noise as simple as possible, the following guides will be used.

- A. For a very quick noise survey:
  - 1. If  $L_1$  is exceeded, then the noise source is in violation of the standard.
  - 2. If  $L_{90}$  is exceeded by equipment which operates most of the time, then the source is in violation of the standard.

3. If  $L_{50}$  is exceeded by equipment which is operated often, then a violation of the standard is likely.
- B. If results of the previous step are not conclusive, then the ambient noise should be measured during the visual sampling technique. If the standard is violated by 5 dB or more than the test results are sufficient.
- 
- C. If the results of Step B are not sufficient, then the noise in question should be tape recorded and statistically analyzed by data analysis equipment.

# PROPOSED RESIDENTIAL NOISE OBJECTIVE



DRAFT OF  
PROPOSED  
AMBIENT NOISE MEASUREMENT PROCEDURE  
(Visual Sampling)

1. Scope: This procedure establishes a visual sampling method for for estimating ambient noise at a single location.
2. Instrumentation: The following instruments shall be used for the measurement.
  - 2.1 A sound level meter which meets the requirements of ANSI-S1.4 - 1971, General Purpose Sound Level Meters.
  - 2.2 A sound level calibrator.
3. Procedure
  - 3.1 Place the microphone at least 6 feet from the nearest reflective surface and at least 4 feet above ground.
  - 3.2 The microphone must be equipped with a windscreen.
  - 3.3 Observers should be as far from the microphone as practical. When the microphone is attached to the sound level meter, the observers should be behind the meter.
  - 3.4 The meter shall be set for fast response and the A-weighting network.
4. Measurements
  - 4.1 Record the sound level meter reading at least every 5 seconds for a minimum of 10 minutes. Judgment must be used on sample rate and total test time. The times specified are

acceptable for relatively steady noise sources such as industry or highways. When many short duration events are encountered (drag races, airports), it may be necessary to sample at a faster rate and extend the total test time.

4.2 The measurements shall be considered acceptable if the maximum number of readings at one sound level equals or exceeds the range of levels encountered.

4.3 Half decibel readings shall be rounded up to the next whole number.

5. Data Analysis: The data shall be analyzed to show the percent of samples exceeding each of the measured levels. Results are commonly given in terms of  $L_{90}$ ,  $L_{50}$  and  $L_{10}$ .

6. General Comments

6.1 Proper usage of all test instruments is essential to obtain valid measurements. Operating manuals or other literature furnished by the instrument manufacturer should be referred to for both recommended operation of the instrument and precautions to be observed. Specific items to be considered are:

6.1.1 The type of microphone, its directional response characteristics, and its orientation relative to the ground plane and sources of noise.

6.1.2 The effects of weather conditions on the performance of all instruments (e.g. temperature, humidity, barometric pressure).

6.1.3 Proper acoustical calibration procedure, to include the influence of extension cables, etc. Field calibration shall

be made immediately before and after each test. Internal calibration means is acceptable for field use, provided that external calibration is accomplished immediately before and after field use.

6.2 Measurements shall be made only when wind velocity is below 10 mph.

DRAFT OF  
PROPOSED  
NOISE EMISSION STANDARD FOR MOTOR VEHICLES

1. Scope: This standard specifies maximum engine and exhaust noise emissions for all motor vehicles used on public roads in Oregon and for off-road motor vehicles, except racing vehicles being tested or in competitive events in areas and at times designated by county or city governments for that purpose.

2. Prohibited Acts

2.1 No person shall operate a motor vehicle which exceeds the noise limits in Section 3 unless the vehicle has an exhaust system approved by the vehicle manufacturer, and in good working order (i.e. no rust holes).

2.2 The registered owner of a motor vehicle shall not allow that vehicle to be operated if it exceeds the noise limits in Section 3 unless the vehicle has an exhaust system approved by the vehicle manufacturer, and in good working order.

2.3 No person (company or corporation) shall modify a motor vehicle exhaust system to exceed the noise limits in Section 3.

2.4 No person (company or corporation) shall install a replacement exhaust system on any motor vehicle if the system exceeds the noise limits in Section 3 unless the exhaust system is approved by the vehicle manufacturer.

3. Noise Limits: Noise limits are given below. Noise levels must be measured in accordance with the established motor vehicle noise emission measurement procedure.

<u>Type of Vehicle</u>	<u>Date of Manufacture</u>	<u>Noise Limit</u>
1) Motorcycle and Snowmobile	Before _____	_____ dBA
	After _____	_____ dBA
2) Any motor vehicle with a gross weight of 8,000 pounds or more	Before _____	_____ dBA
	After _____	_____ dBA
3) Passenger cars and any other type of vehicle	Before _____	_____ dBA
	After _____	_____ dBA

#### 4. Vehicle Inspection

4.1 Vehicles can be inspected for compliance by the Department of Environmental Quality on the basis of citizen complaint, police department request, random inspection, or as a part of a state-wide motor vehicle inspection program.

4.2 Vehicles can be inspected for compliance by any police officer who has received appropriate training in the use of sound measuring equipment.



DRAFT OF  
PROPOSED  
MEASUREMENT PROCEDURE  
FOR MOTOR VEHICLE ENGINE AND EXHAUST NOISE EMISSION

1. Scope: This procedure establishes a method for measuring engine and exhaust noise of motor vehicles.
2. Instrumentation: The following instrumentation shall be used for the measurement.
  - 2.1 A sound level meter which meets the requirements of ANSI-S1-4 - 1971, General Purpose Sound Level Meters.
  - 2.2 A sound level calibrator.
3. Test Site:
  - 3.1 The vehicle is to be located outside on a paved area at least \_\_\_\_\_ (distance) from any large reflective surface.
  - 3.2 Other (inside or outside) test areas may be used, provided they are calibrated according to the (to be ) established procedure.
4. Procedure:
  - 4.1 Place the microphone 4 feet above ground, at least 10 feet from any large reflective surface and \_\_\_\_\_ (distance) from the nearest surface of the vehicle.
  - 4.2 Observers should be as far from the microphone as practical. When the microphone is attached to the sound level meter, the observers should be behind the meter.
  - 4.3 The microphone must be equipped with a windscreen for outdoor measurements.

4.4 The meter shall be set for fast response and the A-weighting network.

5. Measurements:

5.1 The maximum meter reading shall be observed when the engine is operated at full throttle and no load for a brief period.

5.2 Engine speed should be monitored during test and the engine speed shall not exceed \_\_\_\_\_ (to be determined).

6. General Comments:

6.1 Proper usage of all test instruments is essential to obtain valid measurements. Operating manuals or other literature furnished by the instrument manufacturer should be referred to for both recommended operation of the instrument and precautions to be observed. Specific items to be considered are:

6.1.1 The type of microphone, its directional response characteristics, and its orientation relative to the ground plane and sources of noise.

6.1.2 The effects of weather conditions on the performance of all instruments (e.g. temperature, humidity, barometric pressure).

6.1.3 Proper acoustical calibration procedure, to include the influence of extension cables, etc. Field calibration shall be made immediately before and after each test. Internal calibration means is acceptable for field use, provided that external calibration is accomplished immediately before and after field use.

- 6.2 Measurements shall be made only when wind velocity is below 10 mph.
- 6.3 For compliance tests, measurements shall be made only when the ambient noise level is at least 10 dB below the level specified in the standard.
- 6.4 For other tests, measurements shall be made only when the ambient noise level is at least 10 dB below the level produced by the vehicle.

## Appendix C

### Department of Environmental Quality

#### Noise Pollution Control Section Terminology October, 1972

## 1. General

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### 1.1 Sound

- (1) Sound is an oscillation in pressure, stress, particle displacement, particle velocity, etc., in a medium with internal forces (e.g., elastic, viscous), or the superposition of such propagated oscillations.
- (2) Sound is an auditory sensation evoked by the oscillation described above.

### 1.2 Periodic Quantity

A periodic quantity is an oscillating quantity whose values recur for certain increments of the independent variable.

In general a periodic function can be expanded into a series of the form

$$y = f(t) = A_0 + A_1 \text{ SIN } (wt + \phi_1) + A_2 \text{ SIN } (2wt + \phi_2) + \dots$$

$$\text{WHERE } w = 2\pi/T$$

AND  $T$  = the period of oscillation (constant).

### 1.3 Frequency

The frequency of a periodic quantity is the reciprocal of its period in cycles per unit time.

$$f = \frac{1}{T}$$

The normal unit for frequency is hertz (Hz).

$$1 \text{ Hz} = 1 \text{ cycle per second.}$$

### 1.4 Frequency of occurrence

The frequency of occurrence of an event is the number of occurrences of that event relative to the total number of events.

### 1.5 Sound Pressure

The sound pressure at a point is the total instantaneous pressure at that point in the presence of a sound wave minus the static pressure at that point.

### 1.6 Noise

- (1) Noise is any undesired sound. By extension, noise is any unwanted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device.
- (2) Noise is an erratic, intermittent, or statistically random oscillation.

1.7 Ambient Noise

Ambient noise is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far.

1.8 Residual Noise

Residual noise is the all-encompassing unidentifiable noise associated with a given environment after all identifiable noises have been eliminated.

1.9 Background Noise

Background noise is the total of all sources of interference in a system used for the production, detection, measurement, or recording of a signal, independent of the presence of the signal.

Note 1: Ambient noise detected, measured, or recorded with the signal becomes part of the background noise.

Note 2: Included in this definition is the interference resulting from primary power supplies, that separately is commonly described as hum.

1.10 Random Noise

Random noise is an oscillation whose instantaneous magnitude is not specified for any given instant of time. The instantan-

eous magnitudes of a random noise are specified only by probability distribution functions giving the fraction of the total time that the magnitude, or some sequence of magnitudes, lies within a specified range.

Note: A random noise whose instantaneous magnitudes occur according to the Gaussian distribution is called "Gaussian random noise."

#### 1.11 Impulsive Noise

Impulsive noise is characterized by brief excursions of sound pressure which significantly exceed the ambient sound pressure. The duration of a single impulse is usually less than one second.

#### 1.12 Steady Noise

Steady noise is a noise the level of which remains essentially constant during the period of observation. Fluctuations of level are limited to a total range of four decibels.

#### 1.13 Noise Goal

A noise goal is a desirable noise level given as an aim for design purposes. A goal is not a standard and is therefore not considered enforceable.

**1.14 Noise Objective**

A noise objective is a desirable noise level in the ambient air, given as an aim to reduce adverse human reaction to noise. An objective is not a standard and is therefore not considered enforceable.

**1.15 Noise Guideline**

A noise guideline is a noise objective which may be used as a basis for recommending approval or disapproval of noise sources proposed for specific areas, or for land uses near major noise sources (e.g. highways, airports, industry).

**1.16 Noise Criterion**

A noise criterion is a relationship between noise level and its adverse effect on man and his environment (e.g. speech interference levels at specified distances).

**1.17 Ambient Noise Standard**

An ambient noise standard specifies a maximum noise level in the ambient air. Standards prescribe levels which are established by law and are enforceable.

**1.18 Noise Emission Standard**

A noise emission standard specifies a maximum noise level which can be emitted by a noise source under stated conditions. Standards prescribe levels which are established in accordance with legal procedures and are enforceable.



## 2. Levels

### 2.1 Level

The level of a quantity is the logarithm of the ratio of that quantity to a reference quantity of the same kind.

The base of the logarithm, the reference quantity, and the kind of level must be specified.

$$L = \text{Log}_r (q/q_0)$$

Where L = Level

r = Base of Logarithms

q = The quantity under consideration

q<sub>0</sub> = The reference quantity of the same kind

### 2.2 Decibel

The decibel is one tenth of a Bel. The Bel is a unit of level using a logarithmic base of ten and quantities proportional to power. Decibel is abbreviated dB.

### 2.3 Sound Pressure Level

The sound pressure level, in decibels, of a sound is 20 times the logarithm to the base 10 of the ratio of the pressure of this sound to the reference pressure. Unless specified, the root-mean-square (rms) pressure is to be understood. The reference pressure is 20 micronewtons per square meter.

$$\text{SPL} = 10 \text{ Log}_{10} (P/P_0)^2$$

$$\text{SPL} = 20 \text{ Log}_{10} (P_{\text{rms}}/P_0)$$

$$P_0 \doteq 20 \mu\text{N/m}^2$$

#### 2.4 Sound Level (Noise Level)

Sound level (noise level) is a weighted sound pressure level, obtained by the use of a metering characteristic and the A, B or C weighting as specified in American National Standard Specification for sound level meters, ANSI S1.4-1971 (or the latest revision). The weighting employed must be indicated (e.g. dBA). The reference pressure is  $20 \mu\text{N/m}^2$ .

#### 2.5 Energy Equivalent Noise Level

The energy equivalent noise level is the level of a constant, or steady state, noise having the same amount of acoustic energy equivalent to that contained in the measured noise. The symbol for the energy equivalent noise level is  $L_{\text{eq}}$  and the mathematical statement of its definition is:

$$L_{\text{eq}} = 10 \text{ Log}_{10} \left[ \frac{1}{n} \sum_{i=1}^n 10^{\frac{NL_i}{10}} \right]$$

Where  $NL_i$  is the  $i^{\text{th}}$  noise level measured and  $n$  is the total number of measurements.

## 2.6 Statistical Levels

Statistical levels are given in terms of the value of the noise level which is exceeded for a stated percentage of the time period during which the measurement was made. The symbol for the noise level which is exceeded y percent of the time is  $L_y$ .

The most common statistical measures are  $L_{99}$ ,  $L_{90}$ ,  $L_{50}$ ,  $L_{10}$  and  $L_1$ , which denote the value of noise level which is exceeded 99, 90, 50, 10 and 1 percent of the time respectively.

## 2.7 Noise Pollution Level

The noise pollution level is a noise rating scale which attempts to describe fluctuations in noise level. It is used to describe the noise environment of a location, as opposed to an event (e.g. a single vehicle pass-by). Noise pollution level,  $L_{NP}$ , is defined by the equation

$$L_{NP} = L_{eq} + 2.56\sigma$$

WHERE  $\sigma$  is the standard deviation of A-weighted sound pressure levels monitored over a relatively long time.

$L_{NP}$  can be approximated by the following equation.

$$L_{NP} = L_{50} + (L_{10} - L_{90}) + \frac{(L_{10} - L_{90})^2}{60}$$

## 2.8 Noise Exposure Level

Noise exposure level is the integrated level; over a given period of time, of a number of different noise events of equal or different noise levels and durations. The integration may include weighting factors for the number of events during certain time periods in which people are more annoyed by noise (e.g. sleep interference by noise at night).

3. Organizations

3.1 ANSI

American National Standards Institute or its successor bodies.

3.2 ASTM

American Society for Testing Materials or its successor bodies.

3.3 IEC

International Electrotechnical Commission or its successor bodies.

3.4 SAE

Society of Automotive Engineers or its successor bodies.

An Interim Report

NOISE POLLUTION PROBLEMS IN OREGON

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Department of Environmental Quality  
Air Quality Control Division  
Noise Pollution Control Section

July 1972

## INTRODUCTION

The 1971 Oregon Legislature authorized the Environmental Quality Commission to implement noise standards and enforce compliance with such standards. Two staff members were authorized by the State Emergency Board in early 1972 to carry out the requirements of the legislation.

One of the initial objectives of the Department of Environmental Quality was to obtain public opinion throughout the State to determine which noise sources concerned citizens of the State. This report summarizes public meetings held throughout the State and complaints received by the Department of Environmental Quality through July, 1972.

## LEGISLATION

Chapter 467, Oregon Revised Statutes, authorizes the Environmental Quality Commission to adopt reasonable state-wide standards for noise emissions permitted within this State and to implement and enforce compliance with such standards. The Commission is granted the power to investigate complaints, hold hearings, issue orders, make rules, impose sanctions, bring civil abatement proceedings, and to do any other thing necessary to carry out the policies of Oregon as set forth under this chapter. ORS Chapter 467 is attached to this report.

## PUBLIC RESPONSE

The following three methods were used to sample public concern relative to noise pollution:

1. Thirteen public information meetings, co-sponsored by the League of Women Voters, were held throughout the State. Notices were

mailed to interested persons and news releases were made to newspapers and to local stations to encourage attendance. These meetings provided two-way communications, giving the public information concerning the legislation, effects of noise on people, and the feasibility of controlling noise from various sources. They also provided citizen response both from a Department prepared questionnaire and from open discussions. A copy of the questionnaire is attached to this report.

2. Noise complaints received by the Department were summarized.
3. Newspaper articles about the noise pollution control program generated mail response.

The results for each area of the State for which response was generated are summarized in the following sections.

Portland and Surrounding Area (St. Helens, Forest Grove, McMinnville, Oregon City)

Comments at the meeting revealed that motor vehicles were the main source of complaint. Many vehicles were reported to be unnecessarily loud, particularly motorcycles and trucks with engine compression brakes ("Jake" brakes). The design and location of roads was stated to be an important factor, and that too many roads with high traffic density are too close to residential areas. Traffic noise was alleged to render some homes unlivable and property values were considered to be lower.

Unmuffled boats on the Willamette River drew heavy public criticism. Other noises mentioned at the meeting were: air conditioning units, helicopters, jet aircraft, power lawnmowers, garbage trucks operating early in the morning,



recreational vehicles in forests, guns, and noises too easily transmitted from one apartment to another. Some citizens were concerned about the potential hearing loss from amplified music and loud equipment.

The greatest source of noise complaints received by the Department via telephone was industrial noise. In addition, objections to sand and gravel operations were consistently voiced because of the high sound level emitted.

Often the operations begin at early morning hours and continue until late evening. Residents near these operations claim to lose sleep and are forced to remain inside their homes. Other industrial complaints phoned in were related to a specific piece of mechanical equipment such as a saw, pump, cyclone or fan. It was pointed out that industrial noise requires state control because, for example, Gladstone and West Linn residents cannot get an Oregon City plant to reduce its noise level.

Other comments expressed at the meeting were: "Existing laws could be effective if enforced." "Set aside areas for noisy activities." "Education should be a part of the program." "Provide technical information on noise abatement means." "Enforce your standards."

#### Salem

The major concerns expressed in Salem were motor vehicles, aircraft (all types) and powered yard and garden equipment. Comments expressed about motor vehicles were: Jake brakes are very irritating and should be illegal in cities; trucks are as bad as helicopters; Lancaster Road traffic noise prevents neighbors from using their yards or leaving doors and windows open; and motorcycles and cars are racing on public streets.

Aircraft. All aircraft received complaints, but the pending move to Salem by the National Guard was the major concern expressed. Citizens felt that their voice had been completely ignored by officials and that some questionable political dealings had taken place. Many citizens wanted the Guard moved to Adair instead of Salem. Some people stated that crop dusting planes should be quieter. In addition, it was expressed that the Salem airport should be moved if its operations are to be expanded.

On neighborhood noise, the major concerns voiced were about lawn mowers, chain saws, air conditioners, motorbikes, home appliances and dogs barking at night.

The Mid-Willamette Valley Council of Governments and Mid-Willamette Valley Air Pollution Authority issued a joint statement noting the need for Federal and State standards and regional enforcement.

Other comments expressed at the Salem meeting were: "Control noise at the design stage first and then control use of noisy devices." Many people stated that enforcement of existing laws should be improved before new regulations are adopted.

#### Corvallis

The major concern expressed at the Corvallis meeting was motor vehicles. Many comments were voiced about motorcycles and loud boats in recreational areas and around rural homes. Some comments stated were: "People in the city are psychologically prepared for noise, but not in the woods." "Even the most remote campsite is subjected to motorcycles and chainsaws."

Other noise sources mentioned were: Lawn mowers, train whistles in town, barking dogs, construction equipment, boat races, amplified music, and sound transmitted through apartment and office walls.

Other comments were: "Strong State leadership is needed; provide training for enforcement at the local level." "Public education about the hazards of noise is necessary."

Eugene

The major concern stated at the meeting was motor vehicles. Dislike of powered yard and garden equipment and aircraft was also mentioned. The use of Jake brakes in residential areas; inadequate and non-uniform enforcement of existing muffler laws were pointed out. Some felt that roads were poorly planned and designed and that too much traffic exists in some neighborhoods. Log trucks were said to pass by some homes at the rate of one every two minutes, half of them using Jake brakes and many without mufflers. Many residents stated they are awakened several times per night because of noise from Interstate 5.

There are two racetracks in the area. Many citizens claim to be disturbed by them. One citizen measured levels of 78 to 85 dBA at a distance of one-half mile from the track. A residence situated closer to the track measured levels of 89 to 102 dBA. Hydroplane races in the area are claimed to have a similar effect.

Some residents voiced dislike regarding the use of lawn and garden equipment early Sunday morning and on evenings when they wish to enjoy their yards.

Other sources commented on were: Mechanical equipment in recreation areas, air conditioning units, radios and stereos, dogs, and sound transmitted through apartment and office walls.

Other concerns stated at the meeting were: "Local governments are looking to DEQ for guidance in writing ordinances." "Establish quantitative standards measured at the property line." "Present local ordinances and State laws are not being enforced." "Put teeth in enforcement."

#### Roseburg

Public response in Roseburg centered on motor vehicles and the local racetrack. The track is located in the fairgrounds near town. Races are held on weekends with practice sessions Wednesday night. Residents in the surrounding neighborhoods claim to have trouble sleeping and are concerned about property values. They stated that race cars should be required to use mufflers or relocate the track away from town.

Intentional and unnecessary noise from hot rods, motorcycles and sports cars drew criticism.

Residents claim that log trucks produce much of the vehicle noise in the Roseburg area. It was stated that many trucks have no mufflers, that they use Jake brakes near homes and are driven too fast. One woman stated that a Highway Division count revealed 90,000 trucks pass her house per year. It was reported that the high school at Glide has two rooms that cannot be used because of truck noise. The consensus was that considerate drivers can reduce noise to a tolerable level, while others seem to delight in making as much noise as possible.

Medford

Major concerns expressed by Medford residents are loud motor vehicles and races. Many voiced dislike regarding loud log trucks without mufflers, Jake brakes used in the city, passenger cars with modified mufflers and most motorcycles. Some residents stated that a motorcycle track was causing them to leave their homes on weekends. Another racetrack reportedly operates until late in the evening close to residential homes. Some citizens pointed out that street racing exists and both the noise and safety factors are issues. It was reported that I-5 is a constant noise source.

Noise from large aircraft and industry drew comment. Several citizens use air conditioners to mask the industrial noise at night. Hearing conservation is a concern, primarily because of the loud music played at school dances. Early morning train whistles and barking dogs received comment.

Other comments expressed were: "Write reasonable regulations." "Present laws are adequate, but enforcement ranges from poor to nonexistent." One man stated, "Law enforcement agencies have fallen down on the job with the laws they have. Too many fines are suspended. Local people and State Police could all do more. It seems that some agencies don't take our laws literally."

Astoria

The principal comment expressed at the Astoria meeting was noisy motor vehicles. Some residents stated that local laws could do more to get excessively loud vehicles off the street, and that existing laws could be better enforced. Other comments mentioned were noisy early morning garbage

collection and the use of loud equipment should be limited to specific times.

Newport

Typical comments stated were: Motor vehicle use should be restricted in residential areas, trucks seem to be immune to state muffler laws, and household appliances are too noisy. Other comments expressed were: "Quiet recreation areas would be nice!" and "Concentrate on unnecessary noise."

A racetrack is located in a farming area, close to six homes. These people voiced objection to the noise, dust, lack of sanitation facilities, and congested traffic. Most of these residents leave their homes every other Sunday during the races. They have been unable to resolve their problem at the local level and feel the State is their last hope.

Coos Bay-North Bend Area

This is the only area in which the questionnaire response indicated trucks to be a greater noise problem than motorcycles. The questionnaire results also indicated cars and industry to be important noise problems.

During the public meeting, the use of off-road motorcycles in residential areas was criticized, as were log trucks driving in town. The North Bend Chief of Police stated that he is looking to the Department for a viable, objective noise limit for cars. An apartment owner expressed concern about railroad engines idling nearby all night keeping tenants awake. He claims to be in danger of losing the apartment because of being unable to keep tenants. Mills operating 24 hours per day near residential areas drew some public criticism. A mill representative requested that a single State agency control all noise problems in the state to eliminate the possibility

of conflicting requirements.

There was more opinion expressed, written and in public, against regulation in Coos Bay than in any other area. Some of the comments voiced were: "Don't shut business down by excessive requirements." "Nothing bothers me enough to control." "Devote interest to meaningful areas like population control and welfare reform." "...very tired of someone deciding what is good for my well-being." "Sick of my taxes paying for things like noise control." "Some loud noises bring pleasure."

#### Curry County

There was no public information meeting in Curry County, but local newspapers did print the questionnaire. Questionnaires mailed to the Department contained complaints only about motorcycles.

#### Pendleton

The major complaint voiced in the public meeting was about motorcycle noise in residential and recreational areas. Several people favored setting aside an area for motorcycle operation. Lawn and garden equipment, snowmobiles, aircraft, sonic boom, chain saws and trucks were mentioned as secondary problems. Other public comments were: "Start regulating manufactured products." "Product noise should be a Federal and State concern, but product use controls should be left to local governments."

#### The Dalles

Motor vehicles again caused the most public complaint. Specific comments were: "Sale of loud mufflers should be illegal." "Loud cars are driven fast and loud." "Cars should be controlled locally, but there is no local enforcement." "Traffic should be restricted in some areas." "Adopt

a grievance procedure for public use." "Dogs can be noisy, but they are a local concern."

#### Bend

Questionnaire response ranked snowmobiles and other recreational vehicles as major sources of noise concern in Bend. During the meeting people expressed their concern about maintaining quiet in recreational areas.

It was stated by some that present muffler laws are not effective but that automobile noise should be controlled locally. Industrial noise was cited as a problem for some people, especially noise from plants operating 24 hours per day and 6 days per week. One man stated that noise should be controlled so people wouldn't have to move away from it as some have already done.

#### Klamath Falls

Motor vehicles were the subject of many public complaints in Klamath Falls. Specific comments were: "Many gravel trucks have no mufflers." "New motorcycles are quiet, but most are modified by their owners." "A vehicle inspection system is needed." "Vehicle equipment should be 'tamper-proof'." Several people stated they are awakened by train whistles in the early morning hours and urged the use of guarded crossings instead of whistles in town.

Other public statements at the Klamath Falls meeting included:

"Most people would rather lose sleep than turn in their neighbor's barking dog." "Muzzle dogs at night." "Mosquito control spray planes are noisy and overloaded." "Engine run-up at the airport should be done behind a sound barrier." "Public education is necessary."



STATEWIDE SUMMARY OF CITIZEN INPUT

The major complaint throughout the State was excessive noise from motor vehicles. Motorcycles, trucks, sports cars and modified passenger cars drew criticism in public meetings, in questionnaire response and in telephone complaints. Many people also pointed out the role of highway design and location as a means of reducing the impact of noise in residential areas.

Many people stated that they especially want quiet residential areas. The noise sources near residential areas about which they complained were racing events, industry and mechanical equipment such as air conditioners. Some of these people claim to lose sleep or lose the use of part or all of their property because of these noises.

Graphical representation of the noise questionnaire survey results are attached to this report. The following conclusions by the Department of Environmental Quality summarize the citizen concerns for noise and opinion about control activities.

1. Most people object only to occasional loud noise, some object to all noise, but few have no objection to noise.
2. Most people want to reduce noise now, some want to restrict future increases, and a few want no control.
3. Most people want controls on equipment already in use as well as new equipment.
4. Almost 90% of those responding felt there should be some standard to insure acoustic privacy in apartments.

5. Large aircraft should be controlled by the Federal government. Small aircraft and helicopters should be under Federal and State control.
6. Motor vehicle regulations should be written by the State and enforced by State and local governments.
7. Races, construction, and engine-powered equipment should be controlled by State and local governments.
8. Industry should be under State control.
9. The use of yard and garden equipment should be under local control.
10. Home appliances should have federal regulation, if any.

#### SUMMARY OF CONCLUSIONS

The Department of Environmental Quality has reached the following conclusions from public input.

1. Noise pollution is a significant problem in Oregon and citizens want immediate action.
2. Noise associated with motor vehicles is the major problem.
3. Many residential noise problems are a result of inadequate land use planning.
4. Many people, especially in local government, are looking to the Department of Environmental Quality for leadership in noise control.

5. State control of industrial noise is necessary to prevent jurisdictional problems.
6. Existing state and local noise regulations have not been adequately enforced. However clarification of those laws would aid enforcement.
7. Local government has not been sufficiently responsive to noise problems. People said that the State is their last hope to resolve some noise problems.

# DEPARTMENT OF ENVIRONMENTAL QUALITY

## NOISE SURVEY

DATE _____		FREQUENCY			ANNOYANCE			DESIRED CONTROL				BEST EN-FORCEMENT			COUNTY _____		
		OFTEN	OCCASIONAL	RARE	GREAT	MODERATE	SLIGHT	FEDERAL	STATE	LOCAL	NONE	FEDERAL	STATE	LOCAL	CITY _____		
WHICH NOISES BOTHER YOU?	HELICOPTERS																
	LARGE AIRCRAFT																
	TRUCKS																
	SMALL AIRCRAFT																
	CARS																
	SNOWMOBILES, BUGGIES, ETC.																
	MOTORCYCLES																
	HOME APPLIANCES																
	BOATS																
	LAWN MOWERS, TILLERS																
	CONSTRUCTION																
	MOTORIZED RACES																
	INDUSTRY																
	CHAIN SAWS																
OTHER _____																	
WHERE?		HOME															
		WORK															
		RECREATION															
WHEN?		DAY															
		EVENING															
		NIGHT															
		DURING WEEK															
		WEEKEND															

**I OBJECT TO:**

ALL NOISE

OCCASIONAL LOUD NOISES

NO OBJECTION TO NOISE

**I WANT TO:**

CONTROL NOISE NOW

RESTRICT FUTURE INCREASES OF NOISE

HAVE NO CONTROL

**I FAVOR:**

RESTRICTING SALES OF NOISY EQUIPMENT

RESTRICTING USE OF NOISY EQUIPMENT

NEITHER

**WE SHOULD CONTROL NOISE:**

AT ALL COST       OF NEW EQUIPMENT ONLY

IF COST IS MODERATE       OF OLD EQUIPMENT TOO

ONLY IF FREE

**SHOULD NOISE CONTROL REGULATIONS BE ESTABLISHED FOR THE CONSTRUCTION OF APARTMENTS?**

YES

NO

COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Chapter 467

## 1971 REPLACEMENT PART

### Noise Control

467.010	Policy	467.040	Powers of Environmental Quality Commission
467.020	Emission of noise in excess of prescribed levels prohibited	467.050	Civil abatement proceedings authorized
467.030	Promulgation of noise control rules	467.990	Penalties

### CROSS REFERENCES

Motor vehicles, unnecessary muffler noise prohibited, 483.448	Places of employment, atmospheric contamination, regulation, 654.105
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**467.010 Policy.** The Legislative Assembly finds that the increasing incidence of noise emissions in this state at unreasonable levels is as much a threat to the environmental quality of life in this state and the health, safety and welfare of the people of this state as is pollution of the air and waters of this state. To provide protection of the health, safety and welfare of Oregon citizens from the hazards and deterioration of the quality of life imposed by excessive noise emissions, it is hereby declared that the State of Oregon has an interest in the control of such pollution, and that a program of protection should be initiated. To carry out this purpose, it is desirable to centralize in the Environmental Quality Commission the authority to adopt reasonable state-wide standards for noise emissions permitted within this state and to implement and enforce compliance with such standards.

[1971 c.452 §1]

**467.020 Emission of noise in excess of prescribed levels prohibited.** No person may emit, cause the emission of, or permit the emission of noise in excess of the levels fixed therefor by the Environmental Quality Commission pursuant to ORS 467.030.

[1971 c.452 §3]

**467.030 Promulgation of noise control rules.** In accordance with the applicable provisions of ORS chapter 183, the Environmental Quality Commission shall promulgate reasonable rules relating to the control of levels of noise emitted into the environment of this state and including the following:

(1) Establish categories of noise emission sources, including the categories of motor vehicles and aircraft;

(2) Establish requirements and specifications for equipment to be used in the monitoring of noise emissions;

(3) Adopt procedures for the collection, reporting, interpretations and use of data obtained from noise monitoring activities;

(4) Investigate and, after appropriate public notice and hearing, establish maximum permissible levels of noise emission for each category established, as measured by units of perceived noise, in decibels (EPNdB); and

(5) Adopt, after appropriate public notice and hearing, standards for the control of noise emissions which shall be enforceable by order of the commission.

[1971 c.452 §2]

**467.040 Powers of Environmental Quality Commission.** The Environmental Quality Commission has the power to investigate complaints regarding excessive noise emission, to hold hearings, to issue orders, to make rules, to impose sanctions, and to do any other thing necessary to carry out the policies of this state as set forth in this chapter.

[1971 c.452 §4]

**467.050 Civil abatement proceedings authorized.** The Environmental Quality Commission shall have the further power to bring civil abatement proceedings in the manner provided by ORS 449.100 against violation of this chapter or rules or orders made thereunder.

[1971 c.452 §5]

**467.990 Penalties.** Violation of this chapter or rules or orders made under the provisions of this chapter is punishable, upon conviction, by a fine of not more than \$500 or by imprisonment in the county jail for not more than six months, or both. Each day of violation shall be considered a separate offense.

[1971 c.452 §6]

#### CERTIFICATE OF LEGISLATIVE COUNSEL

Pursuant to ORS 173.170, I, Robert W. Lundy, Legislative Counsel, do hereby certify that I have compared each section printed in this chapter with the original section in the enrolled bill, and that the sections in this chapter are correct copies of the enrolled sections, with the exception of the changes in form permitted by ORS 173.160 and other changes specifically authorized by law.

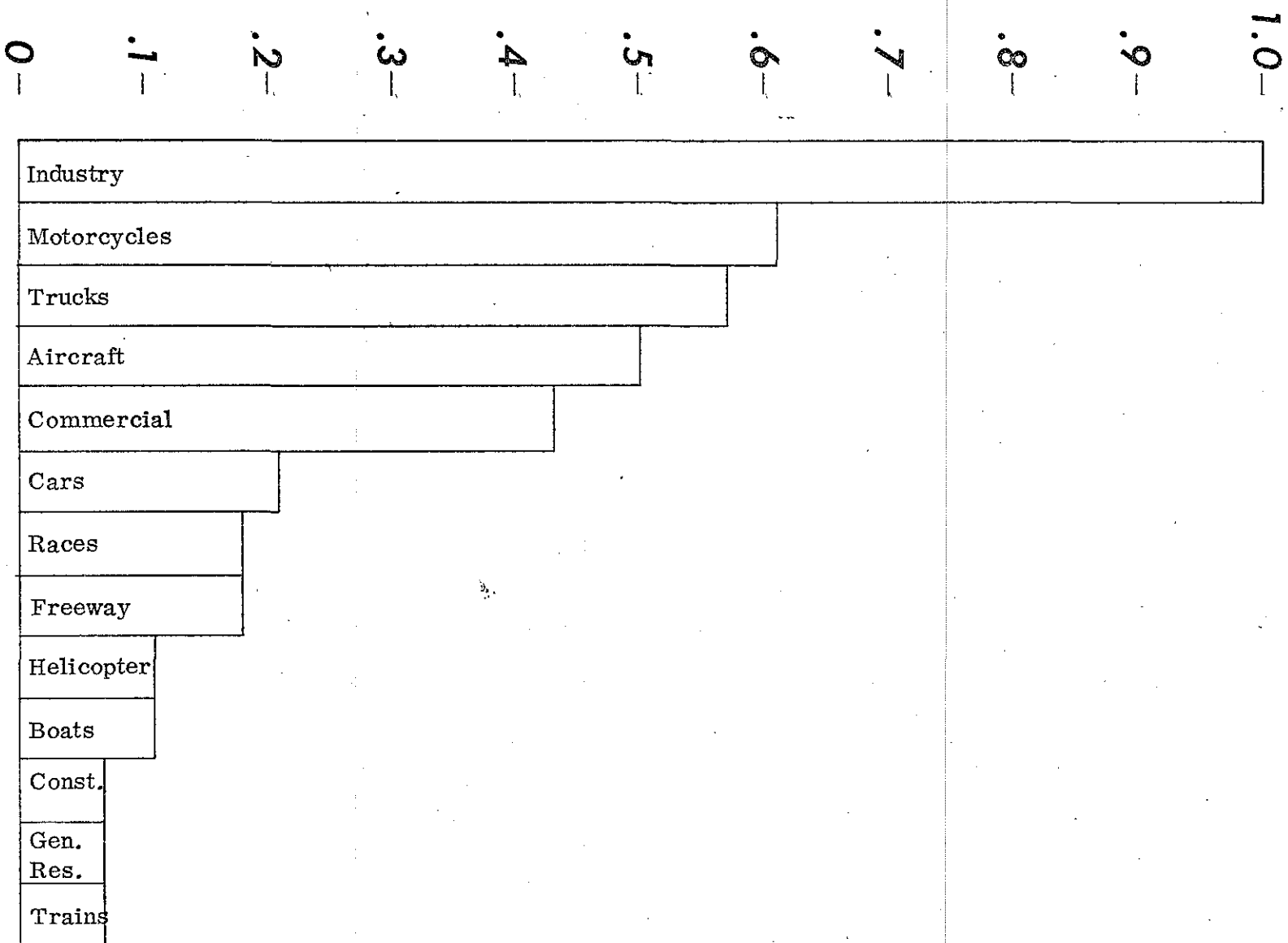
Done at Salem, Oregon,  
on December 1, 1971.

Robert W. Lundy  
Legislative Counsel

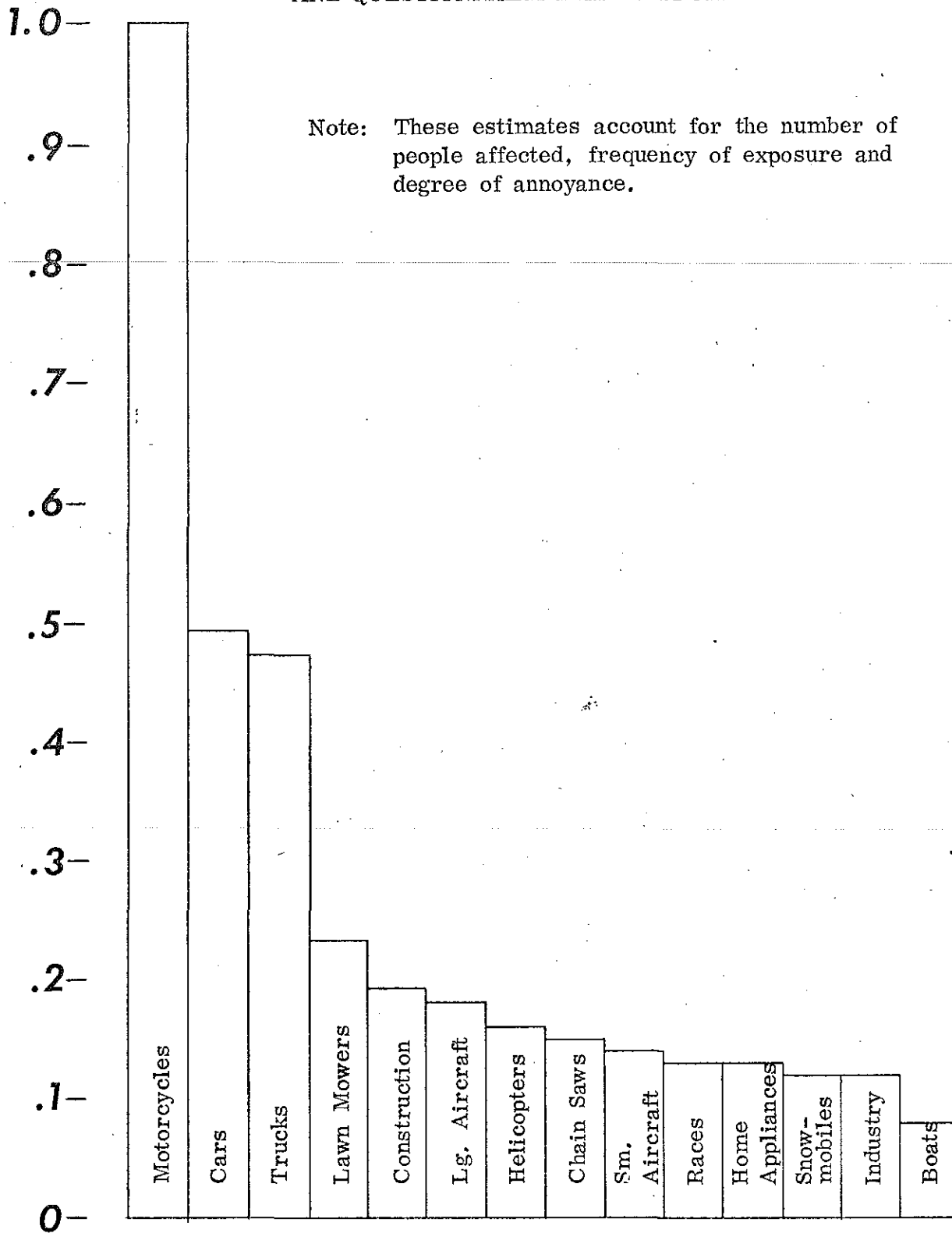
#### CHAPTERS 468 TO 470

[Reserved for expansion]

RELATIVE RANKING OF NOISE PROBLEMS  
FROM TELEPHONED COMPLAINTS



RELATIVE RANKING OF NOISE PROBLEMS  
FROM STATE-WIDE PUBLIC INFORMATION MEETINGS  
AND QUESTIONNAIRE MAIL RESPONSE





PUBLIC RESPONSE  
ON  
CONTROL AND ENFORCEMENT

Desired  
Regulatory  
Body

Desired  
Enforce-  
ment

Desired  
Regulatory  
Body

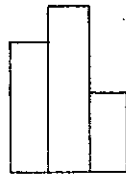
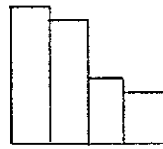
Desired  
Enforce-  
ment

Federal  
State  
Local  
None

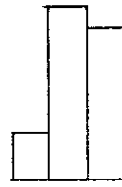
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State  
Local

Federal  
State  
Local  
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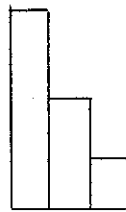
Federal  
State  
Local



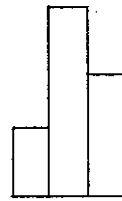
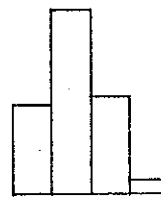
Helicopters



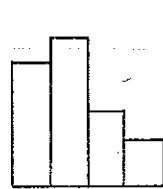
Motorcycles



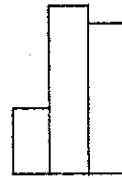
Large Aircraft



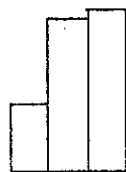
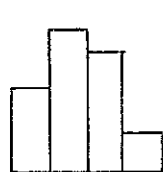
Trucks



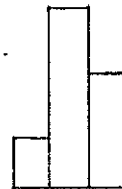
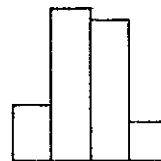
Small Aircraft



Cars



Chain Saws



Races

PUBLIC RESPONSE  
ON  
CONTROL AND ENFORCEMENT (Cont.)

Desired  
Regulatory  
Body

Desired  
Enforce-  
ment

Desired  
Regulatory  
Body

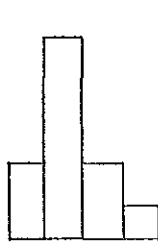
Desired  
Enforce-  
ment

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State  
Local  
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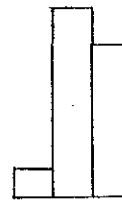
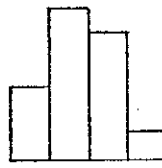
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State  
Local

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State  
Local  
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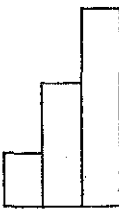
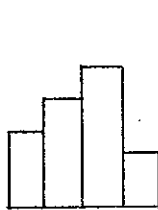
Federal  
State  
Local



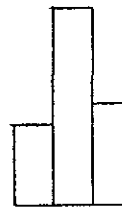
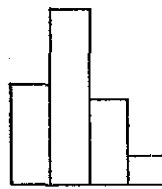
Snowmobiles



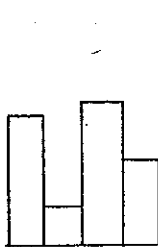
Construction



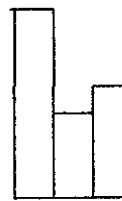
Mowers



Industry

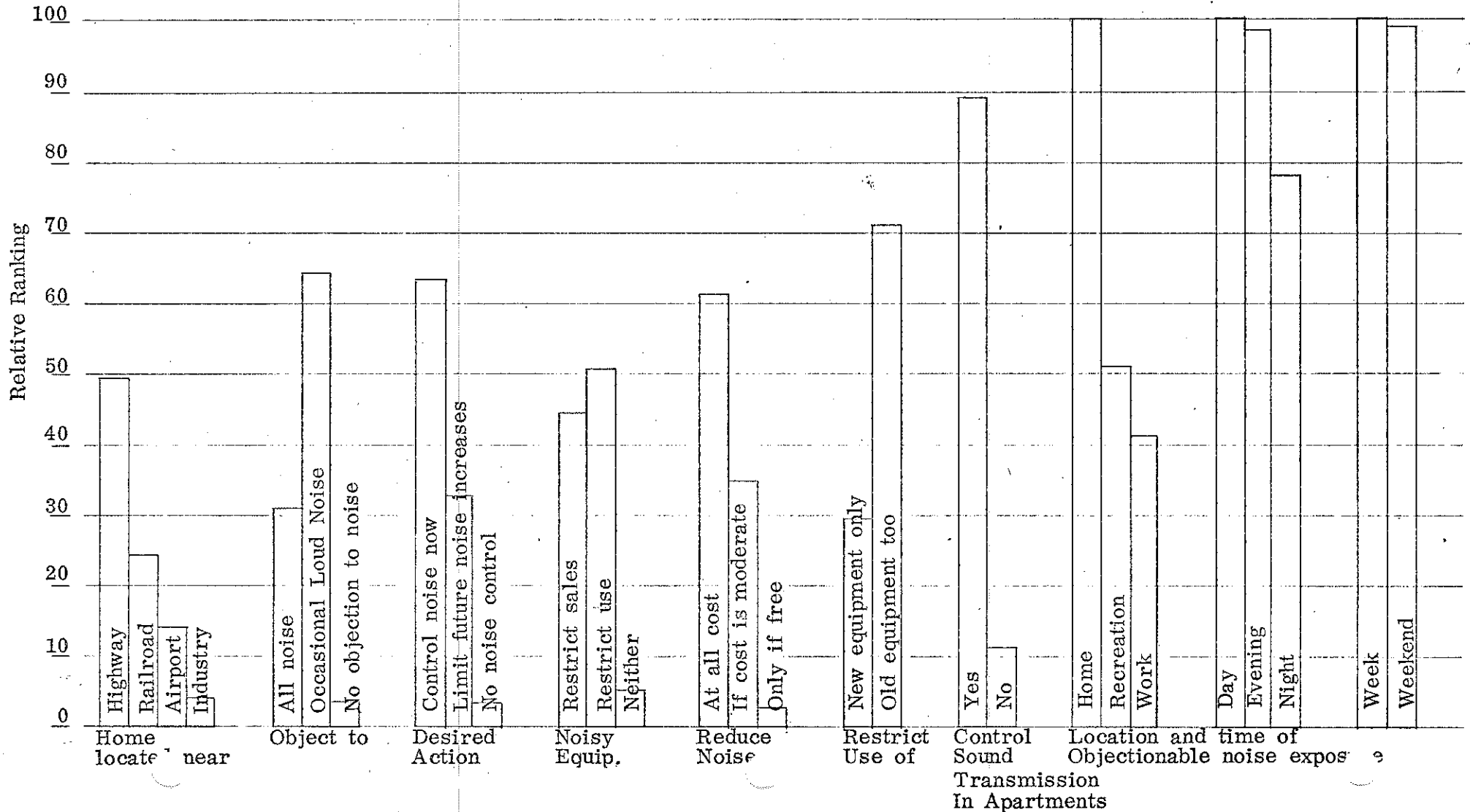


Boats

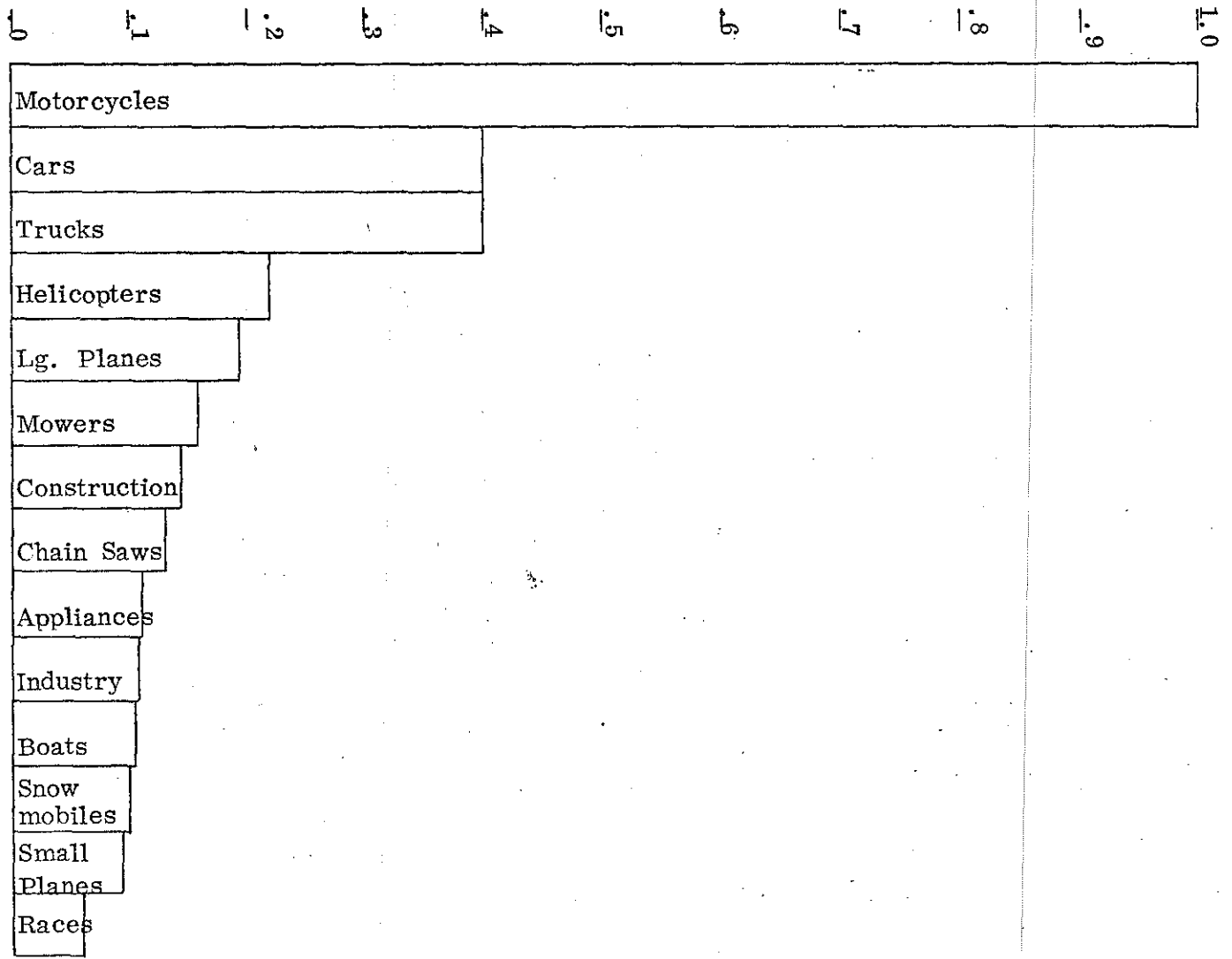


Appliances

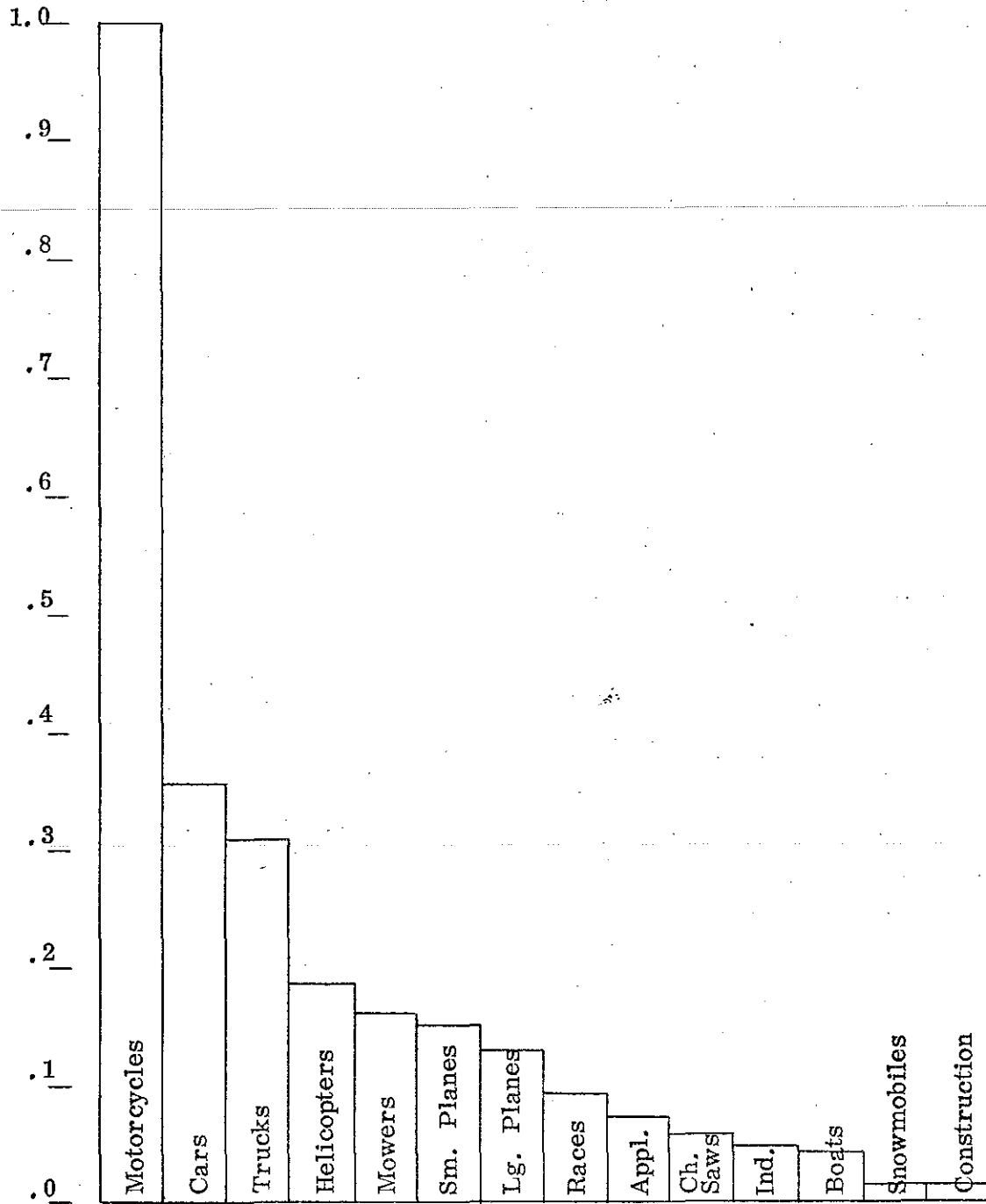
NOISE QUESTIONNAIRE RESPONSE  
FROM  
STATE-WIDE PUBLIC INFORMATION MEETINGS AND MAIL RESPONSE



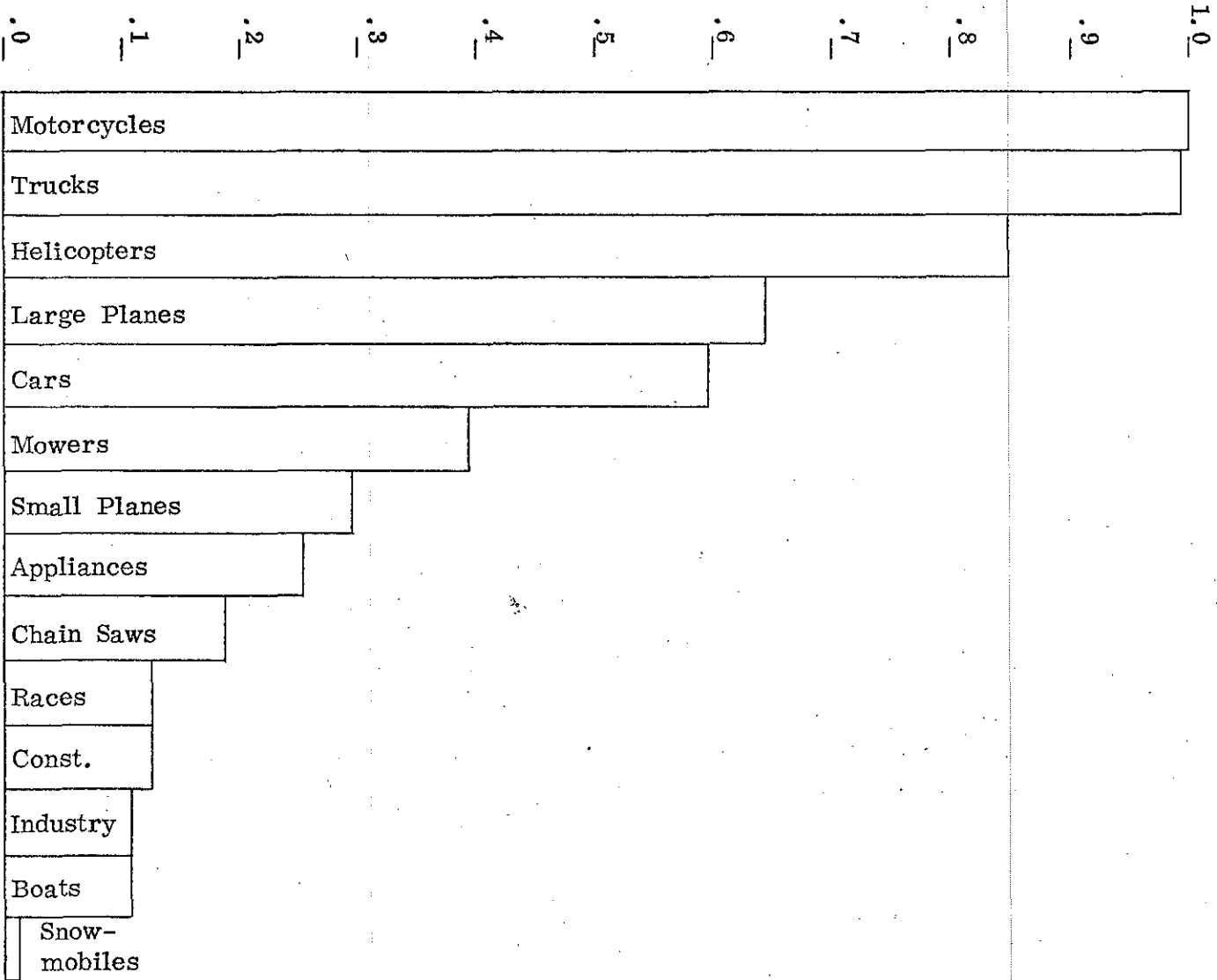
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN PORTLAND METRO



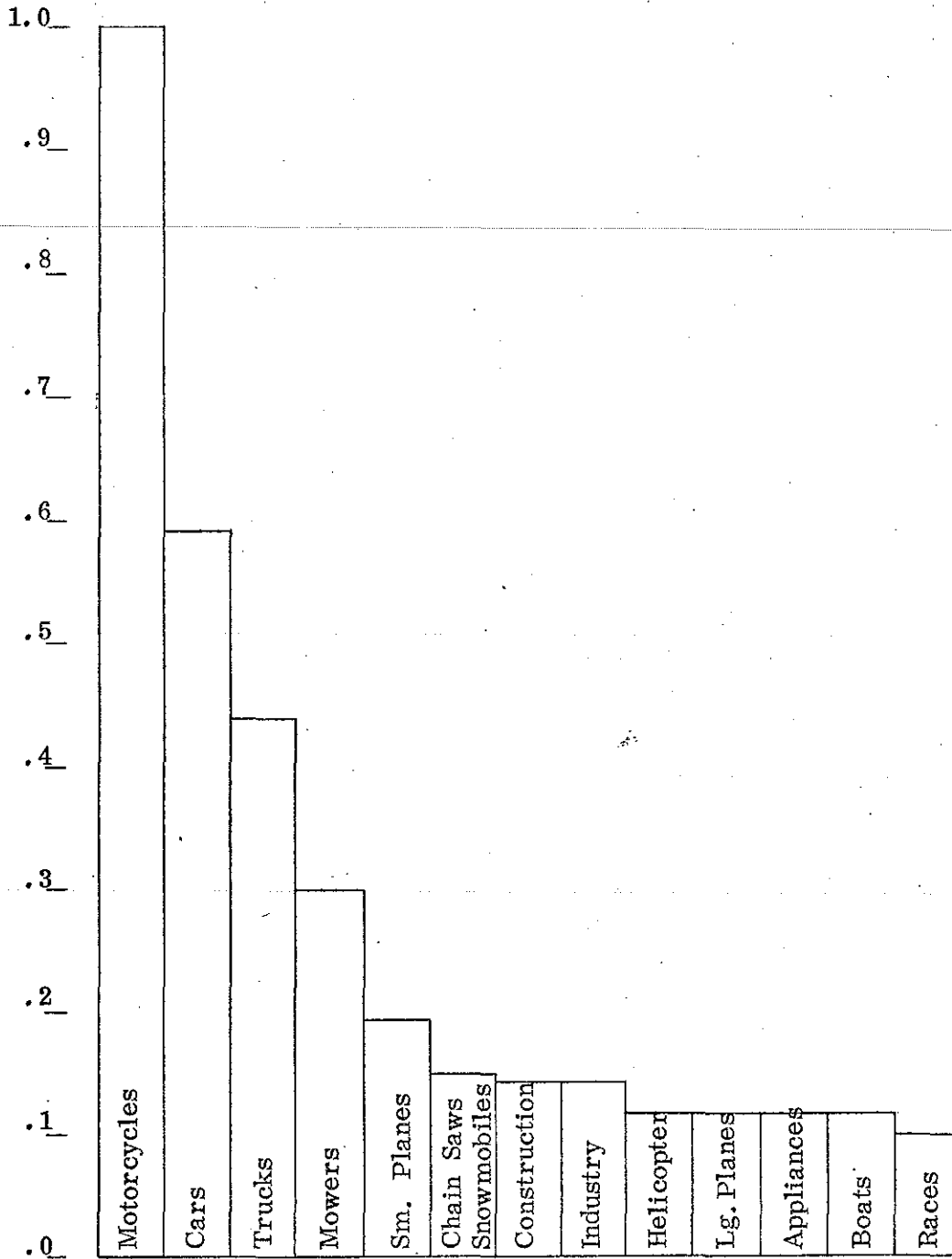
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PORTLAND METRO AREA MAIL RESPONSE  
(Forest Grove, McMinnville, etc.)



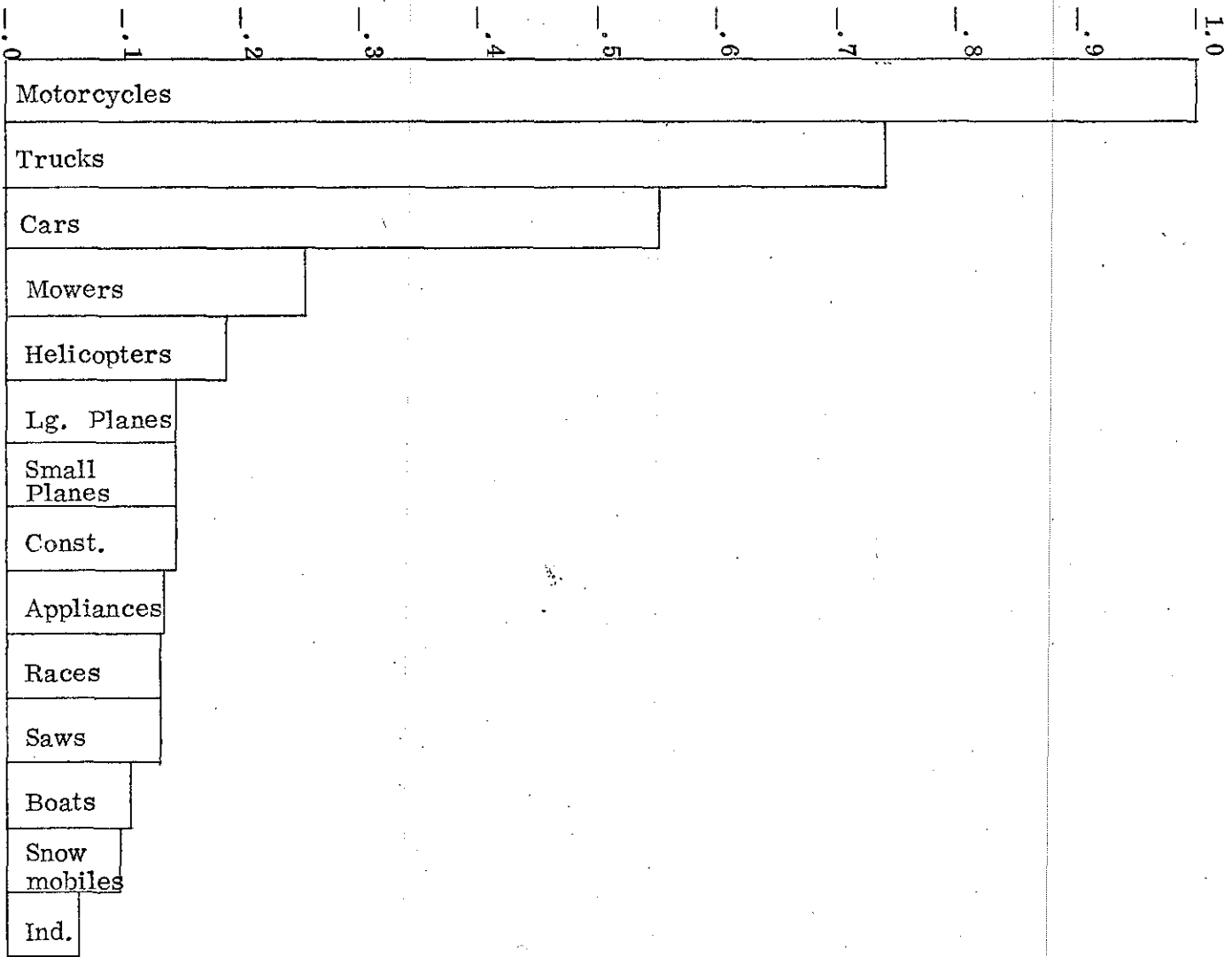
RELATIVE RANKING OF NOISE PROBLEMS  
FROM SALEM PUBLIC INFORMATION MEETING



RELATIVE RANKING OF NOISE PROBLEMS  
FROM CORVALLIS PUBLIC INFORMATION MEETING  
AND CORVALLIS AREA MAIL RESPONSE

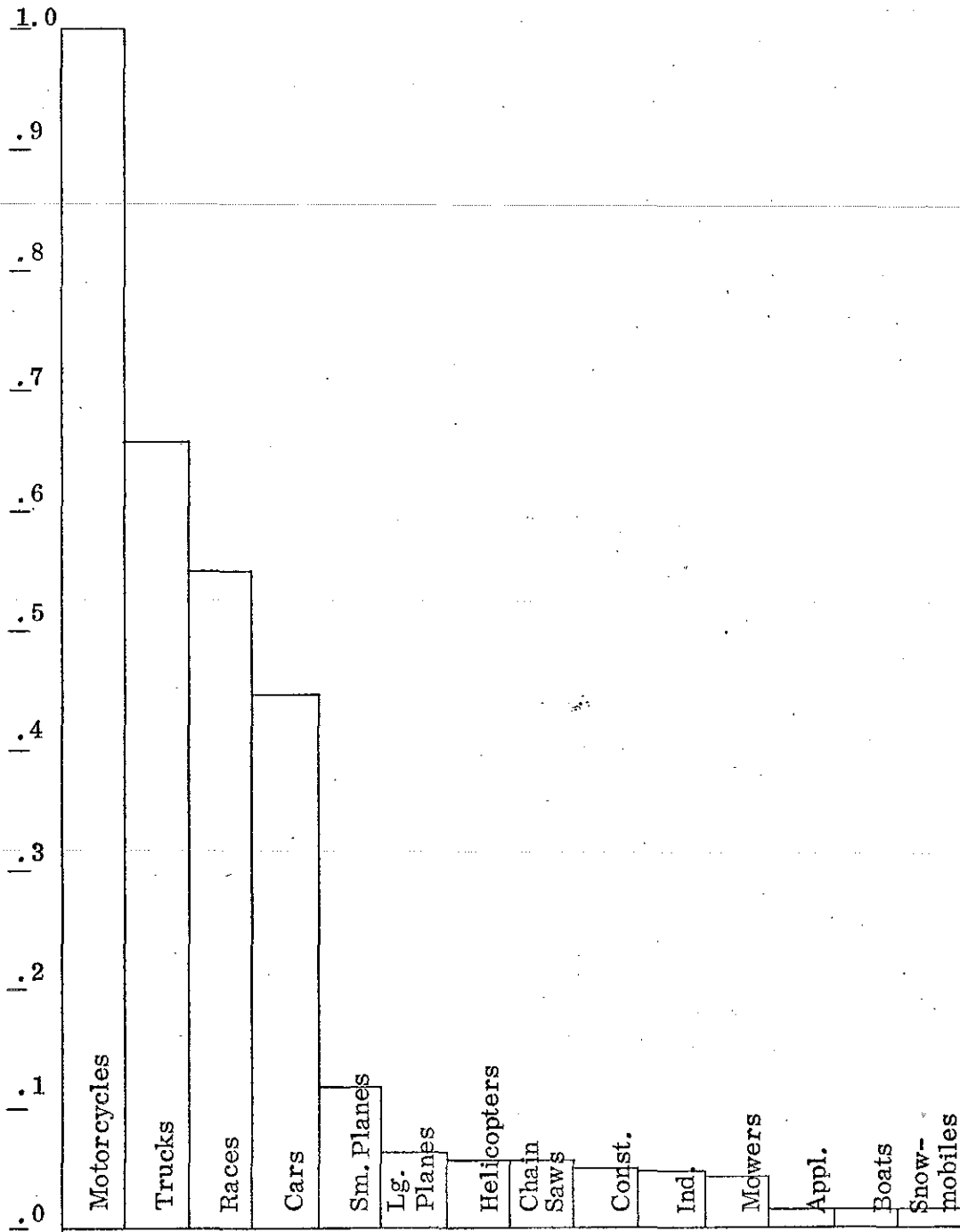


RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN EUGENE AREA

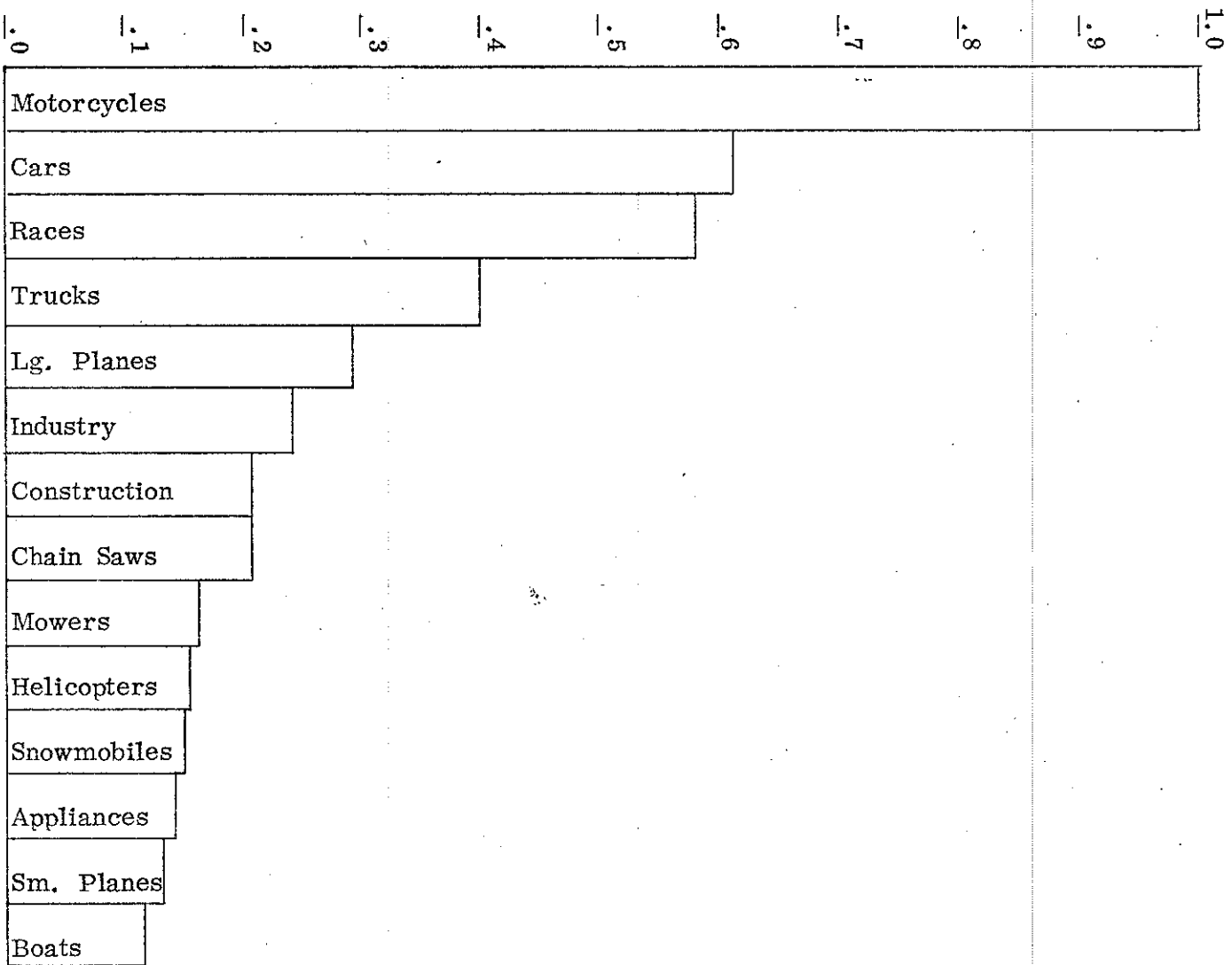




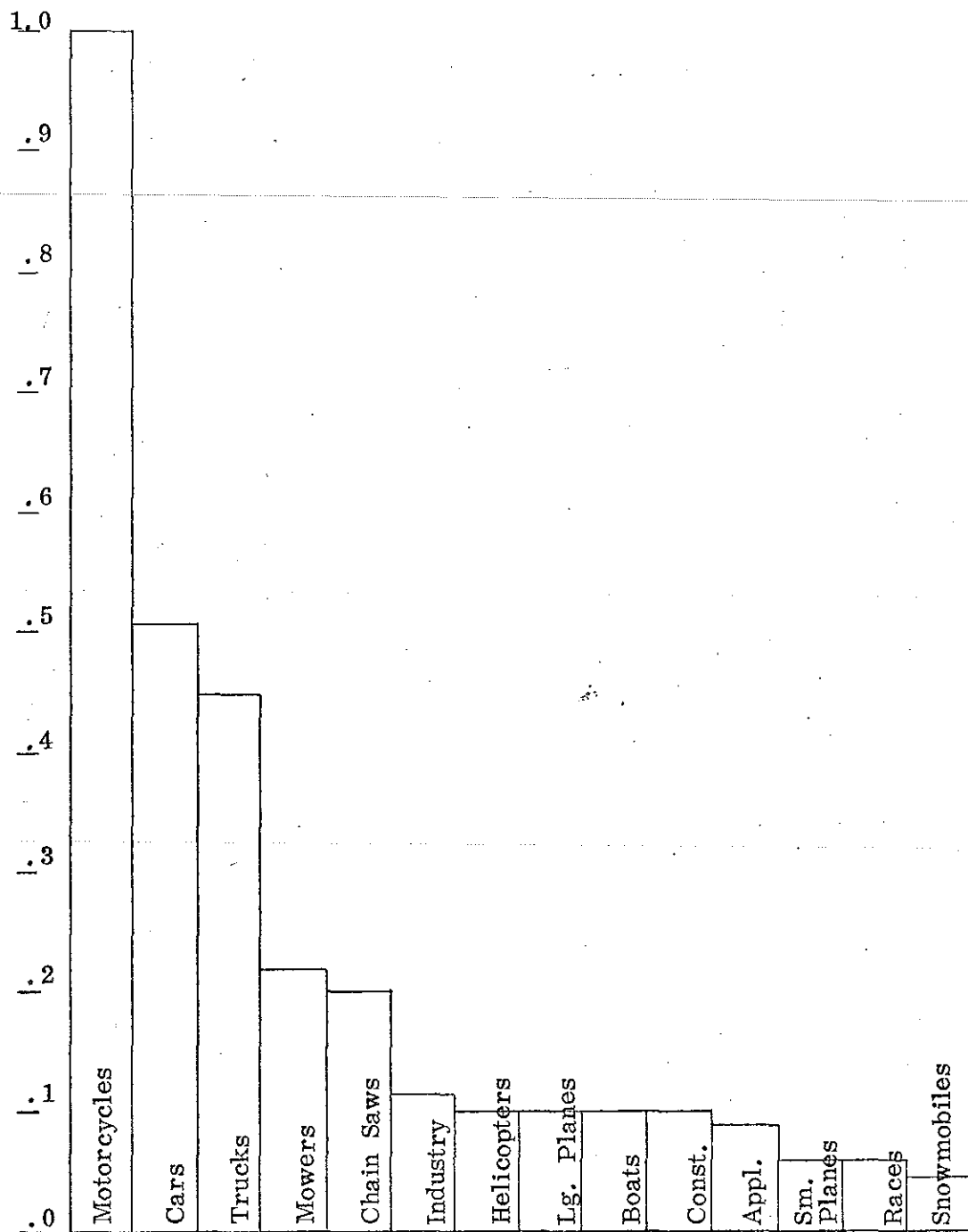
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FROM PUBLIC INFORMATION MEETING IN ROSEBURG AREA



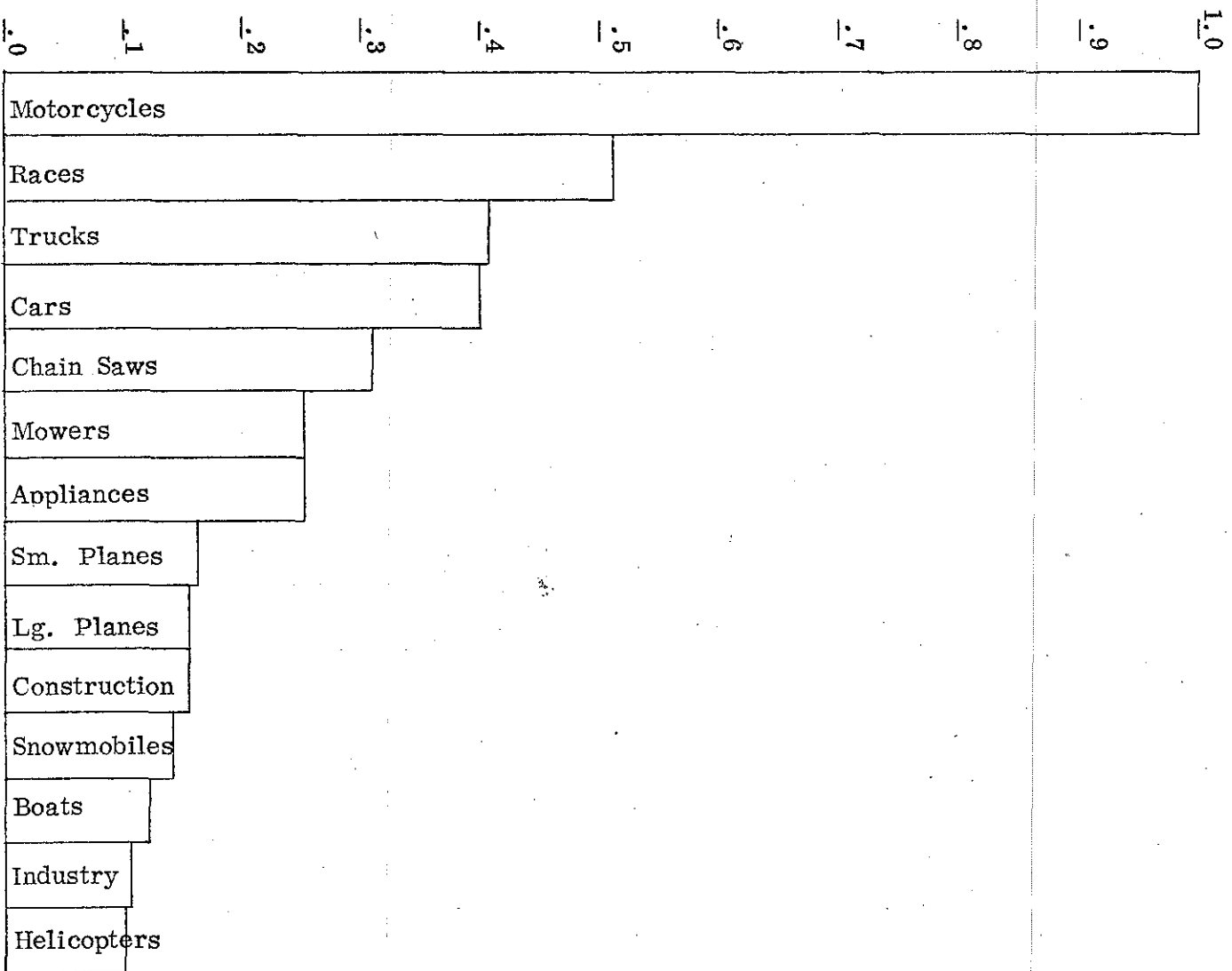
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN MEDFORD AREA



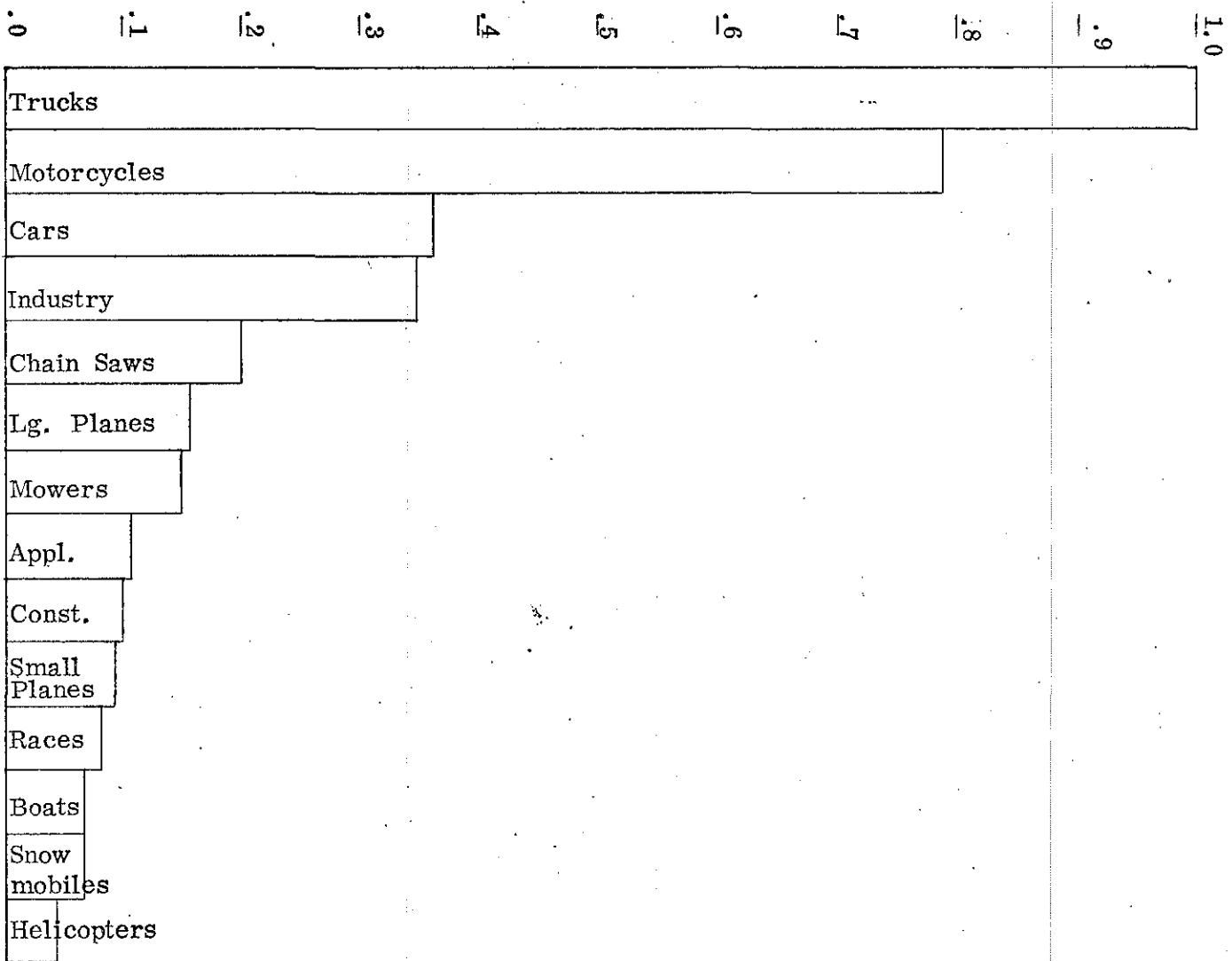
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN ASTORIA AREA



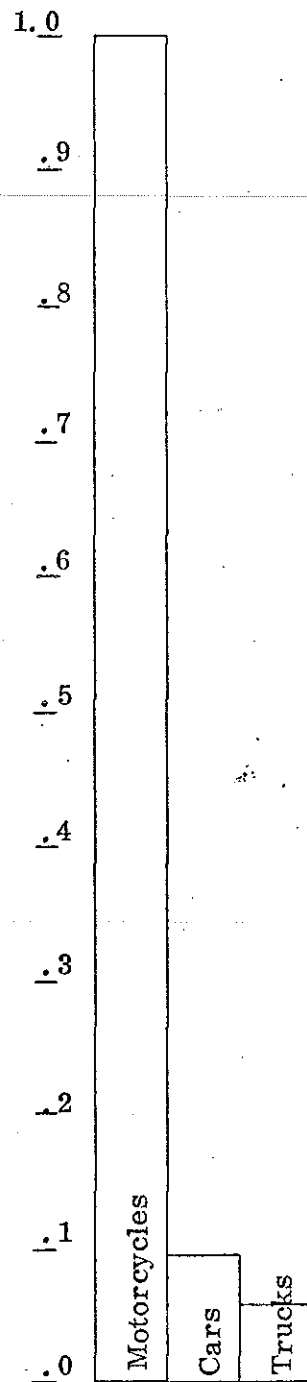
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FROM PUBLIC INFORMATION MEETING IN NEWPORT AREA



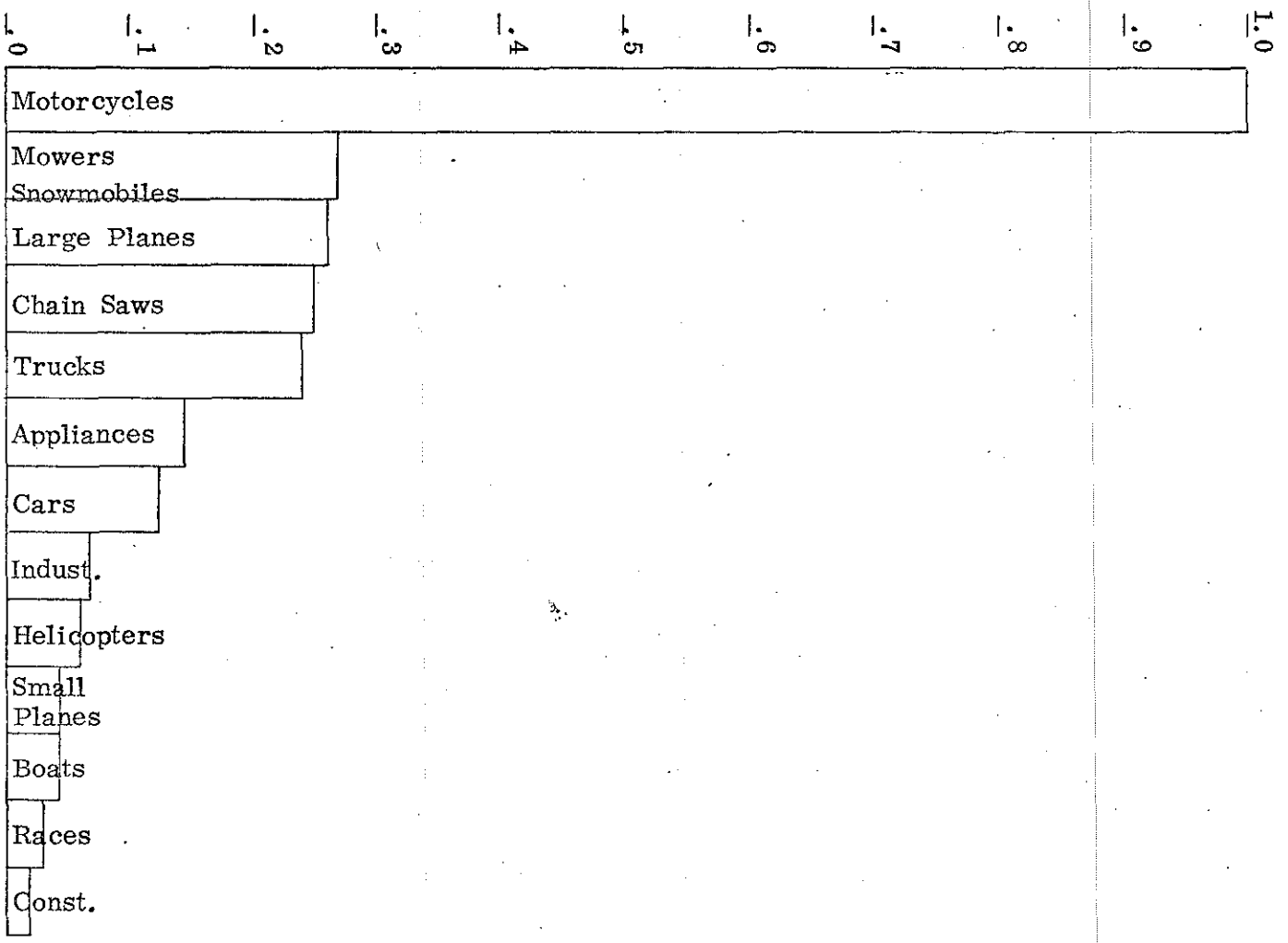
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN COOS BAY AREA



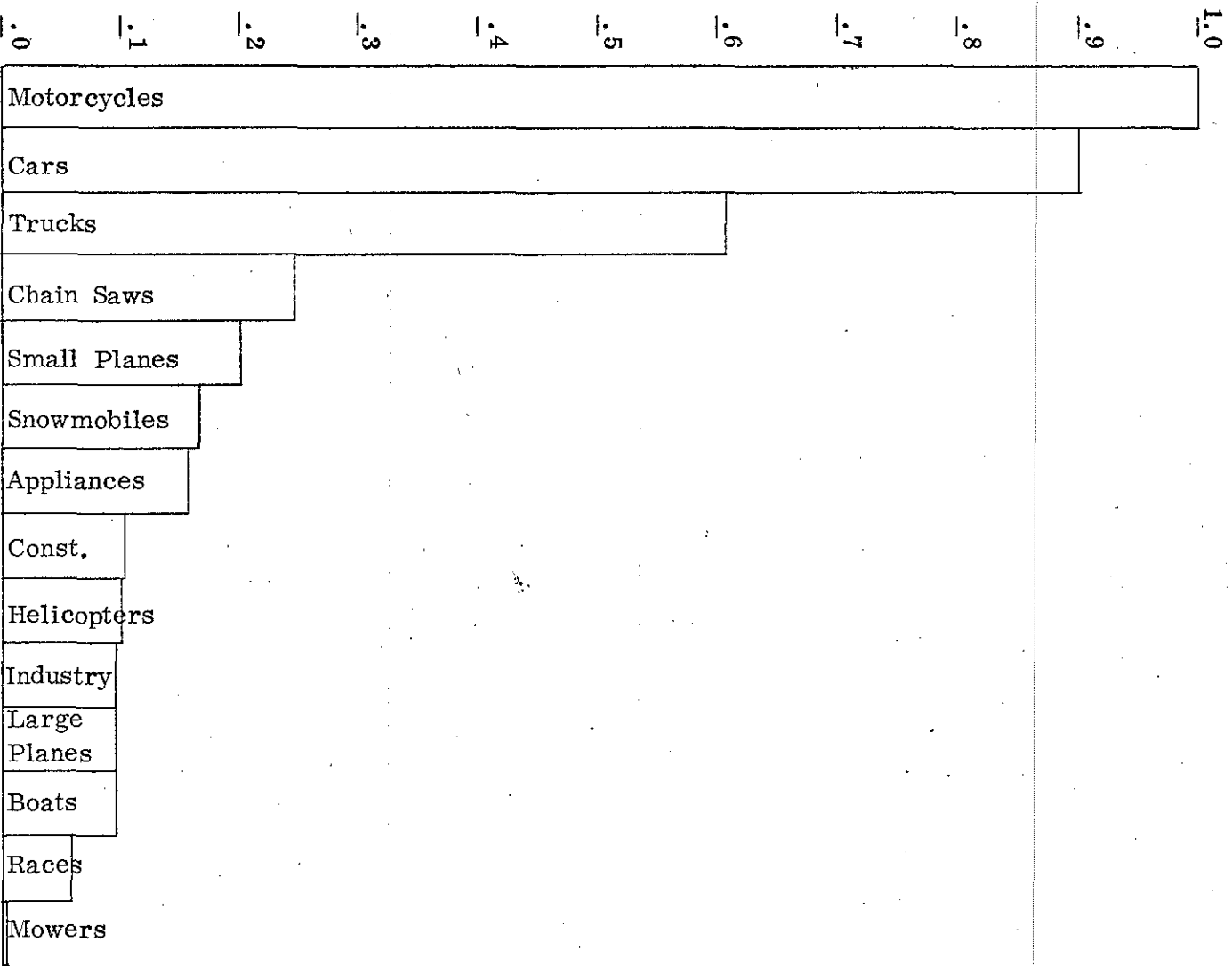
RELATIVE RANKING OF NOISE PROBLEMS  
FROM MAIL RESPONSE INFORMATION IN CURRY COUNTY



RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN PENDLETON AREA

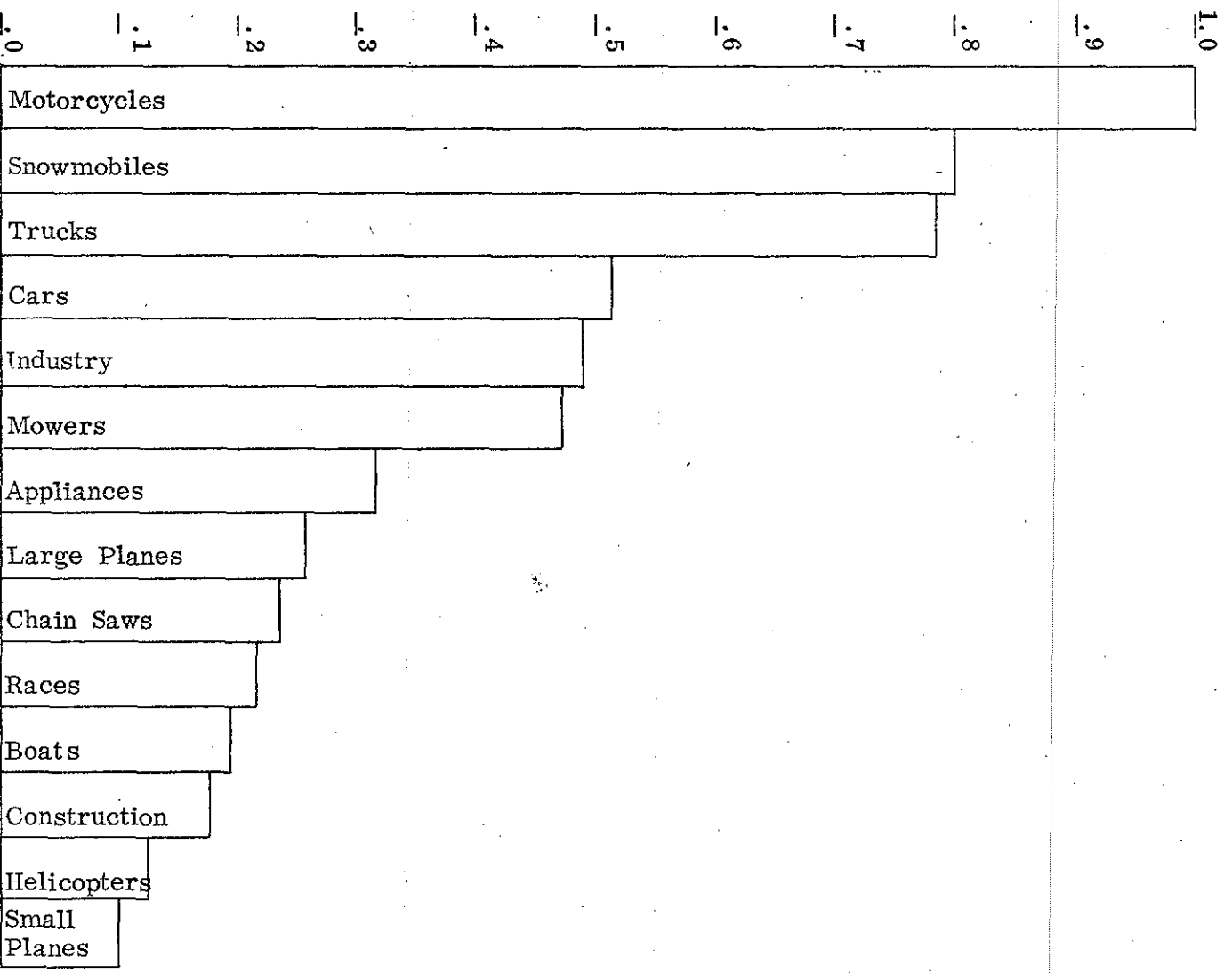


RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN THE DALLAS AREA



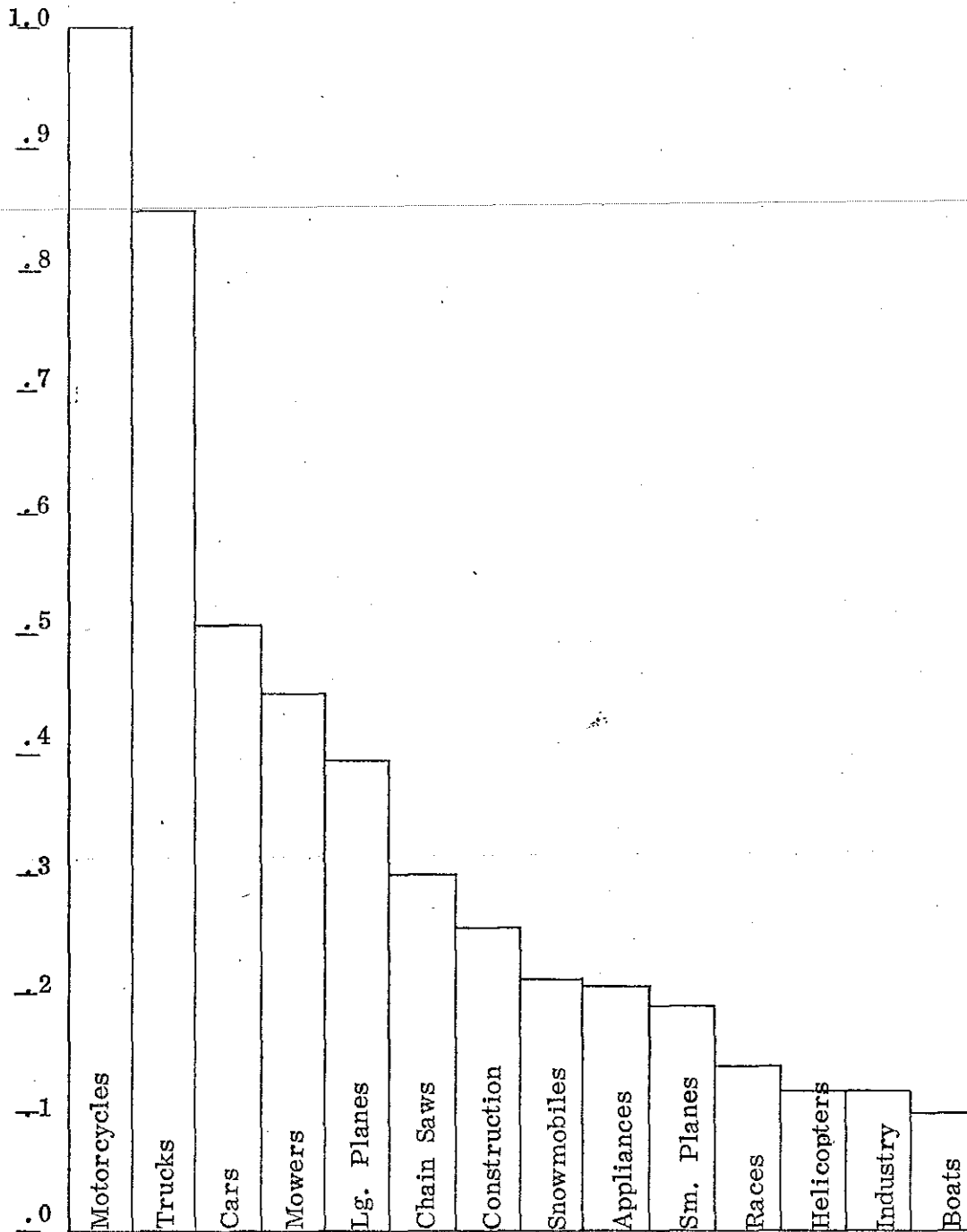


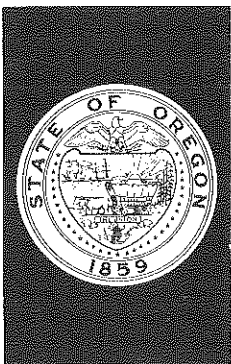
RELATIVE RANKING OF NOISE PROBLEMS  
FROM PUBLIC INFORMATION MEETING IN BEND AREA



# RELATIVE RANKING OF NOISE PROBLEMS

FROM PUBLIC INFORMATION MEETING IN KLAMATH FALLS AREA





## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

ENVIRONMENTAL QUALITY  
COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

### MEMORANDUM

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item G, October 25, 1972, EQC Meeting  
Statewide Solid Waste Management Action Plan:  
Proposal Status Report

### BACKGROUND

At the October 4, 1972 meeting the EQC heard the Department's status report on the Statewide Solid Waste Management Action Plan proposal. This included a work schedule and target dates established by the Department and its 34 member State Solid Waste Management Citizens' Advisory Committee (CAC) in order to secure funding of the statewide planning program before the end of 1972.

On October 13, 1972 the full CAC approved the Statewide Proposal report requesting that it be presented to the Department Director as soon as possible.

On October 17, 1972, CAC Chairman, Betty Roberts, submitted the approved report, accompanied by a letter of transmittal and supporting documents, to the Director for his review. A copy of the CAC report is attached for your information and better understanding of the scope of the Committee's activities.

Formulation of this CAC report involved intense review of each local proposal by the 17 members of the Short and Long Range Needs Subcommittees, meeting jointly, and other interested CAC members over two and one-half days of meetings in September and October. Applicants were invited to attend these sessions to discuss their proposals with the Subcommittees and staff and many did, from throughout the state. The

Subcommittees' recommendations were reviewed and amended by the CAC Executive Committee on October 12, 1972 before approval by the full Committee the following day.

In essence, the CAC recommended that the State Emergency Board authorize the DEQ to make comprehensive solid waste management planning grants to local government in the total amount of \$1,129,630 to assist in financing development of the Statewide Solid Waste Management Implementation Plan to be completed by July 1, 1973.

The Director has reviewed and forwarded the report of the CAC with his recommendation to the State Emergency Board asking that this matter be placed on the Board's agenda for the November 9 and 10, 1972 meeting.

The Director's recommendation to the Emergency Board also includes the following schedule and procedure for funding, initiating, monitoring and concluding regional planning from now until July 1, 1973:

By November 1, 1972, DEQ should distribute application packets to the counties and regions, informing them of the CAC and EQC action, announcing the E Board presentation and requesting official application to the Department by November 15, 1972 on forms provided. The Department would in addition provide examples of inter-local governmental agreements; a staff critique of what is needed from each applicant supplemental to the proposal already received; criteria and examples of adequate specific justification of their grant request and itemization of in-kind services to be contributed to guide preparation of supplemental information. Staff will assist with the application as needed.

During November, the CAC should compare each application with its previous proposal, review the staff report and recommend action to the Director.

By December 1, 1972, detailed conditional contracts should be distributed to applicants for signature and return by December 15, 1972.

By January 1, 1973, money should be allocated by the Department to cover the first three months of planning under each contract. Planning should begin, or continue, in each county, whether or not funded with state monies.

During 1973, the Department and CAC should review the progress of and guide the planning.

By February 1, 1973, each contractor should submit a detailed time schedule for completion of planning tasks, and expending of funds. All inter-local governmental agreements should be submitted, also.

By April 1, 1973, a Progress report covering the first three months activities should be submitted, including preliminary conclusions.

By April 15, 1973, the CAC should review and act on the staff report regarding contractor progress, and make a recommendation to the Director on further guidance and release of the next three months' monies to the contractor.

By June 1, 1973, the contractor should submit the rough draft of the completed plan for interim needs.

By June 15, 1973, the CAC should review and act on the staff analysis of the plan draft and recommend revisions to the Director.

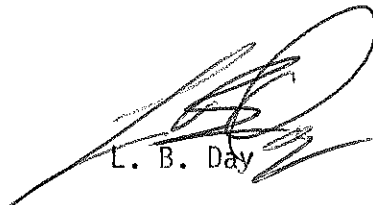
By July 1, 1973, the final draft of each regional plan should be submitted.

By August 1, 1973, the CAC should consider the completed statewide plan to meet interim needs as assembled by staff, and recommend to the Director on its adoption.

It should be emphasized that solid waste disposal permits will be written for all disposal sites to ensure the consolidation and upgrading of each region's disposal system within the context of the developing regional plan.

DIRECTOR'S RECOMMENDATION

It is recommended that the Commission authorize the Department to proceed with development of the Statewide Solid Waste Management Implementation Plan according to the schedule outlined above, beginning with presentation of a formal request for funding before the State Emergency Board on November 9 and 10, 1972.

  
L. B. Day

RDJ:mmn

10-19-72



DEPARTMENT OF  
ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

October 16, 1972

L. B. DAY  
Director

Mr. L. B. Day, Director  
Department of Environmental Quality  
1234 S. W. Morrison  
Portland, Oregon 97205

ENVIRONMENTAL QUALITY  
COMMISSION

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GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

Re: Statewide Solid Waste Management  
Action Plan Proposal

Dear Mr. Day:

Please be informed that the State Solid Waste Management Citizens' Advisory Committee (CAC) Friday, October 13, 1972 un-animously ratified the recommendation of its joint Short and Long Range Needs Subcommittees as amended by the CAC Executive Committee in approving the Statewide Solid Waste Management Action Plan Proposal presented by the Department for consideration. This proposal incorporates the individual requests of Oregon's counties and councils of governments for state funding of solid waste management planning. The statewide grant total in the proposal approved by the CAC is \$1,129,630.

The Committee urges you to accept its action and present the Statewide Proposal to the State Emergency Board for approval as soon as possible so that funding of solid waste management planning so badly needed throughout Oregon may be authorized from Pollution Control Bond Funds, and planning may begin before the end of 1972.

Enclosed is the report approved by the CAC Friday as well as the Subcommittees' letter of recommendation and report, containing pertinent CAC meeting minutes, all of the thirteen regional planning task programs written by your Department and local governments' proposals submitted in response.

Please call on the Committee for further action regarding this important program. We are prepared to lend support in every way.

Sincerely,

Betty Roberts, Chairman  
State Solid Waste Management  
Citizens' Advisory Committee

RDJ:rum  
Enc.

October 16, 1972

STATE OF OREGON  
SOLID WASTE MANAGEMENT  
CITIZENS' ADVISORY COMMITTEE (CAC)

RATIFIED AND APPROVED REPORT  
ON THE REVIEW OF PLANNING TASK PROPOSALS  
FOR THE  
STATEWIDE SOLID WASTE MANAGEMENT IMPLEMENTATION PLAN

PRESENTED TO L. B. DAY, DIRECTOR  
DEPARTMENT OF ENVIRONMENTAL QUALITY

THIS APPROVED REPORT CONTAINS THE  
SHORT AND LONG RANGE NEEDS SUBCOMMITTEES' RECOMMENDATIONS  
AS AMENDED BY THE EXECUTIVE COMMITTEE  
AND SUBSEQUENTLY RATIFIED BY THE CAC  
ON OCTOBER 13, 1972

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TASK PLAN PROPOSALS (REGIONAL AND COUNTY)

SUMMARY OF PERTINENT CAC MEETING MINUTES

SHORT AND LONG RANGE NEEDS SUBCOMMITTEES (CAC)  
SEPTEMBER 28 and 29, 1972

OCTOBER 6, 1972

EXECUTIVE COMMITTEE (CAC)  
OCTOBER 12, 1972

STATE SOLID WASTE MANAGEMENT CITIZENS'  
ADVISORY COMMITTEE  
OCTOBER 13, 1972



## SUMMARY

The Short and Long Range Needs Subcommittees of the State Solid Waste Management Citizens' Advisory Committee (CAC) have reviewed and approved proposals and prepared this report representing the 36 Counties of Oregon. The CAC Executive Committee subsequently amended this report which was ratified and approved by the CAC on October 13, 1972.

The proposals, including fund requests, are summarized below:

### SUMMARY OF TASK PLAN PROPOSALS

1. Received: 18 proposals, 2 estimates, and 2 letters of intent.

These submissions include 8 proposals from 8 solid waste management regions representing 22 counties; 10 proposals from individual counties; 2 estimates from 2 counties; and 2 letters of intent from 2 counties. The official response covered all 36 counties of the State.

2. Summary of estimated grant requests:

<u>Region or County</u>	<u>Grant Request Estimates</u>
Clatsop-Tillamook	\$ 49,500
MSD-CRAG (Washington, Multnomah, Columbia and Clackamas)	325,000
Chemeketa (Benton, Linn, Marion, Polk and Yamhill)	232,540
Lane	154,000
Douglas	13,500
Coos-Curry	47,000
Jackson	19,000
Josephine	15,000
Mid-Columbia (Hood River, Sherman and Wasco)	20,000
Crook	12,500
Deschutes	25,660
Lake	6,000
Gilliam	5,000
Grant	9,680
Morrow	19,750
Umatilla	20,000
Wheeler	7,500
Union-Wallowa	38,000
TOTAL for 30 counties	<u>\$1,019,630</u>

## 3. Summary of submittals from the rest of the State(6 counties):

<u>County</u>	<u>Status</u>
Lincoln	Planning under way (6/1/72 to 5/30/73) being funded by HUD (\$9,000 total program--\$6,000 from HUD, \$3,000 local matching funds).
Jefferson	County is not interested in borrowing monies for solid waste planning. But there is a need to upgrade and convert the Madras disposal site into a regional processing and sanitary landfill disposal facility; to establish a drop box system to provide adequate collection service in rural areas; and closure of promiscuous dumping sites.
Klamath	Intends to accomplish the planning keyed to interim needs without a State grant. Planning program will be financed by county funds.
Baker	Proposal for \$18,972 constitutes an estimate only, not an official grant request to DEQ. Planning grant application (\$31,747) to EPA pending.
Malheur	Proposal for \$28,000 constitutes an estimate only, not an official grant request. Planning grant application (\$39,475) to EPA pending.
Harney	County sees little need for a grant at this time to help with planning.

CONTINGENCY FUND

The Subcommittees also drafted and approved a contingency fund to cover the planning needs and other costs not foreseen at this time. This fund total is \$110,000.

ESTIMATE OF NEEDED FUNDS

Grant Request Estimates	\$1,019,630
Contingency Fund	<u>110,000</u>
Total	\$1,129,630

SUBCOMMITTEES' RECOMMENDATIONS

1. The CAC ratify the enclosed 18 planning proposals and the \$1,129,630 estimate of needed funds as the proposal for developing a Statewide solid waste management plan.

2. The Executive Committee of the CAC present the ratified proposal to L. B. Day, Director of the Department of Environmental Quality, for submittal to the State Emergency Board as the request for funding the development of the Statewide Solid Waste Management Implementation Plan.

3. The pollution control bond funds for solid waste management planning be advanced to regional and local agencies, as a grant, if legally permissible.

PLANNED ACCOMPLISHMENTS

The subcommittees, using DEQ's Regional Planning Task Programs, have estimated the results of the planning and implementation for solid waste management in the State if the program is funded and carried out:

Short-Range Accomplishments by the End of 1975

1. Closure of 124 dumps.
2. Conversion and upgrading of 57 existing disposal sites to sanitary landfills.
3. Construction of 15 new regional processing and sanitary landfill disposal facilities.
4. Establishment of transfer systems including stations and sites with recycling collection containers, drop-boxes, and trailers and long-haul equipment.
5. Programs designed for handling wood residues, septic tank pumpings, sewage sludges, tires, oils, automobile bodies, home appliances, chemical residues, and other special wastes.

6. Construction of 36 new regional processing, recycling (for at least 25% of total solid wastes processed) and disposal facilities.

Long-Range Accomplishments

1. Collection and transfer of solid wastes to high-volume centers for processing and distribution of at least 90% of the total solid wastes processed to major recycling centers for best practical means of utilization and/or disposal.

2. Planning, financing, and implementation of long-range plans by July 1, 1982.

*Betty Roberts*

Betty Roberts, Chairman  
State Solid Waste Management  
Citizens' Advisory Committee



DEPARTMENT OF  
ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

MEMORANDUM

L. B. DAY  
Director

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. *H. 11*, October 25, 1972, EQC Meeting

Authorization for a Public Hearing: Proposed Amend-  
ment of Primary Aluminum Plant Regulation OAR, Chap-  
ter 340, Sections 25-225 through 25-290.

ENVIRONMENTAL QUALITY  
COMMISSION

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Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

Background:

The regulation pertaining to primary aluminum reduc-  
tion plants was adopted by the Environmental Quality Commission  
on June 26, 1970, and became effective on August 10, 1970. At  
the time of its action the Commission expressed the desire to  
revise the regulation in the future by expanding the emission  
standard to limit the quantities of both fluorides and particu-  
lates.

Appendix A, initially mailed to the Commission as part  
of this report, contains a detailed discussion relative to Martin  
Marietta and Reynolds Metals Company including production and con-  
trol facilities, results of source emission testing, ambient air

and forage fluoride testing and compliance programs including special studies. Appendix A also contains background information on the EPA New Performance Standards, the State of Washington Program and dry potroom emission control techniques including the Alcoa 398 process.

Discussion:

The Department has attempted to keep abreast of aluminum reduction control technology and of regulatory requirements which might represent control such that there would be no or minimum concern relative to effects from fluorides released to the ambient air. Unfortunately the Department is not aware of any recent information which clearly correlates the emission of gaseous and particulate fluorides from a source or sources that would provide a basis for establishing emission standards. Literature still suggests that so long as gaseous and soluble particulate fluorides are present in the ambient air to any significant degree vegetation under certain conditions likely will accumulate fluorides and may incur some degree of damage.

The Department continues to receive complaints concerning the effects of emissions of fluorides from the Martin Marietta plant at The Dalles.

The Department has developed emission standards for gaseous fluorides, total fluorides and total particulates which in its judgment would minimize the complaints and allegations concerning damage. The proposed particulate emission standard is significantly more restrictive than the 15 pounds per ton adopted by the State of Washington.

To meet the proposed standards new control technology, improved collection techniques and or a change of process may be required by both aluminum plants in Oregon.

Analysis:

1. The present Department of Environmental Quality primary aluminum plant regulation includes:
  - a. An emission limitation of Ringlemann 1 (20% Opacity) for all sources by January 1, 1975.
  - b. Requirements for monitoring and reporting fluorides and particulate potroom emissions and ambient air and forage fluoride levels, and special studies which include the potrooms and other sources.
2. The Martin Marietta plant is presently in compliance with the Oregon Primary Aluminum Plant Regulation.

3. The Reynolds Metals plant is essentially in compliance with all requirements of the existing regulation except for the emission standard (Ringlemann 1), and the Reynolds Metals Co. has not yet committed itself to a specific program to comply with Ringlemann 1 by January 1, 1975.

4. Both plants in Oregon are essentially operating in compliance with ambient air fluoride standards in effect in the State of Washington. (Essentially the same standards are in effect in other states.)

5. Martin Marietta, based on a limited number of hay samples, is operating well below fluoride forage standards in effect in the State of Washington (Sample results range from 5 to 9 ppm fluoride ion versus Washington standard of 40 ppm.)

6. Reynolds Metals, based on many forage samples, operates essentially within State of Washington forage levels, except for two stations located 1-1/2 miles from the plant in the direction of prevailing winds. (Reported results range from 10 to 142 ppm fluoride ion.)

7. The Martin Marietta plant contributes to visibility obscuration in The Dalles vicinity especially during certain operations characteristic of the Vertical Stud Soderberg pots and stable air conditions.



8. The Martin Marietta plant also is alleged to continue to cause damage to vegetation in The Dalles area, mainly fruit crops such as sweet cherries and to a lesser extent to peaches and apricots, and pine trees. Damages are alleged at times, when measured fluoride levels in the orchards are on the order of lower detectable limits, i.e. from 0 to 2.0 ppb compared with Washington standard of 4-1/2 ppb for 12-hour periods.

9. The Reynolds Metals plant at Troutdale is a significant contribution to total particulate emissions in the Columbia-Willamette Air Pollution Authority region (estimated to be 15% of total particulates in Multnomah County). However, due to generally favorable meteorological conditions at the site, visible effects are considered minimal.

2106 of 5100  
2/10/22

10. There have been no complaints of damage to animals or vegetation from the Reynolds Metals plant in recent years. (It should be noted that commercial vegetable crops grown in the area are not considered to be <sup>already</sup> sensitive to fluorides).

11. Based on average values gaseous fluoride emissions from the Reynolds Metals plant are approximately seven times as great as gaseous fluoride emissions from the Martin Marietta plant (based on pounds of fluoride ion per ton of aluminum).

12. Based on average values, particulate fluoride emissions from the Reynolds Metals plant are approximately nine times as great as particulate fluoride emissions from the Martin Marietta plant (based on pounds of particulate fluoride per ton of aluminum).

13. Based on average values total particulates from the Reynolds Metals plant are approximately three times as great as those from the Martin Marietta plant (based on pounds of particulates per ton of aluminum).

14. Based on available data, gaseous fluoride, particulate fluoride and total particulate emissions from the Martin Marietta plant are among the lowest in the country.

15. Based on available data, gaseous fluoride, particulate fluoride and total particulate emissions from the Reynolds Metals plant are representative of average emissions from aluminum plants throughout the country.

16. Treatment of collected pot exhaust (primary system) at the Martin Marietta plant is considered to be equivalent to highest and best practicable treatment. Approximately 99% of the total fluorides emitted are from the roof scrubbers (secondary system)

and therefore reductions in total fluorides emitted must come from either improving collection at the pots or improving the efficiency of treatment in the secondary system.

17. Treatment of collected pot exhausts (primary system) at the Reynolds Metals plant is less than highest and best practicable treatment. However, still approximately 55% of total fluorides emitted are from the secondary system, therefore substantial reduction of total fluorides will require improvements to both the primary and secondary systems.

18. Data are not presently available or foreseeable to develop quantitative correlations between damage to sensitive crops, ambient fluoride levels, and emission levels.

Conclusions:

1. The Department concludes, in the absence of correlating data, the approach to reducing fluoride and particulate emissions must be on the basis of the application of highest technology for all sources.

2. The Department concludes that it is technically possible, by improving collection and treatment, to reduce the fluoride emissions from the secondary system at the Martin Marietta plant by as much as 50%.

The Department concludes that it is technically possible to obtain equivalent emission levels at the Reynolds Metals plant by making significant revisions to or replacements of both existing control systems.

Proposed Addition to Regulation

1. The Department has developed a proposed emission regulation requiring an approximate 50% reduction of present emissions from the secondary system at the Martin Marietta plant, which is equivalent to a 41% overall reduction in total fluorides. This same standard would require 93% reduction of total fluorides at the Reynolds Metals plant.

A. The following proposed language which would be added to section 25-265 as subsection (2). The existing section 25-265 (2) would become 25-265 (3).

25-265 EMISSION STANDARD

(2) (a) The total of gaseous fluoride emissions from all sources shall not exceed 0.3 pound of fluoride ion per ton of aluminum produced as a monthly average.

(b) The total of all fluoride materials from all sources shall not exceed 1.0 pound of fluoride ion per ton of aluminum produced as a monthly average.

(c) The total organic and inorganic particulate emissions from all sources shall not exceed eight pounds of total particulate per ton of aluminum produced.

(d) Representative monitoring on a continuous basis shall be conducted to demonstrate compliance with

*continuous*

(2) (a), (b) and (c) above. The monitoring results shall be reported to the Department on a monthly basis.

(e) Compliance programs required to meet the emission standards established by (2) (a), (b) and (c) above shall be established not later than May 1, 1973, with each individual company (to be incorporated in the Air Contaminant Discharge Permit issued for each plant).

*10. July 1, 1973*

Director's Recommendation:

It is the recommendation of the Director that the Environmental Quality Commission authorize the Director to schedule a public hearing at a time and place to be determined for the purpose of receiving testimony relevant to the proposed revisions to the Primary Aluminum Plant Regulation.

L. B. Day

Primary  
Aluminum Plants

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

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

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

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

(3) Encourage and assist the aluminum industry to conduct a research and technological development program designed to reduce emissions, in accordance with a definite program, including specified objectives and time schedules.

(4) Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising the standards as needed when new information and better technology are developed.

25-260 DEFINITIONS. (1) All Sources - Means sources including, but not limited to, the reduction process, alumina plant, anode plant, anode baking plant, cast house,

and collection, treatment and recovery systems.

(2) Ambient Air - The air that surrounds the earth, excluding the general volume of gases contained within any building or structure.

(3) Anode Baking Plant - Means the heating and sintering of pressed anode blocks in oven-like devices, including the loading and unloading of the oven-like devices.

(4) Anode Plant - Means all operations directly associated with the preparation of anode carbon except the anode baking operation.

(5) Commission - Means Environmental Quality Commission.

(6) Cured Forage - Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.

(7) Department - Means Department of Environmental Quality.

(8) <sup>Emission</sup> Means a release into the outdoor atmosphere of air contaminants.

(9) Emission Standard - Means the limitation on the release of a contaminant or multiple contaminants to the ambient air.

(10) Fluorides - Means matter containing fluoride ion.

(11) Forage - Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

(12) Particulate Matter - Means a small, discrete mass of solid or liquid matter, but not including uncombined water.

(13) Primary Aluminum Plant - Means those plants which will or do operate for the purpose of or related to producing aluminum metal from aluminum oxide (alumina).

(14) Pot Line Primary Emission Control Systems - Means the system which collects and removes contaminants prior to the emission point. If there is more than one such system, the primary system is that system which is most directly related to the aluminum reduction cell.

(15) Regularly Scheduled Monitoring - Means sampling and analyses in compliance with a program and schedule approved pursuant to Section 25-275.

(16) Standard Dry Cubic Foot of Gas - Means that amount of the gas which would

occupy a cube having dimensions of one foot on each side, if the gas were free of water vapor at a pressure of 14.7 P.S.I.A. and a temperature of 60° F.

25-265 EMISSION STANDARD. (1) Visible emissions from all sources shall not exceed twenty (20) per cent opacity (Ringelmann 1).

(2) Each primary aluminum plant shall proceed promptly with a program to comply with this regulation. A proposed schedule of compliance shall be submitted by each plant to the Commission not later than ~~one hundred and eighty (180) days~~ after the effective date of this regulation. After receipt of the proposed schedule, the State shall establish a schedule of compliance for each plant. Such schedule shall include the date by which full compliance must be achieved but, in no case, shall full compliance be later than January 1, 1975.

25-270 HIGHEST AND BEST PRACTICABLE TREATMENT AND CONTROL REQUIREMENT. Notwithstanding the specific emission limits set forth in Section 25-265 of these regulations, in order to maintain the lowest possible emission of air contaminants, the highest and best practicable treatment and control currently available shall in every case be provided.

25-275 MONITORING. (1) Each primary aluminum plant shall submit, within sixty (60) days after an effective date of this regulation, a detailed monitoring program. The proposed program shall be subject to revision and approval by the Commission. The program shall include regularly scheduled monitoring for emissions of gaseous and particulate fluorides and total particulates. A schedule for measurement of fluoride levels in forage and ambient air shall be submitted.

(2) Necessary sampling and analysis equipment shall be ordered or otherwise provided for within thirty (30) days after the monitoring program has been approved in writing by the Commission. The equipment shall be placed in effective operation in accordance with the approved program within ninety (90) days after de-

livery.

25-280 REPORTING. (1) Unless otherwise authorized in writing by the Commission, data shall be reported by each primary aluminum plant within thirty (30) days of the end of each calendar month for each source and station included in the approved monitoring program as follows:

(a) Ambient air: Twelve-hour concentrations of gaseous fluoride in ambient air expressed in micrograms per cubic meter of air.

(b) Forage: Concentrations of fluoride in forage expressed in ppm of fluoride on a dried weight basis.

(c) Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

(d) Gaseous emissions: Results of all sampling conducted during the month for gaseous fluorides. All results shall be expressed as hydrogen fluoride in micrograms per cubic meter on a volume basis and pounds per day of hydrogen fluoride.

(e) Other emission and ambient air data as specified in the approved monitoring program.

(f) Changes in collection efficiency of any portion of the collection or control system that resulted from equipment or process changes.

(2) Each primary aluminum plant shall furnish, upon request of the Commission, such other data as the Commission may require to evaluate the plant's emission control program. Each primary aluminum plant shall immediately report abnormal plant operations which result in increased emission of air contaminants.

(3) Prior to construction, installation or establishment of a primary aluminum plant, a notice of construction shall be submitted to the Commission. Addition to, or enlargement or replacement of, a primary aluminum plant or any major alteration therein shall be construed as con-

struction, installation or establishment.

25-285 SPECIAL STUDIES. (1) Special studies, covering the areas in subparagraphs (a), (b) and (c) of this subsection shall be conducted at each primary aluminum plant.

(a) Emissions of particulates from all sources within the plant, including size distribution and physical and chemical characteristics where feasible, and a separation of fluoride and nonfluoride particulate.

(b) Plume opacity from all sources within the plant, including its relationship to grain loading, particulate characteristics, particule emissions in pounds per ton of production and stack characteristics.

(c) Emissions of sulfur dioxide, hydrocarbons, carbon monoxide, chlorine and chlorides, oxides of nitrogen, ozone, water vapor, and fluorides from all sources.

(2) Each primary aluminum plant shall submit a program for conducting the aforesaid special studies to the Commission for approval within sixty (60)

days after the effective date of this regulation.

(3) The results of the special studies shall be submitted to the Commission not later than eighteen (18) months after approval of the special studies program.

25-290 REVISION OF EMISSION STANDARDS. (1) A public hearing may be called on or before ninety (90) days after submission of the results of the special studies to evaluate the special studies, current technology and adequacy of these regulations and to make revisions to the regulations as necessary.

(2) The Commission may, after public hearing, establish more restrictive regulations for new primary aluminum plants or for plants that expand existing facilities. Data documenting projected emissions and changes in or effects upon air quality that would result from the construction or expansion, must be submitted to the Commission, together with plans and specifications, in accordance with Section 25-280 (3).



Primary  
Aluminum Plants

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

(3) Encourage and assist the aluminum industry to conduct a research and technological development program designed to reduce emissions, in accordance with a definite program, including specified objectives and time schedules.

(4) Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising the standards as needed when new information and better technology are developed.

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25-265 EMISSION STANDARD. (1) Visible emissions from all sources shall not exceed twenty (20) per cent opacity (Ringelmann 1).

(2) Each primary aluminum plant shall proceed promptly with a program to comply with this regulation. A proposed schedule of compliance shall be submitted by each plant to the Commission not later than one hundred and eighty (180) days after the effective date of this regulation. After receipt of the proposed schedule, the State shall establish a schedule of compliance for each plant. Such schedule shall include the date by which full compliance must be achieved but, in no case, shall full compliance be later than January 1, 1975.

25-270 HIGHEST AND BEST PRACTICABLE TREATMENT AND CONTROL REQUIREMENT. Notwithstanding the specific emission limits set forth in Section 25-265 of these regulations, in order to maintain the lowest possible emission of air contaminants, the highest and best practicable treatment and control currently available shall in every case be provided.

25-275 MONITORING. (1) Each primary aluminum plant shall submit, within sixty (60) days after an effective date of this regulation, a detailed monitoring program. The proposed program shall be subject to revision and approval by the Commission. The program shall include regularly scheduled monitoring for emissions of gaseous and particulate fluorides and total particulates. A schedule for measurement of fluoride levels in forage and ambient air shall be submitted.

(2) Necessary sampling and analysis equipment shall be ordered or otherwise provided for within thirty (30) days after the monitoring program has been approved in writing by the Commission. The equipment shall be placed in effective operation in accordance with the approved program within ninety (90) days after de-

livery.

25-280 REPORTING. (1) Unless otherwise authorized in writing by the Commission, data shall be reported by each primary aluminum plant within thirty (30) days of the end of each calendar month for each source and station included in the approved monitoring program as follows:

(a) Ambient air: Twelve-hour concentrations of gaseous fluoride in ambient air expressed in micrograms per cubic meter of air.

(b) Forage: Concentrations of fluoride in forage expressed in ppm of fluoride on a dried weight basis.

(c) Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

(d) Gaseous emissions: Results of all sampling conducted during the month for gaseous fluorides. All results shall be expressed as hydrogen fluoride in micrograms per cubic meter on a volume basis and pounds per day of hydrogen fluoride.

(e) Other emission and ambient air data as specified in the approved monitoring program.

(f) Changes in collection efficiency of any portion of the collection or control system that resulted from equipment or process changes.

(2) Each primary aluminum plant shall furnish, upon request of the Commission, such other data as the Commission may require to evaluate the plant's emission control program. Each primary aluminum plant shall immediately report abnormal plant operations which result in increased emission of air contaminants.

(3) Prior to construction, installation or establishment of a primary aluminum plant, a notice of construction shall be submitted to the Commission. Addition to, or enlargement or replacement of, a primary aluminum plant or any major alteration therein shall be construed as con-

struction, installation or establishment.

25-285 SPECIAL STUDIES. (1) Special studies, covering the areas in subparagraphs (a), (b) and (c) of this subsection shall be conducted at each primary aluminum plant.

(a) Emissions of particulates from all sources within the plant, including size distribution and physical and chemical characteristics where feasible, and a separation of fluoride and nonfluoride particulate.

(b) Plume opacity from all sources within the plant, including its relationship to grain loading, particulate characteristics, particule emissions in pounds per ton of production and stack characteristics.

(c) Emissions of sulfur dioxide, hydrocarbons, carbon monoxide, chlorine and chlorides, oxides of nitrogen, ozone, water vapor, and fluorides from all sources.

(2) Each primary aluminum plant shall submit a program for conducting the aforesaid special studies to the Commission for approval within sixty (60)

days after the effective date of this regulation.

(3) The results of the special studies shall be submitted to the Commission not later than eighteen (18) months after approval of the special studies program.

25-290 REVISION OF EMISSION STANDARDS. (1) A public hearing may be called on or before ninety (90) days after submission of the results of the special studies to evaluate the special studies, current technology and adequacy of these regulations and to make revisions to the regulations as necessary.

(2) The Commission may, after public hearing, establish more restrictive regulations for new primary aluminum plants or for plants that expand existing facilities. Data documenting projected emissions and changes in or effects upon air quality that would result from the construction or expansion, must be submitted to the Commission, together with plans and specifications, in accordance with Section 25-280 (3).

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CONTROL DIVISION

October 13, 1972

APPENDIX A

(Appendage to Director's report to Environmental Quality Commission requesting authorization of public hearing for purposes of revision of OAR Chapter 340, Sections 25-225 through 25-290.)

Existing Primary Aluminum Plant Regulation

The Department of Environmental Quality regulation specific to air contaminant emissions from primary aluminum plants, OAR Chapter 340, Sections 25-225 through 25-290, was adopted June 26, 1970 and became effective August 10, 1970. A copy of the regulation is attached.

The regulation was developed as a joint effort with the State of Washington through the Oregon-Washington Air Quality Committee. Hearings were held by the respective States on two rule proposals, one specific to a primary aluminum plant and one regarding allowable fluoride levels in ambient air and forage for application to any fluoride emitting activity. Copies of these proposed rules are attached. The Commission set aside the proposed ambient air and forage fluoride content rules and adopted the primary aluminum plant regulation after

excluding the proposed 15 pounds per ton particulate emission limitation. The State of Washington adopted both proposed rules with generally minor revisions.

#### Air Pollution from Aluminum Production

Three general classes of air contaminants are usually associated with the production of aluminum. A class breakdown and an abbreviated discussion of potential effects follows:

1. Gaseous fluorides - This class, mostly hydrogen fluoride, is considered to be the most significant in respect to vegetation damage. Gaseous fluorides accumulated in vegetation can contribute to the fluoride ingestion of foraging animals.
2. Particulate fluorides - This class, a complicated mixture of mainly aluminum, sodium, and calcium salts, can accumulate on vegetation surfaces and contribute to the fluoride ingestion of foraging animals (generally cattle). Soluble portions of this class may be absorbed by plants through leaf openings.
3. Total particulates - This class, a mixture of fluoride and non-fluoride materials, contributes to the visual effect or visibility reduction around aluminum plants.

The Environmental Protection Agency has conducted a program of source testing some aluminum plants during 1971 and 1972. In this program EPA selected the following breakdown:

1. Soluble fluorides - This group is considered to include essentially all of the gaseous fluorides and a significant but variable percentage of the particulate fluorides.
2. Insoluble fluorides - This group comprises the balance of the particulate fluorides.

3. Total particulates - This group includes all particulate matter.

The above contaminant classifications, either gaseous/particulate fluorides or soluble/insoluble fluorides, and total particulates, can be applied to emissions from the entire aluminum plant. No correlation between the two classifications is available at this time. Additional discussion of the EPA program will be given later in this report.

The major sources of both fluoride and particulate materials are the potrooms and the associated control systems. The significance of these sources is evident by the concentration of interest and effort in measuring and reducing emissions from these areas. The anode plant in prebake anode operations (such as Reynolds Metals Co. at Troutdale) is known to also be a source of fluoride and particulate materials, but in considerably smaller amounts.

#### Aluminum Production In Oregon

The primary production of aluminum in Oregon is conducted by two plants, Martin Marietta Aluminum (formerly Harvey Aluminum) at The Dalles and Reynolds Metals Company at Troutdale. The Martin Marietta plant uses vertical stud Soderberg anodes (self baking) and produces approximately 90,000 tons of aluminum per year. Reynolds metals Company uses prebake anodes and can produce about 100,000 tons per year with four existing potlines (lines 1, 2, 3 and 4) and about 30,000 tons per year with a new potline (line 5). After ceasing operation on November 26, 1971, this company reactivated lines 1 and 4 on September 1, 1972, initially started line 5 on October 8, 1972, and plans to reactivate line 2 on November 8, 1972. The reactivation of line 3 is not scheduled at this time.

Both companies submitted compliance schedules which were approved by the Commission on March 5, 1971. Some of the more important components of these programs are emission testing, ambient air and forage fluoride monitoring, special studies, control technology research, installation of improved controls and upset condition reporting. The routine data have been submitted on a monthly basis beginning with the March 1971 reporting period, except for the duration of the Reynolds Metals Company shutdown.

Program Analysis:

Martin Marietta Aluminum

The Martin Marietta Aluminum plant is composed of two potlines of vertical stud Soderberg anode cells in five potrooms. An anode paste plant furnishes carbonaceous material for the self baking anodes. Metal casting, electrical transformers and maintenance facilities complete the production activity.

The most important sources of air pollution are the two potroom emission control systems. The remaining portion of this facility presently is not considered to be sources of significantly important air contaminants.

The primary potroom emission control system, which is directly attached to and treats the exhaust from the pots, includes twelve units each consisting of spray and bubble chambers followed by fans and wet electrostatic precipitators. Installation of this system was completed in February of 1972. The old spray tower system remains functional as a back-up. The new system complies with the 20% opacity limitation of the existing primary aluminum plant regulation, OAR

Chapter 340, Section 25-265.

The secondary potroom emission control system, which treats the room ventilation exhaust, includes forty forced draft spray scrubbers (eight per potroom) in elevated tunnels mounted alongside each potroom. This system which was completed in 1970, complies with the 20% opacity limitation cited above.

The approved compliance schedule requires routine potroom emission testing. The results of some 15 primary system source tests and 43 secondary source tests obtained during the period March 1971 through July 1972, have been submitted to the Department. (Some 26 source tests of the previous primary system which were also submitted, are not considered in this discussion.) A tabular summary of the reported data which is presented below indicates that average total daily potroom emissions equals about 123 pounds gaseous fluoride, 300 pounds particulate fluoride and 2866 pounds total particulates. The range of the daily emissions and the emission rates per ton of metal produced are illustrated in the tabulation.



MARTIN MARIETTA ALUMINUM, THE DALLES - POTROOM EMISSIONS (Reported as required by the approved compliance schedule.)<sup>1/</sup>

	No. of Samples	High	Low	Average	Median
<u>Primary System</u> <sup>2/</sup>					
(12 wet electro- static precipitators)	15				
1. Gaseous fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		3.6 (0.01)	0.38 (0.002)	1.83 (0.007)	1.7 (0.007)
2. Particulate Fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		8.4 (0.03)	1.11 (0.005)	4.12 (0.017)	4.2 (0.017)
3. Total Particulates lb/day (lb/ton Al)		61.7 (0.25)	9.6 (0.04)	39.8 (0.16)	40.5 (0.16)
<u>Secondary System</u> <sup>3/</sup>					
(40 room scrubbers)	43				
1. Gaseous fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		411 (1.67)	31 (0.13)	121 (0.49)	95 (0.39)
2. Particulate Fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		1020 (4.14)	72 (0.29)	296 (1.20)	270 (1.10)
3. Total particulates, lb/day (lb/ton Al)		5370 (21.8)	800 (3.24)	2826 (11.5)	2800 (11.4)

<sup>1/</sup> Based on production equal to 90,000 tons aluminum per year.

<sup>2/</sup> Based on source tests results reported for March, 1972 through July, 1972 (system completed in February 1972).

<sup>3/</sup> Based on source test results reported for March 1971 through July 1972.

The approved compliance schedule includes four ambient air monitoring stations for gaseous fluorides. Data for 12 hour samples obtained during the period 3/8/71 to 11/1/71 and 2/29/72 to 7/5/72 have been reported to the Department. The monitoring is discontinued around the first of the year due to low vegetation growth activity, adverse weather and necessary sampling equipment maintenance. The Department commenced operation of stations 19, 30 and 31 plus six other stations (generally known as the arbitrator stations) on July 10, 1972.

A tabular summary of the data reported through 7/5/72 which is given below indicates that the 12 hour gaseous fluoride levels have ranged from zero to 2.01 parts per billion (by volume) with the average values ranging from 0.10 to 0.18 ppb. The reported levels would comply with the proposed ambient air fluoride regulations previously considered by the EQC.

Martin Marietta Aluminum, The Dalles - Ambient Air Gaseous Fluoride  
(Reports as Required by the Approved Compliance Schedule)<sup>1/</sup>

Station No.	Distance and direction from plant	No. of Samples	Gaseous F <sup>-</sup> (ppb by volume)		
			High	Low	Average
19	4 mi SE	711	1.54	0	0.15
26	1 3/4 mi SSW	722	2.01	0	0.18
30	2 mi S	722	1.18	0	0.10
31	2 3/4 mi SSE	717	0.91	0	0.10

<sup>1/</sup> The data presented represents 12 hour samples obtained during the periods 3/8/71 to 11/1/71 and 2/29/72 to 7/5/72.

Hay samples obtained from fields one mile west and two miles east of the plant have analyzed 12.6 ppm F<sup>-</sup> and 4.6 ppm F<sup>-</sup> respectively. The forage sampling at The Dalles has been minimal and reflects the limited privately owned cattle foraging operations near

the aluminum plant. The reported forage fluoride levels would comply with the proposed forage standards previously considered by the EQC.

The company has submitted the results of its special studies program as required. This information will be reviewed with the company and a report will be made to the Commission as soon as practicable.

Reynolds Metals Company

The Reynolds Metals Company plant is composed of five potlines of prebake anode cells in ten potrooms. An anode bake plant furnishes blocks of anode carbon. Metal casting, electrical transformers, and maintenance facilities complete the production activity.

The Oregon State Sanitary Authority at its June 28, 1969 meeting approved the Reynolds Metals Company proposal for modernizing the existing four potlines and adding a fifth potline at the Troutdale plant subject to some nine limitations, conditions and requirements including allowable ambient air and forage fluoride levels. A copy of the fluoride levels allowed by this approval is attached.

The most important sources of air pollution are the two potroom emission control systems. These areas are the sources of almost all of the fluoride materials and visibility reducing particulates. The anode bake plant is a source of considerably smaller amounts of fluoride and particulate materials. The height of the stack, 175 feet, associated with this area, accentuates the visible impact of the anode bake plant. The remaining portions of this facility presently are not considered to be sources of significantly important air contaminants.

The following discussion of potroom emission control systems will first consider the initial potlines, lines 1, 2, 3 and 4, and secondly the new potline, line 5.

The primary potroom emission control system for lines 1 and 4 which is directly attached to and treats the exhaust from the pots, includes 8 units each consisting of 2 parallel sets of 2 cyclones and 1 fan both leading to a common spray chamber followed by a centrifugal action metal stack. The total equipment involved includes 32 cyclones, 16 fans, 8 spray chambers, and 8 stacks. These control facilities were installed as a portion of the expansion and modernization program approved by the OSSA on June 28, 1969. This system has not reached anticipated performance levels causing planned additional installations on lines 2 and 3 to be set aside until improvements or alternative system(s) can be developed. Some improvement or alternative will be required for this system to meet the 20% opacity limitation by January 1, 1975, as required by OAR Chapter 340, Section 25-365.

The primary potroom emission control system for lines 2 and 3 which is directly attached to and treats the exhaust from the pots, also includes 8 units each consisting of 2 parallel sets of 2 cyclones and 1 fan both leading to a 2 pass spray tower (double-walled wood tower). The total equipment involved includes 32 cyclones, 16 fans and 8 two-pass spray towers. It is quite likely that at least the spray tower sections of this system will require replacement in order to comply with 20% opacity by January 1, 1975.

The secondary potroom emission control system, which treats the room ventilation exhaust, is essentially identical for lines 1, 2, 3 and 4. This system is composed of a total of 200 roof-mounted small fan-spray scrubber-centrifugal stack combinations (25 units per each 8 potrooms). This system presently complies with the 20% opacity requirement.

The potroom emission control system for the line 5 includes only a primary system. (No secondary system was proposed due to improved hooding and collection with the newer more modern pot design.) The primary system for line 5 includes a large single duct leading to a dry plenum which exhausts to 4 parallel fans. Two adjacent fans exhaust in parallel into 1 of 2 orifice plate scrubbers. Each scrubber exhausts into 2 parallel centrifugal mist eliminators. The 4 mist eliminators exhaust into 4 parallel (clustered) stacks about 100 feet tall. The total equipment involved includes a common large duct and plenum, 4 fans, 2 orifice plate scrubbers, 4 mist eliminators and 4 closely arranged stacks. Since this entire system is currently in a start-up situation, an evaluation of compliance with the 20% opacity limitation is yet to be made.

The approved compliance schedule for Reynolds Metals Co. requires routine potroom emission testing. The results of some 24 primary system source tests and 12 secondary system source tests obtained during the period March 1971 through October 1971 have been submitted to the Department. (No data is available for line 5.) A tabular summary of the reported data which is presented on page 12 assumes

operation of lines 1, 2, 3 and 4 at the rated 100,000 tons aluminum per year. The data indicate that at rated production, the average total daily potroom emissions would equal about 996 pounds gaseous fluorides, 2936 pounds particulate fluoride and 9,412 pounds total particulates. The range of the daily emissions and the emission rates per ton of metal produced are illustrated in the tabulation.

The approved compliance schedule includes five ambient air monitoring stations for gaseous fluorides. Data for 12 hour samples obtained during the period 3/22/71 to 10/31/71 have been reported to the Department. The monitoring was discontinued when the plant shut down. This program has been reactivated, but reported results are not expected until November, 1972, at the earliest.

A tabular summary of the data reported, which is given below, indicates that the 12 hour gaseous fluoride levels have ranged from zero to 7.22 parts per billion (by volume) with the average values ranging from 0.17 to 0.70 ppb. Excluding suspected contaminated samples, the gaseous fluoride levels have been in compliance with the conditions of the modernization and expansion approval.

Reynolds Metals Company, Troutdale - Ambient Air Gaseous Fluoride (Reports as Required by the Approved Compliance Schedule) <sup>1/</sup>

Station No.	Distance and direction from plant	No. of Samples	Gaseous F <sup>-</sup> (ppb by volume)		
			High	Low	Average
1	1.5 mi W	447	7.22 <sup>2/</sup>	0.04	0.45
2	1.0 mi SW	445	1.41	0	0.15
3	0.6 mi S	443	1.23	0	0.17
4	1.2 mi SE	441	1.67	0	0.25
5	0.7 mi E	439	3.90	0	0.70

<sup>1/</sup> The data presented presents 12 hr. samples obtained during the period 3/22/72 to 10/33/71.

<sup>2/</sup> Sample contamination suspected.

REYNOLDS METALS COMPANY, TROUTDALE - POTROOM EMISSIONS (Reports as required by the approved compliance schedule.)

	<u>No. of Samples</u>	<u>High</u>	<u>Low</u>	<u>Average</u>	<u>Median</u>
<u>Primary System</u> <sup>1/</sup>					
(16 courtyard scrubbers)	24				
1. Gaseous fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		283 (1.03)	65 (0.24)	154 (0.56)	156 (0.57)
2. Particulate fluorides lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		2128 (7.77)	1099 (4.01)	1688 (6.16)	1656 (6.04)
3. Total particulates, lb/day (lb/ton Al)		7088 (25.9)	4672 (17.1)	5896 (21.5)	5912 (21.6)
<u>Secondary System</u> <sup>1/</sup>					
(200 roof scrubbers)	12				
1. Gaseous fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		1300 (4.74)	460 (1.68)	820 (2.99)	840 (3.07)
2. Particulate fluorides, lb F <sup>-</sup> /day (lb F <sup>-</sup> /ton Al)		2060 (7.52)	380 (1.39)	1240 (4.53)	1280 (4.67)
3. Total particulates, lb/day (lb/ton Al)		4640 (16.9)	2680 (9.78)	3500 (12.8)	3500 (12.8)

<sup>1/</sup> Based on production equal to 100,000 tons aluminum per year and source tests results reported for March, 1971 through October, 1971.

Since substantial privately owned cattle foraging operations had occurred near the Reynolds Metals Co. plant, extensive forage fluoride monitoring was part of the approved monitoring program. A tabular summary of the data reported which is presented below, represents samples obtained during the period December, 1969 to October, 1971. This presented data is intended to represent operations of the existing lines 1, 2, 3 and 4, as well as lines 1 and 4 which constituted the production before shutdown.

(Additional data for the period February, 1968 to November, 1969, was submitted to the Department, but is not represented here since it does not meet the above intent.) The tabular summary indicates that monthly values ranged from 10 parts per million fluoride (on a dry weight basis) to 143 ppb F<sup>-</sup> and the averaged value ranged from 27 to 53 ppb F<sup>-</sup>. All stations except numbers 4A and 20B have been in compliance with the conditions of the modernization and expansion approval.

Reynolds Metals Company, Troutdale - Forage Fluoride (Reports as required by the Approved Compliance Schedule and Plant Expansion) 1/

Station No.	Distance and direction from plant	No. of Samples	ppm F <sup>-</sup> (dry weight basis)		
			High	Low	Average
20 D	1.0 mi WSW	23	79	13	35
20 E	1.0 mi SW	22	74	12	32
4 A	1.5 mi SE	22	90	16	42
5	0.8 mi SE	23	75	15	33
6	1.0 mi S	23	59	10	27
18	1.3 mi SSW	23	57	15	28
20 B	1.5 mi W	23	143	16	53
4	2.1 mi ESE	22	65	18	37
4 B	2.6 mi ESE	23	73	10	33
4 C	2.3 mi E	22	72	15	34

1/ The data presented presents monthly samples obtained during the period Dec. 1969 to Oct. 1971. Some samples were not obtained during this period due to snow or silver thaw conditions.



The company partially completed its special studies before the shutdown. A report of the completed work has been submitted to the Department. The company has been given a ten month extension for completion of the special studies. This extension equals the duration of the shutdown. Upon completion of the special studies, a report will be made to the Commission.

Prior to the shutdown, Reynolds Metals Co. was conducting considerable research efforts at Troutdale to develop and evaluate methods and equipment for reducing the opacity of potroom and anode plant emissions to achieve compliance with the 20% opacity limitation. Complimentary studies were being conducted at other Reynolds Metals Co. plants in the United States. The company has continuously indicated its intent and confidence to be in compliance by January 1, 1975, but has not been able to commit itself to the necessary specific control programs.

Dry Treatment Primary Systems:

The dry-treatment approach to primary potroom emission control systems has relatively recently attracted considerable interest from the Commission, Department, other governmental air quality control agencies as well as the aluminum industry. The essentials of this technique involves contacting the collected pot exhausts with a variety of grades of aluminum oxide (alumina) for adsorption of gaseous fluorides followed by collection of the alumina and pot generated particles with a fabric filter or a combination cyclone-fabric filter system. The collected alumina and pot exhaust constituents are subsequently added

to the process as a feed material.

Although Alcoa's A-398 process, which is commercially available to other companies for a fee, is best known locally and nationally, other producers are developing or marketing similar or comparable technology. The Alcoa system includes a fluidized bed for contacting the pot gases and alumina followed by a fabric filter (baghouse). The Aluminum Company of Canada (Alcan) has developed and is using a dry system which contacts the pot gases and alumina by injecting the alumina into the gas stream followed by cyclone and baghouse particulate removal. Alcan has provided this technology to Intalco at Ferndale, Washington where the installation is essentially completed on two of three potlines. Kaiser Aluminum and Chemical Company is in the process of developing a dry treatment system. Performance data has only been published for the Alcoa process to date.

The dry treatment processes have been applied full scale to exhausts from prebake anode cells and vertical stud Soderberg cells. Experimental installations are being attempted on horizontal stud Soderberg cells.

A tabular comparison of published dry treatment data and emission data submitted by Martin Marietta and Reynolds Metals is given on page 16.

COMPARISON OF POTROOM EMISSIONS FROM ALUMINUM PLANTS IN OREGON TO PUBLISHED DRY-TREATMENT DATA

	Primary Systems			Secondary Systems		Total of Primary and Secondary Systems		
	Gaseous	Particulate	Total	Total	Total	Total	Total	
	F <sup>-</sup> (lb/ton Al)	F <sup>-</sup> (lb/ton Al)	F <sup>-</sup> (lb/ton Al)	Particulate (lb/ton Al)	F <sup>-</sup> (lb/ton Al)	Particulate (lb/ton Al)	F <sup>-</sup> (lb/ton Al)	Particulate (lb/ton Al)
Martin- Marietta Alum.	0.0007	0.017	0.024	0.16	1.69	11.5	1.71	11.7
Reynolds Metals Co.	0.56	6.16	6.72	21.5	7.52	12.8	14.34	34.3
Alcoa <sup>1/</sup> A-398	0.16	0.20	0.36	0.14	1.48	2.95	1.84	3.09
Alcoa <sup>1/</sup> A-398	0.10	0.27	0.37	1.41	1.76	4.10	2.13	5.51
Alcoa <sup>1/</sup> A-398	0.14	0.61	0.75	4.54	0.97	9.64	1.72	14.18

<sup>1/</sup> The data represents three different installations as reported by Cook, C. C., et al., "Re: Operating Experience with the Alcoa 398 Process for Fluoride Recovery", presented at the PNWIS-APCA Annual Meeting, November 11, 1970, Spokane, Washington. The data presented was obtained from potroom installations equipped with prebake type anodes.

Environmental Protection Agency Emission Standards

The Environmental Protection Agency has placed emission standards for new primary aluminum plants in Group III of the standards for new stationary sources. Neither the publication dates of proposed standards nor the details of any contemplated standards are known at this time.

The EPA effort to date has included an industrial survey of all aluminum plants in the United States to determine the national performance status. This survey was followed by an EPA source testing program of some of the aluminum plants to quantitatively determine potroom emissions. Both plants in Oregon were sampled.

The data obtained from a single testing program at Reynolds Metals Co. just prior to shutdown has been reported to the Department by EPA. A preliminary review of the data indicates that the results were on the same order of magnitude as those obtained from the Reynolds Metals compliance program.

The Martin Marietta plant has been tested by EPA on three occasions. The results of the first and second test efforts have been furnished to the Department. These data are in general agreement with the data developed by the compliance program. Data from the third test effort which was conducted October 2 - 5, 1972, are not available.

The Department is of the opinion from discussing this matter recently with EPA that the Federal agency is not yet committed to regulations concerned with water soluble fluorides, water insoluble fluorides and total particulates. Whether or not regulations would be

proposed for limiting the emissions of these contaminants from just the potrooms or total plant apparently is not known by EPA. It appears that EPA will be making the required decisions in the very near future.

The Department considers regulations limiting gaseous fluorides, total fluorides and total particulates from the potrooms preferable because the available data and the fact that the potrooms are the largest source of these materials. If EPA proposes standards in terms of water soluble/insoluble fluorides, a solubility study of the particulate fluorides for both Martin Marietta and Reynolds Metals would be required to develop the necessary correlation. EPA standards would be applicable to new sources.

Washington State Rules and Programs - Status:

The Washington State Primary Aluminum Plant regulation is essentially identical to the adopted Oregon regulation with the additional requirements that potroom emissions must be limited so that solid particulate emissions cannot exceed 15 pounds per ton of aluminum produced and fluoride emissions cannot result in exceeding the Washington State fluoride standards for ambient air and forage. The Washington State fluoride standards are the same as those proposed in Oregon (attached hereto) with the addition of a seasonal (March 1 through October 31 of any year) limitation for gaseous fluorides in the ambient air of 0.61 ppb HF by volume or 0.5 micrograms per cubic meter.

The seven aluminum plants in Washington are conducting programs according to approved compliance schedules. Although most or all of the seven plants are in compliance with portions of the emission limitations and fluoride standards, none are known to be in total compliance at this time.

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DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL DIVISION

PROPOSED REGULATION AND STANDARDS

for

PRIMARY ALUMINUM PLANTS

- I. Statement of Purpose In furtherance of the public policy of the state as set forth in ORS 449.765, it is hereby declared to be the purpose of the Commission in adopting the following regulations to:
  - A. Require, in accordance with a specific program and time table for each operating primary aluminum plant, control, collection and treatment of atmospheric pollutants emitted from primary aluminum plants through the utilization of all equipment, devices and procedures consistent with attaining and maintaining desired air quality.
  - B. Require effective monitoring and reporting of emissions, ambient air levels of fluorides, fluoride content of forage and other pertinent data. The Department will use these data, in conjunction with observation of conditions in the surrounding areas, to develop and revise emission and ambient air standards and to determine compliance therewith.
  - C. Encourage and assist the aluminum industry to conduct a research and technological development program designed to reduce emissions, in accordance with a definite program, including specified objectives and time schedules.
  - D. Establish standards which based upon presently available technology, are reasonably attainable with the intent of revising the standards as needed when new information and better technology are developed.
- II. Definitions
  - A. All Sources - Means sources including, but not limited to, the reduction process, alumina plant, anode plant, anode baking plant, cast house, and collection, treatment and recovery systems.

1/19/70

- B. Ambient Air - The air that surrounds the earth, excluding the general volume of gases contained within any building or structure.
- C. Anode Baking Plant - Means the heating and sintering of pressed anode blocks in oven-like devices, including the loading and unloading of the oven-like devices.
- D. Anode Plant - Means all operations directly associated with the preparation of anode carbon except the anode baking operation.
- E. Commission - Means Environmental Quality Commission.
- F. Cured Forage - Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.
- G. Department - Means Department of Environmental Quality.
- H. Emission - Means a release into the outdoor atmosphere of air contaminants.
- I. Emission Standard - Means the limitation on the release of a contaminant or multiple contaminants to the ambient air.
- J. Fluorides - Means matter containing fluoride ion.
- K. Forage - Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.
- L. Particulate Matter - Means a small, discrete mass of solid or liquid matter, but not including uncombined water.
- M. Primary Aluminum Plant - Means those plants which will or do operate for the purpose of or related to producing aluminum metal from aluminum oxide (alumina).
- N. Pot Line Primary Emission Control Systems - Means the system which collects and removes contaminants prior to the emission point. If there is more than one such system, the primary system is that system which is most directly related to the aluminum reduction cell.
- O. Regularly Scheduled Monitoring - Means sampling and analyses in compliance with a program and schedule approved pursuant to Section IV.
- P. Standard Dry Cubic Foot of Gas - Means that amount of the gas which would occupy a cube having dimensions of one foot on each side, if the gas were free of water vapor at a pressure of 14.7 P.S.I.A. and a temperature of 60°F.

1/19/70



III. Emission Standards

- A. The emission of gaseous fluorides and particulate fluorides from all sources within a primary aluminum plant shall be restricted so that the ambient air and forage standards for fluorides are not exceeded outside the property controlled by the aluminum plant.
- B. The total emission of solid particulate matter to the atmosphere from the reduction process (pot-lines) shall not exceed fifteen (15) pounds per ton of aluminum produced on a daily basis.
- C. Visible emissions from all sources shall not exceed twenty (20) per cent opacity (Ringelmann 1).

IV. Revision of Emission Standards

- A. A public hearing may be called within ninety (90) days after submission of the results of the special studies to evaluate the special studies, current technology and adequacy of these regulations and to make revisions to the regulations, as necessary.
- B. The Commission may, after public hearing, establish more restrictive emission limits for new primary aluminum plants or for plants that expand existing facilities. Data documenting projected emissions and changes in or effects upon air quality that would result from the construction or expansion, must be submitted to the Commission, together with plans and specifications, in accordance with Section VII (C).

V. Compliance

Each primary aluminum plant shall proceed promptly with a program to comply with this regulation. A proposed schedule of compliance shall be submitted by each plant to the Commission not later than one hundred and eighty (180) days after the effective date of this regulation. After receipt of the proposed schedule, the State shall establish a schedule of compliance for each plant. Such schedule shall include the date by which full compliance must be achieved but, in no case, shall full compliance be later than July 1, 1972, for Section III (A) and January 1, 1975, for Sections III (B) and (C)

VI. Monitoring

- A. Each primary aluminum plant shall submit, within sixty (60) days after the effective date of this regulation, a detailed monitoring program. The proposed program shall be subject to revision and approval by the

Commission. The program shall include regularly scheduled monitoring for emissions of gaseous and particulate fluorides and total particulates. A schedule for measurement of fluoride levels in forage and ambient air shall be submitted.

- B. Necessary sampling and analysis equipment shall be ordered or otherwise provided for within thirty (30) days after the monitoring program has been approved in writing by the Commission. The equipment shall be placed in effective operation in accordance with the approved program within ninety (90) days after delivery.

#### VII. Reporting

- A. Unless otherwise authorized in writing by the Commission, data shall be reported by each primary aluminum plant within thirty (30) days of the end of each calendar month for each source and station included in the approved monitoring program as follows:
1. Ambient air: Twelve-hour concentrations of gaseous fluoride in ambient air expressed in ppb of hydrogen fluoride on a volume basis.
  2. Forage: Concentrations of fluoride in forage expressed in ppm of fluoride on a dried weight basis.
  3. Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

Compliance with sub-section III (B) shall be determined by measurements of emissions from the pot line primary control system plus measurements of emissions from the roof monitor and other points of emission to the atmosphere. Calculated emissions to the pot rooms from the reduction cells based on hooding efficiency determined for gaseous fluoride may be substituted for roof monitor emission measurements in determining compliance with the regulation.

4. Gaseous Emissions: Results of all sampling conducted during the month for gaseous fluorides. All results shall be expressed as hydrogen fluoride in ppm on a volume basis and pounds per day of hydrogen fluoride.
  5. Other emission and ambient air data as specified in the approved monitoring program.
  6. Changes in collection efficiency of any portion of the collection or control system that resulted from equipment or process changes.
- B. Each primary aluminum plant shall furnish, upon request of the Commission, such other data as the Commission may require to evaluate the plant's emission control program. Each primary aluminum plant shall immediately report abnormal plant operations which result in increased emission of air contaminants.
- C. Prior to construction, installation or establishment of a primary aluminum plant, a notice of construction shall be submitted to the Commission. Addition to, or enlargement or replacement of, a primary aluminum plant or any major alteration therein shall be construed as construction, installation or establishment.

#### VIII. Special Studies

- A. Special studies, covering the areas in subparagraphs 1, 2, and 3 of this subsection shall be conducted at each primary aluminum plant.
1. Emissions of particulates from all sources within the plant, including size distribution and physical and chemical characteristics where feasible, and a separation of fluoride and non-fluoride particulate.
  2. Plume opacity from all sources within the plant, including its relationship to grain loading, particulate characteristics, particle emissions in pounds per ton of production and stack characteristics.
  3. Emissions of sulfur dioxide, hydrocarbons, carbon monoxide, chlorine and chlorides, oxides of nitrogen, ozone, water vapor, and fluorides from all sources.
- B. Each primary aluminum plant shall submit a program for conducting the aforesaid special studies to the Commission for approval within sixty (60) days after the effective date of this regulation.
- C. The results of the special studies shall be submitted to the Commission not later than eighteen (18) months after approval of the special studies program.

IX. Other Air Quality Limitations

The emission limits established under these sections are in addition to other emission standards and ambient air standards established or to be established by the Commission unless otherwise provided by rule or regulation.

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL DIVISION

PROPOSED AMBIENT AIR STANDARDS FOR FLUORIDES

and

REGULATIONS TO PROTECT LIVESTOCK AND VEGETATION

I. Policy Limitations

The standards set forth within these regulations are intended to protect livestock and vegetation. All sampling to measure compliance with said standards will be conducted in areas and during time periods appropriate to protect vegetation and livestock.

II. Definitions as used in Sections I and VII, unless otherwise required by context:

- A. Ambient Air: Means the air that surrounds the earth, excluding the general volume of gases contained within any building or structure.
- B. Commission: Means Environmental Quality Commission.
- C. Cured Forage: Means hay, straw, ensilage that is consumed or is intended to be consumed by livestock.
- D. Department: Means Department of Environmental Quality.
- E. Forage: Means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

III. Intent of Regulations

Two standards are established by these rules. One shall be for the fluoride content of forage and the other for gaseous fluorides in the ambient air. No person shall cause, let, permit or allow any emission of elemental or chemically combined fluorine, which either alone or in combination with other fluorides that may be present in forage or the ambient air, to be in excess of the standards in Sections IV or V.

IV. Forage Standard

- A. The fluoride content of forage calculated by dry weight shall not exceed:
  - 1. Forty parts per million fluoride ion (40 ppm F<sup>-</sup>) average for any twelve (12) consecutive months.
  - 2. Sixty parts per million fluoride ion (60 ppm F<sup>-</sup>) each month for more than two (2) consecutive months.

3. Eighty parts per million fluoride ion (80 ppm F<sup>-</sup>) more than once in any two (2) consecutive months.
- B. Cured forage grown for sale as livestock feed shall not exceed forty parts per million fluoride ion (40 ppm F<sup>-</sup>) by dry weight after curing or preparing for sale.
- C. In areas where livestock are not grazed continually, but are fed cured forage part of the year, the fluoride content of the cured forage shall be used as the forage fluoride content for as many months as it is fed to establish the yearly average.

V. Ambient Air Standards

Gaseous fluorides in the ambient air calculated as hydrogen fluoride (HF) by volume shall not exceed:

- A. Four and one-half parts per billion (4.5 ppb) average for any twelve (12) consecutive hours. *3.7 µg/m<sup>3</sup>*
- B. Three and one-half parts per billion (3.5 ppb) average for any twenty-four (24) consecutive hours. *2.9 µg/m<sup>3</sup>*
- C. Two parts per billion (2.0 ppb) average for any seven (7) consecutive days. *1.7 µg/m<sup>3</sup>*
- D. One part per billion (1.0 ppb) average for any thirty (30) consecutive days. *0.84 µg/m<sup>3</sup>*

VI. Compliance with Standards

When requested by the Department, persons emitting fluorides to the atmosphere shall be required to establish compliance with Sections IV and V by conducting a monitoring program approved in writing by the Department and submitting all data obtained to the Department.

VII. Sampling and Analysis

- A. Forage samples shall be taken once each calendar month at 25-35 day intervals as specified in the approved monitoring program to determine compliance with Section IV.
- B. Gaseous fluoride shall be sampled according to the approved monitoring program, using the sodium bicarbonate tube method to determine compliance with Section V.
- C. Samples shall be analyzed by the Technicon Auto Analyzer or the Modified Willard-Winter Distillation Method. A fluoride specific ion probe may be used to analyze the gaseous ambient air sample when the fluoride is in soluble form. Other sampling and analyses methods which are equivalent in accuracy, sensitivity, reproducibility and applicability under similar conditions may be used after approval by the Department.

APPENDIX B

Excerpt from  
Reynolds Metals Co.  
Expansion & Modernization  
Approval.

FLUORIDE STANDARDS FOR AMBIENT AIR AND FORAGE

I. Ambient Air Standards:

- (1) Gaseous fluorides in the ambient air calculated as HF by volume shall not exceed:
  - a. Four and one-half parts per billion (4.5 ppb) average for any twelve (12) consecutive hours.
  - b. Three and one-half parts per billion (3.5 ppb) average for any twenty-four (24) consecutive hours.
  - c. Two parts per billion (2.0 ppb) average for any seven (7) consecutive days.
  - d. One part per billion (1 ppb) average for any thirty (30) consecutive days.

II. Forage Standards:

- (1) The fluoride content of forage calculated by dry weight shall not exceed:
  - a. Forty parts per million fluoride ion (40 ppm F<sup>-</sup>) average for any twelve consecutive months.
  - b. Sixty parts per million fluoride ion (60 ppm F<sup>-</sup>) each month for more than two consecutive months.
  - c. Eighty parts per million fluoride ion (80 ppm F<sup>-</sup>) more than once in any two consecutive months.

Forage samples shall be taken once each calendar month at 25-35 day intervals to determine compliance with Sections II (1) a., b., c.

- (2) In areas where cattle are not grazed continually, but are fed cured forage, as hay, during the winter, the fluoride content of the hay shall be used as the forage fluoride content for as many months as it is fed to establish the yearly average.
- (3) Cured forage grown in the county of Multnomah for sale as livestock feed shall not exceed 40 ppm F<sup>-</sup> by dry weight after curing or preparing for sale.

October 25, 1972

TO: Environmental Quality Commission

We earnestly request an opportunity to meet with the staff of the D.E.Q. to review with them the report presented this morning.

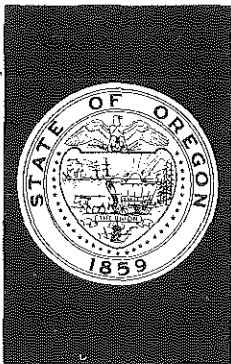
The report of the D.E.Q. (paragraph 14) states that the gaseous fluoride, particulate fluoride and total fluoride emissions from the Martin Marietta plant are among the lowest in the country. We do not believe they are among the lowest, we believe they are the lowest and this opinion has been voiced by E.P.A.

The present levels are at the lower end of the detectable limits, as noted in the report. There is no technology available, of which we are aware, which would <sup>significantly</sup> ~~substantially~~ decrease emissions.

We would be extremely interested in viewing the documentation <sup>stemming from the conclusions</sup> on which ~~this statement~~ is based.

Joseph L. Byrne  
for Martin Marietta Aluminum Inc.





# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

## MEMORANDUM

ENVIRONMENTAL QUALITY  
COMMISSION

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Portland

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Portland

TO: ENVIRONMENTAL QUALITY COMMISSION

FROM: Director

SUBJECT: Agenda Item No. H(2) , October 25, 1972, EQC Meeting

Proposed Regulation for Beryllium, Mercury and Asbestos

### Background:

The Federal Clean Air Act of 1970, included in Section 112 an outline of action relating to National Emission Standards for Hazardous Air Pollutants. On December 7, 1971, the Environmental Protection Agency published in the Federal Register, Volume 36, No. 234, proposed standards for asbestos, beryllium and mercury under the title "National Emission Standards for Hazardous Air Pollutants." The Department has been advised by the Environmental Protection Agency, Region X, that the final standards are to be published shortly.

In the interest of maintaining jurisdiction over these sources, the Department by letter dated July 19, 1972, has indicated to the Environmental Protection Agency that Oregon wishes delegation of authority, under Section 112 (d) (1), to implement the National Emission Standards for Hazardous Air Pollutants. Section 112 (d) (1) states:

"(d)(1) Each State may develop and submit to the Administrator a procedure for implementing and enforcing emission standards for hazardous air pollutants for stationary sources located in such State. If the Administrator finds the State procedure is adequate, he shall delegate to such State any authority he has under this Act to implement and enforce such standards (except with respect to stationary sources owned or operated by the United States)."

To prepare for this delegation of authority, the Department has conducted a preliminary survey in cooperation with regional air pollution authorities to establish a list of the sources that would be included in the categories as defined in the Federal Register, Volume 36, No. 234. From a federally provided list of 75 suggested sources, the Department and Regions have compiled a list of 8 sources which will require field surveys.

Further the Department proposes to develop and adopt such emission standards, regulations and procedures so as to receive approval from EPA for delegation of authority to enforce the promulgated standards.

Discussion:

The pollutants, beryllium, mercury and asbestos are not indicated to present an ambient air problem in Oregon. At this time it is not apparent that there are any stationary sources in Oregon that exceed the emission standards permitted by the proposed federal regulation.

The proposed emission standards are summarized as follows:

Beryllium: a) 10 grams of beryllium in a 24 hour period, or  
b) 0.01 ug of beryllium per cubic meter of air averaged over a thirty (30) day period.

Mercury: a) 2300 grams mercury per 24 hour period.

Asbestos: a) No visible emissions.  
b) All emissions through a specified efficiency fabric filter or equivalent.  
c) No outside asbestos spraying allowed.

The one area that will be immediately and directly affected is the outdoor spray application of asbestos. This is prohibited under the proposed regulation.

The proposed regulation is submitted before the final publication of the federal regulations due to the time structure proposed by the federal regulation. As presently proposed, all sources under the definition of the regulation, within 90 days of promulgation of the federal standards, will be required to be in compliance with standards or be making progress to comply under Environmental Protection Agency waivers. In this 90 day period, the Department would be unable to hold public hearings, present a regulation to the Commission for approval, validate all the sources, establish procedures, and review and verify compliance, in order to request delegation of authority to

Oregon if much of the work were not previously completed. It is entirely possible that, depending on the timing of promulgation of and requirements in the federal standards, the Department may request adoption of an emergency regulation in order to maintain jurisdiction of these sources.

The procedures necessary for the implementing and enforcing emission standards for hazardous air pollutants are included in the proposed regulation as well as the emission limitations for each contaminant, beryllium, mercury and asbestos. These procedures include the delegation of authority to regional authorities, for those sources in each state regional authority.

Conclusions:

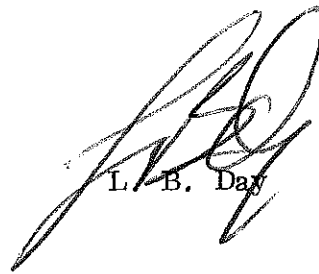
At this time there are no known hazards in Oregon from the air contaminants, beryllium, mercury, and asbestos, to be regulated under this regulation. The proposed regulation and authorization is presented at this time to maintain jurisdiction of Oregon sources within the Department and Oregon Regional Authorities.

The Environmental Protection Agency is shortly to publish the federal regulation regarding these sources.

Director's Recommendation:

It is the recommendation of the Director that the Environmental Quality Commission authorize the Director to schedule a public hearing,

at a time and place to be determined, for the purpose of receiving testimony relevant to the adoption of regulations setting limits on the emission of Beryllium, Mercury and Asbestos, and to establish procedures for obtaining the delegation of authority from the Environmental Protection Agency to enforce the proposed standards.



L. B. Day

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CONTROL DIVISION

October 10, 1972

HAZARDOUS AIR POLLUTANT SOURCE LIST FOR OREGON

The preliminary review of the source list provided by the Environmental Protection Agency and the sources developed by the Department, indicate the following sources should be investigated further:

ASBESTOS

Asten-Hill Manufacturing Co.  
859 Seventh Street N. W.  
Salem, Oregon

Columbia Asbestos Co.  
111 S. W. Front Avenue  
Portland, Oregon

Zidell Explorations, Inc.  
3121 S. W. Moody  
Portland, Oregon 97201

MERCURY

Lyman Mining Corporation  
340 South Fifth  
Corvallis, Oregon 97330

BERYLLIUM

City Brass Foundry  
2531 N. W. 28th  
Portland, Oregon

Proto-cast and Moulding Co.  
Johnson Creek Road  
Portland, Oregon

Pacific Chain and Manufacturing Co.  
4200 N. W. Yeon  
Portland, Oregon

Field Emissions Corporation  
McMinnville, Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL DIVISION

October 16, 1972

Proposed  
Emission Standards for  
Hazardous Air Pollutants

I. General Provisions.

A. Definitions.

As used in these regulations; unless otherwise required by context:

1. "Department" means the Oregon Department of Environmental Quality.
2. "Commission" means the Oregon Environmental Quality Commission.
3. "Regional Authority" means any regional air pollution authority established under the provisions of ORS 449.702 to 449.717, 449.727 to 449.741, 449.760 to 449.830, 449.850 to 449.920 and 449.949 to 449.965.
4. "Commenced" means that an owner or operator and a contractor to, or affiliate of, such owner or operator have entered into a binding agreement or contractual obligation

to undertake and complete, within a reasonable time, a continuous program of construction or modification.

5. "Construction" means fabrication, erection, or installation of a stationary source.
6. "Emission test" means measurement and analysis of emissions or other procedures used for the purpose of determining compliance with a standard for hazardous air pollutants.
7. "Existing source" means any stationary source which is not a "new source".
8. "Modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any hazardous air pollutant emitted by such source or which results in the emission of any hazardous air pollutant not previously emitted, except that routine maintenance, repair, and replacement shall not be considered physical changes.
9. "New source" means any stationary source, the construction or modification of which is commenced after the adoption of emission standards for hazardous air pollutants which will be applicable to such facility.



10. "Owner or operator" means any person who owns, leases, operates, controls, or supervises a stationary source.
11. "Start up of operation" means the beginning of routine operation of a stationary source.
12. "Stationary source" means any building, structure, facility, or installation which emits or may emit any hazardous air pollutant.

#### Abbreviations

The abbreviations used in these regulations have the following meanings:

cfm--Cubic feet per minute.  
ft<sup>2</sup>--Square feet.  
ft<sup>3</sup>--Cubic feet.  
°F--Degree Fahrenheit.  
in.--inch.  
l--Liter.  
mg--Milligram.  
ml--Milliliter.  
M--Molar.  
nm--Nanometer.  
v/v--Volume per volume.  
w.g.--Water gauge.  
W/V--Weight per volume.  
µg/m<sup>3</sup>--Micrograms per cubic meter.  
%--Percent.

B. Applicability

The provisions of these regulations apply to the owner or operator of any source which is operated, or the construction or modification of which is commenced after adoption of emission standards for hazardous air pollutants which are applicable to such source.

C. Prohibited practices

1. After the effective date of any emission standard prescribed under these regulations, no person shall construct or modify any stationary source subject to such standards without first obtaining written approval of the Department.
2. After the effective date of any emission standard prescribed by these regulations, no person shall operate any stationary source in violation of such standard except under a variance granted by the Commission in accordance with ORS 449.810.

D. Determination of construction or modification.

Upon written application therefore by an owner or operator, the Department will make a determination of whether actions taken or intended to be taken by such owner or operator constitute construction or modification or the commencement

thereof within the meaning of these regulations.

E. Application for approval for construction or modification.

Application for approval for construction or modification of sources of emissions of pollutants covered by these regulations shall follow the procedures set forth in ORS 449.712.

F. Source reporting.

1. The owner or operator of any existing stationary source to which a standard prescribed in these regulations is applicable shall, within 30 days after the effective date of such standard, provide the Department the following information:

- a. Name and address of the owner or operator.
- b. Identification and location of the source.
- c. Brief description of the nature, size, design, and method of operation including description of any equipment used for the measurement or control of emissions.
- d. Changes in the information provided under paragraphs 1.a. and 1.c. of this section shall be provided to the Department within 90 days of such change.

G. Application for variance.

Application for variance from requirements of these regulations shall follow procedures set forth in ORS 449.810.

H. Emission tests and monitoring.

1. Emission tests and monitoring shall be conducted and results reported in accordance with the test methods and reporting requirements set forth in these regulations.
2. At the request of the Department, the owner or operator of a source subject to these regulations shall provide, or cause to be provided, emission testing facilities as follows:
  - a. Sampling ports adequate for test methods applicable to such source.
  - b. Safe sampling platform(s).
  - c. Safe access to sampling platform(s).
  - d. Utilities for sampling and testing equipment.

I. Availability of information.

1. Emission data provided to, or otherwise obtained by, the Department in accordance with the provisions of these regulations shall be available to the public.

2. Any records, reports, or information provided to, or otherwise obtained by, the Department in accordance with the provisions of these regulations shall be available to the public, except that upon a showing satisfactory to the Department by any person that such records, reports, or information, or particular part thereof (other than emission data), if made public, would divulge methods or processes entitled to protection as trade secrets of such person, the Department shall consider such records, reports, or information, or particular part thereof, confidential, except that such records, reports, or information, or particular part thereof, may be disclosed to representatives of the State of Oregon concerned with carrying out the provisions of these regulations.

J. Regional authorities:

The provisions of these regulations shall not be construed in any manner to preclude any regional air pollution authority from:

1. Adopting and enforcing any emission standard or limitation applicable to a stationary source provided that such emission standard or limitation is not less stringent than the state emission standard for hazardous air pollutants applicable to such source.

2. Requiring the owner or operator of a stationary source to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such source.
-

## II. Emission Standards for Asbestos

### A. Definitions.

As used in this section, all terms not defined herein shall have the meaning given in section I unless otherwise required by context.

1. "Asbestos" means any of six naturally occurring, hydrated mineral silicates: Actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite.
2. "Commercial asbestos" means any variety of asbestos which is produced by the concentration of asbestos ore.
3. "Asbestos mine" means any facility engaged in the extraction of asbestos ore from the earth for the purpose of recovering commercial asbestos.
4. "Air flow permeability" means the volumetric rate of air flow in cfm. produced by a pressure decrease of 0.5 in. w.g. across a new, clean filtering fabric, divided by the area of the fabric in  $\text{ft}^2$ . The test air stream is maintained at nominal atmospheric pressure and temperature.
5. "Dry drilling" means the process of drilling holes in the earth in the absence of an applied liquid stream, mist-containing stream or air stream.

6. "Air-swept drilling" means the process of drilling holes in the earth in the presence of a forced or induced air stream, but not a liquid stream or mist-containing stream.
7. "Wet drilling" means the process of drilling holes in the earth in the presence of a forced liquid stream or mist-containing stream.
8. "Particulate matter" means any material, other than uncombined water, which exists in a finely divided form as a liquid or solid.
9. "Asbestos tailings" means any solid waste product of asbestos mining or milling operations which contains asbestos.
10. "Visible emission" means, for the purpose of this section, any emission which is visually detectable.
11. "Asbestos mill" means any facility engaged in the conversion of asbestos ore into commercial asbestos.
12. "Manufacturing operation" means the processing of commercial asbestos or the production of any product containing commercial asbestos.
13. "Fabricating" means the cutting, shaping, assembly, mixing or other altering of any manufactured product containing commercial asbestos.



14. "Salvage operation" means any operation engaged in wrecking or salvage of buildings, vessels, vehicles or machinery involving handling or tear-out of asbestos materials with resultant release of asbestos particles to the atmosphere.

B. Applicability.

The provisions of this section are applicable to the following sources of atmospheric asbestos:

Asbestos mines;

Asbestos mills;

Buildings, structures, or facilities within which manufacturing or fabricating operations involving the use of commercial asbestos are carried on;

Buildings or structures which have been or will be constructed or modified using asbestos insulating products;

Roadway facilities which would be surfaced or resurfaced using asbestos tailings;

Salvage operations resulting in release to the atmosphere of asbestos particles.

C. Emission standards for asbestos

1. Emissions to the atmosphere from asbestos mines shall be limited as follows:

- a. Emissions of particulate matter from air-swept or dry drilling operations shall not exceed those which would be emitted from an air-swept or dry drill, respectively, equipped with a fabric filter device for collection of dust generated from drilling, as described in II.D.1.
  - b. Emissions of particulate matter from wet drilling operations shall not exceed those which would be emitted from a wet drill equipped with a cyclone gas cleaning device for collection of dust or mist generated from drilling as described in II.D.2.
  - c. Visible emissions of particulate matter from any mine road surfaced with asbestos tailings are prohibited.
2. Emissions to the atmosphere from asbestos mills shall be limited as follows:
- a. Visible emissions of particulate matter from asbestos ore dumps, open storage areas for asbestos-containing materials, external conveyors for asbestos-containing materials, or asbestos-containing tailings dumps are prohibited.

- b. Emissions of particulate matter from asbestos ore dryers shall not exceed those which would be emitted from asbestos ore dryers equipped with fabric filter installations as described in II.D.3.
  - c. Emissions of particulate matter from air streams used to process asbestos ores or for exhausting particulate matter resulting from milling operations shall not exceed the amounts which would be emitted if such air streams were treated in fabric filter installations as described in II.D.4.
  - d. Emissions of particulate matter from any milling operation which continuously generates visible emissions shall not exceed the amounts which would be emitted if such air streams were treated in fabric filter installations as described in II.D.4.
3. Emissions to the atmosphere from buildings, structures, or facilities within which any fabricating, manufacturing or salvage operation is carried on shall be limited as follows:
- a. Emissions, in direct forced gas streams, of particulate matter resulting from manufacturing, fabricating, or salvage operations, shall not exceed the amounts which would be emitted if such forced exhausts were treated in fabric filter installations as described in II.D.4. or, where

approved by the Department because of special process conditions, in wet collectors as described in II.D.6.

- b. Emissions of particulate matter from any manufacturing, fabricating, or salvage operation which continuously generates visible emissions shall not exceed the amount which would be emitted if the air containing such emissions were treated in fabric filter installations as described in II.D.4. or, where approved by the Department because of special process conditions, in wet collectors as described in II.D.6.
  - c. Visible emissions of particulate matter from any manufacturing, fabricating, or salvage operations in an area directly open to the atmosphere are prohibited.
4. Visible emissions to the atmosphere of asbestos particulate matter resulting from the repair or demolition of any building or structure, other than a single-family dwelling are prohibited.
  5. The spraying of asbestos is limited as follows:
    - a. The spraying of any product which contains asbestos on any portion of a building or structure is prohibited.

- b. The spraying of any product which contains asbestos in an area directly open to the atmosphere is prohibited.
- c. Emissions of particulate matter from spraying of any product which contains asbestos, if such spraying is not specifically prohibited in these regulations, shall not exceed the amounts which would be emitted if the air containing such emissions were treated in fabric filter installations as described in II.D.4 or, where approved by the Department because of special process conditions, in wet collectors as described in II.D.6.

6. The surfacing or resurfacing of any roadway with asbestos tailings is prohibited.

D. Referenced equipment specifications.

- 1. Fabric filters referred to in II.C.1.a. are equipped with fabrics having airflow permeabilities not exceeding 40 cfm/ft<sup>2</sup>.
- 2. Cyclone collectors referred to in II.C.1.b. are operated at not less than 7 in. w.g. pressure decrease as measured from the cyclone inlet to the outlet.

3. Fabric filters referred to in II.C.2.b are equipped with fabrics having airflow permeabilities not exceeding 30 cfm/ft<sup>2</sup>.
4. Fabric filters referred to in II.C.2.c. and d., 3.a. and b., and 5.c. are equipped with woven cotton fabrics having airflow permeabilities not exceeding 20 cfm/ft<sup>2</sup>. No bypass devices are utilized, and provisions are made for emptying the collection hoppers without creating visible emissions of particulate matter.
5. Fabric filter devices do not meet the descriptions in paragraphs 1., 3., and 4. of this section if any of the following conditions exist:
  - a. Leakage of gases, containing particulate matter, from the control system prior to filtration.
  - b. Torn or ruptured bags.
  - c. Improperly positioned bags.
  - d. Badly worn or threadbare bags.
6. Wet collectors referred to in II.C.3.a. and b., and 5.c. are of the high-energy venturi type operated with a minimum gas pressure decrease across the venturi throat of 40 inches w.g.

7. Wet collectors do not meet the description in paragraph 6. of this section if any of the following conditions exist:
  - a. Leakage of gases containing particulate matter from the control system prior to filtration.
  - b. Operation at less than 40 inches w.g. pressure decrease.
  - c. Operation at a scrubbing medium flow rate less than specified by the manufacturer for optimum collection efficiency.
- E. Substitute devices for the attainment of equivalent emission control.
  1. Compliance with any applicable standard of these regulations which refers to II.D. shall be demonstrated in accordance with this section if the referenced control equipment is not used.
  2. The owner or operator of the emission source shall make available to the Department sufficient information as may be required to demonstrate that the substitute equipment will provide the degree of control which, in the judgment

of the Department, is at least as stringent as that which would be achieved by using the equipment specified in the applicable standard. To the maximum extent practicable, the determination of equivalent degree of emission control will be based upon operation at the actual conditions at which the substitute device is or will be operated on the emission source. Factors which will be considered include, but are not limited to, collection efficiency, reliability, and maintenance practices associated with proper operation of the substitute device.

3. The owner or operator of the emission source shall submit to the Department performance data including, but not limited to, total mass collection efficiency of the substitute control device under actual operating conditions or conditions which are representative of those of the existing or planned operating conditions.
4. In cases for which it is not reasonable, in the judgment of the Department to require an owner or operator to submit performance data which are based upon actual operating conditions or conditions which are representative of these, the owner or operator shall make available to the Department performance data on comparative tests, using suitable



standard test aerosols, on the substitute device and the device and the device specified by the applicable standard. The performance data shall include, but not be limited to, the total mass efficiencies of the substitute device and the device specified by the applicable standard.

5. The total mass efficiency of any substitute device for those specified by II.D.1., 3., or 4. shall not be less than 99.9 percent.
6. The total mass efficiency of any substitute device for that specified by II.D.2. shall not be less than 85 percent.
7. The total mass efficiency of any substitute device for that specified by II.D.6. shall not be less than 99.5 percent.

F. Test methods and procedures.

Test methods and procedures for ambient air and stack sampling of sources of asbestos emission shall follow the procedures as set forth in OAR 20-035 through 20-045,

### III. Emission Standards for Beryllium.

#### A. Definitions.

As used in this section, all terms not defined herein shall have the meaning given them by these regulations, unless otherwise required by context.

1. "Beryllium" means the element beryllium excluding any associated elements.
2. "Extraction plant" means a facility chemically processing beryllium ore to beryllium metal, alloy or oxide, or performing any of the intermediate steps in these processes.
3. "Beryllium ore" means any material mined, hand cobbled, or gathered in any way specifically for its beryllium content.
4. "Machine shop" means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, hot rolling, etching or other similar operations on beryllium metal, alloys or oxide.
5. "Ceramic plant" means a manufacturing plant producing commercial ceramic stock forms, ware, or other items from beryllium oxide.

6. "Foundry" means a facility engaged in the melting and/or casting of beryllium metal or alloy.
7. "Propellant" means a fuel and oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.
8. "Beryllium alloy" means any metal to which beryllium is deliberately added and contains more than 0.1 percent beryllium by weight.
9. "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant that contains beryllium.
10. "Total emissions" means the emissions of beryllium in any form or any compound, from all points within a stationary source including emissions from the disposal of beryllium contaminated waste.

B. Applicability.

The provisions of this section are applicable to all industrial, commercial or governmental operations having existing or potential sources of atmospheric emissions of elemental beryllium, beryllium alloys or beryllium compounds.

C. Emission standards for beryllium.

A stationary source subject to these regulations shall comply with either paragraph 1 or 2 of this section.

1. Total emissions to the atmosphere from sources subject to this section shall not exceed 10 grams of beryllium in a 24-hour day as measured in accordance with methods as set forth in OAR, 20-035 through 20-045.
2. Total emissions to the atmosphere from sources subject to this section shall not exceed amounts which result in an outplant concentration of 0.01 micrograms of beryllium per cubic meter of air averaged over a 30-day period, measured in accordance with a sampling network approved by the Department.

D. Test methods and procedures--stack sampling.

Owners or operators electing to comply with III.C.1. shall comply with the requirements of this section and III.E.

1. All beryllium emissions shall be transported through stacks or ducts which permit testing by the methods as set forth in OAR 20-035 through 20-045.
2. All tests shall be conducted to indicate the weight emitted per 24-hour day.

3. The applicable method shall be used as follows:

a. The minimum sampling time shall be two hours, and the minimum sampling volume shall be 75 ft<sup>3</sup> as measured by the gas meter. The total gas volume sampled at stack conditions shall be calculated.

b. The velocity of the effluents shall be determined at stack conditions.

c. For each repetition, beryllium emission expressed in grams per day shall be determined in accordance with the applicable method.

E. Periodic stack sampling and reports.

1. All existing sources shall be tested within three months of the effective date of these regulations and at least once every three months thereafter.

2. All sources constructed or modified after the effective date of these regulations shall be tested immediately upon start-up of operations and at least once every three months thereafter.

3. Samples shall be taken over such a period or period as are necessary to accurately determine the maximum emissions

which would occur in a 24-hour period. In the case of cyclic operations, sufficient tests shall be made so as to allow accurate determination or calculation of the emissions which will occur over the duration of the cycle.

4. All samples shall be analyzed, and beryllium emissions shall be calculated within 5 working days after collection of samples. A total emission exceeding the standard shall be reported to the Department immediately following determination of such emission.
  5. A written test report shall be made as soon as the calculations are completed and shall be retained available for inspection by the Department for a period of at least two years after the date of such report.
  6. Test reports shall include, as a minimum, detailed information on testing and test calculations, records of operations, unusual occurrences that might affect emissions, and the calculations correlating operations with test results sufficient to show maximum 24-hour beryllium emissions.
- F. Waiver of periodic stack sampling and report requirements. After performance of initial emission tests, the requirements of III.E. may be waived upon written application to the Commission if in its judgment the installed control systems and the

operating procedures are deemed adequate to insure the standard will be met. This waiver in no way prohibits the Commission from requiring one or more emission tests.

G. Test methods and procedures--air sampling.

Sources electing to comply with III.C.2. shall comply with the requirements of this section and III.H.

1. Air sampling sites shall be located in such a manner as is calculated to detect maximum ambient air concentrations of beryllium near ground level.
2. Ambient air concentrations of beryllium shall be determined in accordance with methods as set forth in OAR 20-035 through 20-045.

H. Monitoring and reports--air sampling.

1. Ambient air shall be continuously monitored at all monitoring sites except for a reasonable time allowance for instrument maintenance and calibration, for changing filters, or for replacement of equipment needing major repair.
2. Filters shall be changed at least every four days and shall be analyzed within 24 hours after collection.

3. A written test report shall be made and shall be retained, available for inspection by the Department, for a period of at least two years after the date of such report.
4. Test reports shall include, as a minimum, detailed information on testing and test calculations, records of operations, and unusual occurrences that might affect emissions.
5. A test result on any sample or more than  $0.03 \mu\text{g}/\text{m}^3$  or the determination of an average 30 day concentration exceeding  $0.01 \mu\text{g}/\text{m}^3$  shall immediately be reported to the Department.



#### IV. Emission Standards for Beryllium-Rocket Motor Firing

##### A. Definitions.

As used in this section, all terms not defined herein shall have the meaning given them by these regulations unless otherwise required by context.

1. "Rocket motor test site" means any building, structure, or installation where the static test firing of a rocket motor is conducted.
2. "Beryllium propellant" means any solid propellant incorporating beryllium particles as a fuel.

##### B. Applicability.

The provisions of this section are applicable to rocket motor test sites.

##### C. Beryllium emission standards.

1. Emissions to the atmosphere from sources subject to this section shall not cause atmospheric concentrations of beryllium to exceed 75 microgram minutes per cubic meter of air within 10 to 60 minutes, accumulated during any two consecutive weeks, measured anywhere beyond the property line of such source or at the nearest place of human habitation.

2. If combustion products of motors containing beryllium propellant are fired into a closed tank, emissions from such tank shall not exceed two grams per hour and a maximum of ten grams per day.

D. Test methods and procedures--air sampling.

1. Compliance with the standard in IV.C.1. shall be determined in accordance with this section and IV.G.
2. Air sampling instruments and sites shall be selected to accurately reflect the effect of rocket motor firing on ambient air concentrations of beryllium near ground level. Such numbers and sites shall be approved by the Department.
3. Ambient air concentrations of beryllium shall be determined according to methods as set forth in OAR 20-035 through 20-045.

E. Test methods and procedures--stack sampling.

1. Compliance with the standard in IV.C.2. shall be determined in accordance with this section and IV.G.
2. Test methods and procedures for stack sampling in III.D. shall apply, with the exclusion of requirements in III.E.

F. Monitoring and reports for air sampling.

1. Ambient air concentrations shall be measured during and after firing of rocket motors and in such a manner that the effect of these emissions can be compared with the standard. Such sampling techniques shall be in accordance with methods as set forth in OAR 20-035 through 20-045.
2. Samples shall be analyzed and results shall be calculated before any subsequent rocket motor firing.
3. A written test report shall be made and shall be retained for inspection by the Department for a period of at least two years after the date of the report.
4. Test reports shall include, as a minimum, detailed information on testing and test calculations, a record of the rocket firing, and unusual occurrences that might affect emissions.
5. A test result exceeding the standard shall be reported to the Department on the next business day following determination of such test result.

G. Stack sampling and reports.

1. The provisions of this section are applicable to monitoring and reporting beryllium emissions for determining compliance with the standard IV.C.2.
2. Each release of combustion products to the atmosphere shall be monitored in such a manner as to show the maximum total emission during a 24-hour period.
3. Samples shall be analyzed, and results shall be calculated before any subsequent rocket motor is fired.
4. A written test report shall be made and shall be retained for inspection by the Department for a period of at least two years after the date of such report.
5. Test reports shall include, as a minimum, detailed information on testing and test calculations, a record of the rocket firing, and unusual occurrences that might affect emissions.
6. A test result exceeding the standard will be reported to the Department immediately following determination of such test result.

V. Emission Standard for Mercury.

A. Definitions.

As used in this section, all terms not defined herein shall have the meaning given them by these regulations unless otherwise required by context.

1. "Total mercury" means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.
2. "Mercury ore" means a mineral mined specifically for its mercury content.
3. "Mercury ore processing facility" means a facility processing mercury ore to obtain mercury.
4. "Mercury chlor-alkali cell" means any device utilizing mercury as a cathode in an electrolytic process to produce chlorine gas and alkali metal hydroxide.
5. "Denuder" means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali-metal amalgam is converted to alkali metal hydroxide, metallic mercury and hydrogen gas in a short-circuited, electrolytic reaction.

6. "Hydrogen gas stream" means a hydrogen stream formed in the chlor-alkali cell denuder.
7. "End box" means a container located on each end of a chlor-alkali cell which functions as a collection point for mercury, amalgam, and brine.
8. "Cell room" means a structure housing one or more mercury electrolytic chlor-alkali cells.

B. Applicability

The provisions of this section are applicable to facilities processing ore to recover mercury, facilities using mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and to any other facility handling or refining mercury in such a way as to produce emissions of mercury to the atmosphere.

C. Emission standard for mercury.

Emissions to the atmosphere from sources subject to these regulations shall not exceed 2,300 grams of mercury per 24-hour period (5.0 pounds per 24-hour period), as measured in accordance with methods as set forth in OAR 20-035 through 20-045.

D. Test methods and procedures--mercury ore processing facility.

All facilities processing mercury ore shall be tested by the applicable method. The minimum sampling time shall be two hours, and the minimum sampling volume shall be 50 ft<sup>3</sup> as measured by the gas meter. For each repetition, mercury emission expressed in pounds per day shall be determined in accordance with the applicable method.

E. Periodic emission testing--mercury ore processing facility.

1. All existing sources shall be tested within three months of the effective date of these regulations and at least once every three months thereafter.
2. All sources constructed or re-started after the effective date of these regulations shall be tested immediately upon start-up of operation and at least once every three months thereafter.
3. Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which would occur in a 24-hour period. In the case of cyclic operations, sufficient tests shall be made so as to allow accurate determination or calculation of the emissions which will occur over the duration of the cycle.

4. All samples shall be analyzed, and mercury emissions shall be calculated within 5 working days after collection of samples. A total emission exceeding the standard shall be reported to the Department immediately following determination of such emission.

F. Record keeping-mercury ore processing facility.

Written records of information obtained in V.E. as well as other operating data which will allow determination or calculation of mercury emissions for a 24-hour period shall be established and made available for inspection by the Department. Such records shall be maintained for a period of at least two years from the date of the record.

G. Waiver of emission test requirements--mercury ore processing facility.

After performance of initial emission tests, the requirements of V.E. may be waived upon written application to the Commission if in its judgment the installed control system and the operating techniques are deemed adequate to ensure the standard will be met. This waiver in no way prohibits the Commission from requiring one or more emission tests.



H. Test methods and procedures--mercury cell chlor-alkali plant.

1. All facilities operating mercury cell chlor-alkali plants shall test their process gases, which are hydrogen from the denuders and vent gases from the end boxes of the chlorine cells, for mercury particulates and vapors using the applicable method. The minimum sampling time shall be two hours, and the minimum sampling volume shall be 50 ft<sup>3</sup> as measured by the gas meter. For each repetition, mercury emission expressed in pounds per day shall be determined in accordance with the applicable method.
2. These facilities shall test their mercury emissions in the ventilation effluents from the cell room using the applicable method. The average emissions of mercury as vapor from long, narrow ventilation ducts, square or rectangular openings or fans shall be determined as given below using the applicable method.
  - a. Long, narrow ventilation ducts of the cell room should be sampled at six equally spaced locations. Use the same sample train for all six samples which are taken consecutively. The samples should be extracted at a rate proportional to the gas velocity at each point.

The minimum sampling time shall be 1-1/2 hours, and the minimum sampling volume shall be 3.0 ft<sup>3</sup> as measured by the gas meter. The sample shall be collected in a manner described in the applicable method.

- b. Square or rectangular openings with an area greater than 16 ft<sup>2</sup> shall be split into eight sections. A sample from the center of each section shall be taken as described in the applicable method. Openings with less than 16 ft<sup>2</sup> shall be split into four sections and a sample taken from the center of each section.
- c. Velocities of effluents out of ventilators shall be measured with a vane anemometer.
- d. Fans used for ventilation of cell room shall be sampled. Fans with uniform discharges out the fan housing shall be sampled in the center of air flow. Volume shall be determined from the fan curve. Sample at a rate proportional to the average gas flow rate. The minimum sample time shall be 1-1/2 hours, and the minimum sampling volume shall be 3.0 ft<sup>3</sup> as

measured by the gas meter. Fans with gas discharges out of the periphery of the fan housing shall be sampled in the center of the gas flow in a manner similar to that described above.

e. Total mercury emitted per 24-hour period from the cell room shall be the sum of emissions from all ventilators.

I. Periodic emission testing--mercury cell chlor-alkali plant.

1. All existing sources shall be tested within three months of the effective date of these regulations and at least once every three months thereafter.
2. All sources constructed or modified after the effective date of these regulations shall be tested immediately upon start-up of operation and at least once every three months thereafter.
3. Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which would occur in a 24-hour period. In the case of cyclic operations, sufficient tests shall be made so as to allow accurate determination of the emissions which will occur over the duration of the cycle.

4. All samples shall be analyzed and mercury emissions shall be calculated within five working days after collection of samples. A total emission exceeding the standard shall be reported to the Department immediately following determination of such emission.

J. Record keeping--mercury cell chlor-alkali plant.

Written records of information obtained in V.I. as well as other operating data which will allow determination or calculation of mercury emissions for a 24-hour period shall be established and made available for inspection by the Department. Such records shall be maintained for a period of at least two years from the date of the record.

K. Waiver of emission test requirements--mercury cell chlor-alkali facility.

After performance of initial emission tests, the requirements of V.I. may be waived upon written application to the Commission if in its judgment the installed control system and the operating techniques are deemed adequate to ensure the standard will be met. This waiver in no way prohibits the Commission from requiring one or more emission tests.

- L. Test methods and procedures--mercury handling or refining facility.

Test methods for mercury handling or refining facilities shall be the same as those required in section V.D.

- M. Periodic emission testing--mercury handling or refining facility.

Testing of mercury handling or refining facilities shall be performed as required in section V.E.

- N. Record keeping--mercury handling or refining facility.

Record keeping procedures for mercury handling or refining facilities shall be the same as those required under section V.F.

- O. Waiver of emission test requirements--mercury handling or refining facility.

Procedures for waiver of emission test requirements for mercury handling or refining facilities shall be the same as those required under section V.G.



## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

### MEMORANDUM

#### ENVIRONMENTAL QUALITY COMMISSION

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Portland

To: ENVIRONMENTAL QUALITY COMMISSION

From: Director

Subject: Agenda Item H 3) for October 25, 1972 EQC Meeting

Kraft Mill Emission Regulation  
(OAR 340, Sections 25-155 through 25-195)

#### Background:

The kraft mill emission regulation, adopted by the Sanitary Authority in April, 1969, set total reduced sulfur (TRS) emission limits from recovery furnaces at an immediate level of 70 parts per million (ppm), or 2 pounds of sulfur per ton of pulp (lb S/t), with a 1975 limit of 17.5 ppm or 0.5 lb S/t, or "such other limit of TRS that proves to be reasonably attainable utilizing the latest in design of recovery furnace equipment, controls, and procedures." A review and public hearing was provided for no later than July, 1973, to review technology and adequacy of the recovery furnace emission limits.

A second important provision of the 1969 regulation required mill operators to conduct special studies of other emission sources

throughout the mill with the objective of establishing a basis for specifying more effective control of all kraft mill odor sources.

Discussion:

It has become desirable to set definite 1975 limits well in advance of the July, 1973 date in order to allow for the two years' construction time required for major installations where necessary.

Also, the technology of controls for both conventional and new generation furnaces has progressed to the point of allowing limits to be set with reasonable certainty, and the importance of "other sources", heretofore considered minor, has become more apparent. Accordingly, a proposed amended kraft mill regulation has been drafted which expresses these developments and also redirects the emphasis of the regulation towards total odor control at the mill site.

The timing and limits in the new proposed regulation would be:

	<u>Recovery Furnaces (1)</u>	<u>Lime Kilns</u>	<u>All Other Sources</u>
Jan. 1, 1975			The sum of all TRS emissions not to exceed 0.1 lb S/t, and also no vent TRS to exceed 10 ppm
July 1, 1975	10 ppm and 0.3 lb S/t (2)(3)	40 ppm and 0.2 lb S/t	
July 1, 1978	5 ppm and 0.15 lb S/t (3)	20 ppm and 0.1 lb S/t	
July 1, 1983	5 ppm and 0.15 lb S/t (4)		

Note:

- (1) New recovery furnaces would be required to comply with the 5 ppm TRS limit immediately (after an appropriate, short-term run-in period).
- (2) "lb S/t" is "pounds of sulfur, in reduced sulfur gases, per ton of unbleached, air-dried pulp produced."
- (3) Mill-site basis, allowing the averaging of all furnace stacks.
- (4) Applied to each stack individually.

Stepwise limits on lime kiln TRS would be added with deadlines of July 1, 1975 and July 1, 1978. Three lime kilns in Oregon consistently report emissions of 10 ppm TRS gases, but precise measurement and reliable correlations of emissions with design and operating parameters have not been established. It is concluded that the proposed limit can be met, but may require considerable testing, evaluation, and correlation work.

In addition, the particulate limit deadline for recovery furnaces and lime kilns is being moved up from July 1, 1975 to May 1, 1975, to conform to Oregon's State-wide Clean Air Act Implementation Plan. The numerical limits are not proposed to be changed, but the definition of particulate is modified in order to make the limit apply more closely to fly ash and saltcake emissions, which can be continually monitored.



There is a difficulty in determining whether  $\text{SO}_3$  in the furnace gases actually forms a liquid particulate in the stack or in the particulate sampling apparatus.  $\text{SO}_3$  and  $\text{H}_2\text{SO}_4$  are to be measured and reported by a provision in the Special Studies section. A determination is to be made in 1975 of the necessity to limit  $\text{SO}_3$  emissions or establish a new definition of particulate.

Under the proposed revised regulation, the mills would be allowed to retain conventional recovery furnaces provided they could operate with the 10 ppm TRS limit by not later than July 1, 1975, and within a 5 ppm TRS limit by not later than July 1, 1978. For the 1975 TRS limit, where there is more than one furnace stack (for example, a new generation and a conventional furnace on one plant site) averaging the stacks at 10 ppm would be allowed, provided that no furnace stack would exceed more than 15 ppm or 0.45 lb S/ton, and averaging provided no furnace exceeds 10 ppm would be allowed for the 1978 limit. The 5 ppm TRS limit would apply immediately to all new furnaces and after 1983 to all existing furnaces as well as to new furnaces.

These proposed limits are based on emissions averaged over each calendar day. Peaks from recovery furnace stacks would be limited to four times the average for no more than sixty cumulative minutes per day.

The proposed revised regulation represents, to a degree, a shift in emphasis in that the existing regulation concentrates essentially entirely on recovery furnaces, while the proposed regulation would bring

other odor sources under highest and best practicable control. Continuing to restrict recovery furnace emissions to the point of requiring that all recovery capacity be converted to low-odor configurations by July 1, 1975 would not only require great expenditures of time and money, but would not in itself solve the kraft mill odor problem. The other sources, such as pulp-washing systems, lime-mud recovery ("recausticizing cycles") systems, and black liquor oxidation vents, account for as much as 0.5 lb S/ton, or equivalent to a recovery furnace at 20 ppm. It is believed that the time and money to control these sources would do more at this time to reduce the kraft odor problem than would the greater expenditure necessary to convert all existing recovery furnace capacity to low-odor configuration.

"Other Sources" are not uniform throughout the industry, in that the strengths and indeed the array of vents present at any mill will vary with different types of pulp produced, the wood species pulped, and differences in equipment and procedures. Therefore, developing a program for compliance with this section of the regulations would follow staff inspections and detailing with the mill staffs of sources and controls. Some of the sources listed in the definition of "Other Sources" (Section A, Definition 7) would be included in the vents to be treated in the non-condensable systems or given equivalent treatment, namely the knotter and brown-stock washer vents, brown-stock-washer filtrate tank vents, and black-liquor-oxidation tower vents.

If open sewers and drains, and anaerobic lagoons, are shown to be significant sources of odors, abatement of those odors may be

required.

A limit would be set on recovery furnace sulfur dioxide at 300 ppm. At present, under normal operating conditions, few furnaces emit as much as 100 ppm SO<sub>2</sub>. However, low-odor furnaces have emitted as much as 1000 ppm in their start-up phases. Imposing a limit would ensure that SO<sub>2</sub> control would not be neglected when the furnaces are designed and operated, as well as provide a basis for regulatory control should problems develop in the future.

New facilities would be required to be in compliance with applicable limits within 180 days of start-up. This requirement would apply to new mills or to an added or modified piece of equipment in an existing mill. The time limit is somewhat short for start-ups of major pieces of equipment, like recovery furnaces, but more than adequate for minor units like scrubbers. It is expected that if a mill were nearing the 180th day and still had not achieved compliance, that the problem and its reasons would be brought to the attention of the Department. A need for significant additional time could be presented as a request for a variance.

Compliance schedules would be reviewed from the point of view of achieving compliance in the shortest time practicable within the limits imposed by availability of materials and by construction schedules, rather than emphasizing the compliance deadlines.

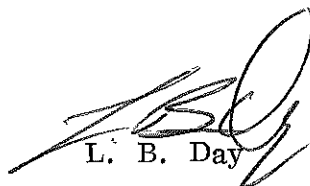
Some further "housekeeping" provisions would be included in the proposed regulation. A section would require the installation of alternate thermal oxidation capacity to function whenever lime kilns used

for incinerating non-condensibles are removed from service or fail. This might not be necessary at plant sites using more than one kiln, in which case the mill could request a variance if it could be shown that at no time would both kilns be out of service at a time when the rest of the mill was operating (i.e., exclusive of total mill shutdowns). Continual monitoring of particulate emissions would be required as soon as practicable. Weyerhaeuser at Springfield is doing so now, and Georgia-Pacific at Toledo has piloted a project with another non-papermaking, company to develop a continuous particulate monitor. A continual particulate monitoring system would be more representative than once-a-month grab sampling and would provide the mill with a rapid indication of malfunctions.

Another review would be made prior to January 1976. This would give an opportunity to review the total odor problem and progress in solving it, and to review the need or desirability of limiting all furnaces to 5 ppm TRS by July 1, 1983, as proposed.

Director's Recommendation:

It is recommended that the Director be authorized to schedule a Public Hearing before the Commission for the adoption of this regulation at the next appropriate Commission meeting, which will allow adequate time for public notice and conferences with interested persons.

  
L. B. Day

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CONTROL DIVISION

October 18, 1972

PROPOSED  
REVISED REGULATION FOR KRAFT PULP MILLS  
OAR Chapter 340, Sections 25-155 to 25-195 are Repealed and  
Sections A through K are adopted in lieu thereof.

A. DEFINITIONS:

As used in these regulations, unless otherwise required by context:

1. Continual Monitoring means sampling and analysis, in a continuous or timed sequence, using techniques which will adequately reflect actual emission levels or concentrations on a continuous basis.
2. Department means the Department of Environmental Quality.
3. Emission means a release into the atmosphere of air contaminants.
4. Kraft Mill or Mill means any industrial operation which uses for a cooking liquor an alkaline sulfide solution containing sodium hydroxide and sodium sulfide in its pulping process.
5. Lime Kiln means any production device in which calcium carbonate is thermally converted to calcium oxide.
6. Non-condensibles means gases and vapors, contaminated with TRS gases, from the digestion and multiple-effect evaporation processes of a mill that are not condensed with the equipment used in said processes.

7. Other Sources means sources of TRS emissions in a kraft mill other than recovery furnaces and lime kilns, including but not limited to:
  - a. vents from knotters, brown stock washing systems, evaporators, blow tanks, smelt tanks, blow heat accumulators, black liquor storage tanks, black liquor oxidation system, tall oil recovery operations;
  - b. any operation connected with the treatment of condensate liquids within the mill, and
  - c. any vent which is shown to be a significant contributor of odorous gases.
8. Particulate Matter means all solid material in an emission stream which may be removed on a 0.3 micron glass filter maintained during sampling at a temperature above stack dew-point temperature, but less than 600° F.
9. Parts Per Million (ppm) means parts of a contaminant per million parts of gas by volume on a dry-gas basis (1 ppm equals 0.0001% by volume).
10. Production means tons of air-dried, unbleached kraft pulp, or equivalent, produced.
11. Recovery furnace means the combustion device in which pulping chemicals are converted to a molten smelt and wood solids are incinerated. For these regulations, and where present, this term shall include the direct contact evaporator.

12. Total Reduced Sulfur (TRS) means the sulfur in hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides present in an oxidation state of minus two.

B. STATEMENT OF POLICY

Recent technological developments have enhanced the degree of malodorous emission control possible for the kraft pulping process. While recognizing that complete malodorous and particulate emission control is not presently possible, consistent with the meteorological and geographical conditions in Oregon, it is hereby declared to be the policy of the Department to:

1. Require, in accordance with a specific program and time table for all sources at each operating mill, the highest and best practicable treatment and control of atmospheric emissions from kraft mills through the utilization of technically feasible equipment, devices and procedures. Consideration will be given to the economic life of equipment, which when installed complied with the highest and best practicable treatment requirement.
2. Require degrees and methods of treatment for major and minor emission points that will minimize emissions of odorous gases and eliminate ambient odor nuisances.
3. Require effective monitoring and reporting of emissions and reporting of other data pertinent to air quality or emissions. The Department will use these data in conjunction with ambient air data and observation of conditions in the surrounding area to develop and revise emission and ambient air standards, and to determine compliance therewith.

4. Encourage and assist the kraft pulping industry to conduct a research and technological development program designed to progressively reduce kraft mill emissions, in accordance with a definite program, including specified objectives and time schedules.

C. HIGHEST AND BEST PRACTICABLE TREATMENT AND CONTROL REQUIRED:

Notwithstanding the specific emission limits set forth in Section D of these regulations, in order to maintain the lowest possible emission of air contaminants, the highest and best practicable treatment and control currently available shall in every case be provided, with consideration being given to the economic life of the existing equipment.

All installed process and control equipment shall be operated at full effectiveness and efficiency at all times, such that emissions of contaminants are kept at lowest practicable levels.

D. EMISSION LIMITATIONS:

1. Emission of Total Reduced Sulfur (TRS)

a. Recovery Furnaces

- 1) As soon as practicable, but not later than July 1, 1975, the emissions of TRS from recovery furnaces shall not exceed:
  - a) 10 ppm as a daily arithmetic average and 0.3 lb S/ton of production on a mill-site basis,
  - b) 40 ppm for more than 60 cumulative minutes in any one day from each recovery furnace stack,
  - c) 15 ppm as a daily arithmetic average and 0.45 lb S/ton of production from each recovery furnace stack.



- 2) As soon as practicable, but not later than July 1, 1978, the emission of TRS shall not exceed:
  - a) 5 ppm as a daily arithmetic average and 0.15 lb S/ton of production on a mill-site basis,
  - b) 40 ppm for more than 60 cumulative minutes in any one day from each recovery furnace stack,
  - c) 10 ppm as a daily arithmetic average and 0.30 lb S/ton of production from each recovery furnace stack.
- 3) As soon as practicable, but not later than July 1, 1983, the emission of TRS from each recovery furnace shall not exceed:
  - a) 5 ppm as a daily arithmetic average and 0.15 lb S/ton of production,
  - b) 20 ppm for more than 60 cumulative minutes in any one day.
- 4) TRS emissions from each recovery furnace placed in operation after the effective date of these regulations shall be controlled immediately such that the emissions of TRS shall not exceed:
  - a) 5 ppm as a daily arithmetic average and 0.15 lb S/ton of production,
  - b) 20 ppm for more than 60 cumulative minutes in any one day.

b. Lime Kilns

Lime kilns shall be operated and controlled such that emissions of TRS shall be kept to lowest practicable levels and shall not

exceed:

- 1) By not later than July 1, 1975, 40 ppm and 0.2 lb S/ton of production, as determined by a monitoring procedure approved by the Department,
- 2) By not later than July 1, 1978, 20 ppm and 0.1 lb S/ton of production, as determined by a monitoring procedure approved by the Department.

c. Compliance Programs

Recovery furnaces and lime kilns in operation on or before the effective date of these regulations shall be brought into compliance with subsections D.1.a. and D.1.b. above in accordance with specific programs and schedules to be established with each individual mill and approved by the Department by not later than May 1, 1973, taking into consideration the following:

- 1) Age and condition of existing facilities,
- 2) Geographical location,
- 3) Overall control of emissions,
- 4) Severity of problems related to emissions from the facility, and
- 5) Ease of compliance.

d. Non-condensibles

- 1) Non-condensibles from digesters and multiple-effect evaporators shall be treated to destroy TRS gases by thermal incineration in a lime kiln or equivalent treatment.

2) On mill sites where a lime kiln or combination of lime kilns is used for incinerating non-condensibles, as soon as practicable, but not later than July 1, 1975, the means shall be provided to immediately and automatically treat the non-condensibles in an incineration device capable of subjecting the non-condensibles to a temperature of not less than 1200° F for not less than 0.3 seconds whenever the kiln or combination of kilns is out of service or otherwise incapable of incinerating non-condensibles.

3) When steam- or air-stripping of condensates or other contaminated streams is practiced, the stripped gases shall be subjected to treatment in the non-condensable system or otherwise given equivalent treatment.

e. Other Sources.

1) As soon as practicable, but not later than July 1, 1975, the emission of TRS from other sources, including but not limited to knotters and brown stock washer vents, brown-stock washer filtrate tank vents, black liquor oxidation vents, and contaminated condensate shall be controlled or limited such that the emissions of TRS do not exceed 10 ppm from each source and a mill-site total of 0.1 lb S/ton of production.

2) Miscellaneous Sources and Practices:

When it is determined that sewers, drains, and anaerobic lagoons significantly contribute to an odor problem, a program for control shall be required.

- 3) Compliance programs required by these subsections shall be established by not later than May 1, 1978 with each individual mill and incorporated in the Air Contaminant Discharge Permit issued for each mill.

2. Particulate Matter

- a. Recovery Furnaces

As soon as practicable, but not later than May 1, 1975, the emissions of particulate matter from recovery furnaces shall not exceed four (4) pounds per ton of production on a mill-site basis and from each recovery furnace stack.

- b. Lime Kilns

As soon as practicable, but not later than May 1, 1975, the emissions of particulate matter from lime kilns shall not exceed one (1) pound per ton of production on a mill-site basis and from each lime kiln stack.

- c. Smelt Dissolving Tanks

The emission of particulate matter from smelt dissolving tanks shall not exceed one-half ( $\frac{1}{2}$ ) pound per ton of production on a mill-site basis and from each smelt dissolving tank.

3. Sulfur Dioxide (SO<sub>2</sub>)

As soon as practicable, but not later than July 1, 1975, emissions of sulfur dioxide from each stack or vent in the pulp digestion or recovery processes shall not exceed a daily arithmetic average of 300 ppm on a dry-gas basis except during start-up and shut-down periods.

4. New Facility Compliance

As soon as practicable, but not later than within 180 days of the start-up of a new kraft mill or of any new or modified facility having emissions limited by these regulations, that facility shall be operated, controlled, or limited to comply with the applicable provisions of these regulations and the mill shall conduct source sampling or monitoring as appropriate to demonstrate compliance.

5. Compliance Schedules

As soon as practicable, but not later than May 1, 1973, each mill shall submit to the Department a proposed compliance program, including means, methods and a schedule for complying with the emission limits of these regulations. The approved compliance programs shall be incorporated in the Air Contaminant Discharge Permits issued to each mill.

E. MORE RESTRICTIVE EMISSION LIMITS:

The Department may establish more restrictive emission limits and compliance schedules after notice and hearing if applicable for different geographical areas of the state.

F. PLANS AND SPECIFICATIONS:

Prior to construction of new kraft mills, or expansion of production or modification of facilities significantly affecting emissions at existing kraft mills, complete and detailed engineering plans and specifications for air pollution control devices and facilities and such other data as may be required to evaluate projected emissions and potential effects on air

quality shall be submitted to and approved by the Department. All construction shall be in accordance with plans as approved in writing by the Department.

G. MONITORING

1. Total Reduced Sulfur (TRS)

Each mill shall provide continual monitoring of TRS in accordance with the following:

- a. The monitoring equipment shall be capable of determining compliance with the emission limits established by these regulations, and shall be capable of continual sampling and recording of concentrations of TRS contaminants during a time interval not greater than 30 minutes.
- b. The sources monitored shall include, but are not limited to, the recovery furnace stacks and the lime kiln stacks.
- c. At least once per year, vents from other sources as required in D. 1. e., Other Sources, shall be sampled to demonstrate representative emissions of TRS and the results reported to the Department.

2. Particulate Matter

Each mill shall sample the recovery furnace(s), lime kiln(s) and smelt dissolving tank(s) for particulate emissions on a regularly scheduled basis. As soon as practicable, each mill shall provide continual monitoring of particulate matter from the recovery furnace(s) and lime kiln(s).

3. Sulfur Dioxide (SO<sub>2</sub>)

Representative sulfur dioxide emissions from the recovery furnace(s) shall be determined at least once each month.

H. REPORTING:

Unless otherwise authorized or required by permit, data shall be reported by each mill for each calendar month by the fifteenth day of the subsequent calendar month as follows:

1. Daily average emissions of TRS gases expressed in parts per million of H<sub>2</sub>S on a dry gas basis for each source included in the approved monitoring program.
2. Unless excused in writing by the Department, the number of cumulative minutes each day the TRS gases from the recovery furnaces exceed 20 ppm and 40 ppm and the maximum concentration of TRS measured each day, expressed as H<sub>2</sub>S on a dry gas basis.
3. Emissions of TRS gases in pounds of sulfur per equivalent air-dried ton of pulp processed in the kraft cycle for each source included in the approved monitoring program.
4. Emission of SO<sub>2</sub> from the recovery furnace(s), expressed as ppm, dry basis.
5. Emission of particulates in pounds per equivalent air-dried ton of pulp produced in the kraft cycle based upon the sampling conducted in accordance with the approved monitoring program.
6. Cumulative hours of operation of the lime kiln(s) used for non-condensable incineration and the number of cumulative hours of stand-by incinerator operations.

7. Average daily equivalent kraft pulp production in air-dried tons.
8. Each kraft mill shall furnish, upon request of the Department, such other pertinent data as the Department may require to evaluate the mill's emission control program. Each mill shall immediately report abnormal mill operations which result in increased emissions of air contaminants, in accordance with the provisions of the Oregon

Administrative Rules, Chapter 340, "Upset Conditions".

I. SPECIAL STUDIES:

1. Where warranted by conditions at particular mills, special studies of specific vents or air contaminant emissions may be required as a condition of issuing an Air Contaminant Discharge Permit.
2. Special studies shall be conducted at each mill to identify:
  - a. The amount of sulfur trioxide ( $\text{SO}_3$ ) in recovery furnace stack gases,
  - b. The extent of interference from the formation of sulfate ion from  $\text{SO}_3$  in wet-collection devices used in particulate sampling trains, and
  - c. The occurrence of acid mist ( $\text{H}_2\text{SO}_4$  in water droplets) in recovery furnace stack gases.

These studies are to be completed by January 1, 1975, and final reports submitted to the Department by July 1, 1975. The data may be used for setting an  $\text{SO}_3$  emission limit and/or changing the definition of particulate matter in Section A at the hearing required by Section K below.



J. OTHER ESTABLISHED AIR QUALITY LIMITATIONS:

The emission limits established by these regulations are in addition to visible emissions and other ambient air standards, established or to be established by the Department, unless exempted therefrom by this regulation.

~~K. PUBLIC HEARING:~~

A public hearing shall be held by the Department no later than January, 1976, to review current technology and the adequacy of these regulations and to adopt any revisions that are necessary.



## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

### MEMORANDUM

ENVIRONMENTAL QUALITY  
COMMISSION

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Portland

To: ENVIRONMENTAL QUALITY COMMISSION

From: Director

Subject: Agenda Item I for October 25, 1972 EQC Meeting

Boise Cascade - St. Helens

Background:

On May 26, 1972, Boise Cascade presented a proposal for complying with the total reduced sulfur (TRS) and particulate emission limits for recovery furnaces in the present kraft mill emission regulation (OAR 340, Sections 25-170 (1)(b) and 25-170 (2)(a), which limit TRS emissions to 17.5 ppm or 0.5 lb S/ton of pulp, or "such other limit of TRS that proves to be reasonably attainable utilizing the latest in design of recovery furnace equipment, controls, and procedures". The existing regulations also limit particulate emissions to 4 pounds per ton of pulp. Further information was requested on July 27, 1972 and received on August 8, 1972. During the period since May, 1972, a proposed revised kraft mill emission regulation has been developed by

the Department. In anticipation of tighter limits, the company submitted an amended proposal in oral form on October 12, 1972, and in written form on October 17, 1972.

The mill presently is making approximately 890 tons of pulp per day, and recovering cooking chemicals with two furnaces of nominal 745 tons per day (No. 1 at 295, No. 2 at 450 t/day) capacity. No. 1 furnace was installed in the mid-1950's, and No. 2 furnace in 1967. Control of TRS emissions is by means of a combination of weak and strong black liquor oxidation, which, under the present overloaded furnace conditions, is negated by high TRS emissions from the furnaces themselves.

Discussion:

The company's present proposal is:

1. To install a new generation furnace of 700 tons/day capacity (67% of projected pulp production as of May, 1975).
2. To retire the existing No. 1 recovery furnace.
3. To use the entire existing black-liquor oxidation system to treat the liquor for No. 2 furnace.
4. To control particulate emissions by:
  - a) Installing a high-efficiency electrostatic precipitator on the new furnace (99.6% efficiency).
  - b) Installing a scrubber for the new furnace's smelt dissolving tank vent.

- c) Replacing or rebuilding the existing No. 3 lime kiln scrubber.

When the new furnace is in operation, the mill will have recovery capacity of 1150 tons/day serving a digester capacity of 1050 tons/day. The existing black liquor oxidation system is considered to be one-third oversized and therefore should be able to oxidize adequately the amount of black liquor that will be processed in the No. 2 furnace.

Analysis:

The company's proposal is essentially a matter of adding a 700 t/day recovery furnace of the latest design, shutting down one of two existing recovery furnaces, and operating the remaining existing recovery furnace at reduced loading and improved black liquor oxidation efficiency.

The projected emissions are presented below. The figures are based on assuming that the new recovery furnace will average 1 ppm of TRS and 0.02 lb S/ton, and that the old furnace will average no more than 10 ppm and 0.2 lb S/ton. Particulate emissions are estimated to exactly comply with the regulations, i.e., 4 lb/ton from furnaces, 1 lb/ton from lime kilns, and  $\frac{1}{2}$  lb/ton from smelt tanks. Loading on the furnaces is estimated at 700 t/day from the new No. 3 furnace (nominal capacity) and the balance of the 1050 t/day on No. 2 furnace, or 350 t/day. These are compared to the limits in the proposed revised Kraft Mill Emission Regulation.

1. TRS, Plant-site Average Emissions, ppm

<u>July, 1972</u>	<u>Company's Proposal</u>	<u>Proposed Regulatory Limits</u>	
		<u>1975</u>	<u>1978</u>
61	4	10	5
Reduction: 94%			

2. TRS, Mass Emission Rate, pounds of sulfur/day from all furnaces

<u>July, 1972</u>	<u>Company's Proposal</u>	<u>Proposed Regulatory Limits</u>	
		<u>1975</u>	<u>1978</u>
1161	84	315	158
Reduction: 93%			

3. Particulate, Pounds/day

<u>July, 1972</u>	<u>Company's Proposal</u>	<u>Proposed Regulatory Limits</u>	
a. Recovery furnace			
7455	4200	4200	
Reduction: 43%			
b. Lime Kiln			
2090	861	1050	
Reduction: 58%			
c. Smelt Dissolving Tank			
252	315	525	
Increase: 25%			
d. Overall			
9797	5386	5775	
Net Reduction: 45%			

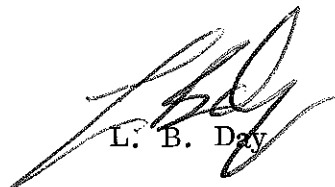
Conclusions:

It is concluded that the company's proposal is consistent with the proposed revised kraft mill emission limits, subject to:

1. Demonstration prior to May 1, 1973 of the existing black liquor oxidation system's reliability for delivering a consistently high degree of oxidation efficiency,
2. Improving the lime kiln scrubbers as necessary early enough to demonstrate compliance with the applicable particulate emission limit in advance of the July 1, 1975 deadline.

Director's Recommendation:

The Director recommends that the company's proposal be approved, subject to the conditions described in the conclusions above and complying with the Kraft Mill Emission Regulations.

  
L. B. Day

Attachment - Company letter  
proposal of 10/17/72



**Paper Group**

**Boise Cascade**

St. Helens, Oregon 97051  
(503) 397-2900

October 17, 1972

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

Attn: Mr. L. B. Day, Director

Gentlemen:

Described herein is Boise Cascade's revised proposal to achieve 1975 kraft mill air emission limits at the St. Helens mill. In view of current review and pending revision of existing Kraft Mill Air Standards, it is felt that this proposal will provide adequate means to reduce air emissions to meet proposed 1975 D.E.Q. regulations, with the potential of meeting more restrictive limits in the future.

Our original proposal included operation of two existing chemical recovery furnaces (with black liquor oxidation) at reduced loading, and installation of a 467 TPD new generation recovery unit. Projected TRS emission by this plan would have been approximately 90% compared to present levels.

The revised proposal includes the following:

1. Install a 700 TPD new generation recovery unit equipped with 99.6% efficient electrostatic precipitator and smelt dissolver vent scrubber.
2. Retire No. 1 conventional recovery unit.
3. Continue to operate No. 2 conventional recovery unit at reduced rates, with fully oxidized black liquor.

Advantages of the revised proposal are:

1. The new recovery unit will provide 60.8% of the total recovery capacity, vs. 38.5% under the former proposal.
2. The discontinuance of the older #1 recovery eliminates the particulate and TRS problem from this source.
3. Retention time in existing black liquor oxidation systems will be effectively doubled, thereby providing increased system reliability to 99+% efficiency at all times.



Mr. L. B. Day

-2-

October 17, 1972

Projected emissions under the revised proposal are as listed below. The table shows that a further 38% TRS emission reduction will be obtained as a result of the revised proposed recovery installation.

	<u>Present</u>	<u>Proposed</u>	
		<u>467 TPD Alt.</u>	<u>700 TPD Alt.</u>
TRS	1,700#/day	146#/day	90#/day
% Reduction	---	91%	95%
PARTICULATE:			
Recovery	7,455#/day		4,200#/day
Kilns	1,410 "		861 "
Dissolvers	<u>250</u> "		<u>315</u> "
Total	9,105 "		5,376 "
% Reduction	---		45%

The new proposed 700 ton recovery furnace has a supplier guarantee to operate at emission levels below 300 ppm SO<sub>2</sub> and below 5 ppm TRS. Based on the experience of other new generation recovery furnace installations, the TRS emission will probably be as low as 1-2 ppm, which is actually below the range limitation of existing monitoring equipment and therefore cannot be specified in the guarantee.

At a reduced black liquor firing rate comparable to its original rating, and at 99% efficiency black liquor oxidation, the existing No. 2 recovery boiler (installed in 1967-68) was able to demonstrate it could achieve an emission level of below 10 ppm. With increased retention time in both the weak and heavy black liquor oxidation system, the reliability of maintaining this low emission level should be greatly enhanced and it would be expected that the average mill emission would be in the 5 ppm TRS range once the 700 ton per day unit attains continuous operation. Also at the reduced firing rate it had been demonstrated that the emission of particulate from the existing No. 2 unit can be maintained below 4 lb./ton of production, whereas the new 700 ton per day unit will be installed with a precipitator designed for 99.6% efficiency or a 4 lbs./ton particulate maximum discharge.





Mr. L. B. Day

-3-

October 17, 1972

Although the potential of attaining less than 5 ppm TRS from the existing No. 2 recovery boiler will be greatly enhanced by the installation of the 700 T/D unit rather than the 467 T/D unit previously proposed, the final determination cannot be achieved on a continuous basis until the period of 1975-1978. Should the 5 ppm TRS emissions limit be found unattainable, it is understood that consideration will be given to the economic life of the existing recovery boiler providing it maintains TRS emissions below the 10 ppm level.

It should be noted that this new proposal has no effect on the mill waste effluent discharge as described in our letter of August 8, 1972.

A new compliance schedule for installation of the recovery system is attached. Although there may be up to a three month delay in the target compliance date for the new recovery boiler installation due to delay in confirmation of the recovery boiler order, all attempts will be made to remain on target.

Very truly yours,

R. H. Taylor  
Resident Manager

RHT/plb

Attachs.

cc: Paul Rath - Water Quality

PROPOSED TIME SCHEDULE FOR COMPLIANCE

WITH KRAFT MILL EMISSION STANDARDS

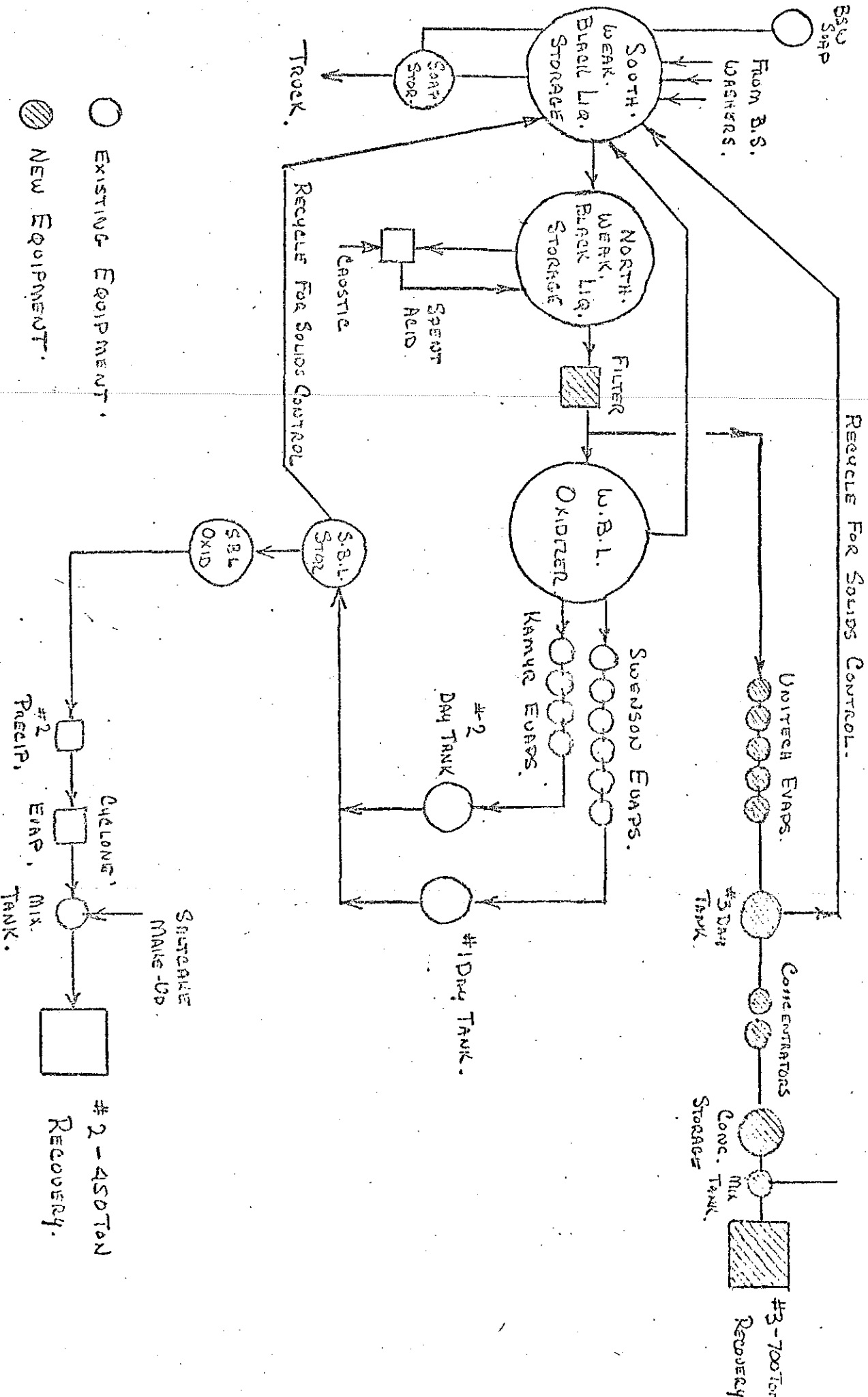
BOISE CASCADE PAPERS  
St. Helens, Oregon  
October 17, 1972

	<u>RECOVERY FURNACE TRS</u>	<u>EXISTING RECOVERY FURNACE PARTICULATE</u>	<u>LIME KILN PARTICULATE</u>
Submit Concept Report	May, 1972	May, 1972	May, 1972
*Obtain Approval (Expected)	June, 1972	June, 1972	June, 1972
*Obtain Approval (Actual)	October 25, 1972	Oct. 25, 1972	October 25, 1972
Confirm Boiler Order	October, 1972	---	
Preliminary Engineering	December, 1972	---	Jan., 1974 (existing)
Construction Engineering	October, 1973	---	March, 1974 (existing)
Delivery of New Boiler	November, 1973	---	---
Start New Boiler	February, 1975	---	---
Install New Kiln Scrubber	---	---	January, 1975
In Compliance Target	July, 1975	**May, 1975	May, 1975

\* Original proposal submitted with expected approval by June, 1972; however, due to review of Proposed Kraft Mill Regulation and new targets for TRS, approval withheld. Revised proposal with large recovery boiler presently submitted expected to be approved October 25, 1972.

\*\* No. 1 Recovery to be retired when new recovery, in operation; as a result of proposal approval delay this target may not be realized.

# PROPOSAL No. 2 RECOVERY LIQUOR FLOW



○ EXISTING EQUIPMENT.

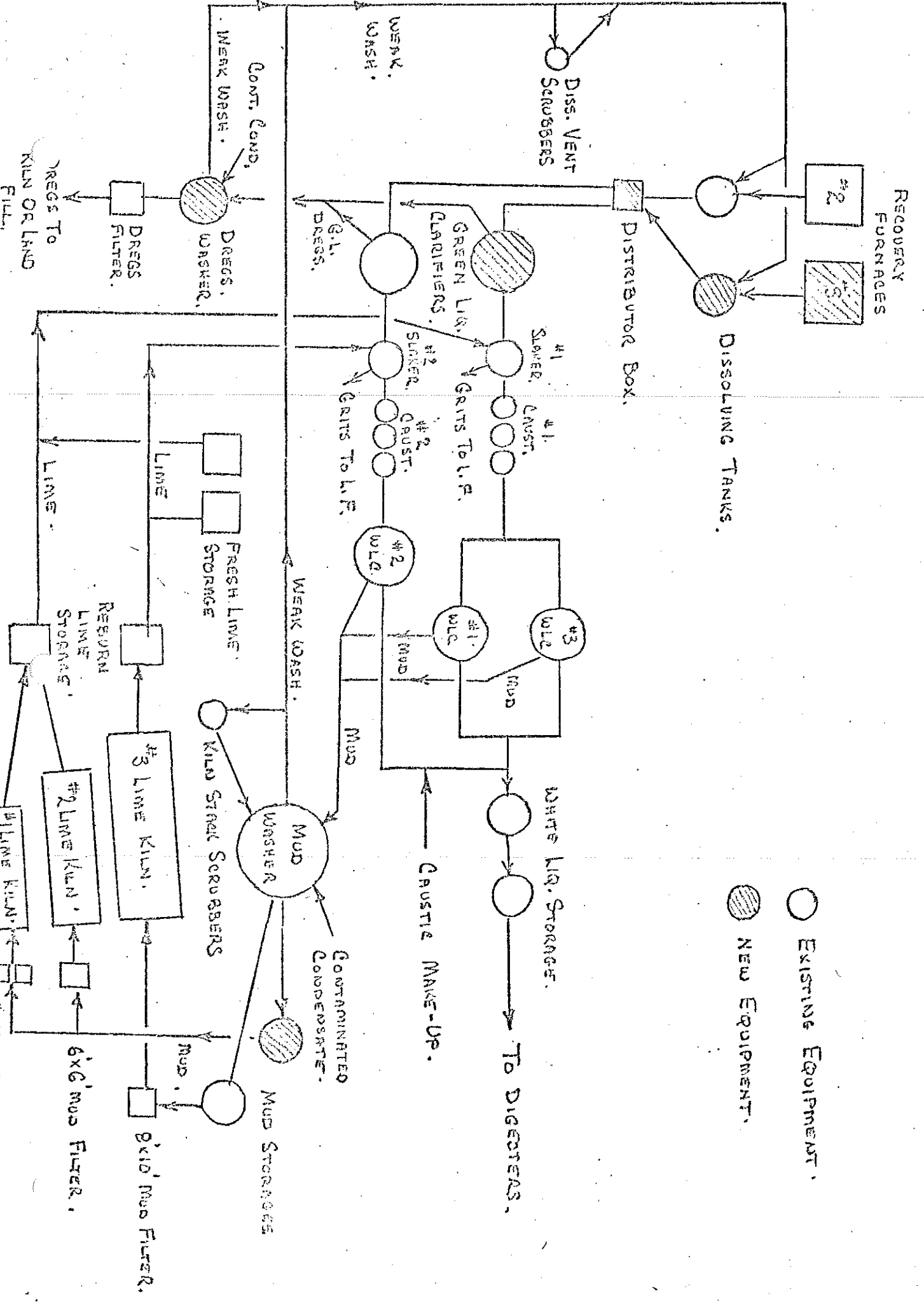
◐ NEW EQUIPMENT.

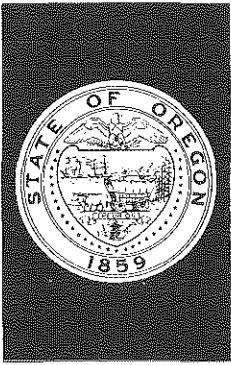
SATURATE MAKE-UP.

#2-450 TON RECOVERY.

#3-700 TON RECOVERY.

# PROPOSAL No. 2 CAUSTICIZING FLOW





# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

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Portland

## MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. J1, October 25, 1972 EQC Meeting

Proposed General Services Administration 200-Space  
Motor Pool Parking Facility, Portland

### Background:

On October 4, 1972, the Department received a letter from the Columbia-Willamette Air Pollution Authority which delineates their analysis of and recommendation for the proposed GSA motor pool parking facility.

The General Services Administration proposes to construct a 200-space underground motor pool auxiliary to a new Federal building which will be occupied by 1525 personnel. The construction site of the motor pool is bounded by S. W. Third Avenue, S. W. Madison Street, S. W. Fourth Avenue, and S. W. Jefferson Street. It is proposed that the street level of the motor pool will be an open area (Federal Plaza).

The project site is presently occupied by several old buildings and off-street parking for approximately 20 motor vehicles. These will be removed during construction. In addition, the block to be occupied by the new Federal building presently has a surface parking facility on it with a rated capacity of 200

motor vehicles. This facility will also be removed during construction. Thus, a net decline of 20 parking spaces ( $200 + 20 - 200 = 20$ ) will result in the vicinity of the proposed Federal motor pool parking facility.

Practically all of the projected 1525 personnel scheduled to occupy the new Federal building will be re-located from existing Federal facilities in Portland. No commuter parking space is being provided for the employees.

Analysis:

A. Effect on air quality

The proposed GSA motor pool would be located in CWAPA air quality guides 53 and 68. According to preliminary calculations performed by the Department based upon the City's transportation control strategy adopted October 12, 1972, grids 53 and 68 will be in compliance with the carbon monoxide air quality standards by 1975. However, the margin of allowable error is small and due to the limited accuracy of the calculation methodology it will be necessary to ensure that any parking facilities constructed in this area will not compromise the effectiveness of the transportation control strategy.

It would seem that the construction of a motor pool, with its associated large volume of daily vehicle trips, in an area where the achievement of national air quality standards by 1975 will be marginal at best, would not be entirely consistent with the efforts of the State and local governmental agencies to attain compliance with those standards.

In keeping with the leadership role of the Federal Government in developing active and effective air pollution abatement programs nationwide, a study should be made to determine if a more suitable location can be found for the proposed motor pool outside of the area of concern (downtown Portland) and provisions made for shuttle bus service, on low-pollution vehicles, to and from the new Federal Building.

Director's Recommendation:

In view of the fact that the transportation control strategy is predicted to achieve compliance with air quality standards in the vicinity of the proposed GSA office building and motor pool parking facility;

The Director recommends that the Commission approve construction of the 200-space underground parking facility.

It is further recommended that the Director request the General Services Administration to undertake a study prior to construction of the parking facility to determine the feasibility of locating the Federal motor pool outside of the Portland Central Business District with associated shuttle bus service to and from the GSA office building.

  
L. B. Day

130

# COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

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

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY BOARD OF DIRECTORS

28 September 1972

**RECEIVED**  
OCT 4 1972

Department of Environmental Quality  
1234 Southwest Morrison Street  
Portland, Oregon 97205

Francis J. Ivancie, Chairman  
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Columbia County  
Richard E. Hatchard  
Program Director

**AIR QUALITY CONTROL**

Attention: Mr. H. M. Patterson, Director  
Air Quality Control Division

Subject: Parking Facility for New Federal  
Office Building

Gentlemen:

Background

On 13 September 1972 the US Government through General Services Administration, filed a notice to construct a 200-space two-level underground parking facility as part of the new Federal office building complex to be located near SW 3rd and SW Jefferson in downtown Portland.

Technical Review

Although the facility is in an area of special concern, an environmental impact statement was not requested due to the facts submitted with the application and the apparent minimal environmental impact of the proposed parking facility.

After review of pertinent information, it has been concluded that the proposed parking facility is compatible with the DEQ parking facility rule and it is therefore recommended that DEQ allow construction to proceed.

Major facts upon which the above recommendation is based are as follows:

1. The proposed 200 space underground parking facility will replace 2 existing surface facilities totaling 220 spaces, resulting in a net decrease of 20 available parking spaces on the property.

2. The proposed parking will provide space for official government motor pool vehicles. No parking space is being provided for tenants of the building; thus the proposed facility will not increase the dependence of the urban commuter on motor vehicles for work trips. The facility will be conveniently located near existing and future mass transit service which should be quite attractive to building tenants.



Department of Environmental Quality  
Page 2  
28 September 1972

3. Practically all of the projected 1525 personnel scheduled to occupy the new Federal building will be "relocatees" from existing facilities in the DBD, thus no significant increase in trips to the CBD would be anticipated. In fact, by centralization of various federal facilities, significant inter-CBD vehicle trips may be eliminated.

4. The proposed parking structure will be located underground, thus minimizing noise and visual impact.

Very truly yours,

  
R. E. Hatchard

REH:jkj

# COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

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

28 September 1972

General Services Administration  
GSA Center (10PG)  
Auburn, Washington 98002

Attention: Mr. Albert A. Peter, Jr.  
Regional Commissioner  
Public Buildings Service

## BOARD OF DIRECTORS

Francis J. Ivancie, Chairman  
City of Portland

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Program Director

Gentlemen:

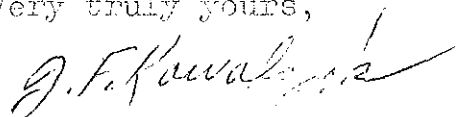
Enclosed you will find our recommendation to the Oregon Department of Environmental Quality concerning your application to construct a 200 space underground parking facility as part of the new Federal Office Building complex in downtown Portland.

May we point out that the proposed facility is in the central business district of Portland, an area which experiences severe air quality problems from motor vehicles. We understand that Federal motor pools in many major cities have low pollution vehicle fleet operation and we would urge you to consider providing similar facilities for Portland's CBD. Perhaps exclusive use of the lowest emitting new car vehicles would be a practical step or restriction of certain special low emitting vehicles for exclusive CBD travel. A commitment to use present and future mass transit and such other services as airport shuttle, would also be in keeping with the Federal leadership in environmental protection.

May we also point out the Assistant Attorney General of Oregon is of the opinion that the Federal facilities must conform with the parking facility regulation and it would appear Section 4 (a) of Executive Order 11232 reaffirms this opinion.

The information and cooperation you have supplied in this matter is greatly appreciated.

Very truly yours,

  
John F. Kowalczyk  
Technical Director

JFK:sm

cc: Department of Environmental Quality

UNITED STATES OF AMERICA  
GENERAL SERVICES ADMINISTRATION



Region 10  
GENERAL SERVICES ADMINISTRATION

GSA CENTER (10PG)

SEP 12 1972

AUBURN, WASHINGTON 98002

Mr. John Kowalczyk  
Columbia-Willamette Air Pollution Authority  
1010 N.E. Couch Street  
Portland, OR 97232

Dear Mr. Kowalczyk:

As you know, the U.S. Government, through General Services Administration, plans to construct a Federal Office Building with adjacent parking in the two block area bounded by S.W. 2nd and 4th Avenues and S.W. Jefferson and Madison Streets, Portland, Oregon. In connection with the proposed construction of the parking facility, we enclose a "Notice of Construction" for your information. We also enclose two prints of the site plan, drawing 2-1, which depicts the proposed siting of the building and parking facility, including means of ingress and egress to the parking.

The parking facility will be constructed on the block bounded by S.W. 3rd Avenue, S.W. 4th Avenue, S.W. Madison Street and S.W. Jefferson Street and consist of two underground levels of parking for a total of 200 stalls. This will provide parking for official Government vehicles only. Parking is not being provided for employees of the agencies scheduled for occupancy in the building as it is our desire to encourage the use of public transportation facilities to the maximum extent possible. Further, it is not the intention of the Government to compete with the existing or proposed privately-owned or city-owned parking lots in the area. These facilities should be capable of satisfying the employee parking requirements.

Initial occupancy in the building will consist of ten agencies and the Congressional delegations with a total complement of 1,525 employees. The following chart summarizes the present locations of the affected agencies and the number of personnel at each location:

RECEIVED  
SEP 14 1972

COLUMBIA - WILLAMETTE  
AIR POLLUTION AUTHORITY

*15. Plan marked  
with 'action' next page  
Show: 11 20/2/72  
Shaded area project  
How? 9/11/72  
see attached note  
EJC*

ROUTING	
To	Noted By
	Walt
	JK
	Walt
	Walt
	Walt
	Walt
	Walt
	Walt
From:	
Action:	

Keep Freedom in Your Future With U.S. Savings Bonds

<u>Present Locations</u>	<u>Personnel</u>
1. Washington Building - 1218 S.W. Washington	128
2. Pittock Block - 921 S.W. Washington	10
3. Multnomah Building - 319 S.W. Pine	527
4. Georgia-Pacific Building - 900 S.W. 5th	35
5. Gill Building - 426 S.W. Stark	204
6. Federal Building - 511 N.W. Broadway	13
7. U.S. Courthouse - 620 S.W. Main	49
8. U.S. Customhouse - 220 N.W. 8th	452
9. Pioneer Courthouse - 520 S.W. Morrison	5
10. Department of Interior, BPA - N.E. Holladay St.	5
Additional Personnel	98
<hr/>	
TOTAL PERSONNEL - NEW BUILDING	1,525

The enclosed map more readily identifies the present location of the agencies in relation to the location of the proposed new building.

Although approval by local governmental entities is not required on Federal construction projects, we welcome this opportunity to present our plans to you. The General Services Administration has an active, effective, air pollution abatement program nationwide. You may be assured that we share your concern for Portland.

Sincerely,



ALBERT A. PETER, JR.  
Regional Commissioner  
Public Buildings Service

3 Enclosures

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

PARKING FACILITY  
NOTICE OF CONSTRUCTION AND APPLICATION FOR APPROVAL

To Construct or Modify an Air Contaminant Source

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

Business Name: GENERAL SERVICES ADMINISTRATION Phone: TE 3-6500

Address of Premises: SW 4TH AVE. & SW MADISON ST. City: PORTLAND Zip: \_\_\_\_\_

Nature of Business: FEDERAL OFFICE BUILDING

Responsible Person to Contact: ALBERT A. PETER, JR. Title: REGIONAL COMMISSIONER  
PUBLIC BUILDINGS SERVICE

Other Person Who May Be Contacted: D. M. SENSMEIER Title: REGIONAL DIRECTOR, OPERATIONAL PLANNING STAFF

Corporation  Partnership  Individual  Government Agency

Legal Owner's Address: GSA CENTER City: AUBURN, WA Zip: 98002

Description of Parking Facility and its Intended Use. (Please Include Plot Plan Showing Parking Space Location and Access to Streets or Roadways): \_\_\_\_\_

SEE ATTACHED LETTER

Estimated Cost: Parking Facility Only: \$ INCLUDED IN TOTAL CONSTRUCTION PROJECT

Estimated Construction Date: 1/1/73 Estimated Operation Date: 8/1/74

Name of Applicant or Owner of Business: GENERAL SERVICES ADMINISTRATION

ALBERT A. PETER, JR.

Title: REGIONAL COMMISSIONER, PUBLIC BUILDINGS SERVICE Phone: TE 3-6500

Signature: *Albert A. Peter, Jr.* Date: SEP 12 1972

Applicability: This Notice of Construction Requirement Pertains

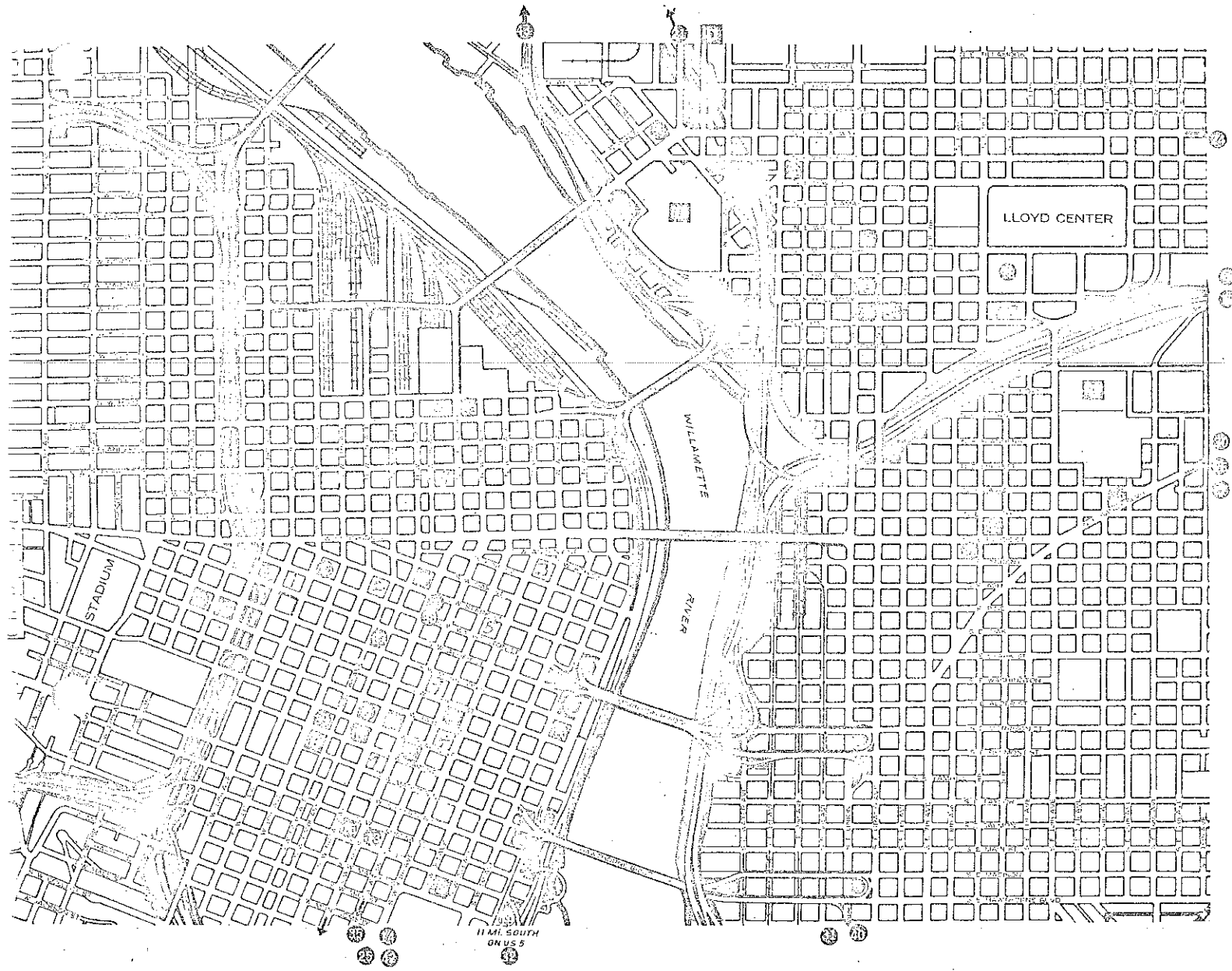
1. To areas within five miles of the municipal boundary of any city having a population of 50,000 or greater.
2. Any parking facility used for temporary storage of 50 or more motor vehicles or having two or more levels of parking for motor vehicles.

Date received \_\_\_\_\_ Grid \_\_\_\_\_ N/C 1-26

Encl. 1

Encl  
13  
49  
152  
5  
5

# Downtown Portland, Oregon



- |                          |                               |                    |   |
|--------------------------|-------------------------------|--------------------|---|
| 1. BENSON                | 15. REGENCY INN               | 28. CONTINENTAL    | 42. SAHARAN                               |
| 2. CONGRESS              | 16. RIVERSIDE WEST            | 29. CORSUN ARMS    | 43. SANDS                                 |
| 3. COSMOPOLITAN          | 17. RODEWAY INN               | 30. DUNES          | 44. TRAVELODGE MOTEL                      |
| 4. COSMOPOLITAN AIRTEL   | 18. SHERATON MOTOR INN        | 31. EL RANCHO      | A. BENSON AUDITORIUM                      |
| 5. FLAMINGO MOTEL        | 19. SWEETBRIER INN            | 32. GOLDEN DOOR    | B. MASONIC TEMPLE                         |
| 6. HEATHMAN              | 20. THUNDERBIRD MOTEL         | 33. HOYT           | C. MEMORIAL COLISEUM                      |
| 7. HILTON                | 21. THUNDERBIRD-JANTZEN BEACH | 34. IMPERIAL "400" | D. MULTNOMAH COUNTY EXPOSITION CENTER     |
| 8. HOLIDAY INN           | 22. TRAVELODGE-COLISEUM       | 35. JAMAICA        | E. PORTLAND CIVIC AUDITORIUM              |
| 9. HYATT LODGE           | 23. WASHINGTON                | 36. MIDTOWN        | F. NEIGHBORS OF WOODCRAFT                 |
| 10. IMPERIAL             | 24. BROADWAY                  | 37. PARK AVENUE    | G. CONVENTION BUREAU AND VISITORS SERVICE |
| 11. MALLORY              | 25. CARAVAN MOTOR HOTEL       | 38. PLAZA          |   |
| 12. PARK HAVILAND        | 26. CITY CENTER               | 39. ROOSEVELT      |   |
| 13. PORTLAND MOTOR HOTEL | 27. COLISEUM                  | 40. ROSE MANOR     |   |
| 14. RAMADA INN           |                               | 41. ROYAL INN      |   |

## Buildings

## Personnel

## Buildings

## Personnel

Proposed FOB	1,525	Convention Bureau
1. Washington Bldg.	126	Portland Chamber of Commerce
2. Pittock Block	10	824 S. W. 5th Avenue
3. Multnomah Bldg.	527	Phone 228-9411
4. Georgia-Pacific Bldg.	35	
5. Gill Bldg.	204	

6. Federal Bldg.	13
7. U.S. Courthouse	49
8. U.S. Customhouse	452
9. Pioneer Courthouse	5
10. Dept of Int.-BPA	5



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

## MEMORANDUM

L. B. DAY  
Director

To: Environmental Quality Commission

ENVIRONMENTAL QUALITY  
COMMISSION

From: Director

B. A. McPHILLIPS  
Chairman, McMinnville

Subject: Agenda Item No. J(2), October 25, 1972, EQC Meeting

EDWARD C. HARMS, JR.  
Springfield

Proposed Portland Commons Hotel with 346 Ancillary  
Parking Spaces, Portland

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

### Background:

On August 2, 1972, the Department received the report, Technical Review No. P-9 from the Columbia-Willamette Air Pollution Authority, which delineates their analysis of and recommendation for the proposed Portland Commons parking facility.

Portland Commons, Inc. proposes to construct a hotel with 346 ancillary parking spaces in the South Auditorium Urban Renewal Area on the block (#115) bounded by S. W. Clay Street, S. W. Front Avenue, S. W. Columbia Street and S. W. First Avenue. The project site is presently unoccupied.

The hotel development will include 394 hotel rooms and 16,000 square feet of restaurant and associated facilities. The

South Auditorium Redevelopment Plan requires one off-street parking space per four hotel rooms. Three hundred and ninety four hotel rooms would require 99 parking spaces. The Redevelopment Plan also sets out parking space requirements for restaurants and bars of one space per 100 square feet of patron serving area, and for banquet and meeting rooms of one space per 56 square feet of patron serving area. This results in a parking requirement of 236 spaces. Thus, the Portland Commons hotel is required to supply 335 (99 + 236) off-street parking spaces as a minimum.

In a letter dated August 23, 1972, the Department requested the Portland Planning Commission to determine whether the proposed Portland Commons development is consistent with the planning guidelines for the Downtown Plan. The letter was considered by the City Planning Commission at a meeting on August 29, 1972, and a reply by letter was received by the Department August 30, 1972. The City Planning Commission has determined that the Portland Commons development is consistent with the proposed uses in the District Guideline Plan and the amount of floor space proposed is within the interim density regulations approved.



Analysis:

A. Effect on air quality

The proposed Portland Commons hotel would be located in Columbia-Willamette Air Pollution Authority air quality grid number 67. According to preliminary calculations performed by the Department, based upon the City's transportation control strategy adopted October 12, 1972, grid 67 will be in compliance with carbon monoxide air quality standards by 1975. The construction of the Portland Commons hotel and ancillary parking will not adversely affect the effectiveness of the transportation control strategy unless some or all of the 346 proposed parking spaces are used by commuters.

An implicit goal of the City's transportation control strategy is that 45-50% of the commuter person trips to downtown Portland will be by transit in 1975. At the present time transit carries approximately 30% of the commuter person trips to downtown Portland. It should be noted that the Portland Commons office building, which will be constructed adjacent to the proposed hotel and will share parking facilities with the hotel, has been granted approval by the Commission to construct 360 parking spaces for approximately 1,000 employees. Under these conditions approximately

40% of the 1,000 employees will be induced to ride transit, join car pools or seek other parking spaces. This is 5-10% short of the goal of the transportation control strategy. Thus if some of the 346 parking spaces to be constructed with the Portland Commons hotel development are opened up for use by commuters, the Portland Commons office development will fall far short of the transportation control strategy goal of 45-50% of commuter person trips by transit in 1975.

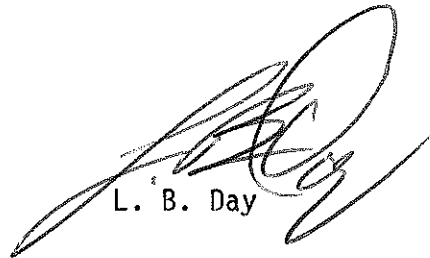
Conclusions:

1. The Portland Commons hotel is a new development and will require parking in order for it to be an economically viable project. The amount of parking proposed (346 spaces) is consistent with the guidelines set forth in the South Auditorium Redevelopment Plan.
2. The Portland Commons hotel is consistent with the Planning Guidelines for the Downtown Plan.
3. The Portland Commons hotel will not adversely affect air quality in grid number 67.

4. It is imperative that the 346 parking spaces provided are used only for support of the hotel and its associated facilities and that they are not opened up for commuter parking.

Director's Recommendation:

I recommend that the Commission approve construction of the 346 parking spaces ancillary to the Portland Commons hotel development on block #115 with the condition that none of the 346 spaces shall be used for long-term (more than 4 consecutive hours) commuter parking before 1979.



L. B. Day

STATEMENT OF THE OREGON ENVIRONMENTAL COUNCIL CONCERNING  
PORTLAND COMMONS - DELIVERED TO THE ENVIRONMENTAL QUALITY  
COMMISSION - OCTOBER 25, 1972

I am Don Waggoner, President of the Oregon Environmental Council. Our offices are at 2637 S. W. Water Street in Portland.

The Council has been very concerned about the construction of the Portland Commons complex. As you may know, the medium density which is allowed for the area was included in the Downtown Plan as medium rather than low density primarily because of the design work that had already been expended for the structure prior to undertaking the Downtown Plan. The medium density designation which permits the construction of the complex is largely due to the "grandfather" status thus granted. The decision of the Portland Planning Commission to permit the parking as a conditional use by the City of Portland was appealed to the City Council on August 30. The City Council denied the appeal and one of the main reasons for their denial was the prior assurances which the City Council had given to the developers.

On October 4, you gave approval of the 360 parking spaces ancillary to the Portland Commons office building. Since that time the City's Transportation Control Strategy has been accepted by the City. The Oregon Environmental Council and other environmental groups strongly urged that a parking lid be placed on the parking in downtown Portland. We did not argue against parking as such but rather requested that an interim maximum total be established so that new parking spaces could only be provided following elimination of an equal quantity of existing spaces in the downtown area pending

additional study of parking needs. Our proposal for the parking lid was not accepted by the City and consequently construction has started on the Portland Commons office building.

The air pollution alert which we experienced here last week brought a dramatic reminder to inhabitants of the City of Portland that automobile air pollution is indeed a grave problem. When Mt. Tabor must be temporarily <sup>re</sup> named Mt. Invisible the time has indeed come for action.

We strongly commend the bulk of the Portland Transportation Control Strategy and the proposed State Motor Vehicle Inspection Program. These programs can be expected to bring a marked improvement. Nevertheless, we submit to you that the approval at this time of additional parking space for the Portland Commons development is inappropriate.

On page 6 of the City of Portland's Transportation Control Strategy, item No. 9 reads "Change applicable regulations to remove requirement for minimum off-street parking spaces in downtown." This will mean that the South Auditorium Re-development Plan which now requires off-street parking space for Portland Commons will be amended so that off-street parking spaces will not be required. Certainly there will be some parking spaces for new buildings. However, the minimum requirement of off-street parking will have been eliminated and parking will now have to be justified on the basis of demonstrated need.

Portland Commons is being constructed in an area adjacent to two large parking structures. The City parking structure at First

and Jefferson provides some 788 parking spaces and is located diagonally to the northwest from the Portland Commons office building. The Crown Plaza parking structure located at First and Clay provides 640 parking spaces and is located diagonally southwest from the Portland Commons Hotel. Consequently, the general area already has some of the highest parking space concentrations within the City of Portland. The 360 parking spaces which you have already approved for the Portland Commons office building brings the total to 1788 parking spaces on the four adjacent blocks. The two large parking structures envisioned by the Transportation Control Strategy for the retail core area, one between 3rd and 4th providing some 1200 spaces and that on 10th to provide 800 spaces for a total of 2000 provides only a modest quantity in excess of that already constructed or approved in the immediate area of Portland Commons.

The staff report for the Portland Commons hotel states that the specific grids for the Portland Commons hotel will be in compliance for carbon monoxide air quality standards by 1975. However, we believe that it is important that we look further before making a decision.

One of the most important factors in reducing air pollution is the development of mass transit as a realistic alternative to the private automobile and providing incentives for its use. Considering the large amount of parking already in the area of Portland Commons it would appear that the Portland Commons development rather than providing any genuine dis-incentives to the automobile and incentives to the use of mass transit will provide a positive incentive for

continued use of the private automobile.

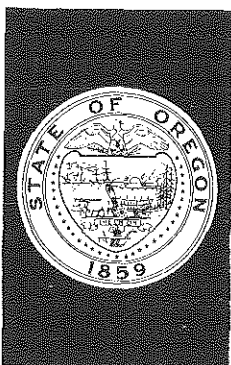
We would further suggest that it will be extremely difficult to monitor the proposed prohibition against using the spaces which are being proposed exclusively for the hotel so that they will not be opened for commuter parking.

The Transportation Control Strategy as proposed by your Director requests the "Director to establish a permanent committee to monitor the impact and effectiveness of the Transportation Control Strategy." I would hope that one of the functions of this group would be to study parking in a more comprehensive manner than has been completed to date. In addition, the City of Portland will be studying parking requirements in a more comprehensive manner.

The Portland Commons hotel is not planned for construction until sometime in 1973. There is, therefore, no need to approve the parking for the Portland Commons hotel now. Indeed, there are many reasons which argue against such approval. Once that approval has been granted it will be virtually impossible to withdraw, regardless of the outcome of the additional parking studies.

We, therefore, urge that you deny the proposed 346 ancillary parking spaces for Portland Commons hotel until the parking studies now planned show whether the additional parking concentration is desirable and consistent with other future developments in downtown Portland.

Thank you.



## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

### MEMORANDUM

ENVIRONMENTAL QUALITY  
COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

TO: ENVIRONMENTAL QUALITY COMMISSION

FROM: Director

SUBJECT: Agenda Item K , October 25, 1972, EQC Meeting

Columbia-Willamette Air Pollution Authority Variance 72-6  
to Page Paving Co.

#### Background:

Page Paving Co., a Salem-based general highway construction firm, by letter dated August 18, 1972, petitioned Columbia-Willamette Air Pollution Authority for a variance through August, 1973, from their emission standards, in order to operate an experimental asphalt paving plant near Estacada. The plant uses the drier drum as a mixer for the aggregate and asphalt, and is said to have lower emissions than conventional plants, although no test data are available. The plant will produce asphalt for surfacing the Eagle Creek-Estacada Section of the Clackamas highway as part of a test of the applicability of this equipment to the Northwest. State and Federal highway officials will be involved in the project.

CWAPA granted a variance through December 31, 1972, on the conditions that 1) a source test of the plant under maximum production and maximum expected emissions be conducted by an independent consultant, 2) hourly operating data from the plant are to be maintained and submitted



to the Authority on request, 3) a smoke meter with a strip chart recorder will be installed in the stack, and 4) operations are to cease when the company is notified of an air pollution ALERT, WARNING or EMERGENCY conditions.

CWAPA has forwarded the variance and reference materials for Department review and Commission action.

Analysis:

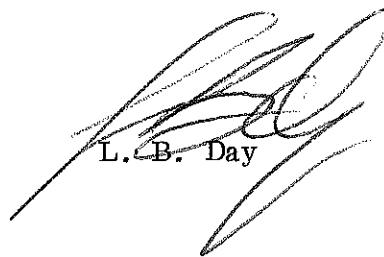
There are no source test data available for this type of equipment, and CWAPA personnel have not viewed similar equipment in action, so there is no way of determining whether or not the unit will exceed CWAPA emission standards for grain loading or opacity.

The unit may have potential for reducing the emissions from asphalt paving plant operations, according to the State Highway Division and Mr. Page.

The variance as granted satisfies all Department review criteria.

Director's Recommendation:

The Director recommends that CWAPA Variance 72-6 to Page Paving Co. be approved as submitted.

  
L. B. Day

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY  
1010 N.E. Couch Street, Portland, Oregon 97232

In the matter of	)	No. 72-6
	)	
VARIANCE TO:	)	VARIANCE INCLUDING
	)	
PAGE PAVING COMPANY,	)	FINDINGS AND CONCLUSIONS
	)	
a Corporation	)	

FINDINGS

I

By letter dated August 18, 1972 Page Paving Company by Emerson B. Page, President, petitioned Columbia-Willamette Air Pollution Authority for a variance to and including August 31, 1973 to operate a "turbulent mass mixing" asphalt paving plant near Estacada, Oregon, notwithstanding that the emissions from said plant may be in excess of those permitted by Columbia-Willamette Air Pollution Authority.

II

The process involved in the operation of this style asphalt plant is new in the industry and there is no test data available from which it can be determined whether or not the plant will operate in compliance with the emission standards of Columbia-Willamette Air Pollution Authority rules without additional controls.

III

It has been represented by the Oregon State Highway Division by C. T. Keasey, Construction Engineer, that if the turbulent mass mixing process of making asphaltic concrete mix is successful, it should result in a considerable saving in the cost of the paving streets and highways in the State of Oregon.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

**R E C E I V E D**  
SEP 27 1972

**AIR QUALITY CONTROL**

## CONCLUSION

Pursuant to the provisions of ORS 449.880 and Columbia-Willamette Air Pollution Authority Rules, Title 23, Columbia-Willamette Air Pollution Authority has the power to grant the requested variance and that said variance should be granted for a limited period of time for experimental and testing purposes subject to certain conditions hereinafter set forth. Based upon the foregoing findings of fact and conclusion, the Board of Directors makes the following:

## ORDER

NOW THEREFORE IT IS HEREBY ORDERED that a VARIANCE from the provisions of Title 32, Emission Standards, Columbia-Willamette Air Pollution Authority Rules, be granted to Page Paving Company to operate a "turbulent mass mixing" asphalt paving plant near Estacada, Oregon, for experimental and testing purposes for a period of time not beyond 31 December 1972 subject to the following conditions:

1. Operation of the plant to be limited to the location and project described in the variance application.
2. A source test to be conducted by an independent consultant to determine the emissions from the plant while operating at maximum production and under conditions (e.g., highest temperature) when maximum emissions may be anticipated. The test schedule, method and analytical procedures are to be submitted and approved by the Authority staff prior to initial plant start-up.
3. Operating records are to be maintained and submitted to the Authority staff upon request containing the following hourly data: type mix, percent minus 200 mesh, aggregate input, production rate in tons per hour, type asphalt used, temperature of asphaltic concrete leaving the dryer-mixer and temperature of the exhaust gases.
4. A smoke meter with a strip chart recorder will be installed to monitor visible emissions from the exhaust stack. Specifications and location of the unit are to be approved by the Authority staff prior to plant start-up.
5. All production and plant operations will cease when notified by the Authority staff of an air pollution "alert", "warning" or "emergency" as described in Chapter V, Title 51, "Air Pollution Emergencies" of the Authority Rules.

Entered at Portland, Oregon, the 15th day of September 1972.

A handwritten signature in cursive script, appearing to read "James J. ...", is written over a horizontal line. Below the line, the word "Chairman" is printed in a simple, sans-serif font.

Chairman

Certified a True Copy

A handwritten signature in cursive script, appearing to read "Jack Lowe", is written over a horizontal line. Below the line, the name "Jack Lowe" and the title "Administrative Director" are printed in a simple, sans-serif font.

Jack Lowe  
Administrative Director



OREGON STATE  
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

August 30, 1972

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

ATTN: Mr. Wayne Hansen  
Deputy Director

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED  
SEP 27 1972

AIR QUALITY CONTROL

Gentlemen:

Mr. Emerson Page, subcontractor on the Eagle Creek-Estacada Section of the Clackamas Highway, has asked that we write to you regarding the proposed trial project using a new type of paving plant which represents a radical departure from the conventional type plant.

This method, using the "Dryer Drum Mixer", is very new, having been tried in only a few locations. Our primary interest, of course, is to see if a satisfactory paving mix can be produced from this type of plant. If it proves out, we will no doubt revise our specifications to permit the use of this process, at the option of the contractor.

I have personally observed one of these plants in full production at Lakota, North Dakota, and there was practically no visible emission of smoke or dust from any part of the plant. In fact, from a distance of about one-quarter mile, the plant did not appear to be operating even while in full production.

If this process is successful in this State in producing an acceptable asphaltic concrete mix, it should result in a considerable saving in the cost of paving our streets and highways, as well as practically eliminating any air pollution from the plant operation.

Your cooperation in permitting this operation is requested.

RECEIVED  
SEP 1 1972

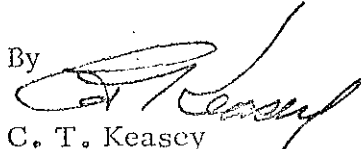
COLUMBIA - WILLAMETTE  
AIR POLLUTION AUTHORITY

cc: Emerson B. Rage  
R. A. Heintz Construction Co.

Very truly yours,

George M. Baldwin  
Administrator of Highways

By

  
C. T. Keasey  
Construction Engineer

# COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

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

7 September 1972

## BOARD OF DIRECTORS

Francis J. Ivancie, Chairman  
City of Portland

Fred Stefani, Vice-Chairman  
Clackamas County

Burton C. Wilson, Jr.  
Washington County

Ben Padrow  
Multnomah County

A.J. Ahlborn  
Columbia County

Richard E. Hatchard  
Program Director

## MEMORANDUM

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED  
SEP 27 1972

AIR QUALITY CONTROL

TO: The Board of Directors

FROM: R. E. Hatchard, Program Director

SUBJECT: Variance Request - Page Paving Company

Gentlemen:

On 13 August 1972 Page Paving Company, a producer of hot mix asphaltic concrete for road construction, requested a variance from the Authority rules to construct and operate an experimental paving plant near Estacada in Clackamas County utilizing a newly developed process. The process if successful, could substantially reduce equipment cost and the number of potential air pollution emission points normally associated with conventional paving plants.

To evaluate the resultant product of the process, it is anticipated operation of the plant will include experimentation with various grades of asphalt and operating parameters which may result in emissions in excess of those allowed by our rules. In addition, valuable information presently not available as related to air pollution may be obtained and evaluated as part of the experimental run.

Recognizing the potential overall benefit of this new process, the Authority staff recommends a variance be granted from the Columbia-Willamette Air Pollution Authority rules with the following conditions:

1. The variance be granted until 1 January 1973; although the requested variance period is 1 August 1973, the Authority staff believes it is possible the project could be completed this fall, and further, it is anticipated adequate air quality emission data may be available by 1 January 1973 so that a further variance may not be required.

If weather conditions or other factors beyond the control of the operator are such that the project and experimentation are unable to be completed by 1 January 1973, the Authority staff would recommend a re-submission of the request after 1 January 1973 based on the findings of the operation this fall.

2. Operation of the plant to be limited to the location and project described in the variance application.

7 September 1972


3. A source test to be conducted by an independent consultant to determine emissions from the plant while operating at maximum production and under conditions (e.g., highest temperature) when maximum emissions may be anticipated. The test schedule, method and analytical procedures are to be submitted and approved by the Authority staff prior to initial plant startup.

4. Operating records are to be maintained and submitted to the Authority staff upon request containing the following hourly data: type mix, % minus 200 mesh, aggregate input, production rate in tons per hour, type asphalt used, ~~temperature of asphaltic concrete leaving the dryer-mixer and~~ temperature of the exhaust gases.

5. A smoke meter with a strip chart recorder will be installed to monitor visible emissions from the exhaust stack. Specifications and location of the unit are to be approved by the Authority staff prior to plant startup.

6. All production and plant operation will cease when notified by the Authority staff of air pollution "alert", "warning" or "emergency" as described in Chapter V, Title 51, "Air Pollution Emergencies" of the Authority rules.

Respectfully submitted,



R. E. Hatchard

REH:whj

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

BOARD OF DIRECTORS MEETING  
9:30 a.m., Friday, 15 September 1972  
Auditorium, Portland Water Service Building

Present:

Board of Directors: Francis J. Ivancie, Chairman  
A. J. Ahlborn  
Ben Padrow

Staff: R. E. Hatchard, Program Director  
Wayne Hanson, Deputy Program Director  
Emory Crofoot, General Counsel  
Jack Lowe, Administrative Director  
Tom Bispham, Chief of Field Services  
Rich Fitterer, Assistant Engineer  
Jim Close, Air Pollution Specialist  
Dan Bolme, Field Representative  
Carter Webb, Field Representative

Others: Robert Thompson, Fred Meyer, Inc.  
Harold Nickel, Pacific Sand and Gravel  
Richard Cipriano  
E. R. Ferguson, Gordon Ball, Inc.

Minutes

The meeting was called to order by Chairman Ivancie and the minutes of the 21 July 1972 Board meeting were approved as submitted.

Advisory Committee Recommendations

Mr. Hatchard reported that the Advisory Committee had met on 7 September and accepted the 1972 report on the spring open burning period. He added they also received progress reports on noise pollution control and the Oregon Implementation Plan. He said recommendations of the Advisory Committee would be presented later during the Board's consideration of specific items on the agenda.

Variance Request - Page Paving Company

Mr. Hanson reviewed the staff report dated 7 September and variance request of Page Paving Company, copies of which were distributed to the Board. He stated this company, a producer of hot mix asphaltic concrete for road construction, has asked for a variance from Authority rules to construct and operate an experimental paving plant near Estacada in Clackamas County, utilizing a newly developed process. This process, if successful, could substantially reduce equipment costs and the number of potential pollution emission points normally associated with conventional paving plants. Recognizing the potential overall benefit of this new process, the Authority staff recommends a variance be granted until 1 January 1973 from the Columbia-Willamette Air Pollution Authority rules with specific conditions as outlined in the staff report dated 7 September. He added that the Advisory Committee had considered this variance request and they endorse the recommendations of the staff.

Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to accept the staff and Advisory Committee recommendations and grant a variance to Page Paving Company until 1 January 1973.



## Variance Request - Larry Wershey

Mr. Hanson reported that this variance request to carry on open burning was considered at length by the Advisory Committee. Their decision was to recommend denial of the variance, at which time the variance request was withdrawn by Larry Wershey who stated his company would re-submit the variance request at a later date with different conditions.

## Layton Drum Company

Tom Bispham presented a brief resume of the air pollution problems of this company which operates a drum reclamation incinerator. He stated the company and the Authority have agreed on a stipulation and order which will bring emissions from the company into compliance with Authority standards by 25 March 1973. It is the staff recommendation that the Board approve the stipulation and enter this Order.

Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to authorize the Chairman to sign the order including findings and conclusions in the matter of Layton Drum Company, Ore., Ltd.

## Mayflower Farms

Mr. Bispham reported that the staff has been contacting each of the grain operators in the region to obtain compliance with the emission standards of the Authority rules. He added the industry as a whole has been very cooperative. Mayflower Farms operates a feed mill at 2613 SE 8th Avenue, Portland. They have met with the staff and have agreed on the problem areas of their operation and a compliance program. An order has been prepared which requires compliance by the Mayflower Farms by 1 July 1974. It is the staff recommendation the Board enter this order.

After discussion, Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to authorize the Chairman to sign the order including findings and conclusions in the matter of Mayflower Farms.

## Pacific Carbide and Alloys Company

Wayne Hanson reported that this company operates an electric furnace carbide production process at 9901 N. Hurst Avenue, Portland, and two years ago made extensive control installations. Now they have agreed on a compliance schedule for bringing their carbide packer and screening exhaust stack into compliance with Authority rules. This compliance would be attained by 1 August 1973, and it is the staff recommendation that the Board enter this order.

Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to authorize the Chairman to sign the order including findings and conclusions in the matter of Pacific Carbide and Alloys Company.

## Fred Meyer Inc. (Hollywood)

Mr. Hanson stated that at the 21 July Board meeting, the Board had asked for a status report concerning the Fred Meyer Hollywood store which has received three civil penalties for violation emissions from their incinerator. Mr. Hanson gave a

history of the air pollution problems of this store and stated that Fred Meyer, Inc. installed an approved incinerator in the store in 1970 and since that time reoccurring violations have been noted. They have been unable to determine the specific cause for these violations and have recently hired a consulting engineer to solve their problem. He stated that Fred Meyer and the staff have agreed to conduct a 30-day evaluation period, during which time the Authority staff and the store personnel will closely monitor the incinerator operation in an attempt to discover why the unit fails to operate in compliance with the rules. At the end of this time, if the unit can be changed to bring it into compliance, Fred Meyer will promptly make alterations. However, if not, Fred Meyer, Inc. has agreed to undertake alternative disposal methods.

The Board accepted this status report and asked the staff to make a further report to the Board in 30 days.

#### Ormonde Apartments

Wayne Hanson stated this source was an apartment house with an oil fired boiler whose proximity to an adjacent new senior citizens' apartment building has caused numerous complaints. Violation of the Authority rules was determined by a test of the stack and the staff has subsequently met with the U. S. National Bank, Trustee for the owner of the Ormonde Apartments and a compliance schedule has been agreed upon. It is the staff's recommendation that the Board enter the order which calls for the Ormonde Apartments to be in compliance with Authority rules by 30 November 1972.

Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to authorize the Chairman to sign the order including findings and conclusions in the matter of Ormonde Apartments.

#### Civil Penalties

Mr. Lowe reported that for the period 21 July 1972 through 14 September 1972 five civil penalties have been imposed, three of which have been paid and two of which are the subject of hearings before the Board today.

#### Public Hearing - Pacific Sand and Gravel

Chairman Ivancie convened the public hearing in the matter of Pacific Sand and Gravel who are appealing a civil penalty in the amount of \$250 for violation of Section 32-060 of Authority Rules pertaining to particulate matter.

Jim Close, Air Pollution Specialist, testified that he visited the plant on 10 July 1972 to inspect collection equipment which the company had by letter informed the Authority had been installed. He stated the equipment had not been installed and the operation was in violation of Authority rules. He issued a Notice of Violation.

Mr. Hatchard testified that he imposed a civil penalty in the amount of \$250 to Pacific Sand and Gravel.

Mr. Harold Nickel, Production Manager of Pacific Sand and Gravel, testified his company had set up a water spray system to control the particulate emissions and had not been informed by the Authority that this control was insufficient.

He further explained the operation of the company and stated that since the penalty was imposed, the company has completely corrected the dust emission problem.

After further discussion and testimony, Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to reduce the civil penalty from \$250 to \$100 to Pacific Sand and Gravel.

#### Public Hearing - Richard Cipriano

Chairman Ivancie convened the public hearing in the matter of Richard Cipriano who is appealing two civil penalties in the amount of \$50 each for violation of Sections 6.2(2)(a) and 6.2(3)(c) concerning open burning.

Dan Bolme testified that he issued a Notice of Violation to Steve Chisholm who was open burning in violation of Authority rules. Mr. Hatchard testified that he imposed two civil penalties in the total amount of \$100 to Richard Cipriano.

Mr. Cipriano testified that Steve Chisholm, working for him, obtained a fire permit and did the burning, believing that he was burning legally.

After further testimony and discussion, Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to reduce the total amount of the civil penalties imposed on Richard Cipriano from \$100 to \$25.

#### Public Hearing - Gordon H. Ball, Inc.

Chairman Ivancie convened a public hearing in the matter of Gordon Ball, Inc., who is appealing two civil penalties of \$250 each for violation of Section 22-020 and 32-010(2) of Authority rules. One civil penalty was on the basis that the plant was not constructed in accordance with the plans and specifications submitted and approved by the Authority; the second civil penalty was imposed on the basis that visible emissions in excess of Authority standards were being emitted.

Mr. Richard Fitterer, Assistant Engineer, testified to the fact that the plant was not constructed in accordance with the plans and specifications submitted, and Mr. Carter Webb testified that the plant was in violation of emission standards and a Notice of Violation was issued. Mr. Hatchard testified that he imposed the two civil penalties for these violations of Authority rules.

Mr. E. R. Ferguson, Vice-President, Gordon H. Ball, Inc., testified concerning the nature of the company and its operation. He stated that after the Notice of Violation was issued, the company was in the process of completing the control equipment installation, speeded up its efforts and was in full compliance only a few days later. They were in compliance when the civil penalties were imposed.

After considerable discussion and further testimony, Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried to reduce the total amount of the civil penalties from \$500 to \$250.

#### MS Rocky Maru

Mr. Crofoot stated that the civil penalty imposed on MS Rocky Maru has been paid and asked the Board to authorize the Chairman to sign a satisfaction of the judgment. Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried.

### Delinquent Civil Penalties

Mr. Crofoot requested the Board to grant authority for the Chairman to sign final orders in the matter of Wilbanks, Inc. and the Maria Xilas, a ship. Civil penalties were imposed some time ago, no hearings were requested and the penalties are now delinquent. Commissioner Padrow moved, Commissioner Ahlborn seconded and the motion carried.

### Other Matters

Mr. Hatchard requested the Board to authorize a public hearing on rules revision, in order that the rules might be modified to include the permit system regulations. The Board authorized this hearing.

Commissioner Ahlborn moved, Commissioner Padrow seconded and the motion carried to appoint Mr. Jack Cassidy to the vacancy on the Advisory Committee caused by the recent resignation of Mr. Fritz Fleischer. Mr. Cassidy is the manager of Kaiser Gypsum Company in St. Helens.

The meeting was adjourned at 12:00 p.m.

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

ADVISORY COMMITTEE MEETING  
3:00 p.m., Thursday, 7 September 1972  
Auditorium, Portland Water Service Building

Present:

Advisory Committee: Darrel Johnson, Chairman  
Walter Nutting, Vice-Chairman  
John Donnelly, M. D.  
Walter Goss, M. D.  
Charles Haney  
Kenneth Klarquist  
Thomas Meador, M. D.  
Betty Merten  
Carleton Whitehead  
Ed Winter

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**  
SEP 27 1972

AIR QUALITY CONTROL

Staff: R. E. Hatchard, Program Director  
Wayne Hanson, Deputy Program Director  
Jack Lowe, Administrative Director  
George Voss, Public Information Director

Others: Emerson Page, President, Page Paving Company, Salem  
E. K. Kooser, President, World Weather, Inc.  
Don McAvoy, Washington County Fire District #1

Minutes

The meeting was called to order by Chairman Johnson and the minutes of the 6 July 1972 Advisory Committee meeting were approved as recorded.

Chairman Johnson referred to the recent appointment of Advisory Committee member Charles Haney to the Department of Environmental Quality's Advisory Committee on Solid Waste. Mr. Haney commented that he has offered to work on a sub-committee having to do with the disposal of wood waste. Mr. Johnson thanked Mr. Haney on behalf of the Advisory Committee for his willingness to serve on the DEQ Advisory Committee on Solid Waste.

Chairman Johnson introduced two of the new Advisory Committee members, Mrs. Betty Merten, homemaker and Mr. Kenneth Klarquist, attorney.

Variance Requests - Page Paving Company

Mr. Hanson reviewed the staff report dated 7 September 1972 concerning the variance request of Page Paving Company, copies of which were distributed to the Committee members. He stated this company, a producer of hot mix asphaltic concrete for road construction, has asked for a variance from the Authority rules to construct and operate an experimental paving plant near Estacada in Clackamas County, utilizing a newly developed process. This process, if

successful, could substantially reduce equipment costs and the number of potential air pollution emission points normally associated with conventional paving plants.

Recognizing the potential overall benefit of this new process, the Authority staff recommends a variance be granted until 1 January 1973 from the Columbia-Willamette Air Pollution Authority rules with specific conditions as outlined in the staff report dated 7 September 1972.

Mr. Whitehead, Chairman of the variance sub-committee, stated that the sub-committee met prior to the meeting, considered the variance request and endorses the recommendations of the staff.

After discussion and careful consideration of this variance request, Dr. Meador moved, Dr. Donnelly seconded and the motion carried to recommend to the Board of Directors that the variance be granted subject to the conditions outlined in the 7 September staff report, with the explicit understanding that if the paving project will not be completed by 1 January 1973, a request by Page Paving Company to extend the variance will be looked upon favorably by the Advisory Committee. The request to extend the variance, if necessary, should be submitted to the Advisory Committee at their December 1972 meeting.

#### Variance Request - World Weather, Inc.

Mr. Hanson reviewed the variance request by World Weather, Inc. and the staff report dated 7 September 1972, copies of which were distributed to the Advisory Committee members. He stated the company is asking for a variance from Rule 33.015 pertaining to open burning. The request is to conduct limited open burning of trees, brush and stumps accumulated from a land clearing project, utilizing a burning technique developed by World Weather, Inc. The basic purpose is to evaluate the effect of the technique at a proposed burning site located near 202nd and SW Wright in Aloha. The general area of the proposed burning site consists of cleared land, new housing and homes under construction.

Mr. Hanson added that the technical aspects of the proposed burning technique are not known to the Authority staff, and they are unaware of any experimental work completed utilizing this method on emissions from open burning of wood material. The staff submits the variance request for consideration by the Advisory Committee subject to the conditions as outlined in the staff report dated 7 September 1972.

Mr. Whitehead reported that the variance sub-committee had considered the request at length, and though the technical aspects of the proposed burning methods are unknown and there is no supportive data concerning this process, the sub-committee is willing to recommend the experimental process be tried.

Mr. Don McAvoy, Fire Marshal, Washington County Fire District No. 1, stated strongly that he felt if experimental burning of this type is to be conducted, it should be conducted in an area away from occupied residential dwellings.

Mr. Hanson stated that the intent of the variance conditions set forth by the staff is not to allow the company to clear the land by burning the debris, but merely to give limited time to try the experimental burning process. The time given is not adequate to clear the land, but it would be adequate to test the experimental process.

Mrs. Merten pointed out that the citizens of Washington County might not appreciate this large volume of smoke in an area where they cannot burn small amounts in their back yards.

After much further discussion and consideration of this variance request, Mr. Nütting moved, Dr. Donnelly seconded and the motion carried to recommend to the Board the variance be denied. Mr. Johnson suggested that the company submit another variance request to burn at a time and place designated in advance and approved by the fire department, a place where burning will not contaminate the surrounding residences or create a fire hazard. If a later request was made, and presented as an experimental process to be tested rather than a land clearing project, the Committee would recommend that a variance be granted.

The company then withdrew the variance request and stated it would re-submit it. Mr. Kooser then made a short slide presentation to the Committee showing the burning technique proposed by World Weather, Inc.

#### Spring 1972 Residential Open Burning - Staff Report

Mr. Hatchard referred to the staff report on the Spring 1972 Residential Open Burning, dated 15 June 1972, and asked the Committee if they had any questions. The Sub-committee on Open Burning had previously considered the report. The report concludes that due to the lack of development of acceptable alternatives to dispose of material presently allowed to be burned, it is the staff opinion domestic open burning should continue to be allowed as set forth in the rules and to be reviewed on a yearly basis. The Advisory Committee accepted the report.

#### Noise Legislation - Staff Report

Mr. Hatchard reported that the Oregon 1971 Legislature granted authority for the Department of Environmental Quality to begin an initial program in noise pollution. They have several staff people working on fact finding and problem defining activities. The DEQ has power to adopt rules and regulations and to engage in corrective action. He added the Environmental Protection Agency has been empowered to develop a noise pollution program also and will prepare national standards towards the end of 1973. Mr. Johnson made available to the Authority a draft of a compilation of noise pollution legislation in the United States and some cases which have been tried dealing with noise pollution.

#### Implementation Plan - Status Report

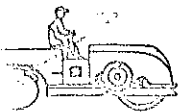
Mr. Lowe reported on the preparation of episode action plans which are for emergency action during periods in which air stagnation results in build up of prescribed pollutants, the actions to be taken to hold pollutant levels down. Mr. Lowe read the objective and policy of the episode action plan and stated that copies will be printed and mailed to the Committee members as soon as possible. He stated that part of the Oregon Implementation Plan requirements are to produce emission reduction plans for every industrial, commercial or governmental source of air pollution in our region emitting 10 tons or more per year. The approximately 95 sources in this region so classified have been notified and are submitting their emission reduction plans for staff approval. Emission reduction plans will also be prepared for area sources which include vehicles. More information on the implementation plan will be presented to the Advisory Committee at a later date as the plan develops.

Washington County Litigation

Mr. Hatchard stated that the Washington County judge rules that the political subdivisions comprising CWAPA should be the parties to the suit. He stated that all the participants with the exception of Columbia County have agreed to be plaintiffs in the suit, and a meeting is scheduled 8 September in St. Helens to resolve this matter.

The meeting was adjourned at 5:00 p.m.





# PAGE PAVING COMPANY



GENERAL HIGHWAY CONSTRUCTION . . . . . MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

Emerson B. Page, President  
Arthur B. Woods, Vice President  
Jeanne B. Page, Secretary  
State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

*RBS*

**RECEIVED**  
OCT 1 1972

**AIR QUALITY CONTROL**

September 11, 1972

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

Attention: R. E. Hatchard

Dear Mr. Hatchard:

We appreciate appearing before the Advisory Committee September 7, 1972. We wish to thank you for your cooperation as well as your recommendation.

As regard to the recommendation we are asking that you further explain to us in more detail paragraphs 3, 4, and 5. We would like to have this information shortly, since you are suggesting that we put them in effect in startup.

If you wish to contact the undersigned please feel free to do so.

Yours very truly,

PAGE PAVING COMPANY

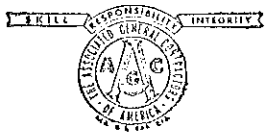
Emerson F. Page,  
President

EBP:nh

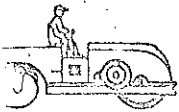
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COLUMBIA - WILLAMETTE  
AIR POLLUTION AUTHORITY

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From	
Action	



# PAGE PAVING COMPANY



GENERAL HIGHWAY CONSTRUCTION ..... MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

EMERSON B. PAGE, PRESIDENT  
ARTHUR B. WOODS, VICE-PRESIDENT  
JEANNE B. PAGE, SEC.-TREAS.

EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

August 28, 1972

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

ATTN: Wayne Hansen, Deputy Director

Gentlemen:

On August 18, 1972 we requested a variance to produce particulate matter at a new emission source. This source is in the Estacada area on a test section for the Oregon State Highway Department.

We understand from our representative Mr. C.J. Guthrie that you would like to have the following facts:

1. We would like the variance to end August 31, 1973. We could conceivably complete this project this fall, but depending upon the weather, it could possibly end next summer.
2. The project itself consists of manufacturing and placing 55,000 tons of asphaltic concrete.
3. We plan to operate as much as 10 hours per day, 6 days per week. This will vary according to the weather.
4. We are requesting that the Oregon State Highway Department confirm their attitude with regards to this contemplated test section.
5. Prior to the operation of this facility, we will submit any drawings or plans which we may have available.
6. The location of this plant is approximately 5 miles from the city of Estacada with 2 nearby residences being approximately 1/4 mile away.

ROUTING	
TO	Richard D.
	JK
	JK
FROM:	
Action:	

**RECEIVED**  
AUG 30 1972

COLUMBIA - WILLAMETTE  
AIR POLLUTION AUTHORITY



# PAGE PAVING COMPANY

GENERAL HIGHWAY CONSTRUCTION . . . . . MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

EMERSON B. PAGE, PRESIDENT  
ARTHUR B. WOODS, VICE-PRESIDENT  
JEANNE B. PAGE, SEC.-TREAS.

EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

Page 2

7. We will plan to comply and cooperate with any alert situation with regards to public health problems.

We understand that the advisory board will meet September 7, 1972 at 3:30 p.m. at the Water Services Building, 1800 S.W. Sixth Street in Portland. We will have representation there to answer any questions you may have.

Very truly yours,

PAGE PAVING COMPANY

*Emerson B. Page*  
Emerson B. Page,  
President

EEP:nh

cc: C. J. Guthrie  
C. T. Keasey



# PAGE PAVING COMPANY



GENERAL HIGHWAY CONSTRUCTION . . . . . MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

EMERSON B. PAGE, PRESIDENT  
ARTHUR B. WOODS, VICE-PRESIDENT  
JEANNE B. PAGE, SEC. TREAS.

EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

August 18, 1972

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

Attention: Mr. Rich Fitterer

Gentlemen:

We are hereby requesting a variance to produce particulate matter test data on a new emission source. Our application is enclosed.

While there are several machines of this type working throughout the country we have been unable to find any test data which is required by you. To our knowledge no tests have been run. We understand Guthrie Machinery Co. has supplied you with plant layout and other information now available.

We presently plan to do a test section for the Oregon State Highway Department in the Estacada area. This test is being done with the view of providing State and Federal Officials data for future use of this equipment. Oregon State Officials, as well as, Department of Transportation Officials have viewed this operation in other parts of the country, and have declared that this system shows no visible emission and a very low opacity reading. For these reasons we are requesting the variance to conduct the test.

This type of equipment could reduce the particulate emission by a large percentage from asphalt paving plants. This would also hold true for water pollution.

In view of the fact that we are willing to pioneer this radically new development in conjunction with the Oregon State Highway Department, we feel that favorable consideration should be given in granting us this variance request.

ROUTING	
To	Noted By
<i>WB</i>	<i>WB</i>
<i>RF - 6/18/72</i>	<i>RF</i>
From:	
Action:	

August 18, 1972

Since we plan to start this operation in September,  
we would appreciate your expeditious handling of this  
matter.

Very truly yours,

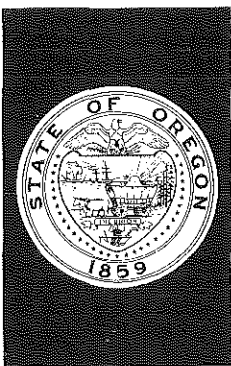
PAGE PAVING COMPANY

Emerson B. Page,  
President

---

EBP:cm  
Enclosure

cc: C.J. Guthrie  
C.T. Keasey



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

October 4, 1972

L. B. DAY  
Director

## MEMORANDUM

### ENVIRONMENTAL QUALITY COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

To: Environmental Quality Commission

From: Director

Subject: Agenda Item L, October 25, 1972, EQC Meeting

Request for Amendment to Stipulation and Order #72-0610029,  
Steve Wilson Company, White City, Jackson County.

### Background

The Steve Wilson Company, in addition to other business interests, operates a sawmill at Trail, Oregon for the production of finished lumber. An unmodified wigwam waste burner at the mill site has been utilized for the disposal of wood waste residues. On May 30, 1972, the company submitted to the Department plans and specifications for modification of the wigwam waste burner in order to attain compliance with OAR, Chapter 340, Sections 25-015 25-020 and 25-025. The Department reviewed the plans and specifications and recommended approval subject to final confirmation by the Environmental Quality Commission and the terms and conditions as set forth in Stipulation and Order #72-0610029. This Stipulation and Order was signed by Steve Wilson on June 14, 1972 and by the Director of the Department of Environmental Quality on June 19, 1972.

The terms of the Stipulation and Order, among other things, called for the modification of the wigwam waste burner in accord-

ance with the Department approved plans and specifications and for completion of all construction and modification work on or before September 1, 1972.

The company by telephone call on September 13, 1972 and in a meeting with Department personnel on September 18, 1972 has stated that financial conditions brought about because of a federal tax lien by the Internal Revenue Service preclude any possibility of company expenditures for modification of the wigwam waste burner for approximately four (4) more months. In the company's letter dated September 19, 1972, a new compliance schedule with a completion date of June 1, 1973 has been proposed and a corresponding amendment to Stipulation and Order #72-0610029 has been requested. The company also submitted a copy of a letter from the I. R. S. confirming that, as of September 18, 1972, \$181,155.44 was still due and owing on their Federal Tax liability. The company had previously presented to the Department financial records for 1971, and 1972 to date, that showed that the company was liquidating the tax liability at a rate of approximately \$50,000 per month and that the initial tax debt of almost \$500,000 had been reduced to approximately \$180,000 so far this year.

Lacking any other means for disposal of the wood waste residues generated by the mill operations, the company has utilized their unmodified wigwam waste burner since September 1, 1972 in order to continue operation.

Current Program

Steve Wilson Company has requested an amendment to Stipulation and Order #72-0610029 that would allow the use of their unmodified wigwam waste burner until June 1, 1973, because of the company's financial inability to attain compliance before that time.

Factual Analysis

1. The company must have some means for disposal of the residues generated if they are to continue their operation.
2. The company has pursued an active program to sell all possible wood residues. Unfortunately, with the present market conditions, there is a statewide surplus in hog fuel, bark and sawdust. There is apparently no demand for these materials as fuel, animal bedding, mulch, etc. even on a give-away basis due to the extremely isolated location of the mill at Trail. The company does not have any site suitable for landfilling of the wood waste residues. The only alternative left for the company is to dispose of this material by burning.



3. The IRS, through a tax lien against all company income except that required for current operation expenses, has established a prior claim on the company's monies. Therefore, a capital expenditure for the modification of the wigwam waste burner is precluded until tax liability, fines and interest are paid in full. It appears that this condition will prevail until January or February of 1973.
4. Because of the tax liens, loans from a bank or the financing of the modifications of the wigwam waste burner by companys doing this work appear to be nil at the present time.
5. The site at Trail is fairly isolated from the Medford-White City area in that it is some 23 miles to the north on State Highway 227 and is not visible from the Medford basin.
6. If the existing terms and conditions of Stipulation and Order #72-0610029 are enforced by the Department and either immediate modification or phase-out of the wigwam waste burner is demanded, the company will have to cease operation unless some alternate program for disposal in a stockpiling or landfilling operation is approved.

Conclusions

1. The Steve Wilson Company does not have the ability to comply with the existing terms and conditions of Stipulation and Order #72-0610029.
2. No apparent alternative approved methods of attaining compliance in the disposal of wood waste residues exist for the company at the present time.
3. The company appears to have been very straight forward in their disclosure of financial conditions to the Department.
4. The amendment of Stipulation and Order #72-0610029 to allow for continued operation of the unmodified wigwam waste burner until June 1, 1972, under existing circumstances, seems to be a reasonable request from both the company's and the Department's viewpoint.

Recommendation:

It is recommended that Steve Wilson Company be granted an extension of time for modification of the wigwam waste burner until June 1, 1973, and that Stipulation and Order #72-0610029 be so amended subject to the following conditions:

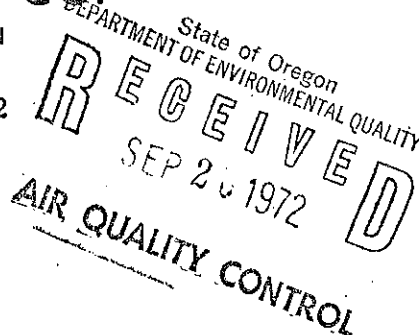
1. The company shall notify the Department by the fifth day of each month as to the exact status of the company's remaining tax liabilities to the federal government.
2. The company shall negotiate a firm contract for modification of the wigwam waste burner to commence and complete construction at the earliest possible date after final payment on the existing tax lien. A copy of this contract is to be submitted by the company to the Department on or before January 31, 1972.
3. The company shall operate the unmodified wigwam waste burner in the best possible manner to keep smoke emissions to a minimum during all periods of operation.

  
L. B. Day

**STEVE WILSON CO.**

WHITE CITY, OREGON

September 19, 1972



Department of Environmental Quality  
Air Quality Control Division  
1224 S. W. Morrison St.  
Portland, Oregon 97205

Re: Stipulation and Order #72-0610029; Application for Revised Date

Gentlemen:

This confirms our request to modify the compliance date set forth in various communications and at our September 18 meeting in your office.

A sixty day extension was sought previously because it was believed that the logging season would end at or about the end of that time. Under the circumstances, with no log deck to cut, no pollution would be taking place. The contemplated environmental improvement would be made during that time.

It now appears that more time is needed. Earlier, it had been anticipated that funds for this environmental improvement could be borrowed or, alternately, would be forthcoming due to a proposed merger or consolidation. Liens, levies, and other procedures of the Internal Revenue Service, in connection with retirement of taxes made overdue by disaster, cut off the source of borrowed funds. The move toward merger or consolidation was suspended abruptly when the key, and only fully knowledgeable, executive of the other firm was suddenly stricken with terminal cancer.

The proposed compliance program now embodies a new, larger, approved burner -- placed in an improved location. Because the market for mixed chips has collapsed and because the market for other chips has weakened sharply, approved burners have become increasingly important.

The revised start-up date is based upon first retiring an obligation to the Internal Revenue Service. The agency presently is collecting 100% of all gross receipts in excess of direct production costs. We cannot secure permission to use any part for environmental protection devices, or for any other capital investment. The burner can, however, be financed when the final payment has been made to the Internal Revenue Service. Following that event, we shall need the actual time required to secure the finances and proceed with the ordering, construction, and erection of the burner. The estimate of time required is based upon the following:

The enclosed copy of an Internal Revenue letter of September 15 claims \$181,155.44. The average monthly rate of payments to Internal Revenue is \$50,000.00. Hence, four months should complete the retirement.

9/19/72

The time estimated between receipt of order and start-up, to be consumed in building and erecting the burner, has been given by the prospective supplier as two months to ten weeks. Accordingly, the total time expected to elapse during payment of Internal Revenue and completion of the burner installation is approximately six months.

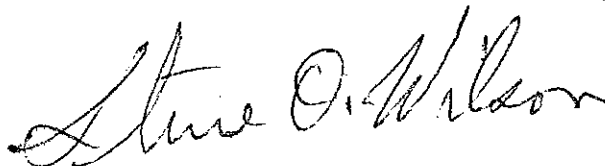
In view of the foregoing, it would appear that June 1, 1973 would be a realistic revised start-up date. Accordingly, application for that revised date is herewith very respectfully submitted.

Please be assured that we share your desire for full and early compliance. To that end, we pledge both cooperation and the maximum degree of acceleration which may be possible.

With very kindest regards, we remain

Very truly yours,

STEVE WILSON CO.

A handwritten signature in cursive script that reads "Steve O. Wilson".

Steve O. Wilson  
President

SOW/c

Enclosure

Address any reply to:

# Department of the Treasury

Internal Revenue Service  
333 West 8th St. P.O. Box 490  
Medford, Oregon 97501  
District Director

## Internal Revenue Service

Date:

In reply refer to:

September 15, 1972.

▷ Steve Wilson Company Corporation  
8705 Crater Lake Highway  
White City, Oregon 97501

Dear Mr. Wilson:


In reply to your earlier request of this date the unpaid assessed Federal Tax liability of Steve Wilson Company Corporation is \$181,155.44. This figure includes penalties and interest computed to September 18, 1972 as follows:

Assessed Balance	\$133,833.42
Interest through September 18, 1972	18,515.30
Failure to Pay Penalty through Septmeber 30, 1972	19,885.14
Failure to Deposit Penalty	8,906.58
Lien and Release Fees	15.00
<b>TOTAL</b>	<b>\$181,155.44</b>

The daily interest accrual after September 18, 1972 will be \$21.26 per day and the failure to pay accrual will be one half of one percent per month or fraction thereof, commencing October 1, 1972

I trust this is the information you requested.

Sincerely,

  
George S. Johnson  
Revenue Officer

BEFORE THE DEPARTMENT OF ENVIRONMENTAL QUALITY  
OF THE STATE OF OREGON

In the Matter of )  
 ) No. \_\_\_\_\_  
Steve Wilson Co. )  
Medford, Oregon, ) STIPULATION AND ORDER  
an Oregon corporation )

In lieu of holding a hearing as provided by ORS 449.815 and in accordance with ORS Chapter 183 and Oregon Administrative Rules, Chapter 340, Division 2, Section 20-032, Compliance Schedules, the Department of Environmental Quality, hereinafter referred to as the "Department", and Steve Wilson Co., hereinafter referred to as the "Respondent", following conciliation, conference and persuasion, do hereby stipulate and agree to the following:

STIPULATION

Pursuant to Oregon Administrative Rules, Chapter 340, Section 20-032, Compliance Schedules, Respondent has submitted its Compliance Schedule to the Department which is designed to achieve compliance with Oregon Administrative Rules, Chapter 340, Sections 25-015 and 25-020. The Department, after receiving the proposed Compliance Schedule, finds it satisfactory to meet the intent and purposes of Oregon Revised Statutes, Chapter 449, and Oregon Administrative Rules, Chapter 340, Sections 25-015 and 25-020.

Now therefore the Respondent agrees that it shall for the Trail Mill:

1. Complete all construction and modification work on the wigwam waste burner on or before September 1, 1972 in accordance with plans and specifications submitted to the Department on May 30, 1972.
2. Demonstrate to the Department that the modified wigwam waste burner can operate in compliance with OAR, Chapter 340, Section 25-020 on or before September 15, 1972.
3. After start-up of the modified wigwam waste burner on or before September 1, 1972, submit the wigwam waste burner temperature charts to the Department on a weekly basis for a continuous period of not less than 90 days, and on the first of each month thereafter, indicating on the chart the date of each work day and any other pertinent visible emission data.
4. Maintain the facility so as to maintain continuous compliance with OAR, Chapter 340, Sections 25-020 and 25-025.
5. Insure that no open burning is conducted on the plant site.

6. Not dispose of any wood waste residues in a landfill or any other solid waste disposal area without prior approval from the Department and only if said site is issued a permit from the Department.

Dated \_\_\_\_\_, 19 \_\_\_\_\_

Steve Wilson Co.  
Respondent

By \_\_\_\_\_  
Title \_\_\_\_\_

Dated June 6, 19 72

Department of Environmental Quality

By [Signature]  
Title Chief, Engineering Services

IT IS SO ORDERED

Dated \_\_\_\_\_, 19 \_\_\_\_\_

For the Environmental Quality Commission

By \_\_\_\_\_

Title Director



## STEVE WILSON CO.

WHITE CITY, OREGON

September 19, 1972



Department of Environmental Quality  
Air Quality Control Division  
1224 S. W. Morrison St.  
Portland, Oregon 97205

Re: Stipulation and Order #72-0610029; Application for Revised Date

Gentlemen:

This confirms our request to modify the compliance date set forth in various communications and at our September 18 meeting in your office.

A sixty day extension was sought previously because it was believed that the logging season would end at or about the end of that time. Under the circumstances, with no log deck to cut, no pollution would be taking place. The contemplated environmental improvement would be made during that time.

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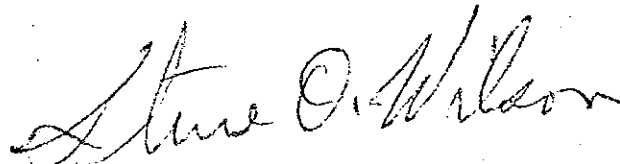
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With very kindest regards, we remain

Very truly yours,

STEVE WILSON CO.

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Steve O. Wilson  
President

SOW/c

Enclosure

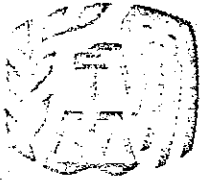
Department of the Treasury

Internal Revenue Service  
333 West 8th St. P.O. Box 490  
Medford, Oregon 97501  
District Director

Internal Revenue Service

Date: In reply refer to:

September 15, 1972



▷ Steve Wilson Company Corporation  
8705 Crater Lake Highway  
White City, Oregon 97501

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I trust this is the information you requested.

Sincerely,

  
George S. Johnson  
Revenue Officer

BEFORE THE DEPARTMENT OF ENVIRONMENTAL QUALITY  
OF THE STATE OF OREGON

In the Matter of )  
 ) No. \_\_\_\_\_  
Steve Wilson Co. )  
Medford, Oregon, ) STIPULATION AND ORDER  
an Oregon corporation )

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Now therefore the Respondent agrees that it shall for the Trail Mill:

1. Complete all construction and modification work on the wigwam waste burner on or before September 1, 1972 in accordance with plans and specifications submitted to the Department on May 30, 1972.
2. Demonstrate to the Department that the modified wigwam waste burner can operate in compliance with OAR, Chapter 340, Section 25-020 on or before September 15, 1972.
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4. Maintain the facility so as to maintain continuous compliance with OAR, Chapter 340, Sections 25-020 and 25-025.
5. Insure that no open burning is conducted on the plant site.

6. Not dispose of any wood waste residues in a landfill or any other solid waste disposal area without prior approval from the Department and only if said site is issued a permit from the Department.

Dated \_\_\_\_\_, 19 \_\_\_\_\_

Steve Wilson Co.  
Respondent

By \_\_\_\_\_  
Title \_\_\_\_\_

Dated June 6, 19 72

Department of Environmental Quality

By [Signature]  
Title Chief, Engineering Services

IT IS SO ORDERED

Dated \_\_\_\_\_, 19 \_\_\_\_\_

For the Environmental Quality Commission

By \_\_\_\_\_

Title Director



State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: LBD thru H P and EJW  
From: HHB  
Subject: Steve Wilson Lumber Company, Trail Mill

Date: September 13, 1972

Mr. Steve Wilson, the President of the above company, called this morning on the telephone to explain that due to financial circumstances he is unable to comply with the provisions of Stipulation and Order No. 72-0610029, dated June 19, 1972.

Currently this mill is operating an unmodified wigwam waste burner for disposal of residues from the production processes. In accordance with agreements reached between Mr. Merrill McGraw, plant engineer, Mr. Day and Mr. Burkitt, the wigwam waste burner was to have been modified prior to September 1, 1972, with attainment of compliance on or before September 15, 1972.

Mr. Wilson stated that he will confirm the above in writing today. At this time, Steve Wilson Company Trail operations are in violation of both administrative rules and the above Stipulation and Order.

AWC



## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. M, October 25, 1972, EQC Meeting

ENVIRONMENTAL QUALITY  
COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

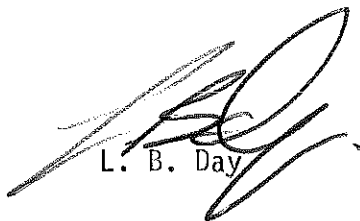
STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

Tax Credit Applications

Attached are review reports for five (5) Tax Credit Applications. These applications and the recommendations of the Director are summarized on the attached table.



L. B. Day

WEG:ahc  
Attachments

October 18, 1972

TAX CREDIT APPLICATIONS

<u>Applicant</u>	<u>Appl. No.</u>	<u>Facility</u>	<u>Claimed Cost</u>	<u>% Allocable to Poll. Control</u>	<u>Director's Recommendation</u>
Empire Building Material Co. Empire Lite-Rock Division Portland	T-323	Storm Water Control	\$ 36,849		Defer
Tillamook Veneer Company Tillamook	T-333	Wigwam Burner Modification	25,905	80% or more	Issue
Publishers Paper Company Tillamook Division Oregon City	T-366	Wigwam Burner Modification	32,971	80% or more	Issue
Webfoot Fertilizer Co., Inc. Portland	T-377	Fabric Dust Control System	17,894.72	80% or more	Issue
International Paper Co. Gardiner Paper Mill Northern Division Gardiner	T-381	Strong Black Liquor Oxidation	71,008.18	80% or more	Issue

WEG:ahe

October 18, 1972



State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant:

Empire Building Material Company  
Empire Lite-Rock Division  
9255 N. E. Halsey, P. O. Box 20086  
Portland, Oregon 97220

The applicant owns and operates an open pit mine and calcining plant immediately west of the Sunset tunnel on the Sunset Highway.

2. Description of Claimed Facility

The facility consists of a settling pond with a chemical mixing tank and floating sprinkler system, pumps, etc., for removal of solids from runoff water from rock quarry. Grading and seeding of the surrounding area to prevent the erosion of soil into a nearby creek is also part of the facility. Also included are an outfall pipe from the settling basin and by-pass culvert for clean water diversion.

The claimed facility was placed in operation December, 1971.

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

Facility cost: \$36,849 (Accountant's certification was submitted).

3. Evaluation of Application

Prior to construction of the claimed facilities considerable suspended solids were introduced into Castor Creek from the runoff water leaving the applicant's operation. The claimed facilities are designed to eliminate the suspended solids by treatment of the runoff water and by eliminating the sources of the suspended solids. Investigation reveals that erosion may still take place in the future and the facilities may not meet the prescribed standards. Sampling of the receiving stream this winter will substantiate the effectiveness of the facilities. Water is released from this plant only during times of rainfall.

4. Director's Recommendation

It is recommended that action on this application be formally deferred until sampling of the stream can substantiate the effectiveness of the facilities.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
TAX RELIEF APPLICATION REVIEW REPORT

---

Applicant

Tillamook Veneer Company  
P. O. Box 193  
Tillamook, OR 97141

The applicant operates a facility at Tillamook that produces sanded plywood.

This application was received April 4, 1972.

Description of Claimed Facility

The facility claimed in this application is described as a modification of a wigwam waste burner and consists of the following:

1. Top Damper.
2. Under-fire and Over-fire air systems.
3. Igniter system.
4. Temperature recording system.
5. Automatic control system.

The facility was completed and put in service in February, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: \$25,905 (Accountant's certification was provided).

Evaluation of Application

This facility was installed in accordance with an approved compliance program and approved plans and specifications.

The completed modified wigwam waste burner was demonstrated to the Department to be capable of continuous operation in compliance with OAR, Chapter 340, Section 25-020.

This modification to the wigwam waste burner has reduced emissions of particulate matter by approximately 67 tons/year and emissions of CO by about 162 tons/year.

Conclusions

This facility does operate satisfactorily and did reduce emissions of particulate matter and CO by about 229 tons/year.

Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of \$25,905 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-333.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
TAX RELIEF APPLICATION REVIEW REPORT

---

Applicant

Publishers Paper Company  
Tillamook Division  
419 Main Street  
Oregon City, OR 97045

The applicant operates a sawmill for the manufacture of lumber at Tillamook, Oregon.

This application was received June 14, 1972.

Description of Claimed Facility

The claimed facility is described to be a modification to a wigwam waste burner and consists of the following:

1. Wigwam waste burner shell (used).
2. Top Damper.
3. Under-fire and Over-fire air systems.
4. Igniter system.
5. Temperature recording system.
6. Automatic electrical control system.

The facility was completed and put into operation in August, 1971.

Certification is claimed under the 1969 act and the percentage claimed for pollution control is 100%.

Facility Costs: \$32,971 (Accountants' certification was provided).

Evaluation of Application

This facility was installed in accordance with an approved compliance program and in accordance with approved plans and specifications.

The company had an existing wigwam waste burner that did not operate in a manner to meet the emission standards. In order to more certainly assure attainment of compliance, the company bought the experimental wigwam waste burner that had been built and used by the Oregon State University Forest Research Laboratory. The existing wigwam waste burner was torn down and scraped and the company erected this modified wigwam waste burner in its place.

T-366  
8/22/72  
Page 2

The completed modified wigwam waste burner was demonstrated to the Department to be capable of operating in compliance with OAR, Chapter 340, Section 25-020.

This facility did reduce emissions of particulate matter by an estimated 112 tons/year and CO emissions by an estimated 376 tons/year.

---

### Conclusions

This facility was approved by the Department of Environmental Quality and does operate in a satisfactory manner. Emissions of particulate matter and CO have been reduced by an estimated 488 tons/year.

### Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of \$32,971 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-366.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
TAX RELIEF APPLICATION REVIEW REPORT

---

Applicant

Webfoot Fertilizer Co., Inc.  
201 S. E. Washington Street  
Portland, OR 97214

The applicant owns and operates a fertilizer-blending facility at the above address.

The application was received on June 21, 1972.

Description

The facility is described to be an American Air Filter Amerpulse Fabric Collector, size 10-72-944 Serial 500585 with Barry BBC blower, size 245-70 and attached motor, and a Hopper Rotary Lock, AAF 12" with motor.

Facility Cost: \$17,894.72 (Accountant's certificate was provided).

The facility was completed and placed in operation on March 1, 1972.

Certification is claimed under the 1969 act. The percentage allocated to pollution control is 100%.

Evaluation

This facility controls dust emissions from mixing fertilizer. Previously, emissions were controlled by a pair of cyclones, which Columbia-Willamette Air Pollution Authority found to be inadequate. The Authority required compliance with its rules in August, 1971. Two other alternatives were considered, improving the performance of existing cyclones, and installation of a scrubber. The first alternative did not indicate that a high-enough efficiency could be achieved to meet the applicable standards. The scrubber, on the other hand, would have led to water pollution or sewer troubles. Therefore, a baghouse was proposed. CWAPA reviewed and approved the plans, the baghouse was installed in accordance with plans, and the installation is complying with the regulations.

Collected dust cannot be recycled, because to do so would mix different grades of fertilizer. Therefore, there is no return from resale of dust. Therefore, it is concluded that the installation is not economic.

Director's Recommendation

It is recommended that a Pollution Control Facility certificate bearing the cost of \$17,894.72 be issued for the facility claimed in Tax Application T-377 with more than 80% allocated to pollution control.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
TAX RELIEF APPLICATION REVIEW REPORT

---

Applicant

International Paper Company  
Gardiner Paper Mill  
Northern Division  
P. O. Box 854  
Gardiner, Oregon 97441

The applicant owns and operates an integrated unbleached kraft pulp and paper mill near Gardiner, Oregon.

The application was received on July 21, 1972.

Description

The facility is described to be an installation for oxidizing strong black liquor, consisting of an air-sparged tank with pumps, blower, motor, piping and auxiliary foundations, etc.

Facility Cost: \$71,008.18 (Accountant's Certificate was provided).

The facility was completed and placed in operation on October 1971.

Certification is claimed under the 1969 act. The percentage claimed is 100%.

Evaluation

Black liquor oxidation is one of the principal methods of controlling odors from recovery furnaces. Initially, black liquor oxidation was practised on weak liquor (prior to liquor evaporation), but as experience has accumulated, the oxidation of strong (evaporated) black liquor has been found to be necessary for developing the full potential of the process, by correcting the effects of reversion, a reversal or de-oxidation which occurs during evaporation.

There is no economic return on the process, since the value of sulfur retained in the process does not pay for the facility and also has compelled the mill to change to a chemical make-up system using a non-sulfur-bearing chemical in a more expensive system (for which a tax credit has been granted). Therefore, it is concluded that the facility was installed only for pollution abatement.

Directors Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of \$71,008.18 be issued for the facility claimed in Tax Application T-381 with more than 80% allocated to pollution control.



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

## MEMORANDUM

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. N, October 25, 1972, EQC Meeting

Preliminary Recommendations and Proposed Regulations of  
Advisory Committee on Natural, Scenic and Recreational  
Areas

### ENVIRONMENTAL QUALITY COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

### Background:

Following adoption of the Environmental Standards for Wilderness on January 24, 1972, the Director appointed a citizen's advisory committee to conduct an inquiry into the effects of management and use on the quality of our natural, scenic and recreational areas. Representative Norma Paulus (Marion County) was chairman of the committee, which consisted of the following individuals:

### Committee Member

### Affiliation

Mr. Ward Armstrong	Association of Oregon Industries
Mr. David Barrows	Association of O & C Counties
Mr. William Bartholomew	State Engineer
Mr. Dean Brice	Pacific Power & Light Company
Mr. Craig Chisholm	Attorney at Law
Mr. Martin Davis	Oregon Environmental Council
Mr. Frank Gilchrist	Gilchrist Timber Company
Mr. James Haas	Oregon Fish Commission
Mr. Irvin Luiten	Weyerhaeuser Company
Mr. Edward Maney	Hanna Mining Company
Mr. Robert Madison	Publishers Paper

Mr. Richard Roy	Attorney at Law
Mr. J. Schroeder	State Forester
Mr. John Schwabe	Attorney at Law
Mr. Ron Schwarz	Willamette High Grade Concrete Co.
Mr. Edward Smith	U. S. Bureau of Sport Fisheries and Wildlife
Ms. Ann Squier	Oregon Shores Conservation Coalition
Mr. David Talbot	State Parks
Mr. Lyle Van Gordon	Pacific Power and Light Company
Mr. Larry Williams	Oregon Environmental Council

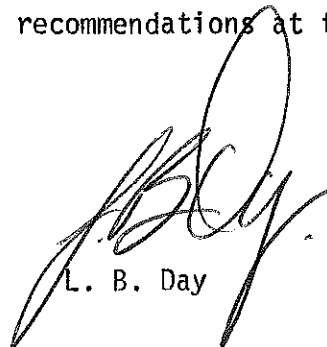
Having completed the inquiry, the committee chairman has presented a letter of recommendations and proposed regulations to the Director. A copy of these recommendations and regulations is attached.

Discussion:

The Director has taken the recommendations and proposed regulations into advisement and the staff is preparing an implementation plan for presentation at the November EQC meeting.

Director's Recommendations:

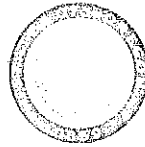
This report is attached for information purposes and therefore does not include any recommendations at this time.



L. B. Day



HOME ADDRESS  
NORM PAULUS (MRS. WILLIAM G.)  
3090 PIGEON HOLLOW ROAD 6  
SALEM, OREGON 97302  
MARION COUNTY



COMMITTEES  
MEMBER:  
JUDICIARY  
NATURAL RESOURCES  
SUBCOMMITTEES  
VICE CHAIRMAN:  
FISH AND GAME

HOUSE OF REPRESENTATIVES  
SALEM, OREGON  
97310

October 12, 1972

Mr. L. B. Day, Director  
Department of Environmental Quality  
1234 S.W. Morrison Street  
Portland, Oregon 97205

Dear L.B.:

For the past six months your Advisory Committee has conducted an inquiry into the effects of management and use on the quality of our primary natural, scenic and recreational areas in Oregon.

We have received testimony from the following individuals:

<u>Name</u>	<u>Representing</u>	<u>Topic</u>
R. Armstrong	DEQ	General Overview
R. McHugh	DEQ	Mountain Lake Water Quality
W.J. Kavarsten	Council of Governments	Rural Lane Use Planning
Sr. Hector Macpherson	Legislature	Lane Use Planning
B. Vladimiroff	U.S. Bureau of Lane Management	) Administrative Practices and Recreation Area Conflicts
F. deHoll	U.S. Forest Service	
E. Smith	U.S. Bureau of Sport Fisheries and Wildlife	
R. McCosh/R. Potter	State Parks and Recreation	
John Rutter	National Park Service	) Status of Oregon Law
Lee Johnson	Attorney General	
G. Sandberg	DEQ	Noise in Recreation Areas
P. Curran/F. Bolton	DEQ	Sewage in Recreation Areas

Based upon the testimony received and our personal experiences, your committee recommends that:

1. Environmental Standards for the protection of Natural, Scenic and Recreational areas be developed by the DEQ and approved by the EQC after public hearings.

2. Following approval of the proposed regulations, the DEQ prepare and maintain a list of areas to be designated as Natural, Scenic and Recreational Areas; that environmental standards be developed and maintained for all designated areas; and that the area designation and resulting environmental standards be approved by the EQC only after a public hearing.

3. Environmental standards adopted by the DEQ be enforced as follows:

a. The DEQ shall issue permits if necessary to enforce environmental standards.

b. The DEQ shall cooperate with public agencies responsible for Natural, Scenic and Recreational Areas for the enforcement of the environmental standards.

4. In order to minimize needless environmental degradation within Natural, Scenic and Recreational Areas of Oregon, it is recommended that the managing agencies of all land under public ownership or administration develop and enforce a comprehensive plan for each designated area. It is further recommended that the plan and any modifications thereof be submitted to the DEQ to be reviewed for compliance with relevant environmental standards.

5. That there is an urgent need for a comprehensive land use plan for the State of Oregon. Therefore, it is recommended that the Legislature designate a single state agency to direct the development and implementation of a comprehensive land use plan in close cooperation with local and regional planners.

6. That the need for control of all surface and sub-surface sewage disposal is critical and regarded as an essential ingredient of consistent land management for all areas. Therefore, it is recommended that the legislature authorize a single State agency to review and approve all surface and sub-surface sewage disposal systems within the State of Oregon.

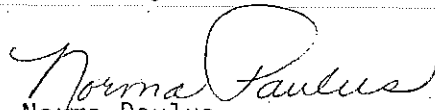
7. That the problem of incompatible uses adjacent to Natural, Scenic and Recreational Areas be dealt with by Legislative action.

8. That the Environmental Quality Commission forward recommendations to the Legislature that there is a need for control of off-road vehicles and that the Legislature direct the managing agencies to designate areas where off-road vehicles are permitted.

In addition to these specific recommendations, our committee has proposed regulations for the environmental protection of these areas. A copy of these regulations and the minutes of our last meeting are enclosed.

It has been a pleasure to serve as Chairman of this committee and I am hopeful that our findings and recommendations will be of assistance in promulgating regulations to protect Oregon's natural, scenic and recreational areas.

Sincerely,

  
Norma Paulus

cc: Committee Members

Mr. Ward Armstrong  
Mr. David Barrows  
Mr. William Bartholomew  
Mr. Dean Brice  
Mr. Craig Chisholm  
Mr. Martin Davis  
Mr. Frank Gilchrist  
Mr. James Haas  
Mr. Irvin Luiten  
Mr. Edward Maney  
Mr. Robert Madison  
Mr. Richard Roy  
Mr. J. Schroeder  
Mr. John Schwabe  
Mr. Ron Schwarz  
Mr. Edward Smith

Affiliation

Association of Oregon Industries  
Association of O & C Counties  
State Engineer  
Pacific Power & Light Co.  
Attorney at Law  
Oregon Environmental Council  
Gilchrist Timber Co.  
Oregon Fish Commission  
Weyerhaeuser Co.  
Hanna Mining Co.  
Publishers Paper  
Attorney at Law  
State Forester  
Attorney at Law  
Willamette High Grade Concrete Co.  
U.S. Bureau of Sport Fisheries and  
Wildlife  
Oregon Shores Conservation Coalition  
State Parks  
Pacific Power and Light Co.  
Oregon Environmental Council

Ms. Ann Squier  
Mr. David Talbot  
Mr. Lyle Van Gordon  
Mr. Larry Williams

PROPOSED  
REGULATIONS FOR ENVIRONMENTAL PROTECTION  
OF NATURAL, SCENIC AND RECREATIONAL AREAS

I. STATEMENT OF POLICY

Natural scenic and recreational areas represent a natural resource of unique importance to the State of Oregon. As a major part of the cultural heritage of citizens of the State, and as a key element in developing and maintaining tourism and recreation as a viable industry, the environment of natural scenic and recreational areas is deserving of the highest level of protection.

Therefore, it is hereby declared to be the policy of the Environmental Quality Commission to regulate activities in these areas as follows:

- a. The environment of natural scenic and recreational areas shall not be altered from the natural state except to the minimum degree compatible with reasonable recreational and forest management practices.
- b. Activities other than those related to forest management shall be conducted in such a manner that environmental degradation is virtually imperceptible to persons using the area for recreational purposes.

II. DEFINITIONS:

As used in this regulation, the term:

1. "Person" means the United States and agencies thereof, the State, any individual, public or private corporation, political subdivision, governmental agency, municipality, industry, co-partnership, association, firm, trust, estate or any other legal entity whatever.
2. "Commission" means the Environmental Quality Commission.
3. "Department" means the Department of Environmental Quality.
4. "Wilderness" means any area so designated by the Congress of the United States pursuant to Public Law 88.577.
5. "Wild and Scenic Rivers" means any area so designated by the Congress of the United States pursuant to Public Law 90.542.
6. "Scenic Waterway" means a river or a segment of river, and related adjacent land, that has been designated as such in accordance with ORS 390.805 to 390.925.
7. "Ocean Shore" means any area so defined by ORS 390.605(2).
8. A "Natural, Scenic and Recreational Area" may be any area included in the following list:
  - a. Any area administered by the U. S. Forest Service and designated as a recreational site, special interest area, or national recreational area.
  - b. Any area administered by the U. S. Bureau of Land Management and designated as a recreation site.
  - c. Any wilderness.
  - d. Any wild and scenic river.

- e. Any scenic waterway.
  - f. Any lands administered by the U. S. National Park Service.
  - g. Any lands administered by the U. S. Bureau of Sport Fisheries, Wildlife Refuge Division.
  - h. Any State park.
  - i. Any forest park as designated by the State Forester.
  - j. Any ocean shore.
  - k. County Parks.
9. "Regulated Areas" include Natural, Scenic and Recreational areas for which environmental standards are established by the Department.

III. ENVIRONMENTAL STANDARDS FOR REGULATED AREAS:

- 1. The Commission shall adopt environmental standards for each Regulated Area in the State of Oregon to control air and water quality, noise levels, solid waste which conflict with the declared policy.
- 2. The following activities shall be exempt from the environmental standards:
  - a. Forestry and logging.
  - b. Activities of governmental employees in the public agency administering the Regulated Area.
  - c. Activities prompted by a natural disaster or other emergency.
- 3. Candidate areas shall be proposed to the Commission and considered for adoption after appropriate evaluation.

IV. PERMITS:

- 1. No person shall commence construction or initiate any activity or operation within a Regulated Area which may result in violation of environmental standards for the area unless such person holds a valid permit issued

by the Department.

2. If a pre-existing activity, or one which has been initiated prior to adoption of environmental standards, results in violation of the standards, the Department may require the responsible person to obtain a permit as a condition to the continuation of such activity. The Department shall be under no obligation to issue the permit.
3. Permits shall be issued by the Department pursuant to the Department's published regulations.
4. Within 60 days after receipt of an application in satisfactory form, the Department shall either deny the request or issue a permit unless within that time a Commission hearing is scheduled by the Department, or unless local governmental action is pending pursuant to paragraph 7 below. Such scheduling of a hearing or such pendency of local governmental action shall stay the 60-day period.
5. A public hearing on a permit application shall be held by the Commission, or its hearing officer, if scheduled by the Department upon either:
  - a. A determination by the Department that the application may result in significant environmental impact or public interest; or
  - b. The petition by any interested person or group, if such person or group has no other meaningful public forum for review of questions raised by the petition, provided the petition is not deemed by the Department to be spurious.
6. To inform the public of permit applications, the Department shall publish notice of applications in the communities near the Regulated

Area in question, at the offices of the Department, and by any other effective means for informing the public.

7. No permit application shall be finally acted upon by the Department prior to action upon the proposed activity by the local governmental body, if any, with responsibility for planning and zoning in the Regulated Area, unless such body requests earlier action by the Department.
8. The permit shall be in addition to and not in lieu of other permits or requirements of federal, state or local governments.

V. PENALTIES:

1. Any violation of environmental standards adopted by the Department shall be a crime punishable upon conviction by the maximum fine or term of imprisonment or both under the applicable provision of Oregon statutory law, and shall give rise to civil liability to the State as provided by Oregon statutory law.



STATE OF OREGON  
ROUTE SLIP

Date \_\_\_\_\_  
TO: LBD

FROM: DRA

- CHECK
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|---|--|
| <input type="checkbox"/> Approval           | <input type="checkbox"/> Investigate                     |
| <input type="checkbox"/> Necessary Action   | <input type="checkbox"/> Confer                          |
| <input type="checkbox"/> Prepare Reply      | <input type="checkbox"/> Per Telephone Conversation      |
| <input type="checkbox"/> For My Signature   | <input checked="" type="checkbox"/> For Your Information |
| <input type="checkbox"/> Your Signature     | <input type="checkbox"/> As Requested                    |
| <input type="checkbox"/> Comment            | <input type="checkbox"/> Note and File                   |
| <input type="checkbox"/> Initial and Return | <input type="checkbox"/> Return With More Details        |

COMMENTS:

COPIES ALSO SENT TO

USFS  
BLM  
NPS  
STATE PARKS  
SIERRA CLUB  
DEC

TO : League of Oregon Cities  
Association of Oregon Counties  
Bureau of Outdoor Recreation  
Bureau of Sport Fisheries  
Columbia-Willamette Air Pollution Authority  
Mid-Willamette Valley Air Pollution Authority  
Lane Regional Air Pollution Authority

---

FROM : Department of Environmental Quality

DATE : October 20, 1971

ENCLOSURES : 1) Proposed Natural Scenic and Recreational Area  
regulation dated October 19, 1971

1. Enclosure 1 presents our most recent draft of the proposed Natural Scenic and Recreational Areas regulation. DEQ plans to present this draft to the Environmental Quality Commission on October 29, 1971 to obtain authorization for a public hearing. Any further questions or suggestions should be referred to D. R. Armstrong in Portland, Oregon at 229-5630 prior to October 29.
-

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CONTROL DIVISION  
October 18, 1971

PROPOSED  
ENVIRONMENTAL STANDARDS FOR NATURAL SCENIC AND RECREATIONAL AREAS

I. STATEMENT OF POLICY:

1. Natural scenic and recreational areas represent a natural resource of unique importance to the State of Oregon. As a major part of the cultural heritage of citizens of the State, and as a key element in developing and maintaining tourism and recreation as a viable industry, the environment of natural scenic and recreational areas is deserving of the highest level of protection.

Therefore, it is hereby declared to be the policy of the Environmental Quality Commission to regulate industrial and commercial activities in these areas such that:

1. The environment of Wilderness areas shall be maintained essentially in a pristine state and as free from air, water, land and noise pollution as is possible given the types of recreational uses permitted in wilderness areas under State and Federal Law and regulations.
2. The environment of all other natural scenic and recreational areas shall be altered from the natural state to the minimum degree compatible with reasonable recreational and forest management practices. All other practices shall be conducted in such a manner that environmental degradation is virtually imperceptible to persons using the area for recreational purposes.

II. DEFINITIONS: As used in this regulation unless otherwise required by context:

1. "Wilderness" means any area so designated by the Congress of the United States pursuant to Public Law 88.577.
2. "Wild and Scenic Rivers" means any area so designed by the Congress of the United States pursuant to Public Law 90.542.
3. "Scenic Waterway" means a river or a segment of river, and related adjacent land, that has been designated as such in accordance with ORS 390.805 to 390.925.

4. "Class A Natural Scenic and Recreational Area" is any wilderness.
5. "Class B Natural Scenic and Recreational Area" is any area specified by the following list:
  - a. Any area in, or within 1/2 mile of lands administered by the U. S. Forest Service or Bureau of Land Management and designated by the Federal Government as a recreational site, recreational zone, or special interest area, or landscape management zone.
  - b. Any area within one mile of wilderness.
  - c. Any Wild and Scenic River or Scenic Water Way.
  - d. Any area in or within 5 miles of Oregon Caves National Monument or Crater Lake National Park.
  - e. Any area in or within 1/2 mile of Fort Clatsop National Memorial.
  - f. Any area in or within 1/2 mile of any Registered Natural Landmark as designated or declared eligible by the Secretary of the Interior.
  - g. Any Public Domain Lands as administered by the Federal Bureau of Sport Fisheries, Wildlife Refuge Division.
  - h. Any area in or within 1/2 mile of the following State Parks:

<u>Name</u>	<u>County</u>
1. Boiler Bay State Wayside	Lincoln
2. Cape Arago State Park	Coos
3. Cape Lookout State Park	Tillamook
4. Cape Sebastian State Park	Curry
5. Cascadia State Park	Linn
6. Champoeg State Park	Marion
7. Collier Memorial State Park	Klamath
8. Crown Point State Park	Multnomah
9. Deschutes River State Recreation Area	Sherman, Wasco
10. Detroit Lake State Park	Marion
11. Ecola State Park	Clatsop
12. Emigrant Springs State Park	Umatilla
13. Floras Lake State Park	Curry
14. Fort Stevens State Park	Clatsop
15. Fort Rock State Park	Lake

16. Hat Rock State Park	Umatilla
17. Humbug Mountain State Park	Curry
18. Jessie M. Honeyman Memorial Park	Lane
19. Lapine State Recreation Area	Deschutes
20. Lava River Caves State Park	Deschutes
21. Loeb State Park	Curry
22. Neptune State Park	Lane
23. Oswald West State Park	Clatsop, Tillamook
24. Otter Crest State Wayside	Lincoln
25. Otter Point State Wayside	Curry
26. Painted Hills State Park	Wheeler
27. Rooster Rock State Park	Multnomah
28. Samuel A. Boardman State Park	Curry
29. Shore Acres State Park	Coos
30. Silver Falls State Park	Marion
31. Smith Rock State Park	Deschutes
32. Sunset Bay State Park	Coos
33. The Cove Palisades State Park	Jefferson
34. Thomas Condon-John Day Fossil Beds State Park	Grant, Wheeler
35. Umpqua Lighthouse State Park	Douglas
36. Wallowa Lake State Park	Wallowa

6. "Commenced" means that an owner or operator and a contractor to, or affiliate of, such owner or operator, have entered into a binding agreement or contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.
7. "Mining and Manufacturing Industry" is an industry, private or public, classified as such by the Standard Industrial Classification Manual of the Federal Bureau of the Budget.
8. "Sound Pressure Level" means the intensity of a sound, measured in decibels (dbA) using a sound level meter having a reference pressure of 0.0002 dynes/square centimeter, and the "A" frequency weighting work.
9. "Ambient Sound Pressure Level" means the total sound pressure level in a given environment, usually being a composite of sounds from many sources, far and near.

### III. PERMIT REQUIREMENTS AND CRITERIA FOR APPROVAL:

1. After the effective date of this regulation, no person shall commence any new mining or manufacturing activity other than forestry or logging in any Class "A" or Class "B" recreational forest area without first securing a permit from the Environmental Quality Commission. This permit shall not be in lieu of other permits or requirements of other Federal, State, or local agencies.

2. Application for a permit to conduct an activity subject to the provisions of this section shall be made on forms supplied by the Department of Environmental Quality. Said application shall be made no less than 90 days prior to the proposed date of commencing construction or establishment of the activity.
3. All applications for permits required under this section shall be considered at a public hearing before the Environmental Quality Commission. At least 20 days public notice for said hearing shall be provided to the applicant and to all interested parties requesting to be provided notice of such hearings.
4. The Commission shall consider the testimony presented at public hearing and shall either approve or disapprove a permit for the proposed activity according to the Commission's evaluation of the degree to which the activity is consistent with the policy of the Commission as set forth in Section I, and with the Environmental Standards as set forth in Section IV of this regulation.
5. In addition to all new mining and manufacturing activities, the Commission may also require any such activities commenced prior to the effective date of this regulation to apply for a permit for continued operation.

#### IV. ENVIRONMENTAL STANDARDS:

##### 1. Wilderness

Within the boundaries of Class "A" Natural Scenic and Recreational Areas, no person shall:

- a. Cause, suffer, allow, or permit the emission of air contaminants, in any amount or for whatever duration, from any stationary or mobile mechanical device not related to emergency activities.
- b. Discharge any sewage or industrial waste into any surface or ground waters, or conduct any activity which causes or is likely to cause:
  - i) a measurable increase in turbidity, temperature, or bacterial contamination;
  - ii) any measurable decrease in dissolved oxygen;
  - iii) or any change in pH (hydrogen ion concentration) of any waters of the state.
- c. Cause, suffer, allow or permit the emission of noise from any mechanical device not related to emergency activities or recreational activities allowed under the laws and regulations of the Federal Government, which noise causes the peak ambient sound pressure level

(ceiling value) to exceed 70 dbA at a distance of 10 feet from the source.

2. Other Natural Scenic and Recreational Areas:

Within the boundaries of Class "B" Natural Scenic and Recreational areas, no person shall:

- a. Cause, suffer, allow or permit the emission of visible or malodorous air contaminants from any equipment or activity related to any mining or manufacturing industry other than forestry or logging.
- b. Discharge any industrial waste into any surface or ground waters or conduct any activity related to any mining or manufacturing enterprise other than forestry or logging, which waste or activity causes or is likely to cause:
  - i. a measurable increase in turbidity, temperature, or bacterial contamination;
  - ii. any measurable decrease in dissolved oxygen;
  - iii. or any change in pH (hydrogen ion concentration) of any waters of the state.

Activities related to forestry or logging shall be conducted in such a manner that applicable state water quality standards are not violated.

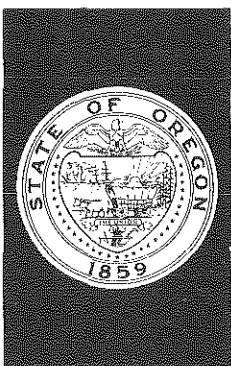
- c. Cause, suffer, allow or permit the emission of noise from any stationary equipment or activity related to any mining or manufacturing industry other than forestry or logging, which noise causes the peak ambient soundpressure level (ceiling value) to exceed 80 dbA at a distance of 10 feet from the source.
- d. Exempted from the provisions of this subsection are motor vehicles operating upon permanent State or Federal Highways.
- e. Mining and manufacturing industrial activities commenced prior to the adoption of this regulation may be exempted from the standards as set forth in sub-sections A, B, or C of this section, provided that compliance with other applicable air, water and noise standards is achieved.

V. REGIONAL AIR POLLUTION AUTHORITIES:

1. Regional air pollution authorities established pursuant to ORS 449.855 are authorized to enforce Section IV, Subsections 1 (a) and 2 (a), of this regulation in Class A and Class B Natural Scenic and Recreational Areas within the boundaries of a regional authority.

2. Permits required under Section III of this regulation are in addition to any air emission permits required by a regional authority. In considering permits required under Section III, however, the Environmental Quality Commission shall endeavor to assure consistency between state and regional permit conditions.





## DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

ENVIRONMENTAL QUALITY  
COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

### MEMORANDUM

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item ~~P~~, October 25, 1972 EQC Meeting

Knott Pit Sanitary Landfill, Deschutes County  
Application for Construction Grant and Loan

### BACKGROUND

The Knott Pit Sanitary Landfill, located near Bend, Oregon has been recently opened by Deschutes County under a Solid Waste Disposal Permit from the Department of Environmental Quality. It is designed as a regional solid waste disposal facility to immediately replace one substandard disposal site, and in the near future three additional dump sites. Long range plans designate this disposal site as a regional solid waste processing center to serve all of Deschutes County and possibly Crook and Jefferson Counties.

Deschutes County has applied to the Department of Environmental Quality for solid waste management facility construction funding in the amount of \$136,500 to finance development of the new sanitary landfill. The money would be allocated as 25% grant and 75% loan and is proposed to be advanced from the State Pollution Control Bond program as made possible for solid waste facilities by the 1971 Legislature.

### DISCUSSION

Deschutes County operates one of Oregon's more advanced county-wide solid waste disposal programs on an annual \$70,000 serial levy which barely meets its operating expenses. In order to open the new Knott Pit facility the county has borrowed \$40,960 from the public works department and \$5690 from the solid waste operating budget. They are required by law

to pay back the public works department, as soon as taxes are collected in November, leaving a total present deficit in their solid waste operating budget of \$46,650. The balance of the funding request, \$89,500 is needed for completion of site preparation and purchase of equipment to meet all requirements of their Solid Waste Disposal Permit.

The Deschutes County application is the first request for solid waste construction monies to be received by the Department. The 1971 Legislature appropriated to the DEQ only one dollar for construction of solid waste facilities, however there is potentially \$20,000,000 available for such purpose. Therefore, to make construction grants and loans at this time, the State Emergency Board must approve an increase in the spending limitation under the Pollution Control Bond Program.

In order to meet the construction schedule of Deschutes County and the meeting schedule of the Emergency Board as the 1973 Legislative session is approaching, the county's request has already been forwarded to the Board for inclusion on its meeting agenda for November 9-10, 1972.

The Short and Long Range Needs Subcommittees of the State Solid Waste Management Citizens' Advisory Committee (CAC) has made a detailed review of the application, has given it their support and is recommending it for approval to the full CAC at its meeting scheduled for November 2, 1972.

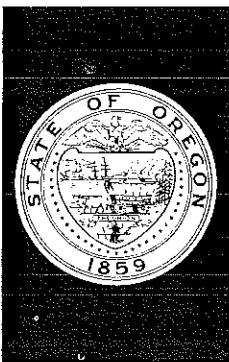
CONCLUSION AND DIRECTOR'S RECOMMENDATION

After careful review of the Deschutes County request it is evident that proper development of the site and its ultimate usage as a regional solid waste processing center necessitates expenditure of the requested funds and the Department supports the county's application for construction monies.

It is therefore recommended that the Commission authorize the Director to request the Emergency Board on November 9-10, 1972 to increase the Department's limitation for making solid waste facility construction grants and loans by \$136,150 and upon approval of the increase to develop appropriate grant and loan agreements with Deschutes County.

  
L. B. Day

EAS:mm  
10-24-72



# DEPARTMENT OF ENVIRONMENTAL QUALITY

TERMINAL SALES BLDG. • 1234 S.W. MORRISON ST. • PORTLAND, OREGON 97205

TOM McCALL  
GOVERNOR

L. B. DAY  
Director

## MEMORANDUM

### ENVIRONMENTAL QUALITY COMMISSION

B. A. McPHILLIPS  
Chairman, McMinnville

EDWARD C. HARMS, JR.  
Springfield

STORRS S. WATERMAN  
Portland

GEORGE A. McMATH  
Portland

ARNOLD M. COGAN  
Portland

To: Environmental Quality Commission

From: Director

Subject: Agenda Item R, October 25, 1972, EQC Meeting

Regional Authorities' Air Contaminant Discharge Permit  
Program

### Background:

The three (3) Regional Air Pollution Authorities have submitted similar rules for implementation of a permit program. Attached are copies of these rules which will be presented for adoption at public hearings scheduled by CWAPA on November 10, 1972, and by LRAPA on November 8, 1972. The rules submitted by MWVAPA were adopted by their Board on September 19, 1972.

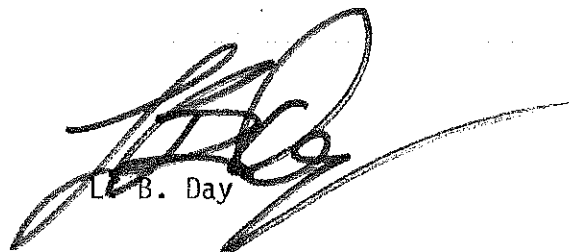
Also attached are copies of the executed Memorandum of Understanding.

Conclusions:

The programs as submitted by the Regional Authorities are essentially similar and uniform in content, and are acceptable to the Department.

Director's Recommendation:

It is recommended by the Director that the Environmental Quality Commission approve the Permit Programs as submitted by the Columbia Willamette Air Pollution Authority, Lane Regional Air Pollution Authority, and Mid-Willamette Valley Air Pollution Authority.



L. B. Day

## MEMORANDUM OF UNDERSTANDING

WHEREAS, the 1971 Legislative Assembly enacted ORS 449.727 to 449.741 and ORS 449.883 providing for the establishment of a permit program and system for persons who construct, install, establish, develop, modify, enlarge or operate air contamination sources, and vesting jurisdiction and authority in the Department of Environmental Quality to require said permits.

The legislation also grants to the Environmental Quality Commission discretion to, by rule, authorize regional air quality control authorities to issue permits for air contamination sources.

The Department of Environmental Quality has authorized by rule Lane Regional Air Pollution Authority, Mid-Willamette Valley Air Pollution Authority and Columbia-Willamette Air Pollution Authority to carry out the issuing and surveillance of permits and other functions of a permit system and program within their respective jurisdictions, subject to this memorandum and OAR Chapter 340, Division 2, Regulations Pertaining to Air Contaminant Discharge Permits, adopted by the Department on July 28, 1972, which are made part of this agreement and incorporated herein as if fully set forth. Now, therefore, it is agreed by the parties that each Regional Authority shall:

1. Initiate and administer a permit program and system in accordance with ORS 449.727 to 449.741 and ORS 449.883 and the rules of the Department of Environmental Quality adopted pursuant thereto.
2. Establish a separate account for all receipts related to the permit fees and the disposition thereof. The parties by mutual consent

may make revisions and changes in accounting procedures which may be necessary to maintain accurate record-keeping.

3. Remit on a monthly basis to the Treasurer of the State of Oregon, via the Department of Environmental Quality, all permit fees collected during the preceeding month including all pertinent data required by paragraph 2.
4. Request apportionments of the fees it has collected and remitted from the Department of Environmental Quality. The fees so received shall be used for the administration of the permit program. The budget, and each supplemental budget, of each regional authority, shall be filed with the Department and shall reflect the permit program.

The Department of Environmental Quality shall:

1. Upon request from the Regional Authority, apportion to the Regional Authority all of the fees remitted or previously remitted to the State Treasurer by the Regional Authority and not previously apportioned, and
2. Provide an account balance to the Regional Authority following each remittance or apportionment.

This Memorandum of Understanding will be in effect from and after November 1, 1972, except that it may be terminated or modified, in addition to other provisions of law, by:

1. Mutual written consent of a Regional Authority and the Department of Environmental Quality.
2. Adoption, amendment or repeal of a rule by the Department of Environmental Quality.

3. The Department of Environmental Quality or a Regional Authority giving written notice to each other not less than ninety (90) days prior to March 1, of any year, of intent to terminate on the next succeeding June 30.

It is further agreed that modification or termination of this agreement with respect to one Regional Authority in no way modifies or terminates this agreement with the other Regional Authorities and the Department.

Dated and signed in behalf of and pursuant to authorization of the parties hereto this \_\_\_\_\_ day of \_\_\_\_\_, 1972.

Department of Environmental Quality

By \_\_\_\_\_  
L. B. Day, Director

Approved by authority of the Board of Directors, the 20<sup>th</sup> day of

OCTOBER, 1972.

Mid-Willamette Valley Air Pollution Authority

By Harry Carson Jr.  
Chairman

Approved by authority of the Board of Directors, the 20<sup>th</sup> day of

OCTOBER, 1972.

Lane Regional Air Pollution Authority

By Archie Beal  
Chairman

Approved by authority of the Board of Directors, the 20<sup>th</sup> day of

October, 1972.

Columbia-Willamette Air Pollution Authority

By Fred Stefani  
VICE - Chairman

# COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

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

24 October 1972

Mr. L. B. Day, Director  
Department of Environmental Quality  
1234 Southwest Morrison Street  
Portland, Oregon 97205

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY.

RECEIVED  
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AIR QUALITY CONTROL

## BOARD OF DIRECTORS

Francis J. Ivancie, Chairman  
City of Portland

Fred Stefani, Vice-Chairman  
Clackamas County

Burton C. Wilson, Jr.  
Washington County

Ben Padrow  
Multnomah County

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Columbia County

Richard E. Hatchard  
Program Director

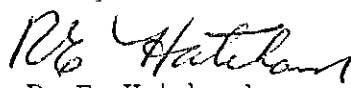
Dear Mr. Day:

In accordance with Section J of the Regulations Pertaining to Air Contaminant Discharge Permits, we request approval by the Environmental Quality Commission of the CWAPA permit program. The following information is submitted for review:

1. CWAPA Rules, Title 22, Permits
2. Ordinance No. 7, Sections 2, 4, 7-12 inclusive, and the notice regarding the public hearing set for 10 November 1972
3. Proposed forms for Application for Air Contaminant Discharge Permit and the permit
4. The Board of Directors of CWAPA approved the Memorandum of Understanding during their regular meeting on 20 October 1972 and also indicated approval of the substance of the proposed rule modification which will be heard on 10 November 1972.
5. Representatives of the three regional pollution authorities have agreed on the uniform rules and further, that after adoption, the codification of the new rules in Title 22, Permits will be made. It was agreed also that any changes in the future will be coordinated in advance so that uniform administration of the permit system will be continued.

If the Environmental Quality Commission approves the CWAPA permit program during their 25 October meeting, it will be possible to launch the permit system and meet the time dates in Section D of the Department of Environmental Quality permit regulations.

Very truly yours,



R. E. Hatchard  
Program Director

REH:j1

Enclosures

cc: Mr. Mike Roach  
Mr. Vern Adkison



COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY  
1010 N.E. Couch Street, Portland, Oregon 97232

Title 22  
Permits

22-005 Permits, General

- (1) Permits will specify those activities, operations, emissions and discharges which are permitted as well as the requirements, limitations, and conditions which must be met.
- (2) The duration of permits may be variable, but shall not exceed five years. The expiration date will be recorded on each permit issued. A new application must be filed to obtain renewal or modification of a permit.
- (3) Permits are issued to the official applicant on record for the activities, operations, emissions, or discharges of record and shall be automatically terminated:
  - (a) Within 60 days after sale or exchange of the activity or facility which requires a permit,
  - (b) Upon change in the nature of activities, operations, emissions, or discharges from those of record in the last application,
  - (c) Upon issuance of a new, modified or renewal permit for the same operation,
  - (d) Upon written request of the permittee.

22-010 Application for a Permit

- (1) Any person wishing to obtain a new, modified or renewal permit shall submit a written application on a form provided by the Authority. Applications must be submitted at least 60 days before a permit is needed. All application forms must be completed in full, signed by the applicant or his legally authorized representative, and accompanied by the specified number of copies of all required exhibits. The name of the applicant must be the legal name of the owner of the facilities or his agent or the lessee responsible for the operation and maintenance.
- (2) Applications which are incomplete, unsigned, or which do not contain the required exhibits will not be acceptable for filing and will be returned to the applicant for completion.
- (3) Applications which are complete will be accepted for filing.

- (4) Within 30 days after filing, a preliminary review of the application will be made to determine the adequacy of the information submitted. If it is determined that additional information is needed, the needed information will be promptly requested from the applicant. The application will not be considered complete for processing until the requested information is received. The application may be considered to be withdrawn if the applicant fails to submit the requested information within 90 days of the request.
- (5) In the event that final action on an application is not taken within 60 days of filing, the applicant shall be deemed to have received a temporary permit, such permit to expire if withdrawn or upon final action to grant or deny the original application. The applicant will be notified in writing when final action will not be taken in the 60 day time period and that a temporary permit is in effect. Final action on a permit shall not be taken until the air contaminant source covered by the permit is inspected and the status of compliance with applicable rules determined.

22-015 Issuance, Renewal or Modification of a Permit

- (1) No permit will be issued to an air contaminant source which is not in compliance with applicable rules unless a compliance schedule is made a condition of the permit.
- (2) The procedure for issuance of a permit shall apply to renewal of a permit.
- (3) The Authority may institute modification of a permit due to changing conditions or standards, receipt of additional information or any other reason, by notifying the permittee by registered or certified mail of its intention to modify the permit. Such notification shall include the proposed modification and the reasons for modification. The modification shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing. Such a request for hearing shall be made in writing and shall be conducted pursuant to the regulations of the Authority. A copy of the modified permit shall be forwarded to the permittee as soon as the modification becomes effective. The existing permit shall remain in effect until the modified permit is issued.

22-020 Denial of a Permit

- (1) If the Authority proposes to deny issuance of a permit, it shall notify the applicant by registered or certified mail of the intent to deny and the reasons for denial. The denial shall become effective 20 days from the date of mailing of such notice unless within that time the applicant requests a hearing. Such a request for hearing shall be made in writing and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the Rules of the Authority.

22-025      Suspension or Revocation of a Permit

- (1) In the event that it becomes necessary to suspend or revoke a permit due to non-compliance with the terms of the permit, unapproved changes in operation, false information submitted in the application, or any other cause, the agency shall notify the permittee by registered or certified mail of its intent to suspend or revoke the permit. Such notification shall include the reasons for the suspension or revocation. The suspension or revocation shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing. Such a request for hearing shall be made in writing and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the Rules of the Authority.
  
- (2) If the Board finds that there is a serious danger to the public health or safety or that irreparable damage to a resource will occur, it may suspend or revoke a permit effective immediately. Notice of such suspension or revocation must state the reasons for such action and advise the permittee that he may request a hearing. Such a request for hearing shall be made in writing within 90 days of the date of suspension and shall state the grounds for the request. Any hearing shall be conducted pursuant to the Rules of the Authority.

COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

ORDINANCE NO. 7

An Ordinance amending Rule 11-015, Sections (16) and (25), Rule 21-005, item 7 of Table 1, Rule 22-010, Rule 33-060, Section (2) and adopting new and additional rules all relating to control of air pollution.

The Columbia-Willamette Air Pollution Authority ordains:

SECTION 1. The Board of Directors finds that the 56th Oregon Legislative Assembly at its 1971 regular session enacted Chapter 406, Oregon Laws 1971 providing for a permit system applicable to certain air pollution sources; the permit system to be implemented by a regional air quality control authority when approved by the Environmental Quality Commission; that it is necessary to amend certain existing rules and adopt a series of new rules in order to implement such a permit system within Columbia-Willamette Air Pollution Authority and to be consistent with the rules relating thereto previously adopted by the Department of Environmental Quality and other air quality control authorities; that other amendments are necessary to be consistent with other Oregon pollution control agencies; now, therefore, Rule 11-015, Section (16) is hereby amended to read as follows:

- (16) "Fuel burning equipment" means a device<sup>1</sup> [equipment]<sup>P</sup> which burns a solid, liquid, or gaseous fuel the principal purpose of which is to produce heat [or-by-indirect-heat-transfer-other-than] except marine installations and internal combustion engines that are not stationary gas turbines.

SECTION 2. Rule 11-015, Section (25) hereby is amended to read as follows:

- (25) ~~[Operating]~~ "Permit" or "Air Contaminant Discharge Permit" means a written permit issued by the Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.

SECTION 3. Rule 21-005, item 5 of Table 1 is hereby amended to read as follows:

5. Fuel burning equipment, other than smoke house generators, which:
- (a) is used solely for a private dwelling serving four families or less, or
  - (b) has a BTU input of not more than 400,000 BTU per hour, or
  - (c) is fired solely by natural gas and has a BTU input of less than 10,000,000 BTU per hour

SECTION 4. Rule 21-005, item 7 of Table 1 is hereby amended to read as follows:

7. Internal combustion engines that are not stationary gas turbines.  
~~[mobile-gas-turbines-and-jet-engines]~~

<sup>1</sup> Underlined material is new material

<sup>2</sup> ~~[Bracketed-and-lined-out-material]~~ is deleted

SECTION 5. Rule 22-010 is hereby amended to read as follows:

- (1) Any person wishing to obtain a new, modified or renewal permit shall submit a written application on a form provided by the Authority. Applications must be submitted at least 60 days before a permit is needed. All application forms must be completed in full, signed by the applicant or his legally authorized representative, and accompanied by the specified number of copies of all required exhibits. The name of the applicant must be the legal name of the owner of the facilities [~~or-his-agent~~] or the lessee responsible for the operation and maintenance.
- (2) Applications which are incomplete, unsigned or which do not contain the required exhibits will not be acceptable for filing and will be returned to the applicant for completion.
- (3) Applications which are complete will be accepted for filing.
- (4) Within 30 days after filing, a preliminary review of the application will be made to determine the adequacy of the information submitted. If it is determined that additional information is needed, the needed information will be promptly requested from the applicant. The application will not be considered complete for processing until the requested information is received. The application may be considered to be withdrawn if the applicant fails to submit the requested information within 90 days of the request.
- (5) In the event that final action on an application is not taken within 60 days of filing, the applicant shall be deemed to have received a temporary permit, such permit to expire if the application is withdrawn or upon final action to grant or deny the original application. The applicant will be notified in writing when final action will not be taken in the 60 day time period and that a temporary permit is in effect. [~~Final-action-on-a-permit shall-not-be-taken-until-the-air-contaminant-source-covered-by-the-permit is-inspected-and-the-status-of-compliance-with-applicable-rules-determined.~~]

SECTION 6. Rule 33-060, Section (2) is hereby amended to read as follows:

- (1) No person shall cause to be emitted from any veneer dryer constructed or installed after 1 May 1972, visible air contaminants of an opacity exceeding 10%. Where the presence of uncombined water is the only reason for failure of an emission to meet this requirement, said requirement shall not apply.
- (2) Every person operating a veneer dryer existing on or before 30 April 1972 shall submit to the Authority by no later than [~~30-March-1973~~] 31 December 1972, a specific detailed compliance schedule employing the highest and best practicable treatment and control to comply with Rule 32-010 (20% opacity). Final compliance to be achieved on or before 31 December 1974.
- (3) No person shall attempt to comply with the requirements of this section by dilution with outside air or by otherwise increasing the exhaust gas volume above that generally occurring under normal operating conditions.

SECTION 7. Sections 8 through 13 are hereby added to and made a part of Chapter II, Title 22, Rules of the Columbia-Willamette Air Pollution Authority.

## SECTION 8. NOTICE POLICY

It shall be the policy of this Authority to issue public notice as to the receipt of an application within 15 days after the application is accepted for filing. The public notice shall allow 30 days for written comment from the public and from interested State and Federal agencies.

## SECTION 9. PERMIT REQUIRED

- (1) Air contaminant discharge permits shall be obtained for the air contaminant sources, including those processes and activities directly related or associated thereto which are listed in Section 11(1) of this Ordinance, in accordance with the schedules set forth in subsections (2), (3), (4) and (5) of this section.
- (2) No person shall construct, install, establish, develop or operate any new air contaminant source listed in Section 11(1) of this Ordinance without first obtaining a permit from the Authority.
- (3) After January 1, 1973, no person shall operate any air contaminant source (a) through (l) as listed in Section 11(1) of this Ordinance, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.
- (4) After July 1, 1973, no person shall operate any air contaminant source (m) through (hh) as listed in Section 11(1) of this Ordinance, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.
- (5) After January 1, 1974, no person shall operate any air contaminant source (ii) through (uu) as listed in Section 11(1) of this Ordinance, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.

## SECTION 10. MULTIPLE-SOURCE PERMIT

When a single site includes more than one of the air contaminant sources listed in Section 11(1) of this Ordinance, a single permit may be issued including all sources located at the site. Such permits shall separately identify by subsection each air contaminant source included from Section 11(1) of this Ordinance. Applications for multiple-source permits will not be received by the Authority for processing without prior written agreement between the Authority and the applicant concerning the overall merit of issuing a multiple-source permit for the site under consideration.

- (1) When a single air contaminant source, which is included in a multiple-source permit, is subject to permit modification, revocation, suspension or denial, such action by the Authority shall only affect that individual source without thereby affecting any other source subject to that permit.
- (2) When a multiple-source permit includes air contaminant sources subject to the jurisdiction of the Department of Environmental Quality and a Regional Authority, the Department may require that it shall be the permit issuing agency. In such cases, the Department and the Authority shall otherwise maintain and exercise all other aspects of their respective jurisdictions over the permittee.

Section 11. FEES

(1) Permit fees shall be as follows:

AIR CONTAMINANT SOURCES AND ASSOCIATED FEE SCHEDULE

Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
(a) Asphalt Production by distillation	2951	75	50
(b) Asphalt blowing plants	2951	100	75
(c) Asphaltic concrete paving plants	2951	100	100
(d) Asphalt felts and coating	2952	150	100
(e) Calcium carbide manufacturing	2819	225	150
(f) Alkalies and chlorine manufacturing	2812	225	175
(g) Nitric acid manufacturing	2819	100	75
(h) Ammonia manufacturing	2819	200	125
(i) Secondary lead smelting	3341	225	175
(j) Rendering plants	2094	150	100
(k) Coffee roasting	2095	100	75
* (l) Sulfite pulp and paper production	2611 2621 2631	300	175
(m) Grain mill products located in Special Control Areas	2041 2042		
10,000 or more T/yr.		250	150
less than 10,000 T/yr.		50	50

<u>Air Contaminant Source</u>	<u>Standard Industrial Classifica- tion Number</u>	<u>Application Investigation and Permit Issuing or Denying Fee</u>	<u>Annual Permit Compliance Determina- tion Fee</u>
(n) Grain elevators located in Special Control Areas 20,000 or more T/yr. Less than 20,000 T/yr.	4221	150 50	100 50
(o) Redimix concrete	3273	75	50
(p) Plywood manufacturing	2432	150	100
(q) Veneer manufacturing (not elsewhere included)	2434	75	75
(r) Particleboard manufacturing	2492	300	150
(s) Hardboard manufacturing	2493	200	100
(t) Charcoal manufacturing	2861	200	100
(u) Battery separator manu- facturing	2499	75	50
(v) Furniture and fixtures 100 or more employees	2511	125	100
(w) Glass manufacturing	3231	100	75
(x) Cement manufacturing	3241	300	150
(y) Lime manufacturing	3274	150	100
(z) Gray iron and steel foundries 3,500 or more tons per year production Less than 3,500 tons per year production	3321 3323	300 100	150 100
(aa) Steel works, rolling and finishing mills	3312	300	175
(bb) Incinerators (not else- where included) more than 2,000 lb/hr. capacity		100	100



<u>Air Contaminant Source</u>	<u>Standard Industrial Classifica- tion Number</u>	<u>Application Investigation and Permit Issuing or Denying Fee</u>	<u>Annual Permit Compliance Determina- tion Fee</u>
(cc) Fuel burning equipment (not elsewhere included)			
Residual oil 5 million or more btu per hour (heat input)		100	50
Wood fired 5 million or more btu per hour (heat input)		100	50
(dd) Primary smelting and refin- ing of ferrous and nonfer- rous metals not elsewhere classified	3313 3339		
2,000 or more tons per year production		300	175
Less than 2,000 tons per year production		100	75
(ee) Synthetic resin manufac- turing	2831	100	100
(ff) Seed cleaning located in Special Control Areas (not elsewhere included)	0719	0	0
*(gg) Kraft pulp and paper production	2611 2621 2631	300	175
*(hh) Primary aluminum production	3334	300	175
(ii) Industrial inorganic and organic chemicals manufac- turing (not elsewhere in- cluded)	2810	250	125
(jj) Sawmill and planing 25,000 or more bd.ft/shift Less than 25,000 bd.ft/shift	2421	75 25	50 25
(kk) Mill work	2431	75	50

<u>Air Contaminant Source</u>	<u>Standard Industrial Classification Number</u>	<u>Application Investigation and Permit Issuing or Denying Fee</u>	<u>Annual Permit Compliance Determination Fee</u>
(ll) Furniture and fixtures less than 100 employees	2511	75	50
(mm) Minerals, earth, and rock ground or otherwise treated (not elsewhere included)	3295	100	75
(nn) Brass and bronze foundries	3362	75	50
(oo) Aluminum foundries (not elsewhere included)	3361	75	50
(pp) Galvanizing	3479	75	50
(qq) Smoke houses	2013	75	50
(rr) Herbicide manufacturing	2879	225	175
(ss) Building board mills (not elsewhere included)	2661	150	100
(tt) Incinerators (not elsewhere included) 2,000 to 4,000 pounds per hour capacity		75	75
(uu) Fuel burning equipment (not elsewhere included)			
Residual oil less than 5 million btu/hr (heat input)		25	25
Distillate oil 5 million or more btu/hr (heat input)		25	25
Wood fired less than 5 million btu/hr (heat input)		25	25

\* These source classes included for information only until such time as this Authority acquires jurisdiction over these classes of sources.

- (2) All persons required to obtain a permit shall be subject to a three-part fee consisting of a uniform non-refundable Filing Fee of \$25.00, a variable Application Investigation and Permit Issuing or Denying Fee and a variable Annual Permit Compliance Determination Fee. The amount equal to the Filing and the Application Investigation and Permit Issuing or Denying Fee shall be submitted as a required part of the application. The annual Permit Compliance Fee shall be paid prior to issuance of the actual permit.
- (3) The fee schedule contained in the listing of air contaminant sources listed in Section 11(1) of this Ordinance shall be applied to determine the variable permit fees.
- (4) The Filing Fee and Application Investigation and Permit Issuing or Denying Fee shall be submitted with each application for a new permit, modified permit or renewed permit.
- (5) Modifications of existing, unexpired permits which are instituted by the Authority due to changing conditions or standards, receipts of additional information or any other reason pursuant to the applicable statutes or rules and do not require re-filing or review of an application or plans and specifications shall not require submission of the Filing Fee or the Application Investigation and Permit Issuing or Denying Fee.
- (6) Applications for multiple-source permits received pursuant to Section 9 of this Ordinance shall be subject to a single \$25.00 Filing Fee. The Application Investigation and Permit Issuing or Denying Fee and Annual Permit Compliance Determination Fee for multiple-source permits shall be equal to the total amounts required by the individual sources involved, as listed in Section 11(1).
- (7) At least one Annual Permit Compliance Determination Fee shall be paid prior to final issuance of a permit. Thereafter, the Annual Permit Compliance Determination Fee shall be paid at least 30 days prior to the start of each subsequent permit year. Failure to timely remit the Annual Permit Compliance Determination Fee in accordance with the above shall be considered grounds for not issuing a permit or revoking an existing permit.
- (8) If a permit is issued for a period less than one (1) year, the applicable Annual Permit Compliance Determination Fee shall be equal to the full annual fee. If a permit is issued for a period greater than 12 months, the applicable Annual Permit Compliance Determination Fee shall be prorated by multiplying the Annual Permit Compliance Determination Fee by the number of months covered by the permit and dividing by twelve (12).
- (9) In no case shall a permit be issued for more than five years.
- (10) Upon accepting an application for filing, the Filing Fee shall be considered as non-refundable.
- (11) The Application Investigation and Permit Issuing or Denying Fee need not be submitted upon notice in writing by the permit issuing agency or shall be refunded when submitted with applications for modified or renewed permits if the following conditions exist:
  - (a) The modified or renewed permit is essentially the same as the previous permit;
  - (b) The source or sources included are in compliance with all conditions of the modified or renewed permit.

- (12) When an air contaminant source which is in compliance with the rules of a permit issuing agency relocates or proposes to relocate its operation to a site in the jurisdiction of another permit issuing agency having comparable control requirements, application may be made and approval may be given for an exemption of the Application Investigation and Permit Issuing or Denying Fee. The permit application and the request for such fee reduction shall be accompanied by (1) a copy of the permit issued for the previous location and (2) certification that the permittee proposes to operate with the same equipment, at the same production rate, and under similar conditions at the new or proposed location. Certification by the agency previously having jurisdiction that the source was operated in compliance with all rules and regulations will be acceptable should the previous permit not indicate such compliance.
- (13) If a temporary or conditional permit is issued in accordance with adopted procedures, fees submitted with the application for an air contaminant discharge permit shall be retained and be applicable to the regular permit when it is granted or denied.

#### SECTION 12. OTHER REQUIREMENTS

- (1) No person shall construct, install, establish, modify or enlarge any air contaminant source listed in Section 11(1) of this Ordinance or facilities for controlling, treating or otherwise limiting air contaminant emissions from air contaminant sources listed in Section 11(1) of this Ordinance without notifying the permit issuing agency as required by ORS 449.712 and rules promulgated thereunder.
- (2) Prior to construction, installation, establishment, modification or enlargement of any air contaminant source listed in Section 11(1) or facilities for controlling, treating or otherwise limiting air contaminant emissions from air contaminant sources listed in Section 11(1), detailed plans and specifications shall be submitted to and approved in writing by the Authority upon request as required by Rules 21-010 through 21-035.

#### SECTION 13. APPROVAL OF AUTHORITY PERMIT PROGRAM BY ENVIRONMENTAL QUALITY COMMISSION

- (1) The Authority's permit program, including proposed permits and proposed revised permits, shall be submitted to the Environmental Quality Commission for review and approval prior to final adoption by the Authority.
- (2) Each permit proposed to be issued or revised by the Authority shall be submitted to the Department of Environmental Quality at least fourteen (14) days prior to the proposed issuance date. Within the fourteen (14) day period, the Department shall give written notice to the Authority of any objection the Department has to be proposed permit or revised permit or its issuance. No permit shall be issued by the Authority unless all objections thereto by the Department shall be resolved prior to its issuance. If the Department does not make any such objection, the proposed permit or revised permit may be issued by the Authority.
- (3) If there is an unresolved objection by the Department regarding a proposed or revised permit, the Department shall present its objection before the Board of the Authority prior to the issuance of a final permit.

- (4) If as a result of objection by the Department regarding a proposed or revised permit, the Authority is unable to meet the time provisions of either these Rules or those contained in an existing permit, the Authority shall issue a temporary permit for a period not to exceed 90 days.
- (5) The Authority shall give written notice to the Department of its intention to deny an application for a permit, not to renew a permit, or to revoke or suspend any existing permit.
- (6) A copy of each permit issued or revised by the Authority pursuant to this section shall be promptly submitted to the Department.
- (7) The Authority shall prepare and submit to the Department a summary listing of air contaminant sources currently in violation of issued permit. These reports shall be made on a quarterly basis commencing April 1, 1973.

SECTION 14. Inasmuch as this Ordinance is necessary for the immediate preservation of the public health, peace and safety of the Columbia-Willamette Air Pollution Authority in this:

In order to achieve uniformity of effective dates of permit programs by other regional air quality control authorities and the Department of Environmental Quality; therefore, an emergency hereby is declared to exist and this Ordinance shall be in full force and effect from and after its passage by the Board of Directors.

Passed by the Board of Directors the \_\_\_\_\_ day of \_\_\_\_\_ 1972.

\_\_\_\_\_  
Chairman, Board of Directors

# COLUMBIA-WILLAMETTE AIR POLLUTION AUTHORITY

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

13 October 1972

## BOARD OF DIRECTORS

Francis J. Ivance, Chairman  
City of Portland

Fred Stefani, Vice-Chairman  
Clackamas County

Burton C. Wilson, Jr.  
Washington County

Ben Padrow  
Multnomah County

A.J. Ahlborn  
Columbia County

Richard E. Hatchard  
Program Director

## NOTICE OF RULES HEARING

Pursuant to the provisions of Oregon Revised Statutes, 449.890, a public hearing will be held by the Board of Directors, Columbia-Willamette Air Pollution Authority, in the Auditorium, Water Service Building, 1800 SW 6th Avenue, Portland, at 10:00 a.m., 10 November 1972, to consider amendments proposed for adoption by the Board to air pollution control rules and standards.

Interested persons may appear and be heard or present written statements concerning the proposed amendments. It is requested that persons or agencies who wish to be heard at this hearing, notify this agency by 8 November 1972. A copy of the proposed amendments may be obtained upon request to this Authority, 1010 NE Couch Street, Portland, Oregon 97232, phone: 233-7176.

R. E. Hatchard  
Program Director

LUVAAS, COBB, RICHARDS & FRASER

JOHN L. LUVAAS  
RALPH F. COBB  
JOE B. RICHARDS  
ROBERT H. FRASER  
PAUL D. CLAYTON  
DOUGLAS L. MCCOOL  
JERRY W. HENDRICKS

ATTORNEYS AT LAW  
300 FORUM BUILDING  
777 HIGH STREET  
EUGENE, OREGON 97401

TELEPHONE  
343-0501  
AREA CODE  
503

October 20, 1972

Environmental Quality Commission  
1234 S.W. Morrison Street  
Portland, Oregon 97205

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**  
OCT 24 1972

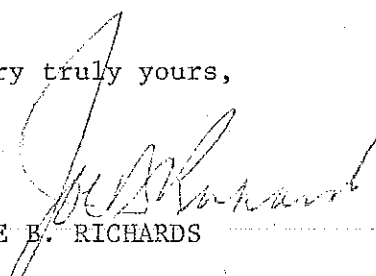
**AIR QUALITY CONTROL**

Re: Lane Regional Air Pollution Authority  
Permit Regulations

Gentlemen:

I enclose herewith the proposed Permit Regulations for Lane Regional Air Pollution Authority, to be submitted to the Board for its approval November 8, 1972.

Very truly yours,

  
JOE B. RICHARDS

JBR:jc  
Enclosure

cc: Lane Regional Air Pollution Authority  
Route 1 Bx 739  
Eugene, Oregon 97402

with enclosure.

LANE REGIONAL AIR POLLUTION AUTHORITY  
Rt. 1 Box 739, Eugene, Oregon

ORDINANCE No. \_\_\_\_\_

AN ORDINANCE amending Rule 11-015 and adopting new and additional Rules all relating to control of air pollution.

The Lane Regional Air Pollution Authority ordains:

Section 1. The Board of Directors finds that the 56th Oregon Legislative Assembly at its 1971 regular session enacted Chapter 406, Oregon Laws 1971 providing for a permit system applicable to certain air pollution sources; the permit system to be implemented by a regional air quality control authority when approved by the Environmental Quality Commission; that it is necessary to amend one existing rule and adopt a series of new rules in order to implement such a permit system within Lane Regional Air Pollution Authority; now therefore,

Section 2. Rule 11-015, is hereby amended by adding the following definition:

"Permit" or "Air Contaminant Discharge Permit" means a written permit issued by the Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.<sup>1</sup>

Section 3. Sections 22-001 through 22-055, Title 22, are hereby made a part of the Rules of the Lane Regional Air Pollution Authority.

<sup>1</sup>Underlined material is new material.



Section 22-001 - Permit Policy

1. Air contaminant discharge permits within the jurisdiction of this Authority shall be obtained for all air contaminant sources specified and defined in Section 22-020 (14) hereof.
2. The fees required to obtain permits shall be in accordance with the amounts, terms and conditions set forth in Section 22-020 (14) hereof.

Section 22-005 - Notice Policy

1. It shall be the policy of the Authority to issue public notice as to the receipt of an application within 15 days after the application is accepted for filing. The public notice shall allow 30 days for written comment from the public and from interested state and Federal agencies.

Section 22-010 - Permit Required

1. Air contaminant discharge permits shall be obtained for the air contaminant sources, including those processes and activities directly related or associated thereto which are listed in Section 22-020 (14) hereof, in accordance with the schedules set forth in Subsections 2, 3, 4 and 5 of this section.
2. No person shall construct, install, establish, develop or operate any new air contaminant source listed in Section 22-020(14) hereof, without first obtaining a permit from the Authority.
3. After January 1, 1973, no person shall operate any air contaminant source (a) through (1) as listed in Section 22-020 (14) hereof, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.

4. After July 1, 1973, no person shall operate any air contaminant source (m) through (hh) as listed in Section 22-020 (14) hereof, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.
5. After January 1, 1974, no person shall operate any air contaminant source (ii) through (uu) as listed in Section 22-020 (14) hereof, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Authority.

Section 22-015 - Multiple-Source Permit

1. When a single site includes more than one of the air contaminant sources listed in Table A, a single permit may be issued including all sources located at the site. Such permits shall separately identify by subsection each air contaminant source included from Table A. Applications for multiple-source permits will not be received by the Authority for processing without prior written agreement between the permit issuing agency and the applicant concerning the overall merit of issuing a multiple-source permit for the site under consideration.
  - a) When a single air contaminant source, which is included in a multiple-source permit, is subject to permit modification, revocation, suspension or denial, such action by the Authority shall only affect that individual source without thereby affecting any other source subject to that permit.
  - b) When a multiple-source permit includes air contaminant sources subject to the jurisdiction of the Department and a Regional Authority, the Department of Environmental Quality requires that it be the permit issuing agency, the Department and the Authority shall otherwise maintain and exercise all other aspects of their respective jurisdictions over the permittee.

Section 22-020 - Fees

1. All persons required to obtain a permit shall be subject to a three-part fee consisting of a uniform non-refundable Filing Fee of \$25.00, a variable Application Investigation and Permit Issuing or Denying Fee and a variable Annual Permit Compliance Determination Fee. The amount equal to the Filing Fee and the Application Investigation and Permit Issuing or Denying Fee shall be submitted as a required part of the application. The Annual Permit Compliance Determination Fee shall be paid prior to issuance of the actual permit.

2. The fee schedule contained in the listing of air contaminant sources listed in Subsection 14 hereof, shall be applied to determine the variable permit fees.
3. The Filing Fee and Application Investigation and Permit Issuing or Denying Fee shall be submitted with each application for a new permit, modified permit, or renewed permit.
4. Modifications of existing, unexpired permits which are instituted by the Authority due to changing conditions or standards, receipts of additional information or any other reason pursuant to applicable statutes and do not require re-filing or review of an application or plans and specifications shall not require submission of the Filing Fee or the Application Investigation and Permit Issuing or Denying Fee.
5. Applications for multiple-source permits received pursuant to Section E shall be subject to a single \$25.00 Filing Fee. The Application Investigation and Permit Issuing or Denying Fee and Annual Permit Compliance Determination Fee for multiple-source permits shall be equal to the total amounts required by the individual sources involved, as listed in Subsection 14 hereof.
6. At least one Annual Permit Compliance Determination Fee shall be paid prior to final issuance of a permit. Thereafter, the Annual Permit Compliance Determination Fee shall be paid at least 30 days prior to the start of each subsequent permit year. Failure to timely remit the Annual Permit Compliance Determination Fee in accordance with the above shall be considered grounds for not issuing a permit or revoking an existing permit.
7. If a permit is issued for a period less than one (1) year, the applicable Annual Permit Compliance Determination Fee shall be equal to the full annual fee. If a permit is issued for a period greater than 12 months, the applicable Annual Permit Compliance Determination Fee shall be prorated by multiplying the Annual Permit Compliance Determination Fee by the number of months covered by the permit and dividing by twelve (12).
8. In no case shall a permit be issued for more than five (5) years.
9. Upon accepting an application for filing, the Filing Fee shall be considered as non-refundable.
10. The Application Investigation and Permit Issuing or Denying Fee need not be submitted upon notice in writing by the permit issuing agency or shall be refunded when submitted with applications for modified or renewed permits if the following conditions exist:
  - a) The modified or renewed permit is essentially the same as the previous permit.

- b) The source or sources included are in compliance with all conditions of the modified or renewed permit.
11. When an air contaminant source which is in compliance with the rules of a permit issuing agency relocates or proposes to relocate its operation to a site in the jurisdiction of this Authority, application may be made and approval may be given for an exemption of the Application Investigation and Permit Issuing or Denying Fee. The permit application and the request for such fee reduction shall be accompanied by (1) a copy of the permit issued for the previous location, and (2) certification that the permittee proposes to operate with the same equipment, at the same production rate, and under similar conditions at the new or proposed location. Certification by the agency previously having jurisdiction that the source was operated in compliance with all rules and regulations will be acceptable should the previous permit not indicate such compliance.
  12. If a temporary or conditional permit is issued in accordance with adopted procedures, fees submitted with the application for an air contaminant discharge permit shall be retained and be applicable to the regular permit when it is granted or denied.
  13. All fees shall be made payable to the Authority and shall be deposited in the State Treasury by the Department of Environmental Quality to the credit of the Department of Environmental Quality Air Emission Permit Account, which is continuously appropriated for the purpose of funding the air contaminant discharge permit program covered by these regulations.

14. Permit fees shall be as follows:

AIR CONTAMINANT SOURCES AND ASSOCIATED FEE SCHEDULE

<u>Air Contaminant Source</u>	<u>Standard Industrial Classification Number</u>	<u>Application Investigation and Permit Issuing or Denying Fee</u>	<u>Annual Permit Compliance Determination Fee</u>
(a) Asphalt Production by distillation	2951	75	50
(b) Asphalt blowing plants	2951	100	75
(c) Asphaltic concrete paving plants	2951	100	100
(d) Asphalt felts and coating	2952	150	100
(e) Calcium carbide manufacturing	2819	225	150
(f) Alkalies and chlorine manufacturing	2812	225	175
(g) Nitric acid manufacturing	2819	100	75
(h) Ammonia manufacturing	2819	200	125
(i) Secondary lead smelting	3341	225	175
(j) Rendering plants	2094	150	100
(k) Coffee roasting	2095	100	75
(l) Sulfite pulp and paper production	2611 2621 2631	300	175
(m) Grain mill products located in Special Control Areas 10,000 or more T/yr. less than 10,000 T/yr.	2041 2042	250 50	150 50

Table A continued

Air Contaminant Source	Standard Industrial Classifica- tion Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determina- tion Fee
(n) Grain elevators located in Special Control Areas 20,000 or more T/yr. Less than 20,000 T/yr.	4221	150 50	100 50
(o) Redimix concrete	3273	75	50
(p) Plywood manufacturing	2432	150	100
(q) Veneer manufacturing (not elsewhere included)	2434	75	75
(r) Particleboard manufacturing	2492	300	150
(s) Hardboard manufacturing	2493	200	100
(t) Charcoal manufacturing	2851	200	100
(u) Battery separator manu- facturing	2499	75	50
(v) Furniture and fixtures 100 or more employees	2511	125	100
(w) Glass manufacturing	3231	100	75
(x) Cement manufacturing	3241	300	150
(y) Lime manufacturing	3274	150	100
(z) Gray iron and steel found- ries 3,500 or more tons per year production Less than 3,500 tons per year production	3321 3323	300 100	150 100
(aa) Steel works, rolling and finishing mills	3312	300	175
(bb) Incinerators (not else- where included) more than 2,000 lb/hr. capacity		100	100

Table A continued

	<u>Air Contaminant Source</u>	<u>Standard Industrial Classification Number</u>	<u>Application Investigation and Permit Issuing or Denying Fee</u>	<u>Annual Permit Compliance Determination Fee</u>
(cc)	Fuel burning equipment (not elsewhere included)	4951		
	Residual oil 5 million or more btu per hour (heat input)		100	50
	Wood fired 5 million or more btu per hour (heat input)		100	50
(dd)	Primary smelting and refining of ferrous and nonferrous metals not elsewhere classified	3313 3339		
	2,000 or more tons per year production		300	175
	Less than 2,000 tons per year production		100	75
(ee)	Synthetic resin manufacturing	2831	100	100
(ff)	Seed cleaning located in Special Control Areas (not elsewhere included)	0719	0	0
(gg)	Kraft pulp and paper production	2611 2621 2631	300	175
(hh)	Primary aluminum production	3334	300	175
(ii)	Industrial inorganic and organic chemicals manufacturing (not elsewhere included)	2810	250	125
(jj)	Sawmill and planing	2421		
	25,000 or more bd.ft/shift		75	50
	Less than 25,000 bd.ft/shift		25	25
(kk)	Hill work	2431	75	50

Table A

Air Contaminant Source	Standard Industrial Classifica- tion Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determina- tion Fee
(ll) Furniture and fixtures less than 100 employees	2511	75	50
(mm) Minerals, earth, and rock ground or otherwise treated (not elsewhere included)	3295	100	75
(nn) Brass and bronze foundries	3362	75	50
(oo) Aluminum foundries (not elsewhere included)	3361	75	50
(pp) Galvanizing	3479	75	50
(qq) Smoke houses	2013	75	50
(rr) Herbicide manufacturing	2879	225	175
(ss) Building board mills (not elsewhere included)	2661	150	100
(tt) Incinerators (not elsewhere included) 2,000 to 4,000 pounds per hour capacity		75	75
(uu) Fuel burning equipment (not elsewhere included)	4961		
Residual oil less than 5 million btu/hr (heat input)		25	25
Distillate oil 5 million or more btu/hr (heat input)		25	25
Wood fired less than 5 million btu/hr (heat input)		25	25



Section 22-025 - Procedures For Obtaining Permits

1. Submission and processing of applications for permits and issuance, denial, modification, and revocation of permits shall be in accordance with duly adopted procedures of this Authority.

Section 22-030 - Other Requirements

1. No person shall construct, install, establish, modify or enlarge any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A without notifying the Authority.
2. Prior to construction, installation, establishment, modification or enlargement of any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A, detailed plans and specifications shall be submitted to and approved in writing by the Authority upon request as required by Title 21 of these Rules and Regulations.

Section 22-035 - Registration Exemption

1. Air contaminant sources constructed and operated under a permit issued pursuant to these regulations may be exempted from Registration as required by Title 21 of these Rules and Regulations.

Section 22-040 - Application For A Permit

1. The Authority's permit program, including proposed permits and proposed revised permits, shall be submitted to the Environmental Quality Commission for review and approval prior to final adoption by the Authority. Each permit issued by the Authority shall by its conditions authorize the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations, or prohibitions.
2. Each permit proposed to be issued or revised by this Authority shall be submitted to the Department of Environmental Quality at least fourteen (14) days prior to the proposed issuance date. Within the fourteen (14) day period, the Department shall give written notice to the Authority of any objection the Department has to the proposed permit or revised permit or its issuance. No permit shall be issued by the Authority unless all objections thereto by the Department shall be resolved prior to its issuance. If the Department does not make any such objection, the proposed permit or revised permit may be issued by the Authority.
3. If there is an objection by the Department regarding a proposed or revised permit, the Department shall present its objection before the Board of the Authority prior to the issuance of a final permit.
4. If as a result of objection by the Department regarding a proposed or revised permit, the Authority is unable to meet the time provisions of either this regulation or those contained in an existing permit, the Authority shall issue a temporary permit for a period not to exceed 90 days.
5. The Authority shall give written notice to the Department of its intention to deny an application for a permit, not to renew a permit, or to revoke or suspend any existing permit.
6. A copy of each permit issued or revised by the Authority pursuant to this section shall be promptly submitted to the Department.
7. The Authority shall prepare and submit to the Department a summary listing of air contaminant sources currently in violation of issued permits. These reports shall be made on a quarterly basis commencing April 1, 1973.

Section 22-045 - Issuance, Renewal or Modification of a Permit

1. No permit will be issued to an air contaminant source which is not in compliance with applicable rules unless a compliance schedule is made a condition of the permit.
2. The procedure for issuance of a permit shall apply to renewal of a permit.
3. The Authority may institute modification of a permit due to changing conditions or standards, receipt of additional information or any other reason, by notifying the permittee by registered or certified mail of its intention to modify the permit. Such notification shall include the proposed modification and the reasons for modification. The modification shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing. Such a request for hearing shall be made in writing and shall be conducted pursuant to the regulations of the Authority. A copy of the modified permit shall be forwarded to the permittee as soon as the modification becomes effective. The existing permit shall remain in effect until the modified permit is issued.

Section 22-050 - Denial of a Permit

1. If the Authority proposes to deny issuance of a permit, it shall notify the applicant by registered or certified mail of the intent to deny and the reasons for denial. The denial shall become effective 20 days from the date of mailing of such notice unless within that time the applicant requests a hearing. Such a request for hearing shall be made in writing and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the Rules of the Authority.

Section 22-055 - Suspension or Revocation of a Permit

1. In the event that it becomes necessary to suspend or revoke a permit due to non-compliance with the terms of the permit, unapproved changes in operation, false information submitted in the application, or any other cause, the Agency shall notify the permittee by registered or certified mail of its intent to suspend or revoke the permit. Such notification shall include the reasons for the suspension or revocation. The suspension or revocation shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing. Such a request for hearing shall be made in writing and shall state the grounds for the request.

2. If the Board finds that there is a serious danger to the public health or safety or that irreparable damage to a resource will occur, it may suspend or revoke a permit effective immediately. Notice of such suspension or revocation must state the reasons for such action and advise the permittee that he may request a hearing. Such a request for hearing shall be made in writing within 90 days of the date of suspension and shall state the grounds for the request.
3. Any hearing requested under this chapter shall be conducted pursuant to the rules of the Authority.