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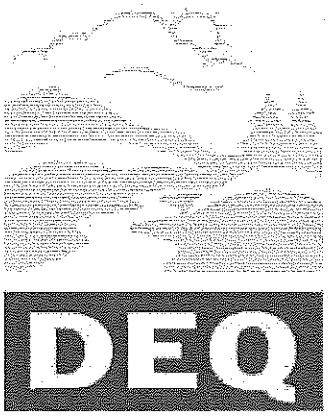
3/12/1976

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS



State of Oregon
Department of Environmental Quality

AGENDA

SPECIAL MEETING

Oregon Environmental Quality Commission
March 12, 1976
Conference Room
Employment Building Auditorium
875 Union Street, N.E.
Salem, Oregon

9:00 a.m.

A. Applications for Tax Credit under ORS 460.155, et. seq.

B. Authorizations for Public Hearings (at times and places to be established).

a) Proposed Adoption of Water Quality Permit Fees Schedule and Procedures.

b) Proposed Revisions to the Department's Agricultural Open Burning Rules and Establishment of Field Burning Acreage for 1976.

C. Rules, Amendments and Adoptions

a) Proposed adoption of Temporary Rule to allow use of sewage seepage pits in Wasco County.

b) Proposed adoption of Rule pertaining to Open Burning in Linn, Benton, Yamhill, Marion and Polk Counties.

~~c) Proposed adoption of revised Administrative Procedures Rule OAR Chapter 340 Section 11-010 et. seq.~~

d) Proposed revisions to the Department's Indirect Source Rule to increase minimum size of Parking Facility required to have a permit from 50 spaces to 250 spaces.

10:00 a.m.

D. PUBLIC HEARING - Boise Cascade Pulp and Paper Mill, Salem, Oregon
Proposed issuance of Air and Water Permits.

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Note: Because of the uncertain time spans involved, the Commission reserves the right to deal with any item, except item D, at any time in the meeting.

The Commission will be meeting for breakfast at 8:00 a.m. in the Salem DEQ offices at 796 Winter Street N.E., and public business items, including those above, may be discussed.

MINUTES OF THE SPECIAL MEETING

OF THE

OREGON ENVIRONMENTAL QUALITY COMMISSION

March 12, 1976

On Friday, March 12, 1976, a Special Meeting of the Oregon Environmental Quality Commission convened in the conference room of the Employment Building Auditorium, 875 Union Street, N.E. Salem, Oregon.

Present were Commission members, Joe B. Richards, Chairman; Dr. Grace S. Phinney and Mrs. Jacklyn L. Hallock. Commissioner Somers arrived later and Dr. Crothers was absent.

APPLICATIONS FOR TAX CREDIT UNDER ORS 460.155, et. seq.

It was MOVED by Commissioner Hallock, seconded by Commissioner Phinney and unanimously carried that the tax credit applications be approved as submitted.

AUTHORIZATION FOR PUBLIC HEARINGS

a) Proposed Adoption of Water Quality Permit Fees Schedule & Procedures

Mr. Harold Sawyer of the Water Quality Division presented the staff report asking that authorization be given to proceed with a public hearing and then bring the matter before the Commission at its April meeting for adoption.

It was MOVED by Commissioner Phinney, seconded by Commissioner Hallock and unanimously carried that the Director's recommendation be approved to hold a hearing before a hearings officer at a time and place yet to be determined with final adoption of the regulations and fee schedule to occur at the April Commission meeting.

b) Proposed Revisions to the Department's Agricultural Open Burning Rules and Establishment of Field Burning Acreage for 1976

Mr. Richard L. Vogt of the Air Quality Division's Emissions Management Section presented the Department's staff report stating that the hearing would most likely be held in Albany, Oregon on April 30, 1976.

It was MOVED by Commissioner Hallock, seconded by Commissioner Phinney and unanimously carried that the Director's recommendation be approved to grant authorization to hold a public hearing before the Environmental Quality Commission for the purpose of carrying out the Commission's responsibilities under Senate Bill 311 and prerequisite to the allocation of allowable burn acreages and the consideration for adoption of amendments to OAR 340, Section 26-005 through 26-025.

RULES, AMENDMENTS AND ADOPTIONS

a) Proposed adoption of Temporary Rule to allow use of sewage seepage pits in Wasco County

Mr. Kenneth H. Spies, Administrator, Solid Waste Division, presented the staff report.

After some discussion Chairman Richards stated he felt the proposal under 71-030 should read "seepage pits, cesspools and graywater waste disposal sumps shall not be used for subsurface sewage disposal of sewage except where specifically approved by Director or his authorized representative and after a finding has been made that surface waters would not be contaminated." Subsection B would be eliminated where community water supply is not available. Subsection C would read "where clean coarse gravel or other equally porous material."

It was MOVED by Commissioner Phinney, seconded by Commissioner Somers and unanimously carried that the staff of the Department investigate whatever conditions there are in Wasco County that would make it suitable for seepage pits and then be able to come up with a more sensible proposal than before the Commission at this time.

b) Proposed adoption of rule pertaining to open burning in Linn, Benton, Yamhill, Marion and Polk Counties

Mr. Russ Fetrow of the Salem/North Coast Regional Office presented the staff report and made note of a letter from the Marion County Board of Commissioners expressing their position of the open burning question, stating that a two-months period should be set aside each year to allow residents to burn leaves and other yard clippings.

It was MOVED by Commissioner Phinney, seconded by Commissioner Hallock and unanimously carried that the Director's recommendation be accepted for the Commission to adopt Rules 29-001, 29-005 and 29-055 which are attached as part of the report.

d) Proposed revisions to the Department's Indirect Source Rule to increase minimum size of parking facility required to have a permit from 50 spaces to 250 spaces

Mr. Carl Simons of the Air Quality Division presented the staff report.

Ms. Margaret Strachan, Northwest District Association, Portland said she felt more in tune with the temporary regulations.

Mr. Lawrence R. Young, Coons, Cole & Anderson, attorneys, Eugene spoke in behalf of International Council of Shopping Centers and Oregon Columbia Chapter of Associated Contractors stating both parties object to substantial changes in the regulations.

It was MOVED by Commissioner Somers, seconded by Commissioner Hallock and unanimously carried that the Director's recommendation be approved as follows:

1. Find that failure to act promptly will result in serious prejudice to the public interest or to the interest of parties concerned for the specific reason that without the adoption of such rule, the development of Regional Parking and Circulation Plans will be unduly delayed resulting in additional costs to both the Department and applicants.

2. Adopt Attachment II as a temporary rule to become effective immediately upon filing with the Secretary of State.

3. Authorize the Department to develop the necessary agreements with agencies such as LCDC, CRAG and the Oregon Department of Transportation to ensure that Regional Parking and Circulation Plans can be developed in a reasonable time frame upon completion of the Portland Air Quality Maintenance Plan analysis.

4. Authorize the Director to conduct necessary public hearings within 120 days time limit of the temporary rule for the purpose of taking public testimony for consideration in the adoption of permanent changes to the Rules for Indirect Sources.

with the amendment that on page 6(A) insert the words "except within the municipal boundaries of Portland;" and at the end of the same subparagraph delete the period and insert a comma and the words "and within the municipal boundaries of Portland 150 or more parking spaces."

PUBLIC HEARING - BOISE CASCADE PULP AND PAPER MILL, SALEM, OREGON
PROPOSED ISSUANCE OF AIR AND WATER PERMITS

Mr. Russ Fetrow of the Salem/North Coast Region presented the staff report regarding the air contaminant discharge permit modifications.

Mr. Jerry Powell, Oregon Recyclers, felt that granting the air permit for an increase in pulp production would be premature without consideration of comparative effects of installing a waste paper cleaning and deinking facility.

Mr. Jim Fahlstrom, Resident Manager, Boise Cascade Group said he agreed generally with the conclusions and recommendations of the staff.

Mr. Andy Caron, Regional Engineer, National Council for Air and Stream Improvement, stated that Mr. Fetrow's cost of somewhere around $250 per sample would be a reasonable cost. He said that the recapture of ammonia that is being discharged is in fairly low concentration.

Mr. Rex Hartley, Oregon Lung Assn., Willamette Region presented a statement which has been made a part of the permanent files in this matter.

Mr. Larry Moore, President, Chamber of Commerce, Salem said he supports the issuing of the permits to Boise Cascade Corporation.

Mr. Michael Finley, OSPIRG, asked some questions of the staff.

Mr. Edward Reeve of the Oregon Environmental Council spoke in opposition to the AQCD permit.

Ms. Kini Schneider, Oregon Environmental Council spoke in opposition to the proposed water waste discharge permit.

Ms. Faye Diann Baker, OSPIRG, felt there were a number of inadequacies that should be dealt with by the Department.

Ms. Leslie J. Watson, Oregon Clean Water Project felt that Boise Cascade is contributing to the degradation of the Willamette River and should be made aware of specific things.

Ms. Cathryn Simpson, Oregon Council of Sierra Club testified in favor of comments made by Ms. Watson.

Mr. John Stuart Bailey, Citizens for State Planning spoke in opposition to the proposed NPDES water permit.

Mr. David E. Ortman, Friends of the Earth said his organization is not completely convinced that the permits proposed for Boise Cascade are adequate to protect the air and water quality in the Salem area.

Ms. Nancy L. Wakefield, Portland Audubon Society, stated there was no mention of ammonia effluent discharges, nor is there a limit set on the amount of discharge allowed.

Mr. Chris Turtleson, resident of Salem, applauded Boise Cascade for the installation of the mist eliminator.

Ms. Laurel Anderson, resident of Salem, stated Boise Cascade Corporation has improved its air emissions, etc., but feels it is not good enough of an improvement to plan for expansion of the plant.

Mr. Jim McGowan, resident of Salem, could not comprehend scientific statements that the "gunk" in the stream waters did not hurt anything.

Mr. Mike Joye, concerned fisherman said the fish caught near Boise Cascade are not edible.

Mr. Andy Caron representing the forest industry stated that methods now used to determine suitability of waters for body contact sports is adequate.

Mr. Bryan Johnson, Consulting Engineer on Boise Cascade's wastewater treatments, said he wished to establish a limitation but only have it applicable for the months of July and August.

After some discussion it was MOVED by Commissioner Somers, seconded by Commissioner Hallock and unanimously carried that the permits be adopted with both permits expiring on February 28, 1978.

There being no further business, the meeting was adjourned.

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item A , March 12, 1976, Special EQC Meeting

Tax Credit Applications

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

Director's Recommendation

It is recommended that the Commission act on the six (6) applications for tax credit relief after consideration of the Director's recommendations on the attached table.

LOREN KRAMER
Director

Attachments
Tax Credit Summary
Tax Credit Review Reports

TAX CREDIT APPLICATIONS

Applicant/Plant Location	Appl. No.	Facility	Claimed Cost	% Allocable to Pollution Control	Director's Recommendation
National Metallurgical Co. 1801 South "A" Street Springfield, Oregon 97477	T-733	Particulate Emission Control System	$2,678,828.00	80% or more	Issue
Pacific Carbide and Alloys 4055 N. Columbia Boulevard Portland, Oregon 97217	T-738	Wheelabrator-Frye Baghouse	528,244.79	80% or more	Issue
Menasha Corporation Paperboard Division P. O. Box 329 North Bend, Oregon 97459	T-740	Two American Defibrator Presses	774,971.00	80% or more	Issue
Menasha Corporation North Bend	T-741	Liquor Incineration System	3,121,236.00	80% or more	Issue
Menasha Corporation North Bend	T-743	Settling pit, trench sluices, drag chain, pump, etc.	64,197.00	80% or more	Issue
Columbia Steel Casting 10425 N. Bloss Avenue Portland, 97203	T-744	Baghouse and related equipment	158,396.06	80% or more	Issue

Proposed March 1976 Totals:

Air Quality	$3,365,468.85
Water Quality	3,960,404.00
Land Quality	0
Total	$7,325,872.85

Calendar Year Totals to date: (excluding March)

Air Quality	$ 143,499.15
Water Quality	369,169.85
Land Quality	505,732.00
Total	$1,018,351.00

Total Certificates Awarded (monetary values) since inception of Program (excluding proposed March 1976 certificates)

Air Quality	$95,085,660.90
Water Quality	80,776,326.63
Land Quality	19,366,250.27
Total	$195,228,237.80

Appl T-733
Date 2/13/76

State of Oregon
Department of Environmental Quality

Tax Relief Application Review Report

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1. Applicant

National Metallurgical Company
1801 South "A" Street
Springfield, Oregon 97477

The applicant owns and operates two electric arc furnaces to produce elemental silicon in Springfield, Oregon.

2. Description of Facility

The facility claimed in this application consists of a particulate emission control and handling system for a new 250 MVA electric arc furnace. It consists of:

a.	Furnace hood and ducts	$652,824.73
b.	Radiant cooler	387,812.18
c.	200,000 ACFM baghouse and a fan with a 1250 hp motor	969,509.85
d.	Dust conveying system	178,784.85
e.	Dust pelletizer	486,408.09
f.	Land for above, .803 acre	3,488.14

The facility was begun on April 17, 1974 and completed and placed in operation on May 7, 1975.

Certification is claimed under current statutes and the percentage claimed for pollution control is 100%.

Facility costs: $2,678,828 (Accountant's certification was provided).

3. Evaluation of Application

National Metallurgical Company sent a Notice of Construction application to Lane Regional Air Pollution Authority on August 3, 1973 for this claimed facility and the new 25 MVA electric arc furnace. On November 16, 1973, Lane Regional issued a Certificate of Review and Notice to Proceed to National Metallurgical for this project.

The furnace, baghouse, and pelletizing plant were tested for compliance demonstration on October 1, 1975. Emission results demonstrated compliance with all Lane Regional rules and regulations. The facility is presently operating in compliance.

The claimed facility captures 22.5 tons per day of silicon dioxide which is pelletized for recycle to the furnace, sacked for sale off-site, and a small amount is sent to an off-site landfill. The annual value of this reclaimed material is $144,000 which is more than offset by the $253,500 annual operating expenses of the claimed facility.

It is concluded that since the claimed facility is being operated at a loss. 100% of its cost can be allocated to air pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $2,678,828 with 80% or more allocated to pollution control be issued for the facility claimed in Tax Credit Application No. T-733.

PBB:cs
2/18/76

FEB 24 1976

Appl T-738

Date 2/18/76

State of Oregon
Department of Environmental Quality

Tax Relief Application Review Report

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1. Applicant

Pacific Carbide and Alloys Company
4055 N. Columbia Boulevard
Portland, Oregon 97217

The applicant takes petroleum coke and limestone and reacts them in an electric arc furnace to produce calcium carbide. The calcium carbide is then crushed screened, packaged and shipped for further processing.

2. Description of Facility

The new electric arc furnace reacts the petroleum coke and limestone to form calcium carbide which is tapped approximately every two hours. During the operation of the furnace particulate and gaseous emissions are evolved from the furnace. In order to capture and remove these contaminants from the airstream prior to discharge into the ambient air, necessary hooding, ducting dust collector and support equipment are required.

The equipment being claimed for certification as pollution control are the following.

a. Wheelabrator Frye Model 171, series 5S, size LF1224F, 11 module dust collector and Nomex bags, including three screw conveyors, inlet manifold, foundations, supports, electrical services, transformer, paint, instrumentation, access ladder, walkways and platforms.

b. Garden City exhaust fan, Model No. 89RT-9-6 with spherical roller bearings, Dodge Model No. PH252B paraflex coupling, forced oil lubricating system and a Louis Allis Model No. 5-269846 type WP1X, 500 hp, 440 volt, 3Ø, 900 rpm induction motor and motor starter.

c. Custom made hood for furnace and tap hole, crushermen and associated ducting dampers and automatic controls.

d. The facility was started on October 17, 1974 and completed and placed in operation on May 13, 1975.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $528,244.79 (accountant's certification was provided).

3. Evaluation of Application

On April 17, 1974, the Department of Environmental Quality received from Pacific Carbide and Alloys Company an application for construction and operation of a new electric arc furnace and associated air pollution control equipment. The Department, on May 17, 1974, notified Pacific Carbide that "highest and best practicable treatment and control" would be required which, in the Department's opinion, would be baghouse or equivalent control. Following resubmittal of Pacific Carbide's application incorporating a baghouse for control of particulate emissions, the Department approved construction and operation of the proposed facility on September 16. 1974. The furnace and associated pollution control equipment was placed in operation on May 13, 1975 and since that time has complied with all Department rules, regulations and emission standards. The lime and coke dust collected is worthless and is put into a slurry form and stockpiled at the plant site.

It is concluded that the Wheelabrator Frye dust collector and associated system components are for the sole purpose of pollution control. These items show no return on investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $528,244.79 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-738.

JAP:cs
2/23/76

FEB 26 1976 Appl T-740

Date February 18, 1976

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Menasha Corporation
Paperboard Division
P.O. Box 329
North Bend, Oregon 97459

The applicant owns and operates a neutral sulfite semi-chemical pulp and paper mill producing corrugating medium.

This application was submitted February 11, 1976.

2. Description of Claimed Facility

The claimed facility consists of two American Defibrator DKP presses, equipment for conducting pulp from the digester to the presses, and tanks and related equipment for storing spent liquor removed by the presses.

The claimed facility was completed and placed in operation in November, 1975. Plans for the facility were approved by letter dated July 10, 1975. Construction was started July 28, 1975.

Certification must be made under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $774,971 (Accountants certification was submitted).

3. Evaluation of Application

With the claimed facility, between 75-85% of the spent liquor generated by the mill is collected and burned, compared with 55% which would have been removed with the previous system. Liquor losses to the mill sewer constitute a major source of BOD-5 from the mill, and the claimed facility greatly reduces these losses. Without the press washers, it is doubtful E.P.A. effluent standards specified in the applicant's permit could be met.

The applicant does derive an income from the claimed facility. However, operating expenses are greater than the income, and consequently, there is no net profit resulting from the facility.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $774,971 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-740.

RJN:kmm
2/25/76

Appl. T-741

Date: 2/18/76

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Menasha Corporation
Paperboard Division
P. O. Box 320
North Bend, Oregon 97450

The applicant owns and operates a neutral sulfite semi-chemical pulp and paper mill producing corrugating medium at North Bend, Oregon.

2. Description of Claimed Facility

The claimed facility is a Dorrco Fluisolids System for Spent (pulp cooking) Liquor Incineration. The system concentrates spent liquor to 20% - 30% solids and then incinerates the condensed liquor in a fluidized bed reactor. The inorganic constituents, salt cake, and soda ash in the burned liquor are reclaimed and sold.

The claimed facility was completed and put into service in November, 1974. Construction of the facility was started in December, 1972. Installation of the claimed facility was required by the Department in Waste Discharge Permit No. 1008 issued May 18, 1971. Based on the above information, it is determined that the claimed facility satisfies the requirements of ORS 468.175 and is eligible for tax credit.

Certification must be made under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $3,121,236 (accountant's certification was provided).

3. Evaluation of the Application

Prior to the installation of the claimed facility, spent cooking liquor was discharged (after primary treatment) to the Pacific Ocean. With the claimed facility, most of the spent liquor is collected and burned without discharge to public waters. Further, the applicant should be able to achieve the federal effluent standards.

Inspection of the claimed facility shows that it operates well and has significantly reduced the quantity of aqueous wastes being discharged from the mill.

The Company derives some income from the facility, but it is less than the claimed operating expenses and there is no net profit.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $3,121,236 with 80% or more of the cost allocated for pollution control be issued for the facilities claimed in Tax Application T-741.

RJN/rgn
2-27-76

FEB 2 6 1976 Appl T-743

Date February 18, 1976

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Menasha Corporation
Paperboard Division
P.O. Box 329
North Bend, Oregon 97459

The applicant owns and operates a neutral sulfite semi-chemical pulp and paper mill producing corrugating medium.

The application was received February 11, 1976.

2. Description of Claimed Facility

The claimed facility consists of a settling pit to remove sand and cinders from the ash removal water, concrete trench sluices to conduct the ash removal water from the boilers to the settling pit, a drag chain with scraper flights to remove the sand and cinders from the settling pit, a pump for pumping the settled water from the pit to the main waste water sewer, and related piping and controls.

Plans for the claimed facility were approved by the Department by letter dated July 7, 1975. Construction was started in August, 1975, and the facility was placed in operation in September, 1975. The facility was not specifically required by the Department.

Certification must be made under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility cost: $64,197 (Accountant's certification was provided.)

3. Evaluation of Application

Prior to the installation of the claimed facility, the ash removal water was discharged directly to the main sewer. The ash solids would plug the side hill screen at the settling basin, thereby reducing the efficiency of screen to remove fiber and other solids.

With the claimed facility, plugging of the side hill screen by ash solids has been eliminated.

Inspection of the facility indicated that the claimed facility is well designed and constructed and operates satisfactorily.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $64,197 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-743.

RJN:kmm
2/25/76

12

FEB 19 1976

Appl T-744

Date 2/13/76

State of Oregon
Department of Environmental Quality

Tax Relief Application Review Report

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1. Applicant

Columbia Steel Casting Co., Inc.
10425 N. Bloss Avenue
Portland, Oregon 97203

The applicant owns and operates a plant to manufacture alloy steel casting. The plant is located in North Portland.

2. Description of Facility

The facility claimed in this application is a baghouse for collecting particulate emissions from two new electric arc furnaces. The claimed facility consists of:

a. Hoods for the two furnaces
b. Ladle pit hood
c. Connecting ductwork
d. Champion blower size 445 with 150 hp motor
e. Carborundum baghouse No. 264CT-2, four modules, handling 40,000 cfm
f. Screw conveyors for dust
g. Structural steel and foundations
h. Miscellaneous electrical motors, conduit, etc.

The facility was begun on October 15, 1974 and completed and placed in operation on February 3, 1975.

Certification is claimed under current statutes and the percentage claimed for pollution control is 100%.

Facility costs: $158,396.06 (Accountant's certification was provided).

3. Evaluation of Application

Columbia Steel Casting Company submitted a Notice of Construction on September 28, 1973 to the Department requesting permission to install two new electric arc furnaces controlled by the baghouse claimed in this tax credit application. The Department elected to require an application for an Air Contaminant Discharge Permit for this project and handled the review under the permit application. The permit application was received on January 30, 1974. The project was approved by permit sent to the Company on September 27, 1974. The baghouse was tested on April 30, 1975. The Department approved the test on June 30, 1975 and considers the plant in compliance.

The dust collected by the baghouse is wetted and disposed of as fill at the plant site. The baghouse emits about 16 lb/day of dust while capturing 2000 lb/day.

It is concluded that 100% of the baghouse cost can be allocated to air pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $158,396.06 with 80% or more allocated to pollution control be issued for the facility claimed in Tax Credit Application No. T-744.

PBB:cs
2/17/76

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item B(a) Authorization for Public Hearing - Proposed Adoption of Water Quality Permit Fee Schedule And Procedures

BACKGROUND

Pursuant to Senate Bill 5536 (Chapter 445 Oregon Laws 1975), the 1975 Legislature authorized and directed the Department of Environmental Quality to establish, in accordance with ORS 468.065, a fee schedule for waste discharge and disposal permits and to raise at least $100,000 from Water Quality permit fees during Fiscal Year 1977.

In keeping with the requirement, the Department is proposing to amend regulations pertaining to waste discharge permits by adding the sections necessary to implement a fee program.

Along with the added section on fees and the appropriate tables (discussed later in this report) the Department is proposing some minor changes in and corrections to the existing rules, as follows:

PROPOSED RULE CHANGES

The term "waste discharge permit" in the heading and in Section 45-005 and the term "state permit" used throughout these rules are confusing terms and not adequately descriptive. The rules pertain to two types of permits, either a National Pollutant Discharge Elimination System (NPDES) permit to discharge pollutants to navigable waters or a Water Pollution Control Facilities (WPCF) permit to construct and operate a disposal system which does not discharge to navigable waters. The rules have been changed to show these distinctions.

Section 45-010 - The definition of "disposal system" has been expanded to exempt from these permit requirements subsurface sewage disposal systems and systems which have no discharge because they recirculate all waste waters.

A definition for "process waste water" has been added since the term is used in the fee schedule. Subsequent definitions have been renumbered.

The definitions "state permit" and "waste discharge permit" have been removed since they are no longer used.

A definition for WPCF permit has been added.

Section 45-015,025 - The term "state permit" has been replaced by "WPCF permit" and some redundancies have been removed.

Section 45-030 - A reference to Table B has been added.

Section 45-040 - In order to clarify the procedures to be followed when the Department receives a request for a permit modification, the redundant term "reissuance" has been removed and "modification" has been added.

Section 45-055 - Since these procedures are specific to a Department-initiated modification the heading has been changed appropriately.

The following section and tables have been added to the regulations to define the permit fee requirements and method of implementation:

Section 45-070 - describes the three-part fee program which is required by law. The filing fee will be a uniform non-refundable fee and must be submitted with an application for a new permit, renewal or modification.

The application processing fee will be required on all applications for new facilities and must also be submitted as part of the application. This fee will vary depending on the type of application required. Large and complex facilities require a more comprehensive application. Unless a request for an increase in the amount of pollutant discharged is received, no application processing fee will be required for permit modifications or renewals.

The annual compliance determination fee must be paid each year a facility is in operation. The fee period has been established to correspond with the State's fiscal year and is to be paid annually in July. An application for a new permit must include the first year's compliance determination fee. The fee period will start the fiscal year the facility is put into operation. (Sometimes a permit will be issued four or five years before the permitted facility is ever constructed.) If a facility begins operation late in the fiscal year, after May 1, no compliance determination fee will be required until the beginning of the next fiscal

year. The proposed rules allow the Director to change the fee due date in specific instances upon request. July may be a bad month for some facilities to pay their annual compliance determination fees. The rules will allow the Commission to reduce or suspend the compliance determination fee in the event of a proven hardship.

Table A describes the three-part fee schedule. How the Department arrived at the proposed fees will be discussed later in the report.

Table B describes the application forms used in administering the Water Quality permit program. Some of the forms are provided by the Environmental Protection Agency and are required as part of the NPDES permit program. Others are State application forms. The table describes the application form to be used in each case.

DISCUSSION

The last part of this report consists of a discussion about the proposed fees and how they were developed.

The filing fee has been set at $25.00 per application. This fee is to recover the cost of the paperwork involved in reviewing an application, circulating a public notice and issuing a permit. Just circulating the public notice averages out to a cost of approximately $15.00 per permit.

The application processing fee proposed varies between $50.00 and $150.00, as described in Table A section 2. This fee will be required on applications for new or expanded facilities. It usually involves the review of a more comprehensive permit application which may include engineering plans and specifications. The amount of the fee required is dependent upon the complexity of the application which must be reviewed.

The most complex of the three fees established is the annual compliance determination fee described in Table A section 3. In developing this schedule, the Department has considered the complexity of various treatment processes and the time involved in assuring compliance.

The Department has tried three different approaches in arriving at the annual compliance determination fee which would be equitable for the various categories and size of sources, and would accomplish the legislatively mandated $100,000 Water Quality permit fee revenue.

The first approach was to charge every permittee a fee in direct proportion to the pollutants discharged. For domestic sewage sources this worked well but for industrial sources the schedule was very complex and the fee in many cases was not proportional to the Departmental cost in

assuring compliance. For these reasons it was abandoned.

The second schedule developed was a very simple schedule which broke each of the permittees into one of eight general categories. This schedule was inequitable in that it was over-simplified.

The third approach combined what is considered to be the good portions of each of the other two approaches, and has culminated in Part 3 of the attached Table A. It is the staff's opinion that the schedule is fair, equitable and reasonably reflects the proportionate costs to the Department of assuring compliance at these facilities.

On January 20, 1976 a Water Quality Program Task Force was appointed to evaluate the Water Quality permit program and to work with the Water Quality staff in finalizing the fee schedule and regulations. The Task Force was made up of representatives from governmental entities, industries and an environmental group. The task force was helpful. The proposed regulations and fee schedule are a result of input from them.

DIRECTOR'S RECOMMENDATION

The Director requests authorization to schedule and hold a hearing before a hearings officer at a time and place yet to be determined with final adoption of the regulations and fee schedule to occur at the April Commission meeting.

LOREN KRAMER
Director

CKA:rgn
3-1-76

Subdivision 5

REGULATIONS PERTAINING TO [WASTE-DISCHARGE] NPDES AND WPCF PERMITS

[ED. NOTE: Unless otherwise specified, sections 45-005 through 45-030 of this chapter of the Oregon Administrative Rules Compilation were adopted by the Environmental Quality Commission September 21, 1973, and filed with the Secretary of State September 21, 1973, as DEQ 58. Effective 10-25-73. Repeals former sections 45-005 through 45-030 (DEQ 42) and DEQ 53 (T).]

45-005 PURPOSE. The purpose of these regulations is to prescribe limitations on discharge of wastes and the requirements and procedures for obtaining [waste discharge] NPDES and WDCF permits from the Department.

45-010 DEFINITIONS. As used in these regulations unless otherwise required by context.

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

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

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

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

(5) "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells and other systems [.] but excludes subsurface sewage disposal systems, as defined in OAR 340-71-010, and systems which recirculate without discharge.

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

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

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

(9) "Navigable waters" means all navigable waters of the United States and their tributaries; interstate waters; intrastate lakes, rivers and streams which are used by interstate travelers for recreation or other purposes or from which fish or shellfish are taken and sold in interstate commerce or which are utilized for industrial purposes by industries in interstate commerce.

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

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

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

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

(14) "Process waste water" means waste water contaminated by industrial processes but not including non-contact cooling water or storm runoff.

[(14)] (15) "Public waters" or "waters of the state" include lakes, bays, ponds, impounding reservoirs, streams, creeks, estuaries, marshes, inlets, canals, the

Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland, or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters) which are wholly or partially within or bordering the state or within its jurisdiction.

[~~(15)~~] (16) "Regional Administrator" means the regional administrator of Region X of the U.S. Environmental Protection Agency.

[~~(16)~~] (17) "Sewage" means the water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present. The mixture of sewage as above defined with wastes or industrial wastes, as defined in subsections (7) and (22) of this section, shall also be considered "sewage" within the meaning of these regulations.

[~~(17)~~] (18) "Sewerage system" means pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.

[~~(18)~~] (19) "State" means the State of Oregon.

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

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

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

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

[~~(23)~~] (22) "Wastes" means sewage, industrial wastes and all other liquid, gaseous, solid, radioactive or other substances which will or may cause pollution or tend to cause pollution of any waters of the state.

(23) "WPCF permit" means a water Pollution Control Facilities permit to construct and operate a disposal system with no discharge to navigable waters. A WPCF permit is issued by the Department in accordance with the procedures of OAR Chapter 340, Sections 14-005 through 14-050.

45-015 PERMIT REQUIRED. (1) Without first obtaining a [~~state~~] permit from the Director, no person shall:

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

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

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

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

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

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

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

(4) Although not exempted from comply-

ing with all applicable laws, rules and regulations regarding water pollution, persons discharging wastes into a sewerage system are specifically exempted from requirements to obtain a [state] WPCF or NPDES permit, provided the owner of such sewerage system has a valid [state] WPCF or NPDES permit. In such cases, the owner of such sewerage system assumes ultimate responsibility for controlling and treating the wastes which he allows to be discharged into said system. Notwithstanding the responsibility of the owner of such sewerage systems, each user of the sewerage system shall comply with applicable toxic and pretreatment standards and the recording, reporting, monitoring, entry, inspection and sampling requirements of the commission and the Federal Act and federal regulations and guidelines issued pursuant thereto.

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

(a) Make prompt application to the Department therefor;

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

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

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

45-020 NON-PERMITTED DISCHARGES. Discharge of the following wastes into any navigable or public waters shall not be permitted:

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

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

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

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

45-025 PROCEDURES FOR OBTAINING [~~STATE~~] WPCF PERMITS. Except for the procedures for application for and issuance of NPDES permits on point sources to navigable waters of the United States, submission and processing of applications for WPCF [state] permits and issuance, renewal, denial, transfer, modification and suspension or revocation of WPCF [state] permits shall be in accordance with the procedures set forth in OAR Chapter 340, sections 14-005 through 14-050.

45-030 APPLICATION FOR NPDES PERMIT.

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

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

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

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

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

45-035 ISSUANCE OF NPDES PERMITS. (1) Following determination that it is complete for processing, each application will be reviewed on its own merits. Recommendations will be developed in accordance with provisions of all applicable statutes, rules, regulations and effluent guidelines of the State of Oregon and the U.S. Environmental Protection Agency.

(2) The Department shall formulate and prepare a tentative determination to issue or deny an NPDES permit for the discharge described in the application. If the tentative determination is to issue an NPDES permit, then a proposed NPDES permit shall be drafted which includes at least the following:

(a) Proposed effluent limitations,

(b) Proposed schedule of compliance, if necessary,

(c) And other special conditions.

(3) In order to inform potentially interested persons of the proposed discharge and of the tentative determination to issue an NPDES permit, a public notice announcement shall be prepared and circulated in a manner approved by the Director. The notice shall tell of public participation opportunities, shall encourage comments by interested individuals or agencies and shall tell of the availability of fact sheets, proposed NPDES permits, applications and other related documents available for public inspection and copying. The Director shall provide a period of not less than 30 days following the date of the public notice during which time interested persons may submit written views and comments. All comments submitted during the 30-day comment period shall be considered in the formulation of a final determination.

(4) For every discharge which has a total volume of more than 500,000 gallons on any day of the year, the Department shall prepare a fact sheet which contains the following:

(a) A sketch or detailed description of the location of the discharge;

(b) A quantitative description of the discharge;

(c) The tentative determination required under section 45-035(2);

(d) An identification of the receiving stream with respect to beneficial uses, water quality standards, and effluent standards;

(e) A description of the procedures to be followed for finalizing the permit; and,

(f) Procedures for requesting a public hearing and other procedures by which the public may participate.

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

(6) After the 14-day applicant review period has elapsed, the public notice and fact sheet shall be circulated in a manner prescribed by the Director. Any public notice under this section shall be prepared and circulated consistent with the requirements of regulations issued under the Federal Act. The fact sheet, proposed NPDES permit provisions, application and other supporting documents will be available for public inspection and copying.

(7) The Director shall provide an opportunity for the applicant, any affected state, or any interested agency, person, or group of persons to request or peti-

tion for a public hearing with respect to NPDES applications. If the Director determines that useful information may be produced thereby, or that there is a significant public interest in holding a hearing, a public hearing will be held prior to the Director's final determination. There shall be public notice of such a hearing.

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

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

Hist: Subdivisions (6), (7) and (8) Amended 6-4-74 by DEQ 71.

45-040 RENEWAL OR MODIFICATION [REISSUANCE] OF NPDES PERMITS. The procedures for issuance of an NPDES permit shall apply to renewal of an NPDES Permit and to a modification requested by the permittee.

45-045 TRANSFER OF AN NPDES PERMIT. No NPDES permit shall be transferred to a third party without prior written approval from the Director. Such approval may be granted by the Director where the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the NPDES permit and the rules of the Commission.

45-050 DENIAL OF AN NPDES PERMIT. If the Director proposes to deny issuance of an NPDES permit, he shall notify the applicant by registered or certified mail of the intent to deny and the reasons for denial. The denial shall become effective 20 days from the date of mailing of such notice unless within that time the applicant requests a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department.

45-055 DEPARTMENT INITIATED MODIFICATION OF AN NPDES PERMIT. In the event that it becomes necessary for the Department to institute modification of an NPDES permit due to changing conditions or standards, receipt of additional information or any other reason pursuant to applicable statutes, the Department shall notify the permittee by registered or certified mail and shall at that time issue a public notice announcement in a manner approved by the Director of its intent to modify the NPDES permit. Such notification shall include the proposed modification and the reasons for modification. The modification shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing before the Commission or its authorized representative or unless the Director determines that significant public interest merits a public hearing or a change in the proposed modification. Any

request for hearing by the permittee or any person shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department. A copy of the modified NPDES permit shall be forwarded to the permittee as soon as the modification becomes effective. The existing NPDES permit shall remain in effect until the modified NPDES permit is issued.

45-060 SUSPENSION OR REVOCATION OF AN NPDES PERMIT. (1) In the event that it becomes necessary for the Director to suspend or revoke an NPDES permit due to non-compliance with the terms of the NPDES permit, unapproved changes in operation, false information submitted in the application or any other cause, the Director shall notify the permittee by registered or certified mail of his intent to suspend or revoke the NPDES permit. Such notification shall include the reasons for the suspension or revocation. The suspension or revocation shall become effective 20 days from the date of mailing of such notice unless within that time the permittee requests a hearing before the Commission or its authorized representative. Such a request for hearing shall be made in writing to the Director and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Department.

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

45-065 OTHER REQUIREMENTS. Prior to commencing construction on any waste collection, treatment, disposal or discharge facilities for which a permit is required by section 45-015, detailed plans and specifications must be submitted to and approved in writing by the Department as required by ORS 449.395; and for privately owned sewerage systems, a performance bond must be filed with the Department as required by ORS 449.400.

NEW

45-070 PERMIT FEES. (1) Beginning July 1, 1976 all persons required to have a Water Pollution Control Facilities Permit or NPDES Waste Discharge Permit shall be subject to a three part fee consisting of a uniform non-refundable filing fee, an application processing fee and an annual compliance determination fee which are obtained from Table A. The amount equal to the filing fee, application processing fee and the first year's annual compliance determination fee shall be submitted as a required part of any application for a new NPDES or WPCF permit. The amount equal to the filing fee and application processing fee, if applicable, shall be submitted as a required part of any application for renewal or modification of an NPDES or WPCF permit.

(2) The annual compliance determination fee, as listed in Table A section 3., must be paid for each year a disposal system is in operation or during which a discharge to public waters occurs. The fee period shall correspond with the state's fiscal year (July 1 through June 30) and shall be paid annually during the month of July. Any annual compliance determination fee submitted as part of an application for a new NPDES or WPCF permit shall apply to the fiscal year the permitted facility is put into operation. For the first year's operation, the full fee shall apply if the facility is placed into operation on or before May 1. Any new facility placed into operation after May 1 shall not owe a compliance determination fee until the following July. The Director may alter the due date for the annual compliance determination fee upon receipt of a justifiable request from a permittee. The Commission may reduce

New

or suspend the annual compliance determination fee in the event of a proven hardship.

(3) Modifications of existing, unexpired permits which are instituted by the Department 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 processing fee.

New

(4) Upon the Department accepting an application for filing, the filing fee shall be non-refundable.

(5) The application processing fee may be refunded in whole or in part when submitted with an application if either of the following conditions exist:

(a) The Department determines that no permit will be required.

(b) The Department determines that the wrong application has been filed.

(6) All fees shall be made payable to the Department of Environmental Quality.

TABLE A

PERMIT FEE SCHEDULE

1. Filing Fee. A filing fee of $ 25.00 shall accompany any application for issuance, renewal or modification of an NPDES Waste Discharge Permit or Water Pollution Control facilities Permit. This fee is non-refundable and is in addition to any application processing fee or annual compliance determination fee which might be imposed.

2. Application Processing Fee. An application processing fee varying between $50.00 and $150.00 shall be submitted with each application. The amount of the fee shall depend on the type of application required (See Table B) as follows:

a.	NPDES Standard Form A (Municipal)	$ 100.00
b.	NPDES Standard Form C (Manufacturing and Commercial)	$ 150.00
c.	NPDES Short Forms A,B,C or D	$ 50.00
d.	Application to the Department for a Water Pollution Control Facilities permit (WPCF-N)	$ 50.00
e.	Application for Renewal of an NPDES or WPCF permit where no increase in the discharge or disposal of waste water is requested	$ None
f.	Application for Renewal of an NPDES or WPCF permit where an increase in the discharge or disposal of waste water is requested	$ 50.00
g.	Request for modification of an NPDES or WPCF permit which does not include a request for an increase in discharge or disposal of waste water	$ None
h.	Request for modification of an NPDES or WPCF permit which does include a request for an increase in the discharge or disposal of waste water	$ 50.00

3. Annual Compliance Determination Fee Schedule

a. Domestic Waste Sources
(Select only one category per permit)

	Category	Dry Weather Design Flow	Initial and Annual Fee
(1)	Sewage Discharge	10 MGD or more	$ 750.00
(2)	Sewage Discharge	5 to 10 MGD	$ 600.00
(3)	Sewage Discharge	1 to 5 MGD	$ 300.00
(4)	Sewage Discharge	Less than 1 MGD	$ 150.00
(5)	No scheduled discharge during at least 5 consecutive months of the low stream flow period		1/2 of above rate
(6)	Land disposal-no scheduled discharge to public waters		$ 50.00
(7)	Chlorinated septic tank effluent from facilities serving more than 5 families and temporarily discharging to public waters		$ 50.00
(8)	Chlorinated septic tank effluent from facilities serving 5 families or less and temporarily discharging to public waters		$ 30.00
(9)	Chlorinated septic tank effluent from facilities serving more than 25 families or 100 people and temporarily discharging to waste disposal wells as defined in OAR 340-44-005 (4)		$ 30.00

b. Industrial, Commercial and Agricultural Sources

Source	(For multiple sources on one application select only the one with highest fee)	Initial and Annual Fee 1/
(1)	Major pulp, paper, paperboard and other wet pulping industry discharging process waste water	$ 950.00
(2)	Major sugar beet processing, potato and other vegetable processing industry discharging process waste water	$ 950.00
(3)	Fish Processing Industry:	
	a. Bottom fish, crab and/or oyster processing	$ 75.00
	b. Shrimp processing	$ 100.00
	c. Salmon and/or tuna canning	$ 150.00
(4)	Electroplating, polishing and/or anodizing with discharge of process water.	
	Rectifier output capacity of 15,000 Amps or more	$ 950.00
	Rectifier output capacity of less than 15,000 Amps	$ 450.00
(5)	Primary Aluminum Smelting	$ 950.00
(6)	Primary smelting and/or refining of non-ferrous metals utilizing sand chlorination separation facilities	$ 950.00
(7)	Primary smelting and/or refining of ferrous and non-ferrous metals not elsewhere classified above	$ 450.00
(8)	Alkalies, chlorine or pesticide manufacturing with discharge of process waste waters	$ 950.00
(9)	Petroleum Refineries with a capacity in excess of 15,000 barrels per day discharging process waste water	$ 950.00
(10)	Cooling water discharges in excess of 20,000 BTU/sec	$ 450.00
(11)	Milk products processing industry which processes in excess of 250,000 pounds of milk per day and discharges process waste water to public waters	$ 950.00
(12)	Fish hatching and rearing facilities	$ 75.00
(13)	All facilities not elsewhere classified with discharge of process waste water to public waters	$ 150.00
(14)	All facilities not elsewhere classified which discharge from point sources to public waters (i.e. small cooling water discharges, boiler blowdown, filter backwash, etc.)	$ 75.00
(15)	All facilities not specifically classified above (1-12) which dispose of all waste by an approved land irrigation or seepage system	$ 50.00

1/ For any of the categories itemized above (1-14) which do not discharge for at least 5 consecutive months of the low stream flow period, the fee shall be reduced to 1/2 of the scheduled fee or $50.00, whichever is greater.

For any specifically classified categories above (1-12) which dispose of all waste water by land irrigation, evaporation and/or seepage, the fee shall be reduced to 1/4 of the scheduled fee or $50.00, whichever is greater.

TABLE B

PERMIT APPLICATION FORMS

Category of Applicant	Application Forms to be Filed
1. Permit to construct, operate and discharge from a domestic sewage treatment facility serving more than 10,000 people, or equivalent.	Standard Form A [EPA Form 7550-22 (7-73)]
2. Permit to construct, operate and discharge from a domestic sewage treatment facility serving 10,000 people or less but which has an industrial input exceeding 10 percent of the volume or BOD strength of the incoming raw sewage on any day of the year or which is toxic.	Standard Form A [EPA Form 7550-22 (7-73)]
3. Permit to construct, operate, and discharge from a domestic sewage treatment facility not requiring the filing of Standard Form A.	Short Form A [EPA Form 7550-6 (1-73)]
4. Permit to construct, operate and discharge from any industrial, commercial or mining activity in quantities exceeding 50,000 gallons on any day of the year.	Standard Form C [EPA Form 7550-23A (7-73)]
5. Permit to construct, operate and discharge from any industrial, commercial or mining activity in quantities of 50,000 gallons or less but which discharges a toxic pollutant.	Standard Form C [EPA Form 7550-23A (7-73)]
6. Permit to construct, operate and discharge from any facility engaged in manufacturing or mining not requiring the filing of Standard Form C.	Short Form C [EPA Form 7550-8 (-173)]
7. Permit to construct, operate and discharge from any facilities engaged in services including retail or wholesale trade or other commercial establishments not required to submit Standard Form C.	Short Form D [EPA Form 7550-9 (1-73)]

Category of Applicant	Application Form to be Filed
8. Permit to construct, operate and discharge from agricultural operations, including fish hatching and rearing facilities.	Short Form B [EPA Form 7550-7 (7-73)]
9. Permit to construct or operate any disposal system with no discharge to public waters.	Water Pollution Control Facilities WPCF-N [DEQ-WQ-1]
10. Renewal of existing Water Pollution Control Facilities Permit	Water Pollution Control Facilities - WPCF-R [DEQ-WQ-2]
11. Renewal of existing NPDES Waste Discharge Permit	National Pollutant Discharge Elimination System - Renewal NPDES-R [DEQ-WQ-3]
12. Modification of existing permit.	Submit letter detailing the requested modification. The Department may require additional information, analysis, and/or application forms to be submitted.

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

To: Environmental Quality Commission

From: Director

Subject: Agenda Item B(b), March 12, 1976, EQC Meeting

Request for Authorization to hold a Public Hearing to Allocate Open Field Burning Acreages and Consider for Adoption Amendments to OAR Chapter 340, Section 26-005 through 26-025

Discussion

As specified in Senate Bill 311, passed by the 58th Legislative Assembly (Oregon Law, Chapter 559, 1975), it is the responsibility of the Environmental Quality Commission prior to June 1, 1976 to:

1. Consult with Oregon State University and the Field Sanitation Committee and to hold public hearing to receive testimony on whether:

   a. There are insufficient numbers of workable machines that can reasonably be made available to sanitize the acreage if an acreage reduction is ordered;

   b. There are insufficient methods available for straw utilization and disposal; and

   c. Reasonable efforts have been made to develop alternative methods of field sanitation and straw utilization and disposal, and such methods have been utilized to the maximum reasonable extent.

2. Based on the testimony received, the Commission shall adopt field burning rules for Multnomah, Washington, Clackamas, Marion, Polk, Yamhill, Linn, Benton and Lane Counties, which provide for a more rapid phased reduction by certain permit areas, depending on particular local air quality conditions and soil characteristics, the extent, type or amount of open field burning of perennial grass seed crops, annual grass seed crops and grain crops and the availability of alternative methods of field sanitation and straw utilization and disposal.

The Commission shall authorize issuance of permits up to the statutorily set maximum acreage only if the Commission finds, a, b and c above, after hearing.

The Department's staff has, throughout the year maintained contact with the Field Sanitation Committee, representatives from Oregon State University, fire district representatives, the Oregon Seed Council and other appropriate agencies, organizations and individuals. Additional meetings with those involved parties are scheduled for the month of March. Amendments to the existing Agricultural Burning Rules being considered for the forthcoming field burning season are briefly as follows:

1. Establishment of the total acreage to be open burned during the 1976 burning season, Section 26-013(1)(a).

2. Revision of Section 26-013(5) to apply to 1976 and all future years.

3. Addition of a section which establishes a policy for pollution abatement tax credits for specific methods, equipment and facilities used as approved alternatives to open field burning.

4. Modification of Section 26-015(3) to establish a time by which all field fires must be extinguished each day.

5. Consider for adoption rule amendments specific to the burning of straw stacks.

Proposed Timing

In order to comply with the statutory dates set by Senate Bill 311, it is the Department's intent to adhere to the following schedule:

1. March 9, 1976, meet with the fire district representatives to distribute 1976 registration forms and discuss acreage reduction procedures.

2. March 11, 1976, meet with representatives of the Field Sanitation Committee, representatives from Oregon State University and other appropriate agencies to receive their input concerning allocation strategies for the 1976 burning season.

3. March 12, 1976, obtain authorization from the EQC to hold a public hearing.

4. March 16, 1976, meet with the Field Sanitation Committee to discuss pollution abatement tax credits, straw stack burning and request certification of the acreage that can be reasonably expected to be sanitized during 1976.

5. March 20, 1976, file the Notice of Public Hearing with the Secretary of State's Office for publication in the April 1, 1976 Secretary of State's Bulletin.

6. April 30, 1976. hold a public hearing for the purpose of receiving testimony prior to the allocation of open field burning acreages and adoption of amendments to OAR Chapter 340, Section 26-005 through 26-025.

Director's Recommendation

It is the recommendation of the Director that a public hearing before the Environmental Quality Commission be authorized (time and place to be set by the Director) for the purpose of carrying out the Commission's responsibilities under Senate Bill 311 and prerequisite to the allocation of allowable burn acreages and the consideration for adoption of amendments to OAR Chapter 340, Section 26-005 through 26-025.

LOREN KRAMER

RLV:cs
3/2/76

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item C(a), March 12, 1976 EQC Meeting

Proposed Amendment to OAR Chapter 340, Section 71-030(5)(a) Seepage Pits, Wasco County

Background

For the past several years seepage pits have been utilized successfully in certain areas of Wasco County for on-site disposal of sewage. In August 1975 the Commission adopted amendments to the Department's rules governing subsurface sewage disposal. The amendments contained certain seepage pit construction standards that require soil conditions different than those which exist in Wasco County. As a consequence the Department's current rules prevent the installation of new seepage pits in areas of Wasco County where they have operated successfully in the past.

Discussion

Based on information submitted by the Wasco County Health Department there are soil conditions in certain areas of Wasco County which do not comply fully with the requirements of the Department's current rules governing subsurface sewage disposal but which have been used successfully for many years for the installation and operation of seepage pits as a means of on-site sewage disposal. These particular soil conditions which exist in Wasco County appear to warrant the adoption of a regional rule so that seepage pits can continue to be used in those areas. If, instead of a regional rule, a general amendment were made to the current rules it might result in installation in other areas of the state where ground water pollution would be caused. The adoption of a regional rule for this purpose therefore appears to be preferable.

Conclusions

1. Seepage pits have been used successfully as means of on-site sewage disposal for the past several years in certain areas of

Wasco County where soil conditions do not comply fully with the Department's current rules governing subsurface sewage disposal.

2. Because of the restrictions in the Department's current rules new seepage pits can not be used in Wasco County and as a consequence parcels of land located in such areas, unless accessible to public sewers, can not be developed because of the lack of acceptable alternative on-site sewage disposal methods.

3. Based on past experience as reported by the Wasco County Health Department the soil conditions which exist in these areas of Wasco County warrant the adoption of a new or amended rule to permit the continued installation of seepage pits therein.

4. In order to protect ground water resources and supplies a regional rule rather than an amendment to the general rule governing seepage pits should be adopted.

5. Because the 1976 construction season is rapidly approaching and in order to allow adequate time to promulgate an appropriate regional rule a temporary rule should be adopted to permit further installation of seepage pits in certain areas of Wasco County.

6. Failure to act promptly in the adoption of a temporary rule for this purpose will result in serious prejudice to the public interest for the specific reasons that it will prevent or delay the development of property for residential use and will cause serious economic loss. Pursuant to ORS 183.335(2) the Commission may adopt temporary rules to be effective immediately upon filing with the Secretary of State and for a period of 120 days thereafter.

Recommendation

It is the Director's recommendation that the Commission take the following actions:

(1) Enter a finding that failure to act promptly in adopting a rule to allow such approvals will result in serious prejudice to the public interest and the interests of the parties involved in that there will result financially damaging and inconvenient delay or prevention of the installation of the seepage pit systems in areas of Wasco County where such systems are appropriate in the view of the Wasco County sanitarian.

(2) Adopt Exhibit "A", said exhibit to take effect as a temporary rule, effective upon filing with the Secretary of State.

(3) Instruct the staff to proceed with investigation of conditions existing in Wasco County and development of a regional rule to fit those conditions prior to expiration of this temporary rule.

LOREN KRAMER
Director

KHS:md
3/1/76

Attachment: Exhibit "A": Proposed Amendment to OAR Chapter 340, Section 71-030(5)(a)

EXHIBIT "A"

Proposed Amendment to OAR Chapter 340, Subsection 71-030(5)(a)

71-030(5)(a) Add a new paragraph to read as follows:

"Notwithstanding the foregoing requirements of this subsection (5)(a), seepage pits may be approved by the Director's authorized representative for use in Wasco County where:

(a) Experience has shown that seepage pits will serve effectively for the proposed use, and

(b) The Director's authorized representative first makes an investigation and finding that said proposed use of a seepage pit for sewage disposal will not constitute a hazard to public health, pollution of ground or surface public waters or cause nuisance conditions to occur."

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. C(b), March 12, 1976 EQC Meeting

Proposed Adoption of a Rule Pertaining to Open Burning in Linn, Benton, Yamhill, Marion and Polk Counties

Background

On September 26, 1975, the Environmental Quality Commission passed a temporary rule to allow open burning of wood, needle, or leaf material on real property used exclusively as a dwelling for not more than four families in the Mid-Willamette Area comprising the counties of Benton, Linn, Marion, Polk and Yamhill from the last Friday in October to the third Sunday in December 1975.

This temporary rule extended by six months the existing open burn rule of the former Mid-Willamette Valley Air Pollution Authority. Departmental conferences with the Land Quality Division and with the Regional Engineer in Salem indicated that the allowance of some limited open burning of certain domestic wastes was necessary to prevent overloading of solid waste disposal facilities in that area. This temporary rule had the qualified support of the former board members of the Mid-Willamette Air Pollution Authority and other local government officials. It was indicated by the Department at the time of adoption of the temporary rule that consideration of a long-term extension of open burning in the affected area would be made before the time Spring burning is allowed in other portions of the Willamette Valley.

Discussion

Further conferences with the Department's Land Quality Division, the Department's Salem-North Coast Regional staff and the Midwest Regional staff have indicated that new sanitary landfills with adequate capacity and facilities to handle all yard clippings in the affected area will not be available until after mid-year 1979.

Since a need presently exists and is expected to exist until mid-1979 for a reasonable means of disposing of yard clean up material in the Spring and Fall a rule was drafted which would allow limited open burning of domestic wastes in the affected area until July 1, 1979 (Attachment 1). A public hearing was held on February 23, 1975 on this proposed rule. Testimony received as a result of the hearing was generally supportive of the proposed limited open burning (see Hearings Officer Report, Attachment 2). No comments against open burning were received by the Department.

The proposed rule continues to have the open burning periods for the five county area the same as the Portland area open burn periods. Some comment was received asking for changes in the dates allowed for open burning. It is the Department's opinion that the dates should not be changed as they are set to coincide with the period of time when yard cleanup wastes are normally generated in the Spring and Fall. The dates are coincident with the Portland-Vancouver area burning period which also helps eliminate confusion among local residents who hear or see information about burning periods.

The open burn rule for the five county area is being considered for adoption prior to other special rules of the former Mid-Willamette Valley Air Pollution Authority because of the delay asked by industries in this area to prepare their comments on these other special rules. During the interim, the former rules of the Mid-Willamette Valley Air Pollution Authority for which the Commission has not amended or repealed remain in effect. Action at this meeting is necessary on open burning because the Spring burning is scheduled to begin the second Friday in April.

Conclusion

1. Open burning of domestic waste in the Mid-Willamette Valley area is prohibited after December 1975 by currently effective Mid-Willamette Valley Air Pollution Authority Rule 33-005 as amended by the Environmental Quality Commission on September 26, 1975.

2. The Land Quality Division and the Department's Regional Staff have indicated that the increase in solid waste caused by prohibiting all residential open burning before July 1, 1979 in the Mid-Willamette Area would be detrimental to the existing disposal sites and acceptable solid waste disposal methods.

3. Testimony at the February 23, 1976 public hearing on an open burning rule extending limited domestic open burning until July 1, 1979 was favorable to the proposed rule.

4. Any change in the open burning rules is best accomplished by replacing the amended Mid-Willamette Valley Air Pollution Authority Rule by a Department Rule.

Director's Recommendation

It is the recommendation of the Director that the Commission adopt Rules 29-001, 29-005 and 29-055 which are attached as part of this report.

LOREN KRAMER

PBB:cs
3/1/76
Attachments

1. Proposed Rules
2. Hearings Officer Report (without attachments)
3. Attendees at Public Hearing
4. Notice of Hearing
5. Amended Notice of Hearing

Attachment 1

Subdivision 9
PROPOSED
SPECIFIC AIR POLLUTION CONTROL RULES
FOR
BENTON, LINN, MARION, POLK AND YAMHILL COUNTIES

29-001 PURPOSES AND APPLICATION. The rules in this subdivision shall apply in Benton, Linn, Marion, Polk and Yamhill Counties. The purposes of these open burning rules are to provide continuity of air quality control program previously administered by the Mid-Willamette Valley Air Pollution Authority and to deal specifically with the air quality control needs of the five county area. These rules shall apply in addition to all other rules of the Environmental Quality Commission. The adoption of these rules shall not, in any way, affect the applicability in the five county area of all other rules of the Environmental Quality Commission and the latter shall remain in full force and effect, except as expressly provided otherwise. In cases of apparent duplication, the most stringent rule shall apply.

29-005 DEFINITIONS. As used in this subdivision:

(1) "Air contaminant" means a dust, fume, gas, mist, odor, smoke, vapor, pollen, soot, carbon, acid or particulate matter or any combination thereof.

(2) "Air contamination source" means any source at, from, or by reason of which there is emitted into the atmosphere any air contaminant, regardless of who the person may be who owns or operates the building, premises or other property in, at or on which such source is located, or the facility, equipment or other property by which the emission is caused or from which the emission comes.

terminating at sundown on the third Sunday in May. Such burning is permitted only between 7:30 a.m. and sunset on days when the Department has advised fire permit issuing agencies that open burning is permitted.

(2) OPEN BURNING--PROHIBITED PRACTICES. (a) Open burning of the following wastes is prohibited in the Mid-Willamette Valley area:

(i) Industrial waste.

(ii) Any materials, including, but not limited to asphalt, waste petroleum products, and rubber products, which normally emit dense smoke, noxious odors, or create a public nuisance.

(b) Open burning of waste from commercial and governmental establishments, including solid waste disposal sites, is prohibited.

(c) Open burning of land clearing debris, other than that otherwise exempted by law, is prohibited.

(3) EVIDENCE OF OPEN BURNING. It shall be prima facie evidence that the person who owns or controls property on which an outdoor fire occurs, or has caused or allowed said outdoor fire, is a responsible party and any open outdoor fire in violation of these rules shall be extinguished by a responsible party upon notice by the Director or his representatives.

(3) Reserved

(4) "Domestic waste" means any nonputrescible waste consisting of combustible materials such as paper, cardboard, yard clippings, wood, or similar materials generated in a dwelling, including the real property on which it is situated, containing four (4) living units or less.

(5) Reserved

(6) "Industrial waste" means liquid or solid waste resulting from any process or activity of industry or manufacturing.

(7) "Land clearing debris" means waste generated in clearing any site.

(8) "Mid-Willamette Valley area" means the five counties of Benton, Linn, Marion, Polk, and Yamhill.

(9) Reserved

(10) "Open burning" means any burning conducted in such a manner that combustion air is not effectively controlled and that combustion products are not vented through a stack or chimney, including, but not limited to, burning conducted in open outdoor fires and backyard incinerators.

29-055 (1) OPEN BURNING--DOMESTIC WASTE. No person shall cause or permit to be initiated or maintained any open burning of domestic waste in the Mid-Willamette Valley area except open burning of domestic waste which is permitted until July 1, 1979, for the open burning of needle, wood or leaf materials from trees, shrubs, or plants from yard clean-up of the property at which one resides, during the period commencing with the last Friday in October and terminating at sundown on the third Sunday in December, and the period commencing the second Friday in April and

Attachment 2

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

To: Environmental Quality Commission

From: R. H. Fetrow

Subject: Summary Report in the matter of a Public Hearing on Proposed Rules for Open Burning

Summary

The following is a summary of the oral and written testimony received during the public hearing held February 23, 1976 on the proposed open burning rules for Benton, Linn, Marion, Polk and Yamhill Counties.

Oral Testimony in Favor

Mr. Elmer Christensen, Amity Fire Chief, representing Yamhill County Fire Chiefs, stated that the Chiefs were in favor of continuing the backyard burning as proposed by the rules. Mr. Christensen indicated that as of yet, no alternatives to open burning have been developed.

Oral Testimony in Opposition

None received.

Written Testimony in Favor

1. A letter and attachments have been received from Mr. Edward J. Bell, Secretary, Central Willamette Fire Fighters Association, transmitting copies of letters submitted to him by Fire Chief Ivan Hoy of Sweet Home, and indicating support by the Association for the following recommendations made by Chief Hoy:

(a). Continuing open burning of nonputrescible wastes as a means of saving landfill space and to reduce rodent populations.

(b). Establishing a more realistic season for burning, such as April 9th to June 6th and September 26th to December 19th.

2. The original letter submitted to the Association by Chief Hoy, outlining the recommendations in (a) and (b) above, has been received.

3. A copy of a letter directed to the Oregon State Fire Marshal from Mr. Edward Bell has been received. The letter addressed the need for a smokeless, safe, backyard burning device.

Written Testimony in Opposition

A letter was received from Mr. Ellis B. Finch, M.D., 610 S.W. Alder, Dundee. Mr. Finch stated opposition to the chosen fall burning season, as the months selected are too wet for efficient open burning.

Other Testimony Received

1. A letter from Miller, Anderson, Nash, Yerke & Wiener, Attorneys and Counselors at Law, confirming postponement of all portions of the hearing with the exception of open burning, was received and entered into the record.

2. A signed petition was received from residents of the Tangent area, however, the petition was directed to the City of Eugene and requested that the City restrict industries and automobiles during periods of poor ventilation. This petition appeared not to be directly pertinent to this hearing and was transmitted to the Eugene City Council for its consideration.

Attached are the following items pertaining to the hearing:

1. Hearing attendance list
2. Public Notice and Proposed Rules
3. Letter from Central Willamette Fire Fighters Association
4. Letter from Edward Bell
5. Letter from Sweet Home Fire Chief, Ivan Hoy
6. Letter from Ellis B. Finch
7. Letter from Miller, Anderson, Nash, Yerke & Wiener
8. Transcript of taped testimony

R. H. Fetrow

RHF:h
3/1/76

ATTENDEES AT PUBLIC HEARING ON
PROPOSED RULES FOR OPEN BURNING
February 23, 1976

NAME	REPRESENTING	ADDRESS
John Tucker	National Particleboard Assn.	Eugene
Elmer L. Christensen	Yamhill Co. Fire Chiefs	Amity 97101
Suzanne Richards	Oregon Journal	Portland
Peter B. Bosserman	DEQ	Portland
Russell Fetrow	DEQ	Salem
David St. Louis	DEQ	Salem
F. A. Skirvin	DEQ	Portland
Richard Vogt	DEQ	Portland
Joe Schneider	Newberg	1119 N. Main, Newberg
Jerry Cannon	Chemeketa Region	Salem

Before the Environmental Quality Commission

of the

State of Oregon

Notice of Intended Agency Action

NOTICE is hereby given that the Environmental Quality Commission is considering the adoption of proposed specific air pollution control rules for Benton, Linn, Marion, Polk and Yamhill Counties to be made a part of Oregon Administrative Rules, Sections 29-001 through 29-125. The purposes of these rules are to provide continuity of air quality control programs previously administered by the Mid-Willamette Air Pollution Authority and to deal specifically with the critical and unique air quality control needs of the five county area.

THE proposed rules include the following significant changes from the former Mid-Willamette Valley Air Pollution Authority Rules.

OPEN BURNING

Open burning of domestic-non-putrescible waste would be allowed in the fall and spring until July of 1979. This proposal would allow the citizenry to burn leaves and prunings until such time as adequate solid waste disposal sites are available.

BOARD PRODUCTS

The proposals would retain the present process weight rule of the former Mid-Willamette Valley Air Pollution Authority, a rule more stringent than is the Department's current rule, unless it is demonstrated that relaxation of the rule would not result in violation of air quality standards in the affected area.

INDIRECT SOURCE REVIEW

The proposals would relax review of small parking lots (50 or more spaces), resulting in a rule similar to that in effect for the Department statewide. The primary impact would be in the Corvallis area of Benton County.

Copies of the proposed rules may be obtained upon request from the Department of Environmental Quality, Air Quality Control Division, 1234 S.W. Morrison Street, Portland, Oregon 97205.

Any interested person desiring to submit any written documents, views or data on this matter may do so by forwarding them to the office of Air Quality Control Division, 1234 S.W. Morrison Street, Portland, Oregon 97205, or may appear and submit his material, or be heard orally at 10:00 a.m. on February 23, 1976, in Room 508 at the Department of Environmental Quality, 1234 S.W. Morrison Street, Portland,

Russell H. Fetrow has been designated as Hearing Officer.

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BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

of the

Notice of Intended Agency Action

NOTICE is hereby given that the hearing scheduled for February 23, 1976 on proposed revisions of OAR, Chapter 340 will now be for the purpose of considering OPEN BURNING RULES ONLY, in the counties of Benton, Linn, Marion, Polk and Yamhill.

Proposed revisions relating to BOARD PRODUCTS and INDIRECT SOURCE REVIEW in the five counties will undergo further review before a hearing is held regarding them.

A Hearing on rules regarding Board Products and Indirect Source Review will be scheduled in the FUTURE.

The regulations of the former Mid-Willamette Valley Air Pollution Authority continue in effect with regard to all matters wherein the Commission has not amended or repealed the same.

As was previously announced, the hearing on open burning rules for the five counties will convene at 10:00 a.m. on February 23, 1976 in Room 508 of the Department of Environmental Quality's Offices at 1234 S.W. Morrison Street, Portland, Oregon 97205.

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. C (d) March 12, 1976, EQC Meeting

Proposed Changes to Rules for Indirect Sources
(OAR Chapter 340, Sections 20-100 through 20-125)

Background

At the October 24, 1975 EQC meeting, the Staff was directed by the Commission to reevaluate the Rules for Indirect Sources (OAR Chapter 340, Sections 20-100 through 20-135) with the following objectives:

1. To determine the benefits and problems with the present Rule and recommend reasonable modifications which could benefit both the Department and the applicant, and

2. Present a status report on the development of Regional Parking and Circulation Plans as stated in Section 20-120.

Discussion

A. Proposed Modifications to the Rules for Indirect Sources

After a careful review of the benefits and problems associated with Rules for Indirect Sources, it is concluded that raising the present minimum parking space review point from 50 to 250 spaces would result in a substantial reduction in workload while having minimal impact on the overall effectiveness of the Indirect Source Program. This additional staff time could then be used to develop Regional Parking and Circulation Plans. Based on the data presented in Attachment I, the proposed change would result in:

1. Approximately a 75% reduction in the number of applications received through February 1976 by the Department under the existing rule, and only

2. A loss of review authority over approximately 30% of the total parking spaces reviewed through February 1976.

While the Staff believes the review of parking facilities is necessary for the attainment and maintenance of Federal and State ambient air standards, it is not a fully effective method to deal with overall air quality problems caused by the aggregation of many small facilities, any one of which in and by itself may not show a significant air quality impact. Therefore, the Department maintains the best way to deal with these problems is through the implementation of Regional Parking and Circulation Plans.

The staff is also recommending some additional changes to the Indirect Source Rule which should result in a reduction in the processing time for Indirect Source applicants. All proposed additions to the Rule are underlined while all proposed deletions are enclosed in brackets as shown in Attachment II. Some of the more significant proposed changes are:

1. A reduction in the maximum time span required to project future air quality impacts of most Indirect Sources reviewed from 20 years to 5 years [20-129(1)(a)(E)(i) and (ii), 20-129(1)(a)(F), 20-129(1)(c)(H), 20-129(1)(c)(I)] and,

2. The deletion of the mandatory requirement that the "applicant provide evidence that the Indirect Source in question is not in violation of any land use ordinance or regulation of any land use ordinance or regulation enacted or promulgated by a constitutive local government agency having jurisdiction over the subject real property" [20-130(9)]. It is recommended that this section be amended to read, "An Indirect Source Construction Permit shall be applied for at least 90 days in advance of the anticipated start of construction."

This second recommended change is based on the Department's experience that many local jurisdictions prefer to have DEQ review and approval prior to making final land use decisions on a particular proposed Indirect Source. In several cases, local jurisdictions have required that Departmental approval be received prior to consideration of land use approval. It is the Department's judgment that this requirement has resulted in unnecessary delays in the construction of Indirect Sources that have received Indirect Source Permits. It is also the Staff's opinion that better transportation and land use decisions can be made with this proposed rule change since air quality impact review should be an integral part of the comprehensive planning process.

While it is recommended that the proposed modifications to the Indirect Source Rule (Attachment II) be adopted under the Temporary Rule provision of OAR Chapter 340, Section 11-050, it is the Department's intent within the next 120 days to propose additional modifications to the Rules for Indirect Sources. These proposed changes would include:

1. Consideration of a permit fee schedule for Indirect Sources,

2. The development of a field inspection and compliance assurance program to ensure compliance with permit conditions, and

3. A mandatory requirement for the development of Regional Parking and Circulation Plans in areas where the Department's Air Quality Maintenance Plan (AQMP) Analysis (or similar study) indicates that regulation of parking and traffic circulation is necessary to meet Federal and State ambient air standards.

The analysis portion of the AQMP's will project air quality levels in the Portland Metropolitan Area for the next twenty years and will be used as a basis for developing long-term air quality maintenance strategies. This study will be completed on or about June 1976.

B. Development of Regional Parking and Circulation Plans

Portland Area

At the October 24, 1975 EQC meeting, the Staff recommended the most effective and efficient method of evaluating and mitigating the impact of Indirect Sources was the incorporation of air quality concerns into the planning process through the development of Regional Parking and Circulation (RP&C) Plans. In response to this recommendation, the Commission requested that the staff report on the necessary measures and time needed to implement such an RP&C Plan.

It is the Department's opinion that the development of an acceptable RP&C Plan will require a significant amount of coordination with State, regional and local planning agencies and jurisdictions. A review of existing Federal and State rules and Regulations dealing with land use and transportation planning indicates there are existing mechanisms which support the development of RP&C Plans. Briefly these are:

1. The Federal Highway Administration (FWHA) requirement that regional transportation plans be annually reviewed as to their consistency with the Department's Clean Air Implementaiton Plan (23 CFR 770).

2. SB 100 required that county Comprehensive Plans be in conformance with adopted Land Conservation and Development Commission (LCDC) goals. Goal #6 requires that air quality discharges from existing and future developments "shall not threaten to violate, or violate applicable State or Federal environmental quality statutes, rules and standards."

3. SB 769 (passed by Oregon Legislature 1973) gives CRAG the authority to develop criteria for the siting of regional facilities and the delineation of areas of regional concern. Implied in this authority could be development of air quality criteria for the location of Indirect Sources having regional impact, e.g., regional shopping centers, highways, airports, etc.

As indicated in Part A of this report, the Department will be completing the analysis portion of the AQMP which will project and evaluate long-term (20 year) air quality levels in the Portland-Vancouver Metropolitan area. This analysis should give the Department the necessary information to determine the areas to be covered and length of time the RP&C Plan(s) would have to be in effect. Since this information is not presently available, it would be difficult at this time to estimate the cost of RP&C Plan for the Portland Area. Based on CRAG's present work schedule towards development of a detailed comprehensive plan, it is estimated it would take at least three years to develop an acceptable RP&C Plan. The RP&C Plan would, of course, have to consider both small and large parking facilities in order to be fully effective.

Salem Area

The FHWA required determination-of-consistency document for the Salem area indicates potential carbon monoxide problems on a few streets in Downtown Salem. The City of Salem in cooperation with the Oregon Department of Transportation and the Salem Council of Governments has expressed an interest in developing a RP&C Plan for proposed development in Salem. The Department is presently negotiating with the City of Salem as to the format for this study, costs and estimated completion date. Preliminary estimates indicate it will take approximately one to two years to adopt an acceptable RP&C Plan.

Eugene-Springfield

The FHWA required determination-of-consistency document for the Eugene-Springfield area indicated a potential long-term CO problem on a few selected streets in Downtown Eugene. Whether this observation would require a RP&C Plan for Eugene, will depend on further investigation of air quality levels by the Lane Regional Air Pollution Authority.

Conclusions

1. The Department finds that a maximum effort should be made at this time to develop all necessary coordination mechanisms and agreements to ensure that the development of Regional Parking and Circulation Plans proceed as expeditiously as possible.

2. The proposed Temporary Rules for Indirect Sources (Attachment II) would allow additional staff time to be used for the development of Regional Parking and Circulation Plans, while reducing the applicant's time and effort in preparing permit applications and reducing permit processing time.

3. There is a need for additional modifications to the Rules for Indirect Sources which at a minimum would include the development of a permit fee schedule, compliance assurance program and a mandatory requirement for the development of Regional Parking and Circulation Plans in areas where it is indicated that control of parking and circulation is needed to ensure attainment and maintenance of Federal and State ambient air standards. These changes will be proposed within the next 120 days.

4. Upon completion of the Portland AQMA analysis (June 1976), the Department would make a recommendation that RP&C Plan(s) "shall" be required in selected areas of the Portland Area projected to have long-term violations of mobile source related ambient air standards.

5. The Department should immediately start negotiations with LCDC to develop criteria and agreements regarding compliance with Goal #6 and its relationship to the development of RP&C Plans.

6. Negotiations regarding the development of a regional RP&C Plan for the City of Salem should continue as planned.

7. The Department should start preliminary negotiations with the Oregon Department of Transportation to explore the use of discretionary regional planning funds for the development of RP&C Plans in metropolitan areas requiring such plans.

8. Regional and local planning agencies such as CRAG should be consulted as soon as possible about the above proposed changes to Rules for Indirect Sources so that adjustment to annual work programs can be made to accommodate the necessary interagency work agreements.

9. The Department finds that not adopting the proposed Temporary Rules for Indirect Sources at this time would unduly burden both the Department and the applicant in that:

   a. There would not be sufficient staff time to carry out the responsibilities necessary to ensure that Regional Parking and Circulation Plans are developed concurrently with on going planning and analysis efforts such as the LCDC required comprehensive plans and the Department's Air Quality Maintenance Plan analysis, and

   b. That Applicants would be subject to unnecessary delays due to the inequities as stated in this report associated with the existing Rules for Indirect Sources.

Recommendation

In light of the fact that the development of Regional Parking and Circulation Plans would be the most effective and efficient approach to reviewing and mitigating the impact from Indirect Sources and the adoption of the proposed Temporary Rules for Indirect Sources would permit additional staff time to be allocated to the development and implementation of these plans, it is recommended that the Commission act as follows:

1. Find that failure to act promptly will result in serious prejudice to the public interest or to the interest of parties concerned for the specific reason that without the adoption of such rule, the development of Regional Parking and Circulation Plans will be unduly delayed resulting in additional costs to both the Department and applicants.

2. Adopt Attachment II as a temporary rule to become effective immediately upon filing with the Secretary of State.

3. Authorize the Department to develop the necessary agreements with agencies such as LCDC, CRAG and the Oregon Department of Transportation to ensure that Regional Parking and Circulation Plans can be developed in a reasonable time frame upon completion of the Portland Air Quality Maintenance Plan analysis.

4. Authorize the Director to conduct necessary public hearings within 120 days time limit of the temporary rule for the purpose of taking public testimony for consideration in the adoption of permanent changes to the Rules for Indirect Sources.

LOREN KRAMER

CAS:cs
3/1/76

Attachments (2)

Final Revision 2-10-76

PARKING LOT APPROVALS SINCE START OF PROGRAM

(Includes All Approvals By Regional Authorities)

Parking Lot Size Class (Spaces)	Total Lots/ Class	% Total Lots	Cumulative Total Lots	Cumulative % of Lots	Total Spaces/ Class	% Total Spaces	Cumulative Total Spaces	Cumulative % Total Spaces
0-49	11	4.7	11	4.7	389	0.6	389	0.6
50-99	86	36.4	97	41.1	6239	9.8	6628	10.4
100-149	40	16.9	137	58.1	4761	7.5	11389	17.9
150-199	26	11.0	163	69.1	4471	7.0	15860	24.9
200-249	14	5.9	177	75.0	3405	5.3	19265	30.2
250-299	8	3.4	185	78.4	2109	3.3	21374	33.6
300-349	12	5.1	197	83.5	3822	6.0	25196	39.6
350-399	5	2.1	202	85.6	1869	2.9	27065	42.5
400-449	6	2.5	208	88.1	2495	3.9	29560	46.4
450-499	9	3.8	217	91.9	4296	6.8	33856	53.2
500-549	2	0.9	219	92.8	1050	1.7	34906	54.8
550-599	2	0.9	221	93.6	1119	1.8	36025	56.6
600-649	0	0	221	93.6	0	0	36025	56.6
650-699	3	1.3	224	94.9	2038	3.2	38063	59.8
700-749	3	1.3	227	96.2	2166	3.4	40229	63.2
750-799	0	0	227	96.2	0	0	40229	63.2
800-849	0	0	227	96.2	0	0	40229	63.2
850-899	1	0.4	228	96.6	864	1.4	41093	64.5
900-949	1	0.4	229	97.0	919	1.4	42012	66.0
950-999	0	0	229	97.0	0	0	42012	66.0
1000-1499	3	1.3	232	98.3	3914	6.2	45926	72.1
1500-1999	1	0.4	233	98.7	1560	2.5	47486	74.6
2000-2499	0	0	233	98.7	2250	3.5	49736	78.1
2500-2999	1	0.4	234	99.1	2819	4.4	52555	82.5
3000-3499	0	0	234	99.1	0	0	52555	82.5
3500-3999	0	0	234	99.1	0	0	52555	82.5
4000-4499	0	0	234	99.1	0	0	52555	82.5
4500-4999	0	0	234	99.1	0	0	52555	82.5
5000+	2	0.9	236	100%	11138	17.5	63693	100%
Totals	236		236		63693		63693	

ATTACHMENT I

PROPOSED
RULES FOR INDIRECT SOURCES

20-100 POLICY. The Commission finds and declares Indirect Sources to be air contamination sources as defined in ORS 468.275. The Commission further finds and declares that the regulation of Indirect Sources is necessary to control the concentration of air contaminants which result from Motor Vehicle Trips and/or Aircraft Operations associated with the use of Indirect Sources.

20-105 JURISDICATION AND DELEGATION. The Commission finds that the complexity or magnitude of Indirect Sources requires state-wide regulation and assumes or retains jurisdiction thereof. The Commission may, however, when any Regional Authority requests and provides evidence demonstrating its capability to carry out the provisions of these rules relating to Indirect Sources, authorize and confer jurisdiction upon such Regional Authority to perform all or any of such provisions within its boundary until such authority and jurisdiction shall be withdrawn for cause by the Commission.

20-110 DEFINITIONS. (1) "Aircraft Operations" means any aircraft landing or takeoff.

(2) "Airport" means any area of land or water which is used or intended for use for the landing and takeoff of aircraft, or any appurtenant areas, facilities, or rights-of-way such as terminal facilities, parking lots, roadways, and aircraft maintenance and repair facilities.

(3) "Associated Parking" means a parking facility or facilities owned, operated, and/or used in conjunction with an Indirect Source.

(4) "Average Daily Traffic" means the total traffic volume during a given time period in whole days greater than one day and less than one year divided by the number of days in that time period, commonly abbreviated as ADT.

(5) "Commence Construction" means to begin to engage in a continuous program of on-site construction or on-site modifications, including site clearance, grading, dredging, or landfilling in preparation for the fabrication, erection, installation, or modification of an indirect source. Interruptions and delays resulting from acts of God, strikes, litigation, or other matters beyond the control of the owner shall be disregarded in determining whether a construction or modification program is continuous.

(6) "Commission" means Environmental Quality Commission.

(7) "Department" means the Department of Environmental Quality.

(8) "Director" means the Director of the Department or Regional Authority and authorized deputies or officers.

(9) "Expressway" means a divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

(10) "Freeway" means an Expressway as defined in 340-20-110(9) with full control of access.

(11)[(9)]"Highway Section" means an Expressway, Freeway or highway of substantial length between logical termini (major crossroads, population centers, major traffic generators, or similar major highway control elements) as normally included in a single location study or multi-year highway improvement program.

(12)[(10)]"Indirect Source" means a facility, building, structure, or installation, or any portion of combination thereof, which indirectly causes or may cause mobile source activity that results in emissions of an air contaminant for which there is a state standard. Such Indirect Sources shall include, but not be limited to:

(a) Highways and Roads

(b) Parking Facilities

(c) Retail, commercial, and industrial facilities

(d) Recreation, amusement, sports, and entertainment facilities.

(e) Airports

(f) Office and Government buildings.

(g) Apartment, condominium developments, and mobile home parks.

(h) Educational facilities.

(13)[(11)]"Indirect Source Construction Permit" means a written permit in letter form issued by the Department or the Regional Authority having jurisdiction, bearing the signature of the Director, which authorizes the permittee to commence construction of an Indirect Source under construction and operation conditions and schedules as specified in the permit.

(14)[(12)]"Mobile Source" means self-propelled vehicles, powered by internal combustion engines, included but not limited to automobiles, trucks, motorcycles, and aircraft.

(15)[(13)]"Off-street Area or Space" means any area or space not located on a public road dedicated for public use.

(16)[(14)]"Parking Facility" means any building, structure, lot or portion thereof, designed and used primarily for the temporary storage of motor vehicles in designated Parking Spaces.

(17)[(15)]"Parking Space" means any Off-Street Area or Space below, above or at ground level, open or enclosed, that is used for parking one motor vehicle at a time.

(18)[(16)] "Person" means individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.

(19)[(17)] "Population" means that population estimate most recently published by the Center for Population Research and Census, Portland State University, or any other population estimate approved by the Department.

(20)[(18)] "Regional Authority" means a regional air quality control authority established under the provisions of ORS 468.505.

(21)[(19)] "Regional Parking and Circulation Plan" means a plan developed by a city, county, or regional planning agency, the implementation of which assures the maintenance of the state's ambient air quality standards.

(22)[(20)] "Regional Planning Agency" means any planning agency which has been recognized as a substate-clearinghouse for the purposes of conducting project review under the United States Office of Management and Budget Circular Number A-95, or other governmental agency having planning authority.

(23)[(21)] "Reasonable Receptor and Exposure Sites" means locations where people might reasonably be expected to be exposed to air contaminants generated in whole or in part by the Indirect Source in question. Location of ambient air sampling sites and methods of sample collection shall conform to criteria on file with the Department of Environmental Quality.

(24)[(22)] "Vehicle Trip" means a single movement by a motor vehicle which originates or terminates at or uses an Indirect Source.

20-115 INDIRECT SOURCES REQUIRED TO HAVE INDIRECT SOURCE CONSTRUCTION PERMITS. (1) The owner, operator, or developer of an Indirect Source identified in subsection 340-20-115(2) of this section shall not commence construction of such a source after December 31, 1974 without an approved Indirect Source Construction Permit issued by the Department or Regional Authority having jurisdiction.

(2) All Indirect Sources meeting the criteria of this subsection relative to type, location, size, and operation are required to apply for an Indirect Source Construction Permit:

(a) The following sources in or within five (5) miles of the municipal boundaries of a municipality with a Population of 50,000 or more, including but not limited to Portland, Salem, and Eugene:

(A) Any Parking Facility or other Indirect Source with Associated Parking being construction or modified to create new or additional parking (or Associated Parking) capacity of 250 [50] or more Parking Spaces.

(B) Any Highway Section being proposed for construction with an anticipated annual average daily traffic volume of 20,000 or more motor vehicles per day within ten years after completion, or being modified so that the annual Average Daily Traffic on that Highway Section will be increased to 20,000 or more motor vehicles per day or will be increased by 10,000 Or more motor vehicles per day within ten years after completion.

(b) Except as otherwise provided in this section, the following sources within Clackamas, Lane, Marion, Multnomah, or Washington Counties:

(A) Any Parking Facility or other Indirect Source with Associated Parking being constructed or modified to create new or additional parking (or Associated Parking) capacity of 500 or more Parking Spaces.

(B) Any Highway Section being proposed for construction with an anticipated annual Average Daily Traffic volume of 20,000 or more motor vehicles per day within ten years after completion, or being modified so that the annual Average Daily Traffic on that Highway Section will be 20,000 or more motor vehicles per day, or will be increased by 10,000 or more motor vehicles per day within ten years after completion.

(c) Except as otherwise provided in this section, the following sources in all areas of the State:

(A) Any Parking Facility or other Indirect Source with Associated Parking being constructed or modified to create new or additional parking (or Associated Parking) capacity of 1000 or more parking spaces.

(B) Any highway section being proposed for construction with an anticipated annual Average Daily Traffic Volume of 50,000 or more motor vehicles per day within ten years after completion, or being modified so that the annual Average Daily Traffic on that Highway Section will be 50,000 or more motor vehicles per day, or will be increased by 25,000 or more motor vehicles per day, within ten years after completion.

(d) Any airport being proposed for construction with projected annual aircraft operations of 50,000 or more within ten years after completion, or being modified in any way so as to increase the projected number of annual Aircraft Operations by 25,000 or more within 10 years after completion.

(3) Where an Indirect Source is constructed or modified in increments wich individually are not subject to review under this section, and which are not part of a program of construction or modification in planned incremental phases approved by the Director, all such increments commenced after January 1, 1975 shall be added together for determining the applicability of this rule.

(4) An Indirect Source Construction Permit may authorize more than one phase of construction where commencement of construction or modification of successive phases will begin over acceptable periods of time referred to in the permit; and thereafter construction or modification of each phase may be begun without the necessity of obtaining another permit.

20-120 ESTABLISHMENT OF AN APPROVED REGIONAL PARKING AND CIRCULATION PLAN(S) BY A CITY, COUNTY, OR REGIONAL PLANNING AGENCY. (1) Any city, county or regional planning agency may submit a Regional Parking and Circulation Plan to the Department or to the Regional Authority having jurisdiction for approval. Such a plan shall include, but not be limited to:

(a) Legally identifiable plan boundaries.

(b) Reasonably uniform identifiable grids where applicable.

(c) Total parking space capacity allocated to the plan area.

(d) An emission density profile for each grid or plan.

(e) Other applicable information which would allow evaluation of the plan such as, but not limited to, scheduling of construction, emission factors, and criteria, guidelines, or ordinances applicable to the plan area.

(2) The Department or Regional Authority having jurisdiction shall hold a public hearing on each Regional Parking and Circulation Plan submitted, and on each proposed revocation or substantial modification thereof, allowing at least thirty (30) days for written comments from the public and from interested agencies.

(3) Upon approval of a submitted Regional Parking and Circulation Plan, the plan shall be identified as the approved Regional Parking and Circulation Plan, the appropriate agency shall be notified and the plan used for the purposes and implementation of this rule.

(4) The appropriate city, county, or regional planning agency shall annually review an approved Regional Parking and Circulation Plan to determine if the plan continues to be adequate for the maintenance of air quality in the plan area and shall report its conclusions to the Department or Regional Authority having jurisdiction.

(5) The Department or Regional Authority having jurisdiction shall initiate a review of an approved Regional Parking and Circulation Plan if it is determined that the Regional Parking and Circulation Plan is not adequately maintaining the air quality in the plan area.

20-125 INFORMATION AND REQUIREMENTS APPLICABLE TO INDIRECT SOURCE(S) CONSTRUCTION PERMIT APPLICATIONS WHERE AN APPROVED REGIONAL PARKING AND CIRCULATION PLAN IS ON FILE. (1) Application Informatiom Requirements:

(a) Parking Facilities and Indirect Sources Other Than Highway Sections:

(A) A completed application form;

(B) A map showing the location of the site;

(C) A description of the proposed and prior use of the site;

(D) A site plan showing the location and quantity of Parking Spaces at the Indirect Source and Associated Parking areas, points of motor vehicle ingress and egress to and from the site and Associated Parking:

(E) A ventilation plan for subsurface and enclosed parking;

(F) A written statement from the appropriate planning agency that the Indirect Source in question is consistent with an approved Regional Parking and Circulation Plan or any adopted transportation plan for the region.

(G) A reasonable estimate of the effect the project has on total parking approved for any specific grid area and Regional Parking and Circulation Plan area.

(b) Highway Section(s):

(A) Items (A) through (C) of subsection 20-125(1)(a).

(B) A written statement from the appropriate planning agency that the Indirect Source in question is consistent with an approved Regional Parking and Circulation Plan and any adopted transportation plan for the region.

(C) A reasonable estimate of the effect the project has on total vehicle miles travelled within the Regional Parking and Circulation Plan Area.

(2) Within 15 days after the receipt of an application for a permit or additions thereto, the Department or Regional Authority having jurisdiction shall advise the owner or operator of the Indirect Source of any additional information required as a condition precedent to issuance of a permit. [An application shall not be considered complete until the required information is received by the Department or Regional Authority having jurisdiction.]

(3) An application shall not be considered complete until the required information is received by the Department or Regional Authority having jurisdiction.

20-129 INFORMATION AND REQUIREMENTS APPLICABLE TO INDIRECT SOURCE(S) CONSTRUCTION PERMIT APPLICATION WHERE NO APPROVED REGIONAL PARKING AND CIRCULATION PLAN IS ON FILE. (1) Application Information Requirements:

(a) For Parking Facilities and other Indirect Sources with Associated Parking, other than Highway Sections and Airports, with planned construction resulting in total parking capacity for 1000 or more vehicles, the following information shall be submitted:

(A) Items (A) through (E) of subsection 20-125(1)(a).

(B) Subsection 20-125(2) and (3) shall be applicable.

[(C) Measured or estimated carbon monoxide and lead concentrations at Reasonable Receptor and Exposure Sites. Measurements shall be made prior to construction and estimates shall be made for the first, tenth, and twentieth years after the Indirect Source and Associated Parking are completed or fully operational. Such estimates shall be made for average and peak operating conditions.]

(C) An estimate of the average and maximum daily vehicle trips detailed in one and eight hour periods, generated by the movement of mobile sources to and from the Parking Facility and/or Associated Parking Facility for the following time periods:

(i) First, fifth and tenth years after completion of construction of each planned incremental phase of the Indirect Source and having a total parking capacity of more than 5000 parking spaces.

(ii) First and fifth years after completion of each planned incremental phase of the Indirect Source having a total parking capacity of 5000 or less parking spaces.

[(D) Evidence of the compatibility of the Indirect Source with any adopted transportation plan for the area.]

(D)[(I)] A description of the availability and type of mass transit presently serving or projected to serve the proposed Indirect Source. This description shall only include mass transit operating within 1/4 mile of the boundary of the Indirect Source.

[(E) An estimate of the effect of the operation of the Indirect Source on total vehicle miles travelled.]

(E) A description of emission control techniques (e.g., transit incentive program, carpool program, bicycle facilities, traffic engineering design, etc.) which shall be used to minimize vehicle miles travelled resulting from the use of the Indirect Source.

[(F) An estimate of the additional residential, commercial, and industrial developments which may occur concurrent with or as the result of, the construction and use of the Indirect Source. This shall also include an air quality impact assessment of such development.]

(F) An estimate of the Average Daily Traffic, peak hour and peak eight hour traffic volumes for all roads, streets, and arterials abutting or intersecting with the Indirect Source and for all Freeways and Expressways within 1/2 mile of the nearest boundary of the Indirect Source for the time periods as stated in 340-20-129(1)(a)(C)(i) and 340-20-129(1)(a)(C)(ii).

[(G) Estimates of the effect of the operation and use of the Indirect Source on traffic patterns, volumes, and flow in, on or within 1/4 mile of the Indirect Source.]

(G) An estimate of the gross emissions of carbon monoxide, lead, reactive hydrocarbons and oxides of nitrogen based on the analysis performed in subsections 340-20-129(1)(a)(C) and 340-20-129(1)(a)(F).

[(H) An estimate of the Average Daily Vehicle Trips, detailed in terms of the average daily peaking characteristics of such trips, and an estimate of the maximum Vehicle Trips, detailed in one hour and eight hour periods, generated by the movement of people to and from the Indirect Source in the first, tenth, and twentieth years after completion.]

(H) Measured or estimated carbon monoxide and lead concentrations at Reasonable Receptor and Exposure Sites. Measurements shall be made prior to construction and estimates shall be made for the first, fifth and tenth years after the Indirect Source and Associated Parking are completed or fully operational. Such estimates shall be made for average and peak operating conditions.

[(I) A description of the availability and type of mass transit presently serving or projected to serve the proposed Indirect Source. This description shall only include mass transit operation within 1/4 mile of the boundary of the Indirect Source.]

(I) Evidence of the compatibility of the Indirect Source with any adopted transportation plan for the area.

[(J) A description of any emission control techniques which shall be used to minimize any adverse environmental effects resulting from the use of the Indirect Source.]

(J) An estimate of the additional residential, commercial, and industrial developments which may occur concurrent with or as the result of, the construction and use of the Indirect Source. This shall also include an air quality impact assessment of such development.

(b) For Parking Facilities and other Indirect Sources with Associated Parking, other than Highway Sections and Airports, with planned construction of parking capacity for [50] 250 to 1000 vehicles; the following information shall be submitted:

(A) Items (A) through (E) of subsection 340-20-125(1)(a) and items (C) through (E) of subsection 340-20-129(1)(a).

(B) Subsection 340-20-125(2) and (3) shall be applicable. Such additional information may include such items as [(C)] (F) through (J) of subsection 340-20-129(1)(a).

(c) For Airports, the following information shall be submitted:

(A) Items (A) through (E) of subsection 340-20-125(1)(a).

(B) Subsection 340-20-125(2) and (3) shall be applicable.

(C) A map showing the topography of the area surrounding and including the site.

(D) Evidence of the compatibility of the Airport with any adopted transportation plan for the area.

(E) An estimate of the effect of the operation of the Airport on total vehicle miles travelled.

(F) Estimates of the effect of the operation and use of the Airport on traffic patterns, volumes, and flow in, on or within one-fourth mile of the Airport.

(G) An estimate of the average and maximum number of Aircraft Operations per day by type of aircraft in the first, tenth, and twentieth years after completion of the Airport.

(H) Expected passenger loadings in the first, [tenth and twentieth] fifth and tenth years after completion.

(I) Measured or estimated carbon monoxide and lead concentrations at Reasonable Receptor and Exposure Sites. Measurements shall be made prior to construction and estimates shall be made for the first, [tenth and twentieth] fifth and tenth years after the Airport and Associated Parking are completed or fully operational. Such estimates shall be made for average and peak operating conditions.

(J) Alternative designs of the Airport, i.e., size, location, parking capacity, etc., which would minimize the adverse environmental impact of the Airport.

(K) An estimate of the additional residential, commercial, and industrial development which may occur within 3 miles of the boundary of the new or modified Airport as the result of the construction and use of the Airport.

(L) An estimate of the area-wide air quality impact analysis for carbon monoxide, photochemical oxidants, nitrogen oxides, and lead particulate. This analysis would be based on the emissions projected to be emitted from mobile and stationary sources within the Airport and from mobile and stationary source growth within 3 miles of the boundary of the Airport. Projections should be made for the first, [tenth and twentieth] fifth and tenth years after completion.

(M) A description of the availability and type of mass transit presently serving or projected to serve the proposed Airport. This description shall only include mass transit operating within 1/4 mile of the boundary of the Airport.

(d) For Highway Sections, the following information shall be submitted:

(A) Items (A) through (C) of subsection 340-20-125(1)(a).

(B) Subsection 340-20-125(2) shall be applicable.

(C) A map showing the topography of the Highway Section and points of ingress and egress.

(D) The existing average and maximum daily traffic on the Highway Section proposed to be modified.

(E) An estimate of the maximum traffic levels for one and eight hour periods in the first, fifth, tenth, and twentieth years after completion.

(F) An estimate of vehicle speeds for average and maximum traffic volumes in the first, fifth, tenth, and twentieth years after completion.

(G) A description of the general features of the Highway Section and associated right-of-way.

(H) An analysis of the impact of the Highway Section on the development of mass transit and other modes of transportation such as bicycling.

(I) Alternative designs of the Highway Section, i.e., size, location, etc., which would minimize adverse environmental effects of the Highway Section.

(J) The compatability of the Highway Section with an adopted comprehensive transportation plan for the area.

(K) An estimate of the additional residential, commercial, and industrial development which may occur as the result of the construction and use of the Highway Section, including and air quality assessment of such development.

(L) Estimates of the effect of the operation and use of the Indirect Source on major shifts in traffic patterns, volumes, and flow in, on, or within one-fourth mile of the Highway Section.

(M) An analysis of the area-wide air quality impact for carbon monoxide, photochemical oxidants, nitrogen oxides, and lead particulates in the first, fifth, tenth, and twentieth years after completion. This analysis would be based on the change in total vehicle miles travelled in the area selected for analysis.

(N) The total air quality impact (carbon monoxide and lead) of maximum and average traffic volumes. This analysis would be based on the estimates of an appropriate diffusion model at Reasonable Receptor and Exposure Sites. Measurements shall be made prior to construction and estimates shall be made for the first, fifth, tenth, and twentieth years after the Highway Section is completed or fully operational.

(O) Where applicable and requested by the Department, a Department approved surveillance plan for motor vehicle related air contaminants.

20-130 ISSUANCE OR DENIAL OF INDIRECT SOURCE CONSTRUCTION PERMITS. (1) Issuance of an Indirect Source Construction Permit shall not relieve the permittee from compliance with other applicable provisions of the Clean Air Act Implementation Plan for Oregon.

(2) Within 20 days after receipt of a complete permit application, the Department or Regional Authority having jurisdiction shall:

(a) Issue 20 day notice and notify the Administrator of the Environmental Protection Agency, appropriate newspapers, and any interested person(s) who has requested to receive such notices in each region in which the proposed Indirect Source is to be constructed of the opportunity for written public comment on the information submitted by the applicant, the Department's evaluation of the proposed project, the Department's proposed decision, and the Department's proposed construction permit where applicable.

(b) Make publicly available in at least one location in each region in which the proposed Indirect Source would be constructed, the information submitted by the applicant, the Department's evaluation of the proposed project, the Department's proposed decision, and the Department's proposed construction permit where applicable.

(3) Within 60 days of the receipt of a complete permit application, the Department or Regional Authority having jurisdiction shall act to either disapprove a permit application or approve it with possible conditions.

(4) Conditions of an Indirect Source Construction Permit may include, but are not limited to:

(a) Posting transit route and scheduling information.

(b) Construction and maintenance of bus shelters and turn-out lanes.

(c) Maintaining mass transit fare reimbursement programs.

(d) Making a car pool matching system available to employees, shoppers, students, residents, etc.

(e) Reserving parking spaces for car pools.

(f) Making parking spaces available for park-and-ride stations.

(g) Minimizing vehicle running time within parking lots through the use of sound parking lot design.

(h) Ensuring adequate gate capacity by providing for the proper number and location of entrances and exits and optimum signalization for such.

(i) Limiting traffic volume so as not to exceed the carrying capacity of roadways.

(j) Altering the level of service at controlled intersections.

(k) Obtaining a written statement of intent from the appropriate public agency(s) on the disposition of roadway improvements, modifications, and/or additional transit facilities to serve the individual source.

(l) Construction and maintenance of exclusive transit ways.

(m) Providing for the collection of air quality monitoring data at Reasonable Receptor and Exposure Sites.

(n) Limiting facility modifications which can take place without resubmission of a permit application.

(o) Completion and submission of a Notice of Completion form prior to operation of the facility.

(5) An Indirect Source Construction Permit may be withheld if:

(a) The Indirect Source will cause a violation of the Clean Air Act Implementation Plan for Oregon.

(b) The Indirect Source will delay the attainment of or cause a violation of any state ambient air quality standard.

(c) The Indirect Source causes any other Indirect Source or system of Indirect Sources to violate any state ambient air quality standard.

(d) The applicable requirements for an Indirect Source Construction Permit application are not met.

(6) Any owner or operator of an Indirect Source operating without a permit required by this rule, or operating in violation of any of the conditions of an issued permit shall be subject to civil penalties and/or injunctions.

(7) Nothing in this section shall preclude a Regional Authority authorized under section 340-20-105 from setting the permit conditions for areas within its jurisdiction at levels more stringent than those detailed in sections 340-20-100 through 340-20-135.

(8) If the Department shall deny, revoke, or modify an Indirect Source Construction Permit, it shall issue an order setting forth its reasons in essential detail.

[(9) An Indirect Source Construction Permit Application shall not be considered complete until the applicant has provided to the Department evidence that the Indirect Source in question is not in violation of any land use ordinance or regulation enacted or promulgated by a constitutive local governmental agency having jurisdiction over the subject real property.]

(9) An Indirect Source Construction Permit shall be applied for at least 90 days in advance of the anticipated start of construction.

20-135 PERMIT DURATION. (1) In Indirect Source Construction Permit issued by the Department or a Regional Authority having jurisdiction shall remain in effect until modified or revoked by the Department or such Regional Authority.

(2) The Department or Regional Authority having jurisdiction may revoke the permit of any Indirect Source operating in violation of the construction, modification, or operation conditions set forth in its permit.

(3) An approved permit may be revoked without a hearing if construction or modification is not commenced within 18 months after receipt of the approved permit; and, in the case of a permit granted covering construction or modification in approved, planned incremental phases, a permit may be revoked as to any such phase as to which construction or modification is not commenced within 18 months of the time period stated in the initial permit for the commencing of construction of that phase. The Director may extend such time period upon a satisfactory showing by the permittee that an extension is justified.

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

To: Environmental Quality Commission

From: Director

Subject: Addendum to Agenda Item C(d), March 12, 1976, EQC Meeting

Proposed Changes to Rules for Indirect Sources
(OAR Chapter 340, Sections 20-100 through 20-135)

In order to clarify the proposed changes to the Rules for Indirect Sources (OAR Chapter 340, Sections 20-100 through 20-135), the following tabular summary indicates the major differences between the existing and proposed temporary Indirect Source Rule regarding the review of parking facilities.

		Existing	Proposed
A.	Minimum Review Threshhold* [20-115, 20-129(1)(b)]	50 parking spaces	250 parking spaces
B.	Information Required of all applicants	1. Completed application form [20-125(1)(a)(A)]	1. Same as B 1.
		2. A map showing the location of the site [20-125(1)(a)(B)]	2. Same as B 2.
		3. A description of the proposed and prior use of the site [20-125(1)(a)(C)]	3. Same as B 3.
		4. A site plan indicating the number of parking spaces to be constructed and points of motor vehicle ingress and egress [20-125(1)(a)(D)]	4. Same as B 4.

*For Indirect Sources in or within five (5) miles of the municipal boundaries of a municipality with a population of 50,000 or more, including but not limited to Portland, Salem and Eugene.

Existing	Proposed
5. A ventilation plan for sub-surface and enclosed parking [20-125(1)(a)(E)]	5. Same as B 5.
	6.[Δ] An estimate of the daily number of motor vehicle trips generated by the Indirect Source for the following time periods:
	a. First and fifth year after completion of construction of each incremental phase for parking facilities of 5000 parking spaces or less [20-129(1)(a)(C)(i)]
	b. First, fifth and tenth years for parking facilities of more than 5000 spaces [20-129(1)(a)(C)(ii)]
	7.[Δ] Description of availability and type of mass transit serving the proposed Indirect source within 1/4 mile of its boundary [20-129(1)(a)(D)]

[Δ]This information can be required under the existing rules for Indirect Sources.

		Existing	Proposed
			8.[Δ] A description of emission control techniques (e.g., transit incentive program, carpool program, etc.) which shall be used to minimize vehicle miles travelled resulting from the use of the Indirect Source [20-129(1)(a)(E)]
C.	Information that may be required of applicants	1. Measure and estimate carbon monoxide and lead concentrations at reasonable receptor sites for the first, tenth and, twentieth years [20-129(1)(a)(C)]	1. Measure and estimate carbon monoxide and lead concentrations at reasonable receptor sites for the first, fifth and tenth years [20-129(1)(a)(H)]
D.	Land-use approval Requirements	1. Application not considered complete until applicant provides the Department evidence that the Indirect Source in question is not in violation of any land-use ordinance or regulation enacted or promulgated by a constitutive local government agency having jurisdiction over the subject real property [20-130(9)]	1. An Indirect Source construction permit shall be applied for at least 90 days in advance of the anticipated start of construction [20-130(9)]

[Δ]This information can be required under the existing rules for Indirect Sources.

LOREN KRAMER

CAS:cs

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From Director

Subject: March 12, 1976 Public Informational Hearing, Agenda Item D.

Boise Cascade Corporation, Salem Pulp and Paper Plant - Proposed Modification to Air Contaminant Discharge Permit, National Pollutant Discharge Elimination System Waste Discharge Permit Authorizing Expansion of Pulping Capacity.

Air Contaminant Discharge Permit (Amendment)

Background

At the June 27, 1974 public hearing in Salem, The Environmental Quality Commission approved Boise Cascade's request to increase pulping capacity from 250 air dried ton/day (ADT/day) to an average of 310 ADT/day subject to the following:

1. Achievement of proposed reduction in sulfur dioxide and particulate emissions.

2. Demonstration by the Company of compliance with all air contaminant discharge permit conditions for a six-consecutive-month period commencing when operation of the recovery furnace with the new mist eliminator was stabilized.

3. Implementation of a joint DEQ-Boise Cascade study to determine occurrences of perceivable concentrations of sulfur dioxide (SO_2) off the plant site and submission by the Company of a program to eliminate any SO_2 nuisance problem that may be identified by such a study.

4. Implementation of control procedures adequate to eliminate any problems of particulate (wood fines) deposition off the plant site.

5. Completion of control of SO_2 emissions from the acid plant and counter current washers.

Status

Boise Cascade notified the Department by letter dated July 15, 1975, that the recovery boiler and mist eliminator with the SO_2 and opacity (particulate) monitors were completely operational and the Company wished to commence their six-month trial period. The delay period beyond the July 1, 1975 deadline was due to equipment delivery delays and malfunction problems with SO_2 and opacity monitors.

In regard to the SO_2 emission limitation set at the June 27, 1974 public hearing by the EQC (Conditions 1 and 2 of Attachment A), the Company has not been able to attain compliance with all SO_2 emission limits of Condition 1 (200 ppm hourly average (1a) and 3075 #/day Avg. (1b). A few hours per month have also been recorded in excess of Condition 2a (400 ppm hourly average). However, as outlined in Table I, the monthly average concentration (ppm) and pounds per day (#/day) have substantially decreased since June 1975.

TABLE I

Boise Cascade Monthly Average SO_2 Emissions

Month	PPM	AD Tons	#/day
January, 1975	434	213	3938
February, 1975	369	200	4170
March, 1975	448	200	4315
April, 1975	449	210	3519
May, 1975	368	210	2822
June, 1975[1]	252	225	1770
July, 1975[1]	237	211	1885
August, 1975	215	209	2011
September, 1975	150	187	1273
October, 1975	154	226	1343
November, 1975	143	221	1331
December, 1975[2]	143	207	1098
January, 1976	147	234	2194

1/ June and July may be low by 27% due to possible error in equipment calibration

2/ Mist eliminator down during first four days and recovery boiler down from December 14 to December 28 for retubing.

The Department staff met with the Company on October 3, 1975 and January 7, 1976 to review their progress toward achieving the 200 ppm limitation. The Company indicated that the mist eliminator has not lowered the sulfur dioxide levels to any degree even though particulate emissions outlined in Condition 3 of their permit have been easily met. Therefore, the Company has directed all efforts to control the sulfur dioxide (SO_2) by modification and fine tuning of the absorption tower. A new heat exchanger has been added along with many other flow modifications, which have increased the sulfur dioxide (SO_2) removal efficiency to the 95-96 percent (%) range. This program which was basically started in May, 1975 corresponds with the lowering of SO_2 emissions outlined in Table I.

It is the Company's belief that with the recent improvements in the absorption tower and operating experience gained over the last several months, it will be able to meet a 200 ppm SO_2 emission limit as a daily, monthly and yearly average and a 400 ppm SO_2 emission limit as a maximum hourly limit even at the expanded production rate.

Condition 2 (Attachment A) of the permit authorizing expansion provided that if SO_2 emission limits set forth in Condition 1 at the increased pulping capacity cannot be met, SO_2 emission limits in Condition 2 would apply if so determined by the Department after public hearing. While the Company has indicated they cannot meet emission limits of Condition 1, they have indicated they can meet some limits more stringent than those of Condition 2. After review of the Company's recent SO_2 emission monitoring data and projecting SO_2 emission limits after expansion, it is the Department's belief that the SO_2 emission limits the company indicates it can meet represent the highest and best practicable degree of treatment and control. The only other potential way of further reducing SO_2 emissions is through automating the ammonia injection system to eliminate peak SO_2 emissions. The Company has and should continue to work on development of an automated system.

Table 2 indicates the SO_2 emission limits the Company was to meet and the limit the Company and the Department believe can be met. These limits have been incorporated in the proposed permit (Attachment B, Condition 1).

Table 2

SO_2 Emission Limits

	A Required by EQC June 27, 1974	B Required by EQC if limits in Column A cannot be achieved	C Proposed 3/12/76
hourly average	200 ppm	400 ppm	400 ppm
daily average	3075 lbs	5400 lbs	4100 lbs and 200 ppm
monthly average	3075 lbs	4500 lbs	3750 lbs and 200 ppm
yearly average	3075 lbs	4100 lbs	3750 lbs and 200 ppm
#/ADT	9	15.8	12 as monthly Avg.

In regard to control of SO_2 emission from the acid plant and counter-current washers, the Company has successfully completed its control program of collecting these emissions and venting them through the recovery furnace SO_2 system.

In order to eliminate the fugitive wood dust emission problems and associated complaints, the Company has completed the following changes:

1. Chip transfer cyclones have been installed on all digesters.

2. The knot storage bin has been relocated from the Front Street area at a high elevation to an area 100 yards further onto Company property at a lower elevation.

In addition to these changes the following program has been implemented during the unloading of rail cars and trucks associated with the chip storage facilities:

a. Chips are thoroughly wetted while they travel off the drag chain and prior to leaving the pneumatic blower.

b. The distance between the pipe outlet and chip pile is being maintained as short as practical.

c. The chips are being blown into the low side of an existing chip pile.

d. Installation of a wind direction and speed measurement indicator in the chip handling control room so that operators will have ready access to wind information.

e. Review of the chip quality requirements with the Company's suppliers to insure that they are meeting specifications on fines.

f. Discontinuation of the unloading of rail cars when winds exceed 20 miles per hour from the west or southwest as measured at the mill site.

g. Discontinuation of the transfer of chips from the truck dump to the east pile when winds exceed 20 miles per hour from the west or southwest. During periods when winds exceed 20 miles per hours, chips will be transferred to the digesters as first priority, then to the west pile.

The fugitive emission control program since May 5, 1975 has proven to be successful. No complaints have been received since that time.

DEQ-Boise Cascade Air Quality Monitoring Program

In order to evaluate the fugitive (wood particulates) emissions off the plant site, four monitoring stations were established in September, 1974. These stations monitor the type of materials (sticky papers), the particulate fallout (fallout buckets) and suspended particulate (high volume samples). The location of the stations with their respective distance from the Company's chip handling and storage area are as follows:

Salem Civic Center at 1400 feet
Marion Dunes Motel at 1050 feet
Pioneer Trust Building at 800 feet
Hogg Brothers warehouse at 400 feet

The data collected after the implementation of the control program to present is not sufficient to make any determination at this time. Another problem has been the contribution of Salem Iron Works to the particulate sampling program. A greater number of samples over a much longer period after phase out of Salem Iron Works Front Street plant scheduled in March, 1976, needs to be obtained prior to making any further evaluation of the Mill's control program.

In order to obtain information on the off-plant SO_2 concentration levels, two SO_2 monitors were located on the downtown side of the Mill on top of the Pioneer Trust Building and Salem Civic Center. The Civic Center site is approximately 950 feet from the Boise Cascade recovery system in a down wind (SSE) direction for prevailing summer winds and the Pioneer Trust site is located approximately 1100 feet from the recovery system in a down wind (NNE) direction for prevailing winds. Initially two Beckman 906A SO_2 monitors were used. These were replaced on May 21, 1975 (the day before start up of the recovery system mist eliminator) by two Technicon SO_2 analyzers (purchased by Boise Cascade), an analyzer superior to the Beckman. This equipment is operated and maintained by DEQ staff.

The data collected to date shows numerous violations of allowable ambient sulfur dioxide levels (OAR 340-31-020), mostly at the Pioneer Trust Building. In response to this, the Department requested Boise Cascade to submit a corrective program for resolution of these violations. A program was received and evaluated by the staff. Several limitations of the analyses used to develop the program were pointed out to the Company, however, the recommendation to increase the mist eliminator stack heighth by 50 feet was evaluated by the Department and found to be acceptable. The Company has reviewed the Department's comment and has agreed to raise the mist eliminator stack by 50 feet.

Air Quality Conclusions

1. The mist eliminator has substantially eliminated the complaints received on visibility and odor from Boise Cascade Company. The mist eliminator has worked consistently except for a major plugging problem in the latter part of November and the first part of December which was caused by a ruptured boiler tube in the recovery system and switching from supplemental gas firing to heavy oil firing. Supplemental gas is now being used at all times to prevent future problems.

2. Direct SO_2 emissions from the acid plant have been eliminated and now go through the recovery system (February 1, 1976).

3. Ambient air violations off the plant site are to be eliminated by a 50-foot stack extension on the mist eliminator. This action is expected to solve the problem.

4. The Company has indicated that it can meet the 400 ppm hourly average and a maximum daily, monthly average and yearly average emission based on 200 ppm.

5. All conditions of the attached Air Contaminant Discharge Permit (Attachment B) should be met at all times provided the Company stresses a strong environmental control program concentrating on operating the plant as smoothly as possible.

Water Quality NPDES Waste Discharge Permit

During the latter part of September, 1975, the Department of Environmental Quality initiated modification of the Company's NPDES permit. The primary purpose of the modification was to increase the suspended solids limitations to compensate for a change in the analytical method for determining the suspended solids which gave higher readings. In addition, the permit required modification to bring it into conformance with current permit format. This included adding an allowable mixing zone, adding limitations to minor waste water discharges which were not specified in the previous permit, and other minor changes.

The proposed permit modification was placed on public notice and the Department received letters, one from Ms. Carolyn Wright and one from OSPIRG, requesting a hearing on the proposed modifications of the waste discharge permit. Based on these letters and subsequent written comments, the Department has reviewed the conditions of the proposed permit and has summarized our findings as follows:

Suspended Solids - Ms. Wright, in her letter, notes that the numerical limit for the suspended solids has been significantly increased, which it has. When the suspended solids limitations in the existing permit (7000 #/day) were established, the suspended solids were determined using Whatman 40 filter paper which allowed significant portions of the biological solids (which are generated in the waste treatment process and are absolutely necessary for treating the waste waters) to pass through and not be measured. With the Whatman 40 paper, the suspended solids limit of 7000 #/day could be met. However, EPA now requires a glass fiber filter which retains nearly all of the bacterial solids and thus causes higher readings. To compensate for this analytical procedure change the Department proposes to increase the limits to conform to federal guidelines. The guidelines at the time the proposed modification was drafted were tentative and had not been finalized. The limitations as determined by these tentative guidelines are as follows (based on 275 tons/day paper production):

Table II

	Monthly Average	Daily Maximum
Total Suspended Solids	10,400 #/day	17,600 #/day

It is understood that the final guidelines have recently been promulgated and it would be the Department's intention to adjust the limitations to conform to the final guidelines unless the resulting numbers are unreasonably high. At the time this report was drafted a formal draft of the guidelines was not available to the Department.

It was also stated by Ms. Wright that the suspended solids discharged from Boise Cascade create a water quality problem downstream and should be reduced. We have no evidence that the water quality in the Willamette River is being impaired significantly by Boise Cascade as a result of the suspended solids in the discharge. It should be noted that the treatment system employed by Boise Cascade (and most of the other pulp mills in the State) is designed to provide maximum BOD-5 reduction with a minimum generation of biological solids. Once the system has been constructed there is no practical control of the solids other than the quantity of waste entering the system. The biological solids level fluctuates in a random fashion which is generally unpredictable.

Additional treatment systems can be installed on the end of the existing system to reduce solids and, in addition, color. However, these systems generate a significant amount of sludge which would require disposal by some means. Such treatment and disposal systems require special controls and management to assure proper operation. Further, these systems require significant amounts of energy.

The question of whether or not biologically generated suspended solids for pulp and paper mill aerated lagoons should be further treated to reduce the suspended solids needs to be considered on an industry-wide basis. At this time, the Department has not identified sufficient water quality impact from these solids to justify an industry-wide requirement for additional treatment facilities and additional energy consumption.

Color

The Department realizes the main process waste water discharge creates a noticeable band of dark color in the Willamette River. Consideration has been given to requiring that a multi-port diffuser replace the existing single-port diffuser pipe to diffuse the color. Investigation of this idea revealed that, due to shallowness of the river, the diffuser would only have created a wider band of color in the river and not have solved the color problem.

Other solutions to reducing color would be to further treat the wastes to remove the color. This alternative would entail construction of additional treatment facilities, addition of substantial quantities of chemicals (alum and lime) to the waste water and the consumption of additional energy. Like the suspended solids matter previously discussed, the Department is considering the pulp and paper color problem on an industry-wide basis and is presently trying to attain and maintain an acceptable color level by more stringent in-plant controls. The installation of a counter-current pulp washing system in the Boise Cascade Mill is an example of improved in-plant control which will reduce color.

Mixing Zone

Comments have been received which concern the size of the allowable mixing zone proposed in the permits. The mixing zone as originally proposed for the process waste water is rather long, extending from the point of the main process waste water discharge downstream to the Center Street bridge, a distance of maybe 3/4 of a mile. However, the visible plume created by the discharge is a narrow band of colored effluent which diffuses very little until it reaches the bridge. Though the plume is visually noticeable and though the Department has considered a diffuser to reduce the visual impact of the discharge, as previously mentioned, the staff does not believe that it otherwise affects beneficial uses of the river. However, to provide the best definition and evaluation of the mixing zone as related to the water quality standards, a joint DEQ-EPA-Fish and Wildlife Commission study is programmed for the low flow period during the upcoming summer. This study will use computer modeling in conjunction with actual field measurement and verification. Initial discussion has already been held with EPA relative to the study.

All of Pringle Creek from the point of discharge of the acid plant cooling water to Croisan Slough and all of Croisan Slough was also included in the originally proposed allowable mixing zone. A portion of Pringle Creek was included in the mixing zone because the acid plant cooling water is discharged into this Creek. It is doubtful that the whole creek downstream from the discharge is below standard, but the whole creek was used in the zone to provide some buffer. Croisan Slough is included in the mixing zone because of the dark color imparted to its water by liquor leachates from the island across the slough where, for years, spent sulfite liquor was stored during the summer months. In order to make sure the mixing zone is kept at a minimum with no adverse effect to water quality standards and fish life, the joint DEQ-EPA-Fish and Wildlife Commission study will include an evaluation of the cooling water discharges and Croisan Slough as well as the process waste water.

The proposed permit has been changed since the public notice period to provide a more restrictive allowable mixing zone. The width of the zone downstream from the process water discharge has been reduced from full river to 100'. The Pringle Creek zone has been reduced from full width to 10' If the above-mentioned study determines that the allowable mixing zone is inadequate or that it adversely affects the beneficial uses of the

river disportionately, the permit would be modified by the Department to adjust the mixing zone and/or require additional treatment and control of the waste water discharges.

Waste Treatment Pond Leakage

The Department has been concerned about the liquor leachates entering the Willamette River from Minto Island for some time as it causes a considerable color problem in the Willamette around Boise Cascade's mill. To determine the exact cause of this color problem, at the Department's request, Boise Cascade has initiated a groundwater monitoring program on Minto Island adjacent to the waste treatment lagoons. This program should determine if the color is the result of leaking lagoons or the result of the leaching of waste liquor from the ground beneath the lagoons. (Prior to being used as waste treatment ponds, the lagoons were used as storage ponds for spent liquor. It is suspected that the spent liquor has saturated the ground beneath the lagoons and is now leaching out by the flow of groundwater.)

Though some monitoring data is available, additional monitoring is necessary before conclusions can be made relative to how best to solve this aspect of the color problem. This monitoring is scheduled for this summer.

Permit Violations and Problems

It is true that Boise Cascade has a history of spills, leaks and electrical outages, some of which have caused the permit to be violated. However, in each case the Department has been informed immediately, the Company has taken corrective measures, the Department has assessed the problem and has taken enforcement action as deemed necessary to preclude recurrence.

The Company has been in continuous violation of their suspended solids limits ever since the analytical procedures were changed. We have realized this, but considered enforcement action inappropriate until the permit was modified to adjust the limits to be consistent with the changed testing procedure.

BOD-5 limits were exceeded during two periods during the 1975 Summer. In each case, after assessing the quality of the receiving stream, the Department took action as deemed necessary to correct the problem in the shortest practicable time and to assure that similar problems would not recur.

However, during the months of November, December, 1975 and January, 1976, suspended solids violations have occurred in excess of the proposed permit limitations. This coupled with the Company's spills and other problems during 1975, resulted in a 5-day Civil Penalty warning letter to the Company on December 22, 1975. The need for assessing a fine for the January, 1975 violations is still being reviewed. A $1000 fine was also assessed against the Company on

January 29, 1976 for a negligent oil spill into Pringle Creek on December 24, 1975 (fine was paid).

It should be noted that the Company started their new counter current washers in November, 1975. The start-up problems associated with these new facilities has resulted in intermittent high strength waste water discharges into the waste treatment system. As indicated before, the generation of suspended solids is controlled by what is discharged into the system. However, even though the Department generally recognizes problems associated with start-up of new equipment, the Company has not supported their explanation with actual data and records. Prior approval was also not requested by the mill or granted by this Department to discharge increased wastes into the pond.

A review of the Company's January and February 1976 records shows that the counter-current washer problems have apparently been corrected and the treatment system effluent, including suspended solids, is well within permit limits as proposed.

Ammonia Discharges

During 1973 and 1974, intensive studies of the Willamette River's dissolved oxygen (DO) regime and self-purification processes were undertaken by the U. S. Geological Services with the encouragement and assistance of the Department. The USGS study concluded that ammonia discharges from several plants, including Boise Cascade's Salem plant, were causing substantial oxygen demand in the River during low flow periods.

Since the time of the USGS study, Boise Cascade has reduced its ammonia discharges from approximately 14,000 #/day to 6,000 #/day by using lime instead of ammonia for pH control and by installing counter-current pulp washers. As a result of these changes, the Department intends to conduct an ammonia study this summer to determine to what extent the problem indicated by USGS still exists and what course of action should be initiated for effective control.

In order to obtain needed data on ammonia balance throughout the Boise Cascade waste water treatment, collection and treatment systems, an ammonia monitoring program is included in their proposed modified permit.

Public Notice Criticism

The Department has received comments criticizing the fact that the limitations for the non-contact cooling water and filter backwash discharges were not noted in the permit modification public notice or the hearing public notice. It should be noted that the Department attempts to note the most significant aspects of a permit in its public notices. Inclusion of all items regardless of their significance would make the public notices unreasonably bulky and add to the distribution costs. These existing discharges were not considered as requiring effluent limits when the existing permit was drafted. EPA rules now require limitations for all discharges.

Temperature Limitations

When the preliminary draft of the permit modification was prepared and put on public notice, the temperature limitations (75°F.) for the cooling water discharges were based on only a few grab samples taken by the Company. During the public notice period, the Company reviewed data concerning these discharges which indicated that the temperature of the incoming water supply for these sources could get as high as 68°F. The Company was concerned that a 75° limit would be exceeded in summer and requested that the temperature limitations be increased to 90°F. The Department has no evidence that these thermal discharges were significantly impacting water quality or any beneficial use and the requested increase in temperature was not due to any modification of the operation generating the cooling water. It was, therefore, decided to allow the increase of the temperature limitation for the cooling water discharges to 90°F.

The modified permit will require routine monitoring of these sources. If this monitoring shows that the limitations are inadequate or that the discharges are significantly impacting water quality, the Department would initiate programs to either reduce the waste water discharges or otherwise minimize the water quality impact.

pH Considerations

There have been some questions raised concerning the change in the allowable pH range of the process water discharge from 6.0 - 8.5 (in the current permit) to 6.0 - 9.0 (as proposed in the permit modification). EPA effluent guidelines allow for a pH range of 6.0 - 9.0 and the permit limits were adjusted to conform with the guidelines. Boise Cascade's effluent is usually in the 6.0 - 7.0 pH range. (The Willamette River pH is usually between 6.0 and 7.0 also.) It is doubtful that the effluent from Boise Cascade would ever get above 8.5 because of production process employed by the mill. The Department has changed the pH limits for the process waste water to 6.0 - 8.5 even though it is not believed to be a significant point.

Expiration Date

There has been criticism concerning the Department's proposal to extend the expiration date 8 months from July 1, 1977 to February 28, 1978. This would make the permit a 5-year permit (the maximum allowable effective date). The Department staff must spend enormous amounts of time processing permits and related items. The expiration date was extended so that time could be devoted to other plants. An extension of 8 months is hardly significant as far as assuring that frequent attention is paid to Boise Cascade.

Bacteria Levels in the Process Waste Water Effluent

The Department is aware that pulp mill effluent, including that of Boise Cascade, contains Klebsiella pneumonia, a bacteria which, under some conditions, may be pathagenic (disease causing). Consideration has been made relative to requiring disinfection of pulp mill effluent on an industry-wide basis. However, several studies by EPA and the National Council for Air and Stream Improvement have been unable to conclude that the bacteria poses a health hazard.

Further, the universal method for disinfection utilizes chlorine as the disinfection agent. Utilization of this method would probably generate chloroamine compounds in the effluent which would increase toxicity. Therefore, at this time, the Department has not concluded that pulp mill effluents should be disinfected on an industry-wide basis. The matter is still under study.

Croisan Slough

There have been comments relative to the recreational value of Croisan Slough. It is probably true that the water quality of Croisan Slough is such that it cannot sustain a population of warm water game fish. It is the Department's intention to investigate this when the mixing zone study is conducted. It is believed that the poor water quality is due to liquor leachates from Minto Island where strong pulping liquor was stored in the past. The groundwater study previously mentioned will confirm this. If this is true, there is little that can be done to improve water quality in the slough until the liquor is completely leached out of the island. Preliminary estimates indicate the liquor could be significantly leached out in 7 to 8 years, so water quality in the slough will be steadily improving as time passes.

Conclusions

1. An allowable mixing zone has been included in the proposed permit and it may not describe the actual mixing of the effluent from the Boise Cascade Mill. A study of the mixing areas in the river has been initiated and will be conducted this summer to determine the adequacy of the allowable mixing zone in the permit. The permit would be modified to adjust the allowable mixing zone if it is shown to be inadequate.

2. The suspended solids limits are being increased in the proposed permit to account for an analytical change in the testing procedure. The revised limitations are based on EPA effluent guidelines which reflect the best practicable state-of-the-art control.

3. The Department has considered requirements to reduce color and suspended solids on an industry-wide basis, but, at this time, it has not been concluded that the resulting improvement in water quality would justify the cost of the installation of the necessary equipment nor the added consumption of energy.

4. Alternatives for reducing color at Boise Cascade have been investigated. In-plant control has been determined to be the better of these alternatives at this time.

5. The impact of excessive ammonia discharges on the water quality of the Willamette River is recognized by the Department. Ammonia discharges from Boise Cascade have been significantly reduced since the USGS study was conducted on the Willamette. It is intended to conduct additional studies this summer to assess the ammonia problem which now exists and establish corrective measures as may be appropriate.

6. A comprehensive evaluation of Boise Cascade's waste water control system is already underway by a consulting engineer. This evaluation will indicate the waste treatment system efficiency as well as outline those monitoring and control systems which are necessary within the waste collection system to maintain maximum efficiency and permit limitations.

7. At the request of the Department, Boise Cascade is conducting a ground water monitoring program on Minto Island adjacent to the waste treatment lagoons. The data from this program will be used by the Department to determine if the color problem around Minto Island is caused by leaking treatment ponds or from leachates from stored liquor saturating the soil beneath the ponds. It is also hoped that the resulting information will allow the Department to establish a course of action to reduce the color around the Boise Cascade Mill.

8. The cooling water and filter backwash discharges are not new sources of waste water. Limitations for these discharges have been included in the modified permit to conform with regulations. Monitoring requirements in the modified permit would provide sufficient information to determine if there is a water quality impact from these sources and what course of action should be taken to correct any problem if one is found.

9. The Department is aware that the effluent from Boise Cascade contains Klebsiella pneumonia which, in some cases, is considered pathagenic. The results of studies on this organism have not presented sufficient justification for the Department to require industry-wide disinfection of pulp and paper mill effluents, particularly in consideration of the potential detrimental effects of chlorination.

10. Past effluent monitoring records indicate that Boise Cascade can, under normal operating conditions, meet the effluent limitations of proposed permit as modified even if production is increased by 10%. Violations of the permit limitations in the past have generally been the result of malfunctions within the plant. If these malfunctions can be eliminated by improved management, Boise Cascade should have no trouble in maintaining compliance with the proposed permit.

Director's Recommendation

It is recommended that the Commission:

1. Concur that the proposed modified Air Contaminant Discharge (Attachment B) and NPDES Waste Discharge Permit (Attachment C) for Boise Cascade are adequate to protect air and water quality at the proposed expanded production rate.

2. Authorize approval of Boise Cascade's request to increase pulping capacity by 10% over present permit limits by use of all eight pulp digesters subject to the following conditions:

   a) Issuance of the purchase order for the 50 foot increase to the mist eliminator stack.

   b) Completion and submission of the evaluation of the waste water collection and treatment system and issuance of purchase orders for any equipment necessary to improve, modify, or add to the waste control system as may be approved in writing by the Department.

   c) Initiation and maintenance by the Company of a strong environmental management program to eliminate permit violations associated with human errors, spills, and unauthorized discharges.

3. Concur in the Department's intention to hold the Company strictly accountable for compliance with all conditions of the proposed Air Contaminant Discharge and NPDES Waste Discharge Permits as finally issued.

LOREN KRAMER
Director

RJN/JFK:ak
March 1, 1976

AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
1234 S.W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance wth the provisions of
ORS 468.310

ISSUED TO:
Boise Cascade Corporation
Paper Group
P.O. Box 2089
Salem, Oregon 97308

PLANT SITE:
315 Commercial
Salem, Oregon 97308

ISSUED BY DEPARTMENT OF ENVIRONMENTAL QUALITY

SEP 3 1975
Date

LOREN KRAMER
Director

REFERENCE INFORMATION

Application No. 352

Date Received 11/27/74

Other Air Contaminant Sources at this Site:

Source	SIC	Permit No.
(1)		
(2)		

SOURCE(S) PERMITTED TO DISCHARGE AIR CONTAMINANTS:

Name of Air Contaminant Source	Standard Industry Code as Listed
Sulfite Pulp and Paper	2621
Fuel Burning Equipment; Residual oil 250 million or more BTU/hr.; heat input (multiple devices)	4961

Permitted Activities

Until such time as this permit expires or is modified or revoked, Boise Cascade Corporation, Paper Group is herewith permitted in conformance with the requirements, limitations and conditions of this permit to discharge air contaminants from its sulfite pulp and paper plant and torula yeast plant located at Salem, Oregon.

Compliance with the specific requirements, limitations and conditions contained herein shall not relieve the permittee from complying with all rules and standards of the Department and the laws administered by the Department.

For Requirements, Limitations and Conditions of this Permit, see attached Sections

SECTION A: SULFITE PULP AND PAPER

Performance Standards and Emission Limits

The permittee shall at all times maintain and operate all air contaminant generating processes and all contaminant control equipment at full efficiency and effectiveness, such that the emissions of air contaminants are kept at the lowest practicable levels, and in addition:

1. Sulfur dioxide (SO_2) emissions from the sulfite pulp mill, excluding steam generating boiler facilities, shall be kept to the lowest practicable levels and shall not exceed the following:

   a. 200 ppm as an hourly average,

   b. 3,075 pounds per day as a yearly average,

   c. 3,075 pounds per day as a monthly average,

   d. 3,075 pounds per day as a maximum daily emission, and

   e. Nine (9.0) pounds per unbleached air dried ton (adt).

2. Except, if after operation of the recovery furnace with the new mist eliminator is stabilized, the Department determines, after public hearing, that the specific emission limitations set forth above cannot be met when the mill operates at the increased pulping capacity provided herein, the following limits shall apply:

   Sulfur dioxide (SO_2) emissions from the sulfite pulp mill, excluding steam generating boiler facilities, shall be kept at the lowest practicable levels but shall not exceed the following:

   a. 400 ppm as an hourly average,

   b. 4,100 pounds per day as a yearly average,

   c. 4,500 pounds per day as a monthly average,

   d. 5,400 pounds per day as a maximum daily emission, and

   e. Fifteen and eight-tenths (15.8) pounds per unbleached air dried ton (adt).

3. The recovery system particulate emissions shall not exceed the following:

   a. Four (4) pounds per adt of pulp processed, and

   b. An opacity equal to or greater than twenty percent (20%) for a period or periods aggregating more than three (3) minutes in any one (1) hour exclusive of uncombined moisture.

ATTACHMENT B PROPOSED

Permit Number: 24-4171
Expiration Date: 12/31/79
Page 1 of 9

AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
1234 S.W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance with the provisions of ORS 468.310

ISSUED TO:
BOISE CASCADE CORPORATION
Paper Group
P. O. Box 2089
Salem, OR 97308
PLANT SITE:
315 Commercial
Salem, OR 97308

ISSUED BY DEPARTMENT OF ENVIRONMENTAL QUALITY

LOREN KRAMER
Director

Date

REFERENCE INFORMATION

Application No. 352

Date Received November 27, 1974

Other Air Contaminant Sources at this Site:

	Source	SIC	Permit No.
(1)			
(2)			

SOURCE(S) PERMITTED TO DISCHARGE AIR CONTAMINANTS:

Name of Air Contaminant Source	Standard Industry Code as Listed
Sulfite Pulp and Paper	2621
Fuel Burning Equipment; Residual oil 250 million or more BTU/hr.; heat input (multiple devices)	

Permitted Activities

Until such time as this permit expires or is modified or revoked, Boise Cascade Corporation, Paper Group is herewith permitted in conformance with the requirements, limitations and conditions of this permit to discharge air contaminants from its sulfite pulp and paper plant and torula yeast plant located at Salem, Oregon.

Compliance with the specific requirements, limitations and conditions contained herein shall not relieve the permittee from complying with all rules and standards of the Department and the laws administered by the Department.

Divisions of Permit Specifications

For Requirements, Limitations and Conditions of this Permit, see attached Sections

SECTION A: SULFITE PULP AND PAPER

Performance Standards and Emission Limits

The permittee shall at all times maintain and operate all air contaminant generating processes and all contaminant control equipment at full efficiency and effectiveness, such that the emissions of air contaminants are kept at the lowest practicable levels, and in addition:

1. Sulfur dioxide (SO_2) emissions from the sulfite pulp mill, excluding steam generating boiler facilities, shall be kept at the lowest practicable levels but shall not exceed the following:

   a. 400 ppm as an hourly average,

   b. 3,750 pounds per day as a yearly average,

   c. 4,100 pounds per day and 200 ppm as a monthly average,

   d. 4,100 pounds per day and 200 ppm as a maximum daily emission, and

   e. Twelve (12) pounds per unbleached air dried ton (adt) as a monthly average.

2. The recovery system particulate emissions shall not exceed the following:

   a. Four (4) pounds per adt of pulp processed, and

   b. An opacity equal to or greater than twenty percent (20%) for a period or periods aggregating more than three (3) minutes in any one (1) hour exclusive of uncombined moisture.

3. All acid plant and countercurrent washer SO_2 emissions shall be discharged to the recovery furnace control system.

4. The use of residual fuel oil containing more than one and three-quarters percent (1.75%) sulfur by weight is prohibited.

Special Conditions

5. The permittee shall be allowed to increase pulping capacity to 310 average AD tons/day by simultaneous operation of eight digesters only after all purchase orders are issued for the mist eliminator stack extension and for those corrections, additions and or monitoring recommended by Brian Johnsons for the waste collection and treatment system which have been approved by the Department.

6. The permittee shall utilize water sprays or equivalent control approved by the Department on the mechanical chip conveyor whenever the conveyor is operating to adequately pre-wet wood chips and fines prior to pneumatic transer.

7. The permittee shall prevent fugitive emissions from escaping the mill site in such a manner and such amount as to cause a nuisance as defined in OAR 21.050.

Emission Reduction Plan

8. The permittee shall implement the folloiwng emission reduction plan as previously agreed to during air pollution episodes when notified by the Department.

Notice Condition	Action To Be Taken By Permittee
a. Alert	1. Cut recovery system back to 75% of furnace capacity 2. Prepare to shut down pulp mill and recovery system
b. Warning	1. Contunue alert measures 2. Start to shut down pulp mill and recovery system 3. No new cooks
c. Emergency	1. Continue alert and warning measures 2. Shut down sulfite pulp mill and SSL recovery system

Compliance Schedule

9. All SO_2 monitors and the opacity monitor for the recovery-mist eliminator system shall be calibrated as required but not less than once every month with the results indicated on the required monthly monitoring report.

Monitoring and Reporting

10. The permittee shall effectively monitor the operation and maintainence of the sulfur pulp and paper production and control facilities. A record of all such data shall be maintained and submitted to the Department of Environmental Quality within fifteen (15) days after the end of each calendar month unless requested in writing by the Department to submit this data at some other frequency. Unless otherwise agreed to in writing the information collected and submitted shall be in accordance with the testing, monitoring and reporting recognized applicable standard methods approved in advance by the Department, and shall include, but not necessarily be limited to, the following parameters and monitoring frequencies:

Parameter	Mininum Monitoring Frequency
a. Recovery system, sulfur dioxide emissions	Continually
b. Recovery furnace, particulate emissions	Three times per month (Once per month if correlation with opacity meter is approved by the Department.)
c. Production of unbleached pulp	Summarized monthly from production records
d. Recovery system opacity emissions	Continually

11. In addition to the above, the permittee shall monitor the following parameters with the collected data maintained at the plant site for a period of one year and made available to representatives of the Department of Environmental Quality upon request:

Parameter	Minimum Monitoring Frequency
a. Meteorological conditions of wind direction, wind speed, and ambient temperature	Continually
b. Particulate fall out associated with the plant's fugitive emission monitoring program	Monthly

12. The final monthly report required in condition 12 submitted during any calendar year shall also include quantities and types of fuels used during that calendar year by the recovery system.

13. The Department shall be promptly notified of any upset condition in accordance with OAR, Chapter 340, "Upset Conditions" which may cause or tend to cause any detectable increase in atmospheric emissions. Such notice shall include the reason for the upset and indicate the precautions taken to prevent a recurrence.

14. The permittee shall continue to pursue elimination of peak SO_2 emission through automation of the amonia injection systems or other equivalent method. Semi-annual progress reports shall be submitted to the Department on this effort.

SECTION B: TORULA YEAST MANUFACTURING

Permitted Activities

Until such time as this permit expires or is modified or revoked, Boise Cascade Corporation is herewith permitted to discharge treated exhaust gases containing air contaminants in conformance with the requirements, limitations and conditions of this permit from its 2,300 pound per hour (dry basis) Torula Yeast Plant (24,000 pounds/hour spent sulfite liquor input) consisting of fermenters, separators, wash tanks, pasteurizer, spray dryer with exhaust cyclones and scrubber, and packing station exhaust baghouse collector located at Salem, Oregon.

Performance Standards and Emission Limits

The permittee shall at all times maintain and operate all air contaminant generating control equipment at full efficiency and effectiveness, such that the emissions of air contaminants are kept at the lowest practicable levels, and in addition:

1. Particulate emissions from the plant shall not:

   a. Exceed 0.1 grain per standard cubic foot of exhaust gas from any single source, or

   b. Exceed 12.8 pounds per hour of particulates from all emission sources in the plant at a production rate of 2,300 pounds per hour.

2. Air contaminant emissions from any single source of emission shall not be as dark or darker in shade as that designated as number one (No. 1) on the Ringlemann Chart or equal to or greater than twenty percent (20%) opacity for a period of more than three (3) minutes in any one (1) hour.

Monitoring and Reporting

3. The permittee shall effectively monitor the operation and maintenance of the Torula Yeast production and control facilities. A record of all such data shall be maintained and made available upon request by the Department of Environmental Quality. Unless otherwise agreed to in writing the information collected and submitted shall be in accordance with testing, monitoring and reporting procedures on file at the Department of Environmental Quality or in conformance with recognized applicable standard methods approved in advance by the Department.

4. At the end of each calendar year a report shall be submitted including annual production and operating hours to the Department of Environmental Quality.

5. Any schedule maintenance of operation or emission control equipment which would result in any violation of this permit shall be reported at least twenty-four (24) hours in advance to the Department of Environmental Quality.

6. Any upsets or breakdowns which result in any violations of this permit shall be reported within one (1) hour to the Department of Environmental Quality.

SECTION C: POWER BOILERS

Performance Standards and Emission Limits

1. The permittee shall at all times maintain and operate all fuel burning and related equipment listed below at full efficiency such that the emissions of air contaminants are kept at the lowest practicable levels. Operation shall be limited to only those fuels listed below and shall not exceed the maximum heat input stated.

Type of Equipment	Type of Fuel	Maximum Heat Input BTU/hr or gal/hr
No. 4 Power Boiler	Residual Oil/Natural Gas	125 million BTU/hr.
No. 5 Power Boiler	Residual Oil/Natural Gas	100 million BTU/hr.
No. 6 Power Boiler	Residual Oil/Natural Gas	100 million BTU/hr.

2. Emissions of air contaminants from the fuel burning equipment shall not exceed any of the following:

   a. Visible emissions shall not equal or exceed 20% opacity for a period or periods aggregating more than three minutes in any one hour except for the presence of uncombined water.

   b. Particulate emissions shall not exceed 0.2 grains per standard cubic foot of exhaust gas.

3. The permittee shall not use any residual fuel oil containing more than 1.75 percent by weight of sulfur.

Special Conditions

4. The permittee shall provide, within 30 days of issuance of this permit, an easily accessible sampling port in the exhaust stack which is 5/16 inch in diameter. If a damper exists, the sampling port must be located between the firebox section and the damper or any other source of dilution air.

Emergency Emission Reduction Plan

5. The permittee shall implement the following emission reduction plan during air pollution episodes when notified by the Department:

Notice Condition	Action To Be Taken By Permittee
a. Alert	1. Switch to low sulfur fuels 2. Reduce boiler load to 75% of normal 3. Prepare to reduce boiler load to absolute necessities consistent with preventing equipment damage
b. Warning	1. Continue alert measures 2. Start to reduce boiler load to absolute necessities consistent with preventing equipment damage
c. Emergency	1. Continue alert and warning measures 2. Reduce boiler load to absolute necessities consistent with preventing equipment damage

Monitoring and Reporting

6. The permittee shall conduct or have conducted a smoke spot test (ASTM D2156-65 "Standard Method to Test for Smoke Density"), after each instance of oil burner service or adjustment. The results shall be maintained for a five-year period and be made available on request to Department personnel.

7. The permittee shall submit an annual quantities and types of fuels used on a monthly basis report ot the Department by no later than January 15 of each year this permit is effect.

SECTION D

General Conditions

G1. A copy of this permit or at least a copy of the title page and complete extraction of the operating and monitoring requirements and discharge limitations shall be posted at the facility and the contents thereof made known to operating personnel.

G2. This issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

G3. The permittee is prohibited from conducting any open burning at the plant site or facility.

G4. The permittee is prohibited from causing or allowing discharges of air contaminants from source(s) not covered by this permit so as to cause the plant site emissions to exceed the standards fixed by this permit or rules of the Department of Environmental Quality.

G5. The permittee shall at all times conduct dust suppression measures to meet the requirements set forth in "Fugitive Emissions" and "Nuisance Conditions" in OAR, Chapter 340, Section 21-050.

G6. (NOTICE CONDITION) The permittee shall dispose of all solid wastes or residues in manners and at locations approved by the Department of Environmental Quality.

G7. The permittee shall allow Department of Environmental Quality representatives access to the plant site and record storage areas at all reasonable times for the purposes of making inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emission discharge records and otherwise conducting all necessary functions related to this permit.

G8. The permittee, without prior notice to and written approval from the Department of Environmental Quality, is prohibited from altering, modifying or expanding the subject production facilities so as to affect emissions to the atmosphere.

G9. The permittee shall be required to make application for a new permit if a substantial modification, alteration, addition or enlargement is proposed which would have a significant impact on air contaminant emission increases or reductions at the plant site.

G10. This permit is subject to revocation for cause, as provided by law, including:

a. Misrepresentation of any material fact or lack of full disclosure in the application including any exhibits thereto, or in any other additional information requested or supplied in conjunction therewith;

b. Violation of any of the requirements, limitations or conditions contained herein; or

c. Any material change in quantity or character of air contaminants emitted to the atmosphere.

G11. The permittee shall notify the Department by telephone or in person within one (1) hour of any scheduled maintenance, malfunction of pollution control equipment, upset or any other conditions that cause or may tend to cause a significant increase in emissions or violation of any conditions of this permit. Such notice shall include:

a. The nature and quantity of increased emissions that have occurred or are likely to occur,

b. The expected length of time that any pollution control equipment will be out of service or reduced in effectiveness,

c. The corrective action that is proposed to be taken, and

d. The precautions that are proposed to be taken to prevent a future recurrence of a similar condition.

G12. Application for a modification or renewal of this permit must be submitted not less than 60 days prior to permit expiration date. A filing fee and Application Investigation and Permit Issuing or Denying Fee must be submitted with the application.

G13. The permittee shall submit the Annual Compliance Determination Fee to the Department of Environmental Quality according to the following schedule:

Amount Due				Date Due
Section A	Section B	Section C	Total	
$175.00	--	$120.00	$295.00	December 1, 1975
175.00	--	120.00	295.00	December 1, 1976
175.00	--	120.00	295.00	December 1, 1977
175.00	--	120.00	295.00	December 1, 1978
(See G12)	(See G12)	(See G12)	(See G12)	November 1, 1979

G14. The permittee shall provide adequate controls and safeguards to prevent the escapement of ammonia (NH_3) from all handling and process systems in such quantities that cause ammonia odors to be detected off the plant premises.

PRELIMINARY DRAFT

lab

Permit Number: 1466-J
Expiration Date: 2-28-78
Page 1 of 8

ATTACHMENT C . (M O D I F I C A T I O N)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance with the provisions of
ORS 449.083 (Recodified as 468.740)
and
Federal Water Pollution Control Act Amendments of 1972,
P.L. 92-500, Oct. 18, 1972 (33 U.S.C. § 1251 et seq.)
(Hereinafter referred to as the "Federal Act").

ISSUED TO: Boise Cascade Corporation Salem Sulfite Mill Operation Post Office Box 2089 Salem, Oregon 97308 PLANT SITE: Salem, Oregon ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY Loren Kramer, Director — Date	REFERENCE INFORMATION File Number: 9755 Appl. No.: OR-000084-1 Received Major Basin: Willamette Minor Basin: Receiving Stream: Pringle Creek, Croisan Slough, Willamette River River Mile: 84.2 County: Marion

PERMITTED ACTIVITIES

Until such time as this permit expires or is modified or revoked, Boise Cascade Corporation, Salem Sulfite Mill Operation, is herewith permitted to:

a. Construct, operate and maintain waste water control facilities.
b. Discharge adequately treated process waster (001) to the Willamette River at river mile 84.2.
c. Discharge water treatment plant filter backwash (002) to Croisan Slough and uncontaminated cooling water (003 & 004) to Pringle Creek and Croisan Slough.

All of the above activities must be carried out in conformance with the requirements, limitations and conditions which follow.

All other waste discharges are prohibited.

SPECIAL CONDITIONS

1. Prior to July 1, 1976 the permittee shall submit detailed engineering plans for providing, prior to July 1, 1977, such waste water control facilities as are necessary to treat the water treatment plant filter backwash to meet the effluent limitations of Condition 5 of this permit. Progress reports shall be submitted prior to August 1, 1976 and February 1, 1977.

2. The permittee is expected to meet the compliance schedule and interim dates which have been established in Condition 1 of this permit. Either prior to or no later than 14 days following any lapsed compliance date the permittee shall submit to the Department a notice of compliance or non-compliance with the established schedule. The Director may revise a schedule of compliance if he determines good and valid cause resulting from events over which the permittee has little or no control.

3. Prior to constructing or modifying any waste water control facilities, detailed plans and specifications shall be approved in writing by the Department.

4. Beginning on the date of issuance of this permit and ending June 30, 1977, the quantity and quality of water treatment plant filter backwash (002) effluent discharged directly or indirectly to Croisan Slough shall be limited not to exceed the following:

Parameter	Limitation
Flow	Shall not exceed 3.0 MGD
pH	Shall not be outside the range 6.0 - 9.0

5. After June 30, 1977 the quality and quantity of water treatment plant filter backwash (002) effluent discharged directly or indirectly to Croisan Slough shall be limited as follows:

Parameter	Limitation
Flow	Shall not exceed 3.0 MGD
Settleable Solids	Shall not exceed 0.1 ml/l
pH	Shall not be outside the range 6.0 - 9.0

6. The quantity and quality of process waste water (001) effluent discharged directly or indirectly to the Willamette River shall be limited not to exceed the following:

June 1 Through October 31:

Parameter	Weekly Average	Monthly Average	Daily Maximum
BOD-5	8,000 lbs/day	---	12,000 lbs/day
Total Suspended Solids	---	10,400 lbs/day	17,600 lbs/day

November 1 Through May 31:

Parameter	Monthly Average	Daily Maximum
BOD-5	11,500 lbs/day	17,250 lbs/day
Total Suspended Solids	10,400 lbs/day	17,600 lbs/day

At All Times:

Parameter	Limitation
pH	Shall not be outside the range 6.0 - 9.0

7. The quantity and quality of uncontaminated cooling water discharged to Pringle Creek and Croisan Slough shall be limited not to exceed the following:

Parameter	Limitation
Acid Plant Cooling Water (003)	
Flow	Shall not exceed a monthly average of 2.5 MGD
Temperature	Shall not exceed 90° F.
pH	Shall not be outside the range 6.0 - 9.0
Cooling Water from Recovery System Fans & Compressors (004)	
Flow	Shall not exceed a monthly average of 0.25 MGD
Temperature	Shall not exceed 90° F.
pH	Shall not be outside the range 6.0 - 9.0

8. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-045 and 340-41-025 except in the following defined mixing zones:

   a. That portion of the Willamette River contained in a strip 100 feet wide with 50 feet on each side of the visual center of the effluent plume and extending from the point of discharge of the process waste water down stream to the Center Street Bridge.

   b. That portion of Pringle Creek contained in a strip 10 feet wide bordering the north shore and extending from the point of discharge down stream to Croisan Slough. Inside this portion of the allowable mixing zones, only the temperature standard may be exceeded.

   c. All of Croisan Slough.

9. No petroleum-base products or other substances which might cause the Water Quality Standards of the State of Oregon to be violated shall be discharged or otherwise allowed to reach any of the waters of the state.

10. Sanitary wastes shall be disposed of to the City of Salem municipal sewerage system.

11. Unless approved otherwise in writing by the Department the permittee shall observe and inspect all waste handling, treatment and disposal facilities at least daily and the receiving stream above and below each point of discharge at least daily between April 15 and October 31 of each year to insure compliance with the conditions of this permit. A written record of all such observations shall be maintained at the plant and shall be made available to the Department of Environmental Quality staff for inspection and review upon request.

12. The permittee shall monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the wastes discharged. A record of all such data shall be maintained and submitted to the Department of Environmental Quality at the end of each calendar month. Unless otherwise agreed to in writing by the Department of Environmental Quality, data collected and submitted shall include but not necessarily be limited to the following parameters and minimum frequencies:

Parameter	Discharge	Minimum Frequency
Flow*	001	Continuous recording with daily reading
Flow	002, 003, 004	Weekly estimate
pH*	001	1 24-hr composite sample/day
Temperature*	001	Daily grab sample
Temperature, pH	002, 003, 004	1 grab sample/week
BOD-5*	001	3 24-hr composite samples/week
Suspended Solids*	001	3 24-hr composite samples/week
Color	001	3 24-hr composite samples/week
PBI*	001	1 24-hr composite sample/week
Suspended Solids	002	Monthly grab sample
Ammonia as N*	001	1 grab sample/week
Settleable Solids	001	3 24-hr composite samples/week
Settleable Solids	002	1 grab sample/week beginning July 1, 1977
Production (pulp & paper)		Daily average for reporting period

*Lagoon influent and effluent

13. Within 30 days of the issuance of this permit the permittee shall submit a detailed description of the sampling procedures used, sample analysis techniques and exact location of sampling stations.

14. Prior to July 1, 1976 the permittee shall provide an alternative power source sufficient to operate all facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit. In lieu of this requirement the permittee may certify in writing to the Department within 30 days of the issuance of the permit that in the event of a reduction, loss, or failure of a power source the permittee shall halt, reduce or otherwise control production and/or all discharges in order to maintain compliance with the terms and conditions of this permit.

15. Condition G2 of the General Conditions is changed such that during the period June 1 through October 31 effluent monitoring reports for the treated process waste water (001) shall be submitted weekly on current permittee forms. In addition, during this period, the permittee shall submit monthly monitoring reports for discharge 001 on approved NPDES report forms.

GENERAL CONDITIONS

G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

G2. Monitoring procedures:

a. Monitoring shall begin on the first day of the month following issuance of this permit.

b. Monitoring reports shall be submitted by the 15th day of each following month unless otherwise approved in writing by the Department.

c. Monitoring reports shall be submitted on approved NPDES report forms.

d. All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records, shall be retained by the permittee for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.

e. The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) the date, exact place and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used and (5) the results of all required analyses.

f. Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.

g. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants as specified in 40 CFR, Part 136.

G3. All waste solids, including dredgings and sludges, shall be utilized or disposed of in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state and such that health hazards and nuisance conditions are not created.

G4. The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department in writing of each such diversion or bypass in accordance with the procedure specified in Condition G12.

G5. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

G6. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, a new application must be submitted together with the necessary reports, plans and specifications for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.

G7. After notice and opportunity for a hearing this permit may be modified, suspended or revoked in whole or in part during its term for cause including but not limited to the following:

a. Violation of any terms or conditions of this permit or any applicable rule, standard, or order of the Commission;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in the condition of the receiving waters or any other condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

G8. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.

G9. The permittee shall, at all reasonable times, allow authorized representatives of the Department of Environmental Quality:

a. To enter upon the permittee's premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy any records required to be kept under the terms and conditions of this permit;

c. To inspect any monitoring equipment or monitoring method required by this permit; or

d. To sample any discharge of pollutants.

G10. The permittee shall maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

G11. The Department of Environmental Quality, its officers, agents and employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.

G12. In the event the permittee is unable to comply with all of the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause such as an act of nature, the permittee shall:

a. Immediately take action to stop, contain and clean up the unauthorized discharges and correct the problem.

b. Immediately notify the Department of Environmental Quality so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.

c. Submit a detailed written report describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

SPECIAL STATE REQUIREMENTS

The following conditions, A1 through A5, are set forth solely pursuant to Oregon Revised Statutes 454.415 and 468.740. They are not conditions or limitations imposed to implement or satisfy requirements of the Federal Water Pollution Control Act or regulations or guidelines promulgated pursuant thereto.

A1. Waste waters discharging to biological secondary treatment facilities shall contain adequate nutrients for optimum biological activity at all times. An automatic flow-regulated mechanical nutrient feeding facility is recommended.

A2. A continuing program shall be initiated to reduce total fresh water consumption by increased utilization of soiled waters. Beginning May 1, 1976 an annual report shall be submitted to the Department which outlines the progress made toward reducing fresh water use and which describes future plans of the Company to further reduce the generation of contaminated waste water.

A3. An environmental supervisor shall be provided to coordinate all necessary functions related to maintenance and operation of waste collection, treatment and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.

A4. Beginning May 1, 1976 the permittee shall submit annual reports which outline the permittee's progress relative to the ground water monitoring program presently being conducted by the permittee.

A5. The pH of all waste water discharged to the secondary waste water treatment system shall be within a range which does not reduce the effectiveness of the bacterial population to treat the permittee's waste water.

ATTACHMENT D

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

TO: Environmental Quality Commission

From: Director

Subject: June 27, 1974, Public Hearing before EQC

Boise Cascade Corporation, Salem Pulp & Paper Plant
Proposed Expansion of Pulping Capacity and Improvements
to Wastewater Control Facilities

BACKGROUND

Request for Plant Modifications

On April 1, 1974, the Department received a Notice of Construction and Application for Approval on the following from Boise Cascade Corporation, Salem, Pulp and Paper Plant:

1. Installation of a Mist Eliminator on Recovery Furnace by June 1, 1975.

2. Installation of Counter Current Washers by February 1, 1976.

3. Installation of an additional digester (eighth one) by Feb. 1, 1976.

Item 1 required a modification to a compliance schedule related to particulate emissions and plume opacity in the company's Air Contaminant Discharge Permit (Condition 4, Section A). The Environmental Quality Commission at its May 24, 1974 meeting authorized amending the company's ACD Permit to require compliance with Condition 4, Section A of this permit by July 1, 1975. The one-month delay from the original proposed compliance schedule was granted at the request of the company which indicated it was the most realistic date considering lengthening equipment delivery dates. An amendment to the company's ACD Permit containing the revised compliance schedule has been prepared and sent to Boise Cascade.

Items 2 and 3 above, relate to the company's proposal to increase pulping capacity by 10% over the maximum present permit limit (increase to a maximum pulp capacity of 340 ADT/day) and 25% over actual average pulp production (increase to an average of 310 ADT/day). This would balance pulp production capacity with paper production capacity and

relieve the mill's present dependency upon imported pulp. Concurrent with the proposed expansion, the company proposes to provide more efficient washing of pulp thereby reducing present waste loads discharged (presently approximately 7000 lbs. BOD/day) to the Willamette River by 13% despite the increase in pulping capacity.

The Environmental Quality Commission at its May 24, 1974, meeting authorized this Public Hearing to consider the company's request to expand pulping capacity and improve wastewater control facilities.

Plant History

Boise Cascade Corporation has operated the present 250 T/day (average production) ammonia-base sulfite pulp and paper mill since it was acquired in 1964 from the Columbia River Paper Company. The first liquid Waste Discharge Permit issued by the Water Quality Division of the Department of Environmental Quality in December, 1967, required the company to provide chemical recovery of spent sulfite liquor and secondary wastewater treatment. Construction of this $6.5 million project was begun in the summer of 1969. Initial start-up trials of the recovery system were made in April, 1972, and regular use was commenced on July 5, 1972. During the summer and fall months of 1972, many unforeseen problems occurred with the system as will be discussed later.

Boise Cascade makes pulp from chips in seven batch-type digesters (pressure cookers) with a cook liquor of dissolved sulfur dioxide (sulfurous acid) and ammonium bisulfite. Up until December 1973, the digesters at the end of a cook were relieved of much of their pressure, and the contents were blown under the remaining pressures into a "blow pit", where the pulp was and still is washed. The cook liquor at the time of the blow still had much sulfur dioxide associated with it, most of which was exhausted to the atmosphere when the liquor-pulp mixture reached the blow pit. For approximately fifteen minutes during each blow, blow pit emissions averaged some 20,000-30,000 parts per million sulfur dioxide and 70-80 pounds of sulfur dioxide per ton of pulp along with a great quantity of water vapor. This system was discontinued in December of 1973, with the venting of the blow pits handled by a new pumpout system, which is connected to the recovery furnace control system. The company completed this improvement in environmental control almost six months ahead of the required schedule.

The spent sulfite liquor which remains in the blow pit is washed rather crudely and inefficiently from the pulp. At that time, the spent liquor contains sulfur dioxide tied up as ammonium sulfite and dissolved wood solids amounting to about half the weight of the chips originally fed to the digester. The spent liquor is concentrated by evaporation and burned in the recovery furnace to recover the sulfur in the spent liquor and to use the heating value obtained from burning the dissolved wood solids to generate steam. This also greatly reduces the water pollution which was previously caused by draining the spent liquor to the Willamette River. The recovery system was installed to meet water pollution control requirements as the spent liquor is too strong to discharge to a normal water pollution control treatment system. Recovery furnace flue gases are scrubbed with an ammonia solution, the scrubber effluent ("weak acid") is then fortified with sulfur dioxide generated in a sulfur burner, and the resulting "strong acid" sent back to the digester area for re-use as fresh cook liquor.

During the first four months of operation beginning early July 1972, the recovery system was only semi-successful due to mechanical problems, air supply problems, problems in the absorption system, and plugging of the evaporators. Correction of these problems and "de-bugging" of this system was eventually accomplished in early December, 1972. Since that time, except for periodic upsets, the recovery system and the new digester pump-out system have operated for the most part within the sulfur dioxide limits stated in the company's Air Contaminant Discharge Permit. The company has not, however, so far been able to comply with particulate emission and opacity limits of its permit.

Plume opacity and particulate emissions in the past have reached levels of 100% opacity and 7.9#/ton respectively as compared to permit limits of 20% opacity and 4#ADT of particulates.

Under adverse meteorological condition which brings the plume near ground level, numerous public complaints have been registered. Plume opacity and particulate emission limits are now scheduled to be met by not later than July 1, 1975, by installation of a mist eliminator. The proposed method of installing the mist eliminator would result in the discharge of recovery furnace exhaust at a somewhat higher elevation and at a location further removed from the recovery furnace structure which now tends to cause the plume to drop to the ground essentially undiluted during certain meteorological conditions. Thus installation of the mist eliminator in the manner proposed should improve plume rise.

Dust fallout has been the source of some complaints. Remedial action including repair of a clay handling baghouse and additional water in the pneumatic wood chip blower system should alleviate these problems. This matter continues to be evaluated and any further action necessary to control the problem will be required.

Since the many problems associated with the startup of the recovery system in the summer of 1972, the industrial waste water treatment system has operated satisfactorily. During July of 1973, an odor problem occurred which was partially attributed to the waste treatment ponds during an inversion period. A study has been conducted and re-arrangement of aerators and other steps are being taken which should prevent recurrence of any such problem.

The wastewater treatment system operated at 86% average efficiency (BOD reduction) during 1973. The average discharge during the low flow period (June 1 to November 1) has been around 7000 lbs. BOD/day, well under their present permit limit of 8000 lbs/day.

Compliance with Air Permit Conditions

Table 1 presents a tabulation of compliance with SO_2 permit limts for the previous 12-month period. Data for the latest three-month period has not been summarized as yet. There were days when daily standards were exceeded, with a maximum of seven times in December 1973. December 1973 was the first month the digester pumpout system was fully operational and it took operators some time to gain experience in operating the control system at highest efficiency. Explanations for all excess emissions are noted in the table.

Table I

Compliance with SO_2 ACD Permit Requirements

Month	Months Exceeding Averaged Daily Standard of 4500#/day	Days Exceeding Average Daily Standard of 18#/ADT	Days Exceeding Maximum Daily Standard of 5580#/day
March, 1974	0	1*	0
February, 1974	0	1*	0
January, 1974	0	1*	0
December, 1973	0	7**	0
November, 1973	0	3***	0
October, 1973	0	3***	2***
September, 1973	0	2***	1***
August, 1973	0	0	0
July, 1973	0	0	0

* Unusually low production. Air dried tons per day were 83, 56, 125.

** December was the first month that all digesters were exhausted into the absorber as a result of the digester pumpout system. SO_2 emissions were higher than usual because the operators had to gain experience in handling the increase and surges of SO_2 going to the absorber. Operating procedures and improvements in control installed this spring have overcome this problem.

*** During this three month period several tests were conducted on particulate formation. During such tests NH_3 was periodically reduced and in some cases completely cut off.

Compliance with Water Discharge Permit

Table 2 presents a tabulation of compliance with waste water discharge permit limits for the 1973 low stream flow period June 1 to November 1, 1973. As can be seen the monthly averaged discharge of 6616#/day of BOD is well below the permit limit of 8000#/day.

Table 2

Compliance with Water Discharge Permit
(Limit June 1 - Oct. 31, 1973, 8000 BOD #/day)

Month	Flow, MGD	BOD#/day
June	17.1	6750
July	16.2	6490
August	16.9	7340
September	16.6	6200
October	15.6	6300
Average		6616

Evaluation of Expansion Effects and Countercurrent Washers on Wastewater Discharges

As previously indicated, washing of the pulp is presently accomplished in the blow pits. The washing efficiency of this system is only 81% with a 19% loss of liquor solids to the secondary treatment. This amounts to approximately 51,000 lbs. of BOD/day discharged to the secondary treatment and approximately 7000 lbs. of BOD/day to the Willamette River after treatment (86% treatment efficiency).

With the installation of counter-current washers, the washing efficiency is expected to be about 94%. The net effects of the counter-current washers, along with the expansion in pulping capacity, are projected in Table 3. The net result of the counter-current washer and the expansion would be a reduction below present discharges of approximately 850 lbs. BOD/day (12% reduction) to the Willamette River between June 1 and November 1 (low flow period). The counter-current washers will also reduce color discharges to the river since total BOD load to the treatment facility will be reduced in spite of the expansion. This is not, however, expected to completely eliminate the visible color problem associated with the discharge of the company's treated wastes. The Department and the company will continue to seek ways to eliminate this problem.

Table 3

Estimated Effect on BOD_5 with Counter Current Washers
and Proposed Expansion
(Comparison made with May to October, 1973 Operating Period)

	May-Oct. 1973	With Counter-current Washers and Production Increase
Pulp Production (ADT/day) Avg.	249	310
Paper Production (Net tons/day)	249	289
Liquor loss in washing (%)	19	6
BOD (5-day) - (lbs. BOD/day)		
Weak wash	25,100	10,000
Bleach plant	6,200	8,800
Evaporate condensate	7,100	10,500
Yeast plant	3,200	3,200
Clarifier effluent	9,400	11,200
TOTAL (before treatment)	51,000	43,700
TO RIVER (after treatment)	6,950	6,100

(1) The discharge to the river is based on the present 86% BOD reduction in the secondary treatment system during the summer months.

A revised Willamette River Basin plan is now being formulated for consideration by the Environmental Quality Commission for adoption. This plan would require most industrial plants located on the Willamette River to make further reductions in their current waste discharges by 1983 in order to insure continued future compliance with water quality standards especially during low stream flow years. This plan tentatively would require Boise Cascade to reduce its BOD discharges to an average of 5700 #/day during the low-stream-flow period. By introduction of counter-current washers Boise Cascade will reduce its current discharge from an average of 6900 #/day to 6100 #/day by February 1976, thereby making early, significant progress toward meeting the 1983 tentative goal.

Effects of Additional Pulping Capacity on Air Emissions

The increased recovery of liquor solids through improved washing efficiency and pulp tonnage increase due to addition of digester number eight will result in more liquor being burned, and, therefore, an increase in steam production from liquor.

The increased pulp and paper production will increase steam requirements. However, because of greater use of liquor solids to produce steam there will be a net decrease in steam production from natural gas and fuel oil. This is advantageous from an air quality standpoint during gas curtailment periods since burning liquor will produce sulfur dioxide emissions equivalent to burning fuel oil having a sulfur content of approximately 0.9% compared to expected 1.75% sulfur content of fuel oil that would actually be burned. This is significant since gas curtailments have been projected to nearly 180 days per year in the future.

Effects on SO_2 emissions due to expansion are summarized in Table 4. It is noteworthy that as a side effect from installation of the mist eliminator to reduce plume opacity and particulate emissions, SO_2 emissions from the recovery furnace are expected to be reduced by at least 50%. Even with the increased firing rate of the recovery boiler, the proposed mist eliminator will reduce air emissions below present levels.

Comparison of plant site SO_2 emissions on a gas curtailed day or yearly average have been made in Table 4 for three conditions as follows:

1) Conditions expected in 1975 when the mist eliminator is operational.

2) All pollution control equipment installed (mist eliminators and counter-current washers) but no pulping expansion.

3) All pollution control equipment installed with pulping expansion.

Table 4

EFFECT OF MIST ELIMINATOR, PROPOSED COUNTER-CURRENT WASHERS AND PROPOSED PULPING EXPANSION ON SO_2 EMMISSIONS

	1973	1974	Mist Eliminator Installed 1975	Mist Eliminator and new Washers W/O Expansion	New Washers and Mist Eliminator With Plant Expansion
Pulp production Avg, A.D. tons/day	245	250	250	250	310
Paper production Avg. N. tons/day	254	270	270	270	289
Solids burned in recovery furnace T/day	194	198	198	224	285
SO_2 Emissions on Gas Curtailment (Day) pounds/day:					
From oil combustion	9500	9700	9700	8800	8000
From recovery furnace	4400	4500	2800	3200	4100
From digester blows	16,500	0	0	0	0
Total Plant Site	30,400	14,200	12,500	12,000	12,100
SO_2 Emissions average (over year) pounds/day: (180 days of natural gas curtailment)					
From oil combustion	2600	4850	4850	4400	4000
From recovery furnace	4400	4500	2800	3200	4100
From digester blows	16,000	0	0	0	0
Totals	23,500	9350	7650	7600	8100

It is highly interesting to note that plant site SO_2 emissions for the three possible combinations above are essentially the same on a gas curtailed day and over a yearly average. In comparison to present SO_2 emissions all three combinations offer about a 15% reduction in SO_2 on gas curtailed days. On an average annual basis installation of the mist eliminator and counter-current washers without expansion would result in approximately 19% reduction in SO_2 emissions as compared to an approximate 13% reduction with expansion.

Conclusions

1. Upon start-up of the chemical recovery furnace and secondary wastewater treatment system in July 1972, a period of upset conditions occurred which caused excessive SO_2 and/or particulate emissions, overloading of the wastewater treatment system and excessive discharges to the river. SO_2 emissions during this period reached peak rates in excess of 1500 ppm and daily emissions of 1300 pounds per day from the recovery furnace and 30,000 pounds per day from digester blows.

2. By making adjustments in the furnace, furnace operation and absorber tower and through increased operating experience by December 1972 average SO_2 emissions from the recovery stack were reduced to approximately 325 ppm and approximately 4000 pounds per day. Digester blows remained the same. Effective recovery furnace and scrubber operation resulted in reduced loads to the wastewater treatment system, which in turn allowed effective treatment and compliance with waste discharge permit limits.

3. Completion of installation and full operation of the digester pump-out system in December 1973, eliminated digester blows and release of digester blow gases to the atmosphere. Elimination of digester blow gases resulted in an overall reduction of SO_2 emissions of approximately 16,000 pounds per day.

4. Since September 1973, Boise Cascade has been operating essentially in compliance with Department SO_2 emission limits. The company has not to date been able to meet opacity and particulate emission requirements.

5. In spite of the substantial efforts and accomplishments to reduce and control atmospheric emissions, complaint conditions still frequently occur during periods of adverse meteorological conditions when the recovery furnace plume drops to ground level close to the mill.

6. Scheduled installation of a mist eliminator by July 1, 1975 should result in compliance with opacity and particulate emission limits, substantially reduce SO_2 emissions and hopefully provide better plume rise conditions.

7. Increased pulping capacity is needed to balance paper making capacity and releive dependency on imported pulp.

8. Installation of the mist eliminator will result in lower SO_2 emissions than are presently emitted even with the proposed pulping expansion.

9. Proposed installation of counter-current pulp washers will significantly improve wastewater discharges and provide more spent liquor to burn in the recovery boiler to produce steam rather than oil.

10. Because of the off-setting trade-offs between burning either liquor or oil to produce steam, plant site SO_2 emissions would be approximately the same with or without the proposed expansion coupled with counter-current pulp washers.

11. Even after installation of the mist eliminator, and with or without expansion, additional steps such as increased stack height or introduction of heat into the stack to improve plume rise may be required to reduce ground level occurrences of SO_2 to acceptable levels during adverse meteorological periods.

Director's Recommendation

It is recommended that the Commission authorize approval of Boise Cascade's request to increase pulping capacity by 10% over present permit limits by addition of an eighth digester subject to the conditions contained in the proposed permit modifications in Attachment A which provides for:

1) Expansion of pulping capacity only after the company has demonstrated compliance with all Air Contaminant Discharge Permit conditions and limits for a six month period.

2) Reduction of allowable SO_2 emissions as follows:

Present (July 1, 1974)	Proposed
800 ppm hourly average	400 ppm hourly average
(No yearly average limit)	4100 pounds per day yearly average
5500 pounds per day monthly average	4500 pounds per day monthly average
20 pounds/ADT unbleached pulp	15.8 pounds/ADT unbleached pulp
6200 pounds per day maximum daily emission	5400 pounds per day maximum daily emission

3) Installation and operation of counter-current pulp washers prior or or coincidental with increased pulp production.

4) A six month evaluation period to determine after the mist eliminator is installed, whether or not perceptible levels of SO_2 occur off the plant property and, if so to require appropriate remedial action such as increasing effective stack height and plume rise.

5) Specific requirements for control of wood dust.

6) A study and evaluation program to define any remaining or potential wood dust problem or other fugitive emissions with a requirement to develop corrective programs as needed.

7) Installation of a continuous opacity meter on the recovery furnace exhaust in order to provide continuous surveillance of compliance with permit requirements.

Kessler R. Cannon

Attachment A

AIR CONTAMINANT DISCHARGE PERMIT PROVISIONS
Issued by the
Department of Environmental Quality for

Expiration Date: _____
Page _____ of _____
Appl. No.: _____
File No.: _____

ATTACHMENT A

Proposed Addition/Modifications to Boise Cascade Corporation Salem Mill Air Contaminant Discharge Permit (June 27, 1974)

1. The permittee shall be allowed to increase pulping capacity to 310 average AD tons/day by simultaneous operation of eight digesters only after adequately demonstrating compliance with all air contaminant discharge permit conditions for a six consecutive month period commencing when operation of the recovery furnace with new mist eliminator is stabilized.

2. After July 1, 1975, sulfur dioxide (SO_2) emissions from the sulfite pulp mill excluding steam generating boiler facilities shall not exceed the following:

   a. 400 ppm as an hourly average

   b. 4100 pounds per day as a yearly average

   c. 4500 pounds per day as a monthly average, or

   d. Fifteen and eight-tenths (15.8) pounds per unbleached, air dired ton (ADT) or 5400 pounds per day as a maximum daily emission.

3. Prior to increasing pulping capacity to 310 average ADT/day but not later than February 1, 1976, the permittee shall vent acid plant and counter current washer sulfur dioxide emissions to the recovery furnace control system or provide equivalent control acceptable to the Department.

4. After installation and operation of the recovery furnace mist eliminator, the permittee shall undertake a program in conjunction with the Department which will determine to what extent, if any, emissions from the recovery furnace systems result in perceivable concentrations of sulfur dioxide off the plant site. The study shall be completed by not later than November 1, 1975. If results of the study indicate perceivable off site concentrations of SO_2 occur at a frequency determined by the Department to constitute a nuisance, the permittee shall submit a program to the Department by not later than January 1, 1976, for review and approval which should in the judgement of the Department eliminate this problem.

   If a control program is required, consideration shall be given to increasing buoyance of the recovery furnace exhaust gas by injection of auxiliary heat and/or increasing the stack height.

5. The permittee shall utilize water sprays or equivalent control approved by the Department on the mechanical chip conveyor whenever the conveyor is operating to adequately pre-wet wood chips and fines prior to pneumatic transfer.

6. The permittee shall submit by September 1, 1974, to the Department for review and approval a proposed study and evaluation program to identify fugitive emissions which may be escaping or have the potential of escaping from the mill site in such a manner and such amount as to cause a nuisance as defined in OAR 21.050

   a. The study shall include but not be limited to evaluation of the adequacy of the present pneumatic chip blowing operation, chip transfer cyclone, and knot storage bin.

   b. The permittee shall submit to the Department by November 1, 1974, a compliance schedule for remedial actions if any are required as a result of the study. The compliance schedule shall be developed with a compliance demonstration objective date of July 1, 1975.

7. By July 1, 1975, the permittee shall install an opacity monitor and recorder acceptable to the Department on the recovery furnace exhaust stack.

FRIENDS OF THE EARTH, INC.

8 March 1976

Department of Environmental Quality
1234 S.W. Morrison Street
Portland, ORE
97205

Dear DEQ:

We hope to submit comments Friday, March 12 at Salem, Oregon concerning Boise Cascade Corporation's varience requests, NPDES Permit Application No. OR-000084-1 Air Contaminant Permit No. 24-4171 File No. 9577 Application No. 352 County: Marion

A written statement will be provided to the Commission and if possible we would like to submit our oral testimony in the morning.

We thank you for the opportunity of responding at this public hearing.

Sincerely,

David E. Ortman

David E. Ortman
Research Associate
Friends of the Earth

DEO/tim

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
MAR 9 1976
AIR QUALITY CONTROL

Northwest office 4512 University Way NE Seattle, Washington 98105 (206) 633-1661

FRIENDS OF THE EARTH, INC.

DEQ PUBLIC HEARING
PROPOSED MODIFICATION TO ACD AND
NPDES PERMIT FOR BOISE CASCADE
CORPORATION, SALEM PULP AND PAPER PLANT

12 March 1976 Salem, ORE

My name is David E. Ortman and I am a Research Associate for Friends of the Earth. Our Northwest office is located in Seattle, 4512 Univsity Way N.E. 98105. Friends of the Earth is a citizens environmental organization with 3000 members in the Northwest and approximately 800 in Oregon, dedicated to the preservation, restoration and rational use of the Earth.

As an environmental organization with Regional concerns we are interested whenever a company asks the public to bear environmental costs it is unable or unwilling to assume itself. Basically, we are not convinced that the proposed modified Air Contaminant Discharge and NPDES waste discharge permits for Boise Cascade are adequate to protect air and water quality in the Salem area at the proposed expanded production rate for the Boise Cascade plant.

Concerning the Air Permit, upon review of the Directors memorandum to the Environmental Quality Commission we find an addmission that contrary to the previous memorandum on the 27 June 1974 public hearing which stated that,

"Installation of the mist eliminator will result in

Northwest office 4512 University Way NE Seattle, Washington 98105 (206) 633-1661

> lower SO_2 emissions than are presently emitted even with the proposed pulping expansion."

quoting from page 3 of the present memo,

> "The company indicated that the mist eliminator has not lowered the sulfur dioxide levels to any degree. ."

Now we are told that,

> "Ambient air violations off the plant site are to be eliminated by a 50-foot stack extenson on the mist eliminator. This action is expected to solve the problem." (page 6)

The memo states however that,

> ". .the only other potential way of further reducing SO_2 emissions is through automating the ammonia injection system to eliminate peak SO_2 emissions." (page 3)

If DEQ is planning to allow Boise Cascade to operate at what are essentially present levels of SO_2 emissions at least include a request for Boise Cascade to install the ammonia injection system in the near future before issuing a five year permit.

We find it curious that Boise Cascade believes that with the recent improvements in the absorption tower and operation experience gained over the last several months it will be able to meet a standard, 200 ppm for daily, monthly and yearly averages, it earlier charged weretotally arbitrary and without technical data to demonstrate its attainability. Is this what is meant by a strong environmental management program?

Concerning water quality, upon review of the memo we find that we do not presently know what an allowable mixing zone is. We do not know the extent of the present ammonia problem which

now exists. We do not have a comprehensive evaluation of Boise Cascade's waste water control system. We do not know if the color problem around Minta Island is caused by leaking treatment ponds orfrom leachatefrom stored liquor saturating the soil beneath its ponds. We do not know if there is water quality impact from cooling water and filter backwash discharges.

Therefore we can not concur that the proposed modified ACD and NPDES wast discharge permits for Boise Cascade are adequate to protect air and water quality at the proposed expanded production rate.

When a public hearing is held at ten in the morning on a weekday, an additional burden is placed on the public for whom this hearing is held. Perhaps if temporary variences are needed they ould be granted, but a [redacted] permit that asks the people of Salem to continue to put up with the current problems should not be permitted.

Department of Environmental Quality
Public Hearing
Boise Cascade
March 12, 1976

chris turtleson
1585 NE 21st
Salem, Oregon 97301 — representing myself and Heliotrope Natural Foods.
natural foods grocer

First I wish to add my applause to Boise Cascade for installation of the mist eliminator. From the figures shown emmissions have been reduced substantaly.

I moved here from Lincoln City in January of this year. The air there is in a very natural state. The ocean winds and absence of industry keep the air as fresh as possible. Coming from that environment has helped me realize the amount of contamination we have accepted here. Even with the mist eliminator Salem still smells of Boises gas fumes. My house is quite a distance from the plant yet frequently the odor is unmistakable.
— just a few minutes ago I stepped outside during the break. Boises odor was there

In looking over the record of emmissions I see numerous times when the existing limitations have been exceeded. Even these limitations are not adequate. They allow Boise's fumes to prevail over the other essences of Salem. The trees and flowers are beginning to bloom now. Their bouquet of scents could prevail if we allowed.

We have an acceptable alternative to an addition to the pulp mill in the creation of a recycled paper processing facility. There is an abundant supply of paper and a powerful need for processing facilities. Boise has the resources to create such a facility and would be heartly applauded if they did.

THAD C. STANFORD M.D., F.A.C.S., P.C.
Physician & Surgeon
Orthopedic Surgery
873 Medical Center Dr. N.E.
Salem, Oregon 97301

RTE.	ACT.	ACC.
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		ENF

February 6, 1976

Department on Environmental Quality
2595 State Street
Salem, Oregon

TO WHOM IT MAY CONCERN:

I am writing in reference to the March 12 hearings on Boise Cascade's application to change its air emission standards.

I live in the Croisan Creek canyon and I am familiar with the air emissions of Boise Cascade. Usually the brunt of this is 4:00 in the morning. Often I or someone in my family awakes nauseated and with a headache, requiring closing all the windows. Other people in the area have had this complaint.

This has been bad enough that I have had even considered bring suit against Boise Cascade for the tremendous personal inconvenience and discomfort we have had at our house. I certainly don't think that we are going to be able to tolerate an increase in this discomfort and I would urge you strongly that, if any change be made, Boise Cascade be allowed to pollute the air even less.

Sincerely yours,

Thad C. Stanford, M.D.
TCS:la

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

questions for

To: Andy Caron

Date:

From:

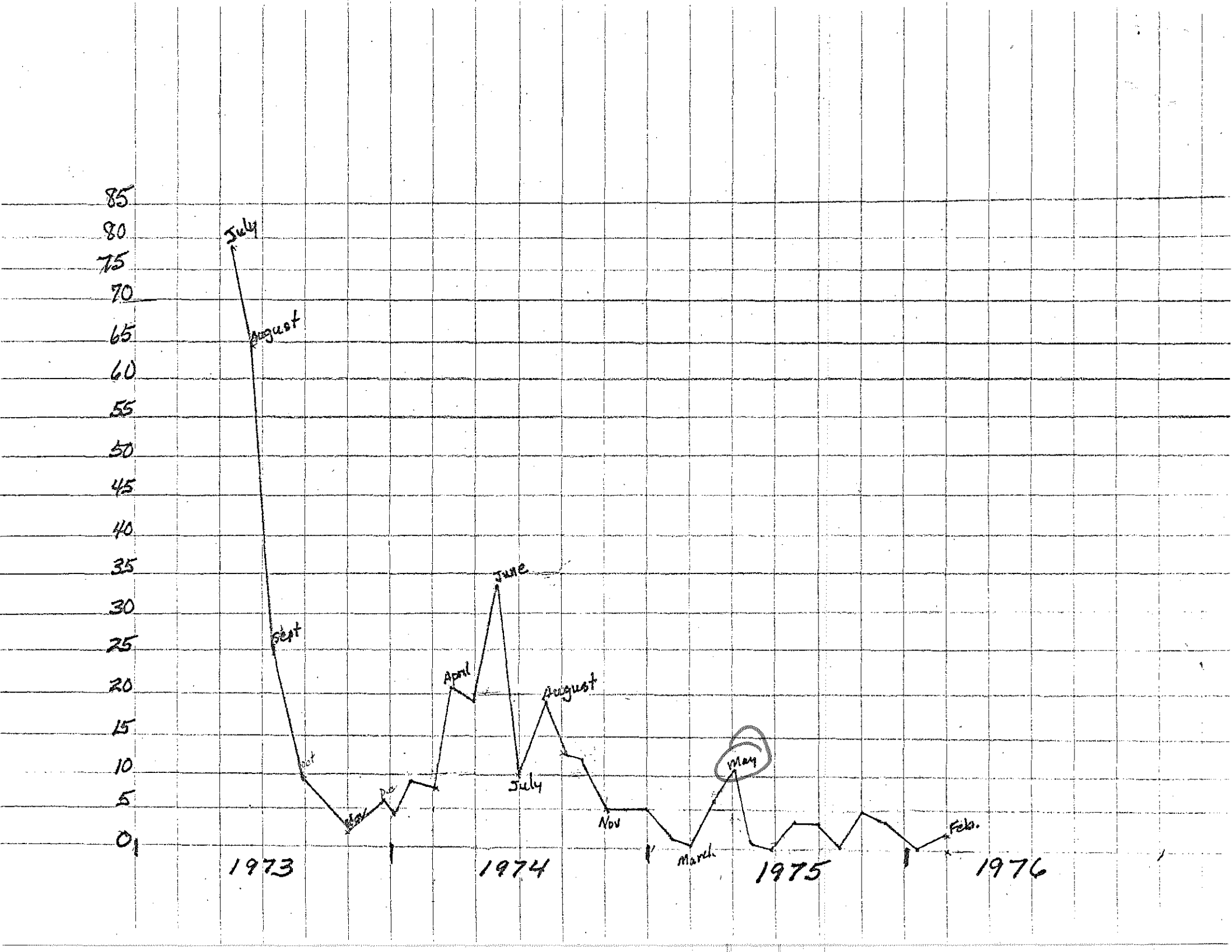
Subject:

1 - Does Caron disagree with Ms Bakers data presented in graph C at the end of her testimony?

2. Has anyone looked for K. pneumonia infections among people using the river for recreation? This is the only way we could of ~~measure~~ infection could be found. This data is not available.

John L. Ullman

DEQ 4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OREGON LUNG ASSOCIATION

Willamette Region

serving
BENTON
LINCOLN
LINN
MARION
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YAMHILL
counties

March 5, 1976

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

Dear Sir:

On behalf of the Oregon Lung Association, Willamette Region we would like to take this opportunity to commend Boise Cascade Corporation for the progress they have made toward a cleaner air environment for the Salem community. A few years ago, based on the number of calls we received from concerned citizens, the Salem Boise Cascade Paper Mill was a major source of air pollution and lung irritation. However, since the mist eliminator was iustalled the only complaints we have received have been on days when the mist eliminator was out of order. Obviously there has been a significant improvement.

Boise Cascade's past performance has convinced us that they have a real commitment to Clean Air. As long as adequate surveillance is in effect by Department of Environmental Quality to ensure lung health of Salem area citizens, we would not object to expanded production facilities.

Sincerely,

Marjorie Hornberger
President

Mabel Shiffer
Regional Director

SALEM AREA CHAMBER OF COMMERCE
Testimony before Department of Environmental Quality
Boise Cascade Permit Request
March 12, 1976

My name is Larry Moore and I am here as President of the Salem Area Chamber of Commerce, representing the membership. Our organization supports the issuing of the permits being requested by Boise Cascade Corporation for operational changes at the Salem sulfite mill. For your information, the Chamber formed a task force to review this particular subject. This group consisted of representatives from many types of businesses and professions: Milan Boniface, Aynbee Motors; Bob Diltz, Bishop's; Earl McBratney, C. G. Long and Sons; JoAnne Noffsinger, First National Bank; Tom Paulus, Salem Federal Savings and Loan Association; Dean Pfouts, Mead Products; Jim Rabe, Seven-Up Bottling Company, Dick Seideman, Attorney; Evelyn Smith, Salem Electric, Beryl Swails, United States National Bank. They met several hours with representatives of Boise Cascade in order to become educated on the need for the permits. Following this, they met for a considerable length of time with a representative of the local office of the Department of Environmental Quality. After these sessions and as the result of an on-the-spot review of the expanded pulping facilities and the need for modification of the waste discharge, it was the consensus of the task force that the permits should be granted.

The Salem Area Chamber of Commerce is naturally interested in the livability of the area both from the environmental and economic standpoint.

Environmentally, Boise Cascade has installed the most sophisticated air and water pollution abatement equipment available and is planning to comply with an additional installation to further reduce air emissions. Also, they

are currently operating improved equipment to lower the waste load released into treatment ponds. In addition, the company has shown a sensitivity to the aesthetics of the area in their plant improvements.

Economically, not only does Boise Cascade Corporation provide Salem with nearly 600 jobs and a payroll of over $12 million, but the company purchases approximately $14 million in supplies from vendors -- most of whom are located in the Willamette Valley. In addition, the company's local property taxes amount to over $650 thousand. The total economic impact of Boise Cascade on the Salem area is approximately $160 million.

In addition to the reasons stated above, the cooperation of Boise Cascade Corporation is evident in the expenditure of nearly $11 million over the past several years for equipment for the sole purpose of meeting air and water quality requirements. Therefore, the Salem Area Chamber of Commerce urges the Department of Environmental Quality to grant the two permits being requested.

Thank you.

Statement

for

ENVIRONMENTAL QUALITY COMMISSION
Public Informational Hearing

March 12, 1976

by

Bryan M. Johnson, Consulting Engineer

for

BOISE CASCADE CORPORATION

Ammonia discharges from the Boise Cascade lagoon effluent has recently received considerable attention as a major cause of oxygen depletion in the Willamette River system.

I have recently reviewed a report soon to be published by the U. S. G. S. on the subject and the report prepared by David Dunnette of the DEQ staff. Although complete agreement on the dynamics of nitrification through different reaches of the river is lacking, some conclusions may be drawn from these two reports. These are as follows:

1. Water quality in the Willamette River, as measured by dissolved oxygen becomes most critical during the low flow and higher temperature months of July and August.
2. River flow is of primary importance and must also be managed along with the implementation of treatment programs.
3. Ammonia loadings throughout the river add to the total oxygen consumption down to the head of the Newberg pool. These loadings occur between Eugene and Salem with the major loading occurring at Salem.
4. Nitrification of ammonia, the method by which oxygen is utilized, has been demonstrated to be occurring in the shallow fast

flowing reach of the river between the Newberg Pool and Albany.

5. A continuing and active water quality management program is required if present water quality in the river is to be maintained.

6. The three most important controllable factors in this management program are flow, BOD_5, and ammonia point source discharges. Benthic oxygen demand in the Portland harbor and nonpoint source loadings may be added to the variables subject to management as additional information is developed.

The above conclusions should not generate significant disagreement among those present today. However, disagreements may arise on DEQ approaches to management of river flow and BOD_5 and ammonia discharges.

I, for one, do not agree with the conclusion reached in the U.S.G.S. report that point source loading of ammonia is presently the major cause of oxygen depletion below River Mile 86 (Salem). Graphs from the report on which this conclusion was apparently based show that a reduction in ammonia discharges to 10 mg/l would increase D.O. in Portland harbor by 0.5 mg/l. A 50 per cent reduction in point source BOD_5 loading would also increase D.O. at that location by 0.5 mg/l. At this river location, the total D.O. depletion is 2.7 mg/l at 1974 ammonia and BOD_5 loadings. I would not call a 0.5 mg/l depletion by ammonia the major contributor to a 2.7 mg/l depletion of oxygen in the Portland harbor.

The DEQ report prepared by Mr. Dunnette reflects the reduction in the Boise Cascade ammonia discharge that occurred between 1974 and 1975. His report stated that the Boise Cascade ammonia discharge was 7,000 pounds per day in 1975 as compared to the 1974 discharge of 16,200

pounds per day reported in the U.S.G.S. report. As this reduction approximates the 50 per cent ammonia reduction used by the U.S.G.S. to estimate improvements in water quality if such a reduction were to occur, it is appropriate to again use their data to approximate potential D.O. improvement in Portland harbor if ammonia concentrations in all effluents were reduced to 10 mg/l and BOD_5 loadings were reduced by 50 per cent. The following table contains this approximation.

	D.O. in mg/l	Improvement in mg/l	Total * Depletion in mg/l
Present	6.4	---	2.4
50 per cent BOD_5 Reduction	6.6	0.2	2.2
Ammonia Reduction to 10 mg/l	6.6	0.2	2.2
Both Improvements (estimated)	6.8	0.4	2.0

* D.O. saturation at 22°C is 8.8 mg/l

This view of the data also indicates that factors other than point source ammonia and BOD_5 discharges are significant contributors to D.O. concentrations in the lower Willamette River.

As increased ammonia and BOD_5 removal from point source discharges do not appear to offer significant improvement in D.O. levels in the lower river, more restrictive effluent limitations on these constituents at this time should not be necessary. As long as river flows of 6,000 ft^3/second, as measured at Salem, or greater can be maintained, there will be two to five years available to analyze the costs and benefits of additional ammonia and BOD_5 removal and/or increasing the minimum river flow during the critical summer months. If present water quality in the river is to be maintained and the anticipated growth occurs, the development of a "plan for future action" is a necessity.

My name is Jim Fahlstrom. I am Resident Manager of the Boise Cascade Salem Mill. We have reviewed the DEQ report and although we have not had time to thoroughly evaluate it, we believe the staff has done a good job in analyzing our situation and presenting the facts. We agree, generally, with the conclusions and recommendations of this report.

The Boise Cascade Salem Mill has made excellent progress in reaching environmental goals in recent years. This has been accomplished by installing the best practicable control equipment available, at a cost in excess of $12 million. This equipment represents the latest technology in solving environmental problems. Although we have had some upsets in starting up and learning how to operate this equipment, these problems have been solved. We are working to accomplish continual improvements in all aspects of environmental control.

We have read and appreciate the Director's recommendations to authorize approval of our air and water permits with the increased pulping capacity.

The only additional equipment specifically called for in the report at this time is a 50 foot extension of our mist eliminator stack. In regards to the timing of this installation, we must first receive approval by the City Planning Department. Our application for a variance has been submitted and when approval is granted a purchase order will be placed immediately.

We also wish to comment that the latest proposed EPA guidelines for pH and suspended solids are not as stringent as in our proposed permit. We would hope that if further studies in conjunction with DEQ indicate that modification of our limits to the EPA guidelines would have no harmful effect on the Willamette, then the permit could be altered.

At any point during the hearing we will be available to answer specific questions that may arise. With us today are two of our consultants who are highly qualified to answer technical questions. They are Mr. Bryan Johnson, who is our consultant on waste water treatments and Mr. Andy Caron, Regional Engineer of the National Council of the Paper Industry for Air and Stream Improvement.

Thank you.

Klebsiella pneumoniae:
Potential Problem on the Willamette River
Re: Boise-Cascade Corporation, Salem, Oregon

I. Introduction

A. Format of Testimony

1. Leslie Watson, representing the Oregon Clean Water Project, 02002 S.W. Palatine Hill, Portland, Oregon, will be submitting an overview dealing with the potential dangers of Klebsiella and a proposal to the EQC regarding solutions to the problems.

2. Others of the Clean Water Project will present specific aspects of the testimony.

B. Significance of Klebsiella in the Willamette R.

1. Klebsiella has been known to cause disease in man:

a) severe pneumonia (Seidler and Brown, 1973).

b) bacteremia or blood poisoning (Matsen, 1972).

c) urinary tract infections (Knittel, 1975).

d) infantile menningitis and diarrhea (Matsen, 1972). as well as in animals:

a) muskrat (Wyand, 1973).

b) owl monkeys (Snyder,1970).

c) mice (Matsen, 1972).

d) cattle (Braman, 1973).

2. A particular opportunistic pathogen, Klebsiella pneumoniae occurs in high numbers in the effluent of the Boise-Cascade pulp and paper mill in Salem.

a) Effluent contains 10^6-10^8 bacteria/100 ml. (Knittel, 1975).

b) Federal regulations concerning total fecal coliform levels state that there shall be no more than 2,000 bacteria/100ml. (EPA: Report to Congress, 1974).

c) By 1977, municipal sewage outfalls should have no more than 200bacteria/100 ml in a 30 consecutive day sampling period.

3. Boise-Cascade is contributing to the degredation of the Willamette R. and therefore should be made aware of the following three problems.

a) That Klebsiella may be a potential public health hazard in the Willamette R. (Knittel, 1975).

b) The possibility that Klebsiella masks other pathogenic fecal coliforms found in sewage/wastewater discharges along the Willamette R. (Seidler and Knittel, 1976).

c) The unknown effects of Klebsiella on the ecological inhabitants of the Willamette R.

II. Proposal

A. Boise-Cascade should improve existing monitoring devices or install new ones to isolate and quantify Klebsiella from the following sources.

1. The mill effluent.

a) Samples to be taken on a daily basis.

b) Information should include the numbers of Klebsiella in the effluent. Any other abnormalities should also be noted.

2. The waters above and below the point of discharge into the Willamette R.

a) Samples to be taken at specified stations on a weekly basis.

b) Information should include Klebsiella densities and occurrences of any bacteriological blooms.

B. Boise-Cascade should investigate the validity of the following unresolved questions concerning the nature of Klebsiella. Answers to these questions are vital if we are to allow the public to continue unrestricted use of the Willamette R. for water-contact sports and other uses.

1. Does Klebsiella constitute a public health hazard? Exactly what is the epidemiological significance of Klebsiella in recreation waters?

2. Does Klebsiella in high numbers mask the presence of pathogenic fecal coliforms originating from sewage?

3. What are the effects of Klebsiella on the ecological inhabitants of the Willamette R.? The salmon run?

C. Boise-Cascade should be responsible for financing the investigationin conjunction with the proposed research to be done by the DEQ. We propose the following scheme.

1. That a review committee be formed consisting of a person from Boise-Cascade, a citizen participating in this hearing and a technical advisor from the DEQ or the EPA. The purpose of this group is to define research objectives relating to the three basic unresolved questions.

   a) Group should meet once a month to review research progres and objectives.

   b) Group should submit a quarterly progress report to the EQC for consideration.

2. That research be culminated in one year.

   a) Results and recommendations should be submitted to the EQC three months after research is completed.

Leslie I Watson

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KLEBSIELLA PNEUMONIAE:

POTENTIAL PROBLEM ON THE WILLAMETTE RIVER

RE: BOISE-CASCADE CORPORATION, SALEM, OREGON

WRITTEN TESTIMONY

NPDES PERMIT PROCESS HEARING

by OREGON CLEAN WATER PROJECT

MARCH 12, 1976

Klebsiella Pneunmoniae:

Potential Problem on the Willamette River

Re: Boise-cascade Corporation, Salem, Oregon

I. Introduction

As representatives of the Oregon Clean Water Project we wish to submit the following testimony regarding a potentially dangerous bacteria found in extremely high concentrations in the effluent of the Boise-Cascade Pulp and Paper Mill in Salem. The bacteria is called Klebsiella Pneumoniae. It is classified as an opportunistic fecal coliform which is found in the natural enviroment and frequently colonizes in the intestinal tract of healthy humans. However, if Klebsiella can find its way to other areas of the body such as the respiratory tract, by its opportunistic nature Klebsiella can cause serious diseases and may even be fatal. Few Oregonians are aware of the existence of this bacteria and its possible threat to recreation and the wildlife in and around the main stem of the Willamette River. Due to Klebsiella's potential dangers to humans and other mammals, as concerned citizens of the community, we present the following testimony to the NPDES permit process for Boise-Cascade Pulp and Paper Mill in Salem.

II. Diseases Caused by Klebsiella Pneumonia

Several studies have been made determining diseases caused by Klebsiella Pneumonia. In man Klebsiella has been known to cause severe pneumonia, respiratory tract infections, bacteremia, urinary tract infections, meningitis, diarrhea, as well as other infections. Although most instances of disease caused by Klebsiella have been isolated in hospitals, studies indicate hospital strains and enviromental strains of Klebsiella are indistinguishable.(Seidler and Knittel,1975) A report by the NCASI in 1972 by Dr. T. C. Eickhoff discusses at length the epidemiological significance of Klebsiella Pneumoniae found in the natural enviroment. Dr. Eickhoff identified the organism and tested its virulence by innoculating equivalent doses of Klebsilla into mice. The virulence of hospital isolated Klebsiella and the effluent Klebsiella were almost identical, the latter being slightly more virulent. Several of the mice died. The implications of Dr. Eickhoffs' study with mice lead to the following unanswered questions; 1) Are effluent strains of Klebsiella

equally as virulent as the frequent cases of diseases caused by the hospital strains of Klebsiella? (2) Can Klebsiella be as fatal to humans as it can be to mice? (3) Will the virulence of Klebsiella be as high as Eickhoff's test show if the same tests were run extravenously instead of intravenously? Despite the implications and questions raised by Eickhoff's study, no further investigation has been conducted as to the possible health hazard it presents to humans using the Willamette River.

Klebsiella Pneumonia causes several diseases in animals as well. It has been known to cause bovine mastitis in cattle (Braman, 1973). Other studies indcate that Klebsiella causes various diseases in muskrats(Wyand, 1973), owl monkeys (Snyder, 1970), and other animals.

III. Significance of Klebsiella Pneumonia in the Willamette River

We learned that Klebsiella had been isolated in the pulp and paper mill effluent of Boise-Cascade in Salem through the research of M. D. Knittel in 1973. The study indicated Klebsiella was found in numbers as high as 10^6 to 10^8/100 milliters. The bacteria were flourishing in the enviroment of the lagoons. There have been no further studies made which disprove Knittel's study to this date. The Federal regulations for fecal coliforms found in major waterways state that there shall be no more than 2,000/100 milliters. This poses the questions as to whether the high counts of Klebsiella dicharged into the main stem of the Willamette River by Boise-Cascade contribute and accumulate in numbers to the point of violating the safe fecal coliform standards for recreation on the river.

State regulations particularly in the Multnomah County District require that there shall be no more than 1-4 coliforms/ 100 milliters present in domestic water supply systems. These figures indicate that if high numbers of Klebsiella are present in the Willamette River than the river is unfit to drink from according to these State safe drinking regulations.

IV. Klebsiella and Masking of More Pathogenic Fecal Pollution

The potential health hazard to river users due to these high numbers of Klebsiella in the effluent of Boise-Cascade is worthy of extreme concern. Equally as grave and as serious is the question of whether Klebsiella can mask or camouflage other more virulent pathogens that enter the river from

fecal sources such as sewage treatment plants.

Studies conducted by Dr. V.P. Cabelli and his associates at the Department of Microbiology and Biophysics, University of Rhode Island found that although high densities of fecal coliforms cannot be used as an index of the probable presence of enteric or dangerous pathogens, 'they can and do present a problem in that they mask the presence of coliforms from fecal sources.' Because it is quite difficult to distinguish Klebsiella Pneumonia from other fecal coliforms which are gram-negtive, nonmotile also, such as Enterobacter Aerogenes and Salmonella, it is possible that these bacteria can be confused for each other when dealing in such high fecal coliform densities. Therefore the sheer high densities of Klebsiella (in the region of 10^6 to 10^8/100 ml) discharged by Boise-Cascade can mask the presence of fecal coliform pollution from municipal sewage treatment plants on the Willamette River. Federal regulations will reguire by 1977 that secondary sewage treatment systems can discharge no more than 400 fecal coliforms/ 100 milliliters in samples taken in seven consecutive days or no more than 200/100 milliliters in samples taken in 30 consecutive days. At the same time these stringent monitoring regulations will be required to be kept, Boise-Cascade continues to discharge these effluent source fecal coliforms called Klebsiella Pneumoniae.in possibly as much as 10 million Klebsiella per 100 milliliters in the average quantity of 16 million gallons of effluent daily!!! Thus the strong possibility exists that the true numbers of fecal coliform outfall from sewage treatment plants go unnoticed simply because they can be easily confused for and/or counted as 'harmless' Klebsiella.

V. Preliminary Conclusion

In light of the above; 1) the diseases Klebsiella is known to cause in man and in several other animals familiar to the Willamette River such as muskrats and cows, 2) the significance of Klebsiella in the Willamette due to Boise-Cascade and other unstudied industries having effluent conditions similar to those of Boise-Cascade, and 3) the documented proof by Dr. Cabelli that the high numbers and presence of Klebsiella can and do mask other coliform pollution specifically from fecal sources, the Oregon Clean Water Project feels that Boise-Cascade is contributing to the degradation of the Willamette River and therefore should be made aware of the following three problems:

(1) That Klebsiella is a potential public health hazard in the Willamette River (Knittel, 1976)

(2) The possibility that Klebsiella masks other pathogenic fecal coliforms found in sewage/wastewater discharges along the Willamette R. (Seidler and Knittel, 1976)

(3) The [illegible] effects of Klebsiella on the ecological inhabitants of the Willamette R. are unknown.

Boise Cascade is but one source of Klebsiella on the Willamette River but in light of the [illegible] we recommend the following studies be done.

II. Proposal

A. Boise-Cascade should improve existing monitoring devices or install new ones to isolate and quantify Klebsiella from the following sources.

1. The mill effluent.

a) Samples to be taken on a daily basis.

b) Information should include the numbers of Klebsiella in the effluent. Any other abnormalities should also be noted.

2. The waters above and below the point of discharge into the Willamette R.

a) Samples to be taken at specified stations on a weekly basis.

b) Information should include Klebsiella densities and occurrences of any bacteriological blooms.

B. Boise-Cascade should investigate the validity of the following unresolved questions concerning the nature of Klebsiella. Answers to these questions are vital if we are to allow the public to continue unrestricted use of the Willamette R. for water-contact sports and other uses.

1. Does Klebsiella constitute a public health hazard? Exactly what is the epidemiological significance of Klebsiella in recreation waters?

2. Does Klebsiella in high numbers mask the presence of pathogenic fecal coliforms originating from sewage?

3. What are the effects of Klebsiella on the ecological inhabitants of the Willamette R.? The salmon run?

C. Boise-Cascade should be responsible for financing the investigation in conjunction with the proposed research to be done by the DEQ. We propose the following scheme.

1. That a review committee be formed consisting of a person from Boise-Cascade, a citizen participating in this hearing and a technical advisor from the DEQ or the EPA. The purpose of this group is to define research objectives relating to the three basic unresolved questions.

   a) Group should meet once a month to review research progress and objectives.

   b) Group should submit a quarterly progress report to the EQC for consideration.

2. That research be culminated in one year.

   a) Results and recommendations should be submitted to the EQC three months after research is completed.

VII. Conclusion

Through our correspondence with Dr. W. Westgarth of the DEQ, Dr. Knittel of the EPA in Corvalis, Dr. Seidler of the Oreogon Toxicology Institute in Corvalis and Dr. Cabelli of the EPA in Rhode Island and each of their studies on Klebsiella, we feel that many impending problems still remain unanswered concerning Klebsiella. Most of these men feel that future research on Klebsiella should be concerned with the origin of Klebsiella when it is encountered, not only in samples from the enviroment but also in human infections. Dr. Cabelli agreed and added that specific monitering of Klebsiella should be conducted to determine the actual numbers of Klebsiella that inhabit the river. [illegible] We feel that future reseach should include two specific areas;

1) A study of the possibility that high numbers of Klebsiella in water may be a health hazard to animals which utilize the water ie. humans for recreational purposes such as fishing, waterskiing, etc. and other animals such as muskrats and salmon which depend on the river for their habitation.

2) A study be made concerning the masking effect of sewage pollution by Klebsiella due to thier high numbers.

We at Oregon Clean Water Project feel that it is time to investigate and inspect the potential problems that can be caused by Klebsiella so that the nature of Klebsiella Pneumoniae can be understood once and for all. Until a more thorough and satisfactory study of Klebsiella found in the enviroment is made the true nature of Klebsiella will remain unknown and therefore should be considered a potential public health hazard. We feel that Boise-Cascade should be held responsible for its high discharges of Klebsiella into the Willamette River.

The question of bacterial pollution of the Klebsiella nature is relatively novel in light of the NPDES permit process for industrial wastes. Boise-Cascade may be particularly interested in our research proposal by taking the first initiative as an industry in Oregon to study the incidence and implications of Klebsiella on the wildlife in and around the main stem of the Willamette River.

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Klebsiella pneumoniae:

Potential Health Hazard in the Willamette River

Re: Boise-Cascade Corporation, Salem, Oregon

Because of the occurence of high numbers of Klebsiella pneumoniae in the Willamette River, I feel that enough of a potential health hazard is suggested to warrent serious research. Dr. M.D. Knitell of the Environmental Protection Agency, and Dr. V.J. Cabelli of the National Marine Water Quality Laboratory at the University of Rhode Island, are both researchers of Klebsiella pneumoniae from industrial wastes. Both Dr.'s concluded their research asking for additional studies to be conducted in the area of Klebsiella pneumoniae's impact as a health hazard.(1),(2)

Klebsiella pneumoniae strains, isolated from recieving waters of paper and pulp mills, have been proven to be as lethal to mammals as the clinically isolated Klebsiella pneumoniae, as stated by the National Council of the Paper Industry for Air and Stream Improvement.(3)

Klebsiella pneumoniae is an opportunistic pathogen. This means that Klebsiella pneumoniae will cause disease in a human with lowered resistance if it enters the respiratory system. This could easily happen while swimming or water skiing.

The Klebsiella pnuemoniae taken from the effluent of Boise-Cascade has also been shown to be one and the same with Klebsiella pneumoniae obtained from clinical

(5)
sources.

In conclusion, I would like to read a letter from Martin D. Knittel, addressed to the Environmental Quality Commission. It refers to his research on Klebsiella pneumoniae whose objectives were resolution of the taxonomy of Klebsiella pneumoniae found in paper and pulp mill wastes and determination of its relationship to clinically isolated Klebsiella pneumoniae.(6)

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5. Knittel, M.D., June 1975.
6. Knittel, M.D., Letter to E.Q.C. dated March 1, 1976.

For tittles and page numbers, see inclusive bibliography attached.

Thank you for your time
and consideration,

Cathryn L. Simpson

Cathryn L. Simpson
Oregon Council of the Sierra Club

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CORVALLIS ENVIRONMENTAL RESEARCH LABORATORY

March 1, 1976

WESTERN FISH TOXICOLOGY STATION
1350 S.E. GOODNIGHT AVE.
CORVALLIS, OREGON 97330

Environmental Quality Commission

THRU: Miss Leslie Watson
Box 2894
Lewis and Clark College
Portland, Oregon 99219

To Whom It May Concern:

In reply to your request for assistance in the Boise Cascade discharge hearing, I do not feel that I can add anything to what I have already told you personally or through my publication. I feel that I can stand on the recommendation printed in my publication "Taxonomy of Klebsiella pneumonia Isolated from Pulp/Paper Mill Wastewater." In that publication it was pointed out that additional research should consider: 1) source of K. Pneumoniae in pulp mills and 2) human health hazard of K. pneumoniae released to the environment from such sources.

However, I have not done any recent surveys on this plant and cannot speculate on the present situation.

Sincerely,

Martin D. Knittel

M. D. Knittel, Ph.D.
Microbiologist

BOISE-CASCADE: THERMAL EFFLE T
AERATIO N LAGOO NS

I. I TRODUCTION

A. I'm Kini Schneider, representing the Oregon Environmental Council, 2637 SW Water Street, Portland.

B. I'm concerned with two topics:

1. Boise-Cascade's non-contact cooling water, discharge 003 of the permit, and it's effects on the aquatic life of Pringle Creek and Croisan Slough.

2. The current situation of Boise-Cascade's aeration lagoons.

II. TEMPERATURE

A. Boise-Cascade's cooling plant discharge, near the mouth of Pringle Creek, is composed of water used to cool the acid liquor of the paper making process. Imagine if you will , a pipe-within-a-pipe. The innermost pipe is filled with an acid liquor, surrounded by cooling water contained in the outermost pipe. It is this water with which we are concerned. After use as a coolant, the water temperature rises. This water is then released into recieving waters (Pringle Creek and Croisan Slough).

B. Temperature is one of the most important factors governing the occurence and behavior of life. Fish are cold blooded animals. They can not regulate their body temperatures. Each species can adjust to seasonal variation but cannot adjust to ABRUPT changes.

C. Boise-Cascade wishes to increase their permissible thermal discharge to 90°F.

II. C. 1. The Federal Water Pollution Control Administration, now EPA, has stated,

> "Waters above 93°F are essentially uninhabitable for all species of fish in North America, with the exception of certain southern species."[1]

2. Above 90°F "extensive loss of benthic organisms occurs."[2] They are normally widely occuring, hardy species.

3. From Bell (1971)[3] I cite the following examples of LETHAL temperatures of species of the recieving waters.

Chinook Salmon, Brook Trout	77°F
Steelhead Trout	75°F
Rainbow Trout	85°F

These are LETHAL temperatures-and Boise-Cascade wishes an increase to 90°F???

4. On October 1, 1975, Fish and Wildlife Service staff counted 297 reds between Shelton Ditch and Pringle Creek, to where Shelton takes off of Mill Creek.

5. Fall Chinook Salmon used to be raised off Shelton Ditch in Salem Park Pond. Each year in May and June one million salmon fingerlings were released into the Mill Creek Drainage, via Shelton, to Pringle Creek, and eventually Croisan Slough, and the Willamette.

6. In view of the LETHAL effects of temperature on the aquatic inhabitants of Pringle Creek, and the list of "has beens", I ask that Boise-Cascade reconsider their requests.

D. I submit the following proposals to the Environmental Quality Commission, DEQ, and Boise-Cascade.

1. An intensive study be undertaken on the aquatic life in Pringle Creek, Croisan Slough and the mixing zone as defined. With Boise-Cascade's cooperation, the study could be in-

II. D. 1. corporated with one slated for the near future involving EPA/DEQ/ and the Fish and Wildlife Service. The study should consider:

a. Exactly which species are found in the recieving waters,

b. Effects of thermal effluents on those species,

c. The physical and chemical water quality of the recieving waters, to be samples at various locales and depths.

d. A member of the public could perhaps be involved as well.

2. Boise-Cascade monitor temperature of the discharge from the cooling plant, samples to be taken daily, results submitted to DEQ.

3. Boise-Cascade monitor pH of the acid cooling plant discharge, as a check on possible acid leakage into the recieving waters. These checks should be daily as well.

4. Boise-Cascade consider installation of a perforated pipe for their thermal effluent to replace the one currently in use. Such a pipe would function to disperse the thermal discharge more quickly and over a wider range to reduce biological impact on the aquatic life.

III. LAGOONS

A. Boise-Cascade's lagoons could be seriouly leaking. During the summer low-flow months the seepage is visible. Although the lagoons are "adequate" according to state regulations, we feel that something should be done to prevent leakage.

B. I submit the following proposals to the Environmental Quality Commission, DEQ, and Boise-Cascade.

1. Boise-Cascade study the leakage, consequences thereof, and

III. B. 1. come up with a remedy for the situation.

2. Boise-Cascade consider a different method of secondary treatment, possibly a two stage process.

3. Since the Klebsiella problem does exsist, and since it is possibly directly linked to aeration-denitrification processes occuring in the lagoons, now be it therefore resolved that Boise-Cascade and the Department of Environmental Quality instigate a study specifically aimed at retention time as related to eleviation of the Klebsiella problem. Boise-Cascade DOES have the land for expansion. should it appear that lagoon expansion would be of assistance in this matter.

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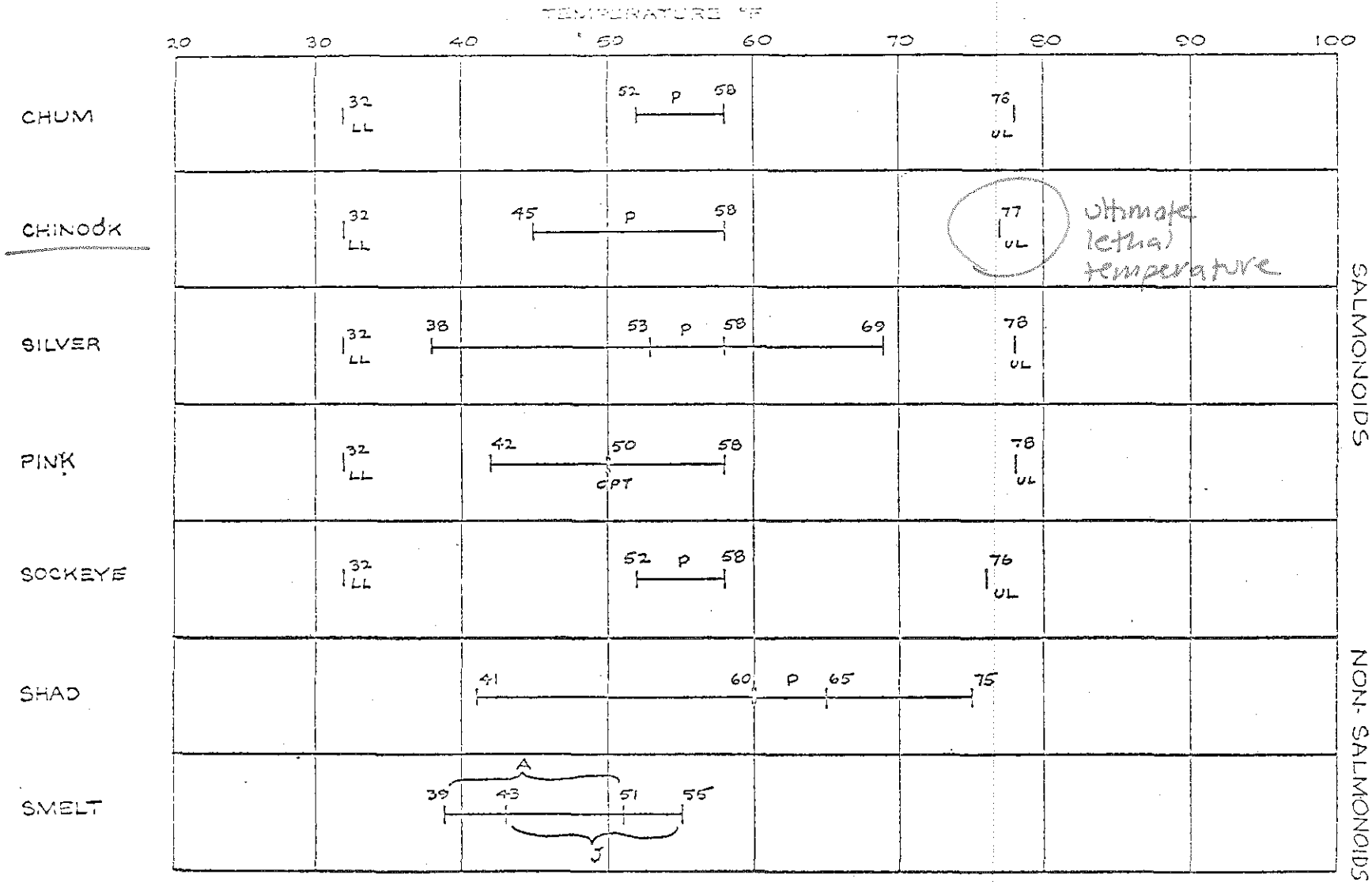
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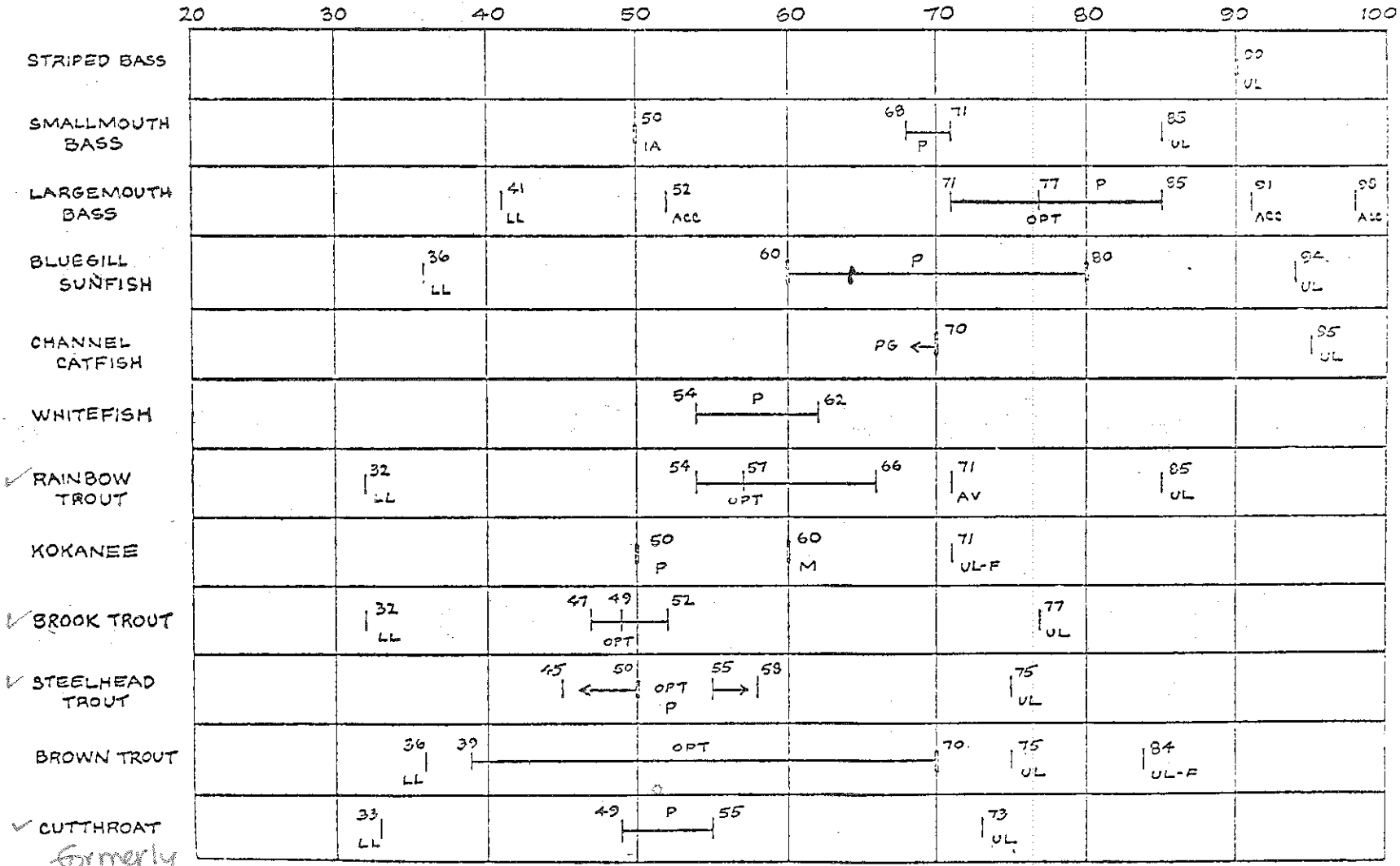
SALMONOIDS
NON-SALMONOIDS

SPORTFISH - OPTIMUM RANGE

TEMPERATURE °F



formerly in Pringle Creek

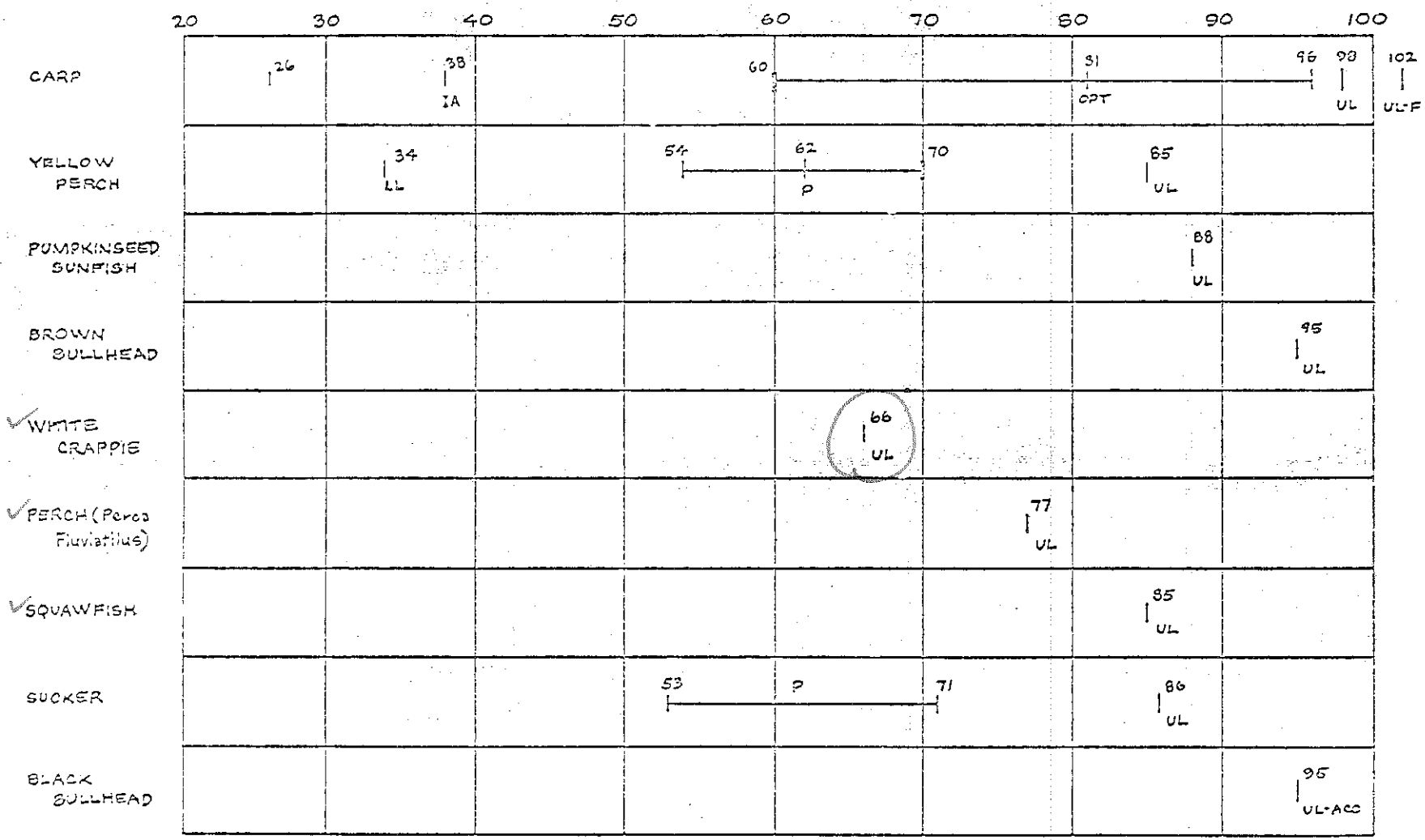
SPINY - RAYED

SOFT - RAYED

7-B

ROUGHFISH - OPTIMUM RANGE

TEMPERATURE °F



7-C

OSPIRG
Oregon Student Public Interest Research Group
400 Hughes Bldg.
115 S.W. Fourth Avenue
Portland, Oregon 97204
(503) 222-9641

March 1, 1976

Commissioner Joe B. Richards
Environmental Quality Commission
777 High Street
Eugene, Oregon 97401

Dear Commissioner Richards:

As an OSPIRG (Oregon Student Public Interest Research Group) intern I have been researching a wastewater discharge permit for Boise Cascade's Salem plant. Below is a list of concerns resulting from my preliminary research:

A. The allowable mixing zone, as the permit is written, includes all of the Willamette (Croisan) Slough and that portion of the Willamette River from the point of discharge to the Center Street Bridge--a length of three-quarters of a mile. This is far larger than the average mixing zone length of 300 feet.[1] The definition of a mixing zone has been a matter of controversy with several other permits drawn up by the DEQ. Since mixing zones are now required for all permits, standard procedures need to be established for their definition. The EQC should support a thorough study of mixing zones which would research the dilution rates of the effluents and assimulative powers of the river.

B. There will be an increase in temperature limit from 75°F to 90°F for special condition 7. A study of the effects of the plant's thermal effluents on aquatic life has never been done. Temperature is not monitored often enough--only one grab sample per week. More temperature information would supplement data needed for defining the mixing zones.

C. A tremendous strain on the Willamette's dissolved oxygen concentration occurs because over 10,000 lbs. of ammonia are discharged daily by Boise Cascade. The concentration of dissolved oxygen is depleted because ammonia is oxidized in an aquatic environment. Depletion of dissolved oxygen makes less oxygen available for aquatic life. A recent study of the Willamette River by U.S.G.S. underscores the importance of the ammonia problem, stating "Nitrification is now the dominant D.O. sink."[2] The ammonia discharge is not even addressed in the permit--except for testing for ammonia once a week. A schedule of compliance should be added to the permit for reduction of ammonia.

D. The effluent from the Boise Cascade plant at Salem contains bacteria, primarily Klebsiella pneumonia, in sufficient quantities to pose a potential health hazard. [3] This matter should be fully investigated.

A fact sheet was not written for all the modifications to be discussed at the hearing. Flow and temperature increases are going to be made in special conditions 4,5, and 7. These modifications have not been mentioned in any public notice. Regulations for permit renewal require a fact sheet on all changes to be made in the permit. Modification procedures for permits should be as thorough as renewal procedures.

If you would like more information or would like to discuss these issues with me I am available at the following Corvallis numbers, 753-3104 or 754-3600, or at the OSPIRG office in Portland (222-9641).

Sincerely,

Faye Baker

Faye Baker

FB:slc
cc: Jacky Hallock
Ron Somers
Morris Crothers, M.D.
Loren Kramer
Russ Fetrow
Dez Young

1. Guidelines for the Establishment of Dilution Zones, Environmental Protection Agency.

2. Rickert, Dave; Hines, Walt; McKenzie, Stuart; Planning Implications of D.O. Depletion in the Willamette River, Oregon.

3. Knittel, Martin; Taxonomy of Klebsiella Pneumoniae Isolated from Pulp/Paper Mill Wastewater, EPA-660/2-75-024 June 1975.

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Testimony of Faye Baker

Oregon Student Public Interest Research Group

March 12, 1976

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

Concerning Boise Cascade's Wastewater Discharge Permit

My name is Faye Baker. As an OSPIRG (Oregon Student Public Interest Research Group) intern I have been researching Boise Cascade's wastewater discharge permit. As a result of this research, I have concluded that this permit has a number of inadequacies that should be dealt with by the Department of Environmental Quality. My concerns are the definition of the mixing zone, ammonia discharge to the river, temperature and flow modifications, and the possible health hazards stemming from the presence in the effluent of Klebsiella pneumonia, a type of coliform bacterium. The Klebsiella pneumonia strains found in pulp mill effluents are of comparable virulence to strains isolated from hospital patients with pneumonia.[1] Also, large numbers of Klebsiella can mask true fecal contamination. OSPIRG asks the commission to make the following changes and additions to the proposed permit:

1. Gellman, Isaiah; Further Studies of the Sanitary Significance of Klebsiella Pneumonia Occurrence in Mill Effluents and Surface Waters; National Council for the Paper Industry on Air and Stream Improvement, April 1975, (Part II), p. 8.

A. Include a more sound monitoring program for temperature, pH, and ammonia;

B. Conduct a detailed study of the plant's mixing zone;

C. Establish an ammonia discharge limit of 8,000 lbs./day in the permit and increase the sampling of ammonia to three times a day; and

D. The Klebsiella content of the effluent should be monitored and its public health effects determined. Methods for eliminating the Klebsiella from the effluent should be seriously considered as soon as they become available.

Ammonia

Maintaining dissolved oxygen levels sufficient to support fish has been a critical problem with the Willamette River, especially during the summertime.[1] The ammonia discharge from Boise Cascade has been a major factor in lowering the dissolved oxygen level in the Newberg Pool stretch of the Willamette River.[2] (The Newberg Pool is a deep, slow-moving, depositional reach from a point just above Newberg to the Willamette Falls.) The ammonia problem is not directly addressed in the proposed permit beyond a requirement for a weekly test.

A U.S. Geological Survey Study points out that during the summers of 1973 and 1974 Boise Cascade's large ammonia discharge of over 20,000 lbs./day was a major cause of dissolved oxygen depletion in the Newberg Pool. According to the study:

> "For conditions representing 1974 summer low flow, the model [3] indicates that an oxygen demand of 164,000 lb/d was satisfied between RM's 86 and 5. Of the total, about 22 percent resulted from background carbonaceous-oxygen demand, 28 percent from point-source carbonaceous demand, 34 percent from point-source ammonia, and 16 percent from the unaccounted-for demand in Portland Harbor."[4]

1. During the summer months lower flows result in less dilution of effluents and cause more serious water quality problems.

2. Rickert, Hines, McKenzie; Planning Implications of Dissolved Oxygen Depletion in the Willamette River, Oregon, American Water Resources Association, PROC. No. 20; June 1975, p. 84.

3. The U.S. Geological Survey has used computerized curve fitting based on measured data, in developing models for future pollution-control programs. Mathematical models built to resemble nature have limitations but according to a U.S.G.S. study on the "Methods of River Quality Assessment," "Mathematical models are preferable to other methods of studying dissolved oxygen problems because they are capable of providing the most quantitative analysis of critical relationships."

4. Rickert, Hines, McKenzie; Planning Implications of Dissolved Oxygen Depletion in the Willamette River, Oregon, American Water Resources Association, PROC. No. 20; June 1975, pp. 77-78.

Graphs A and B are taken from the USGS study. Graph A shows the calculated effects of changing point-source BOD loading on dissolved oxygen levels. Graph B shows the calculated effect of changing ammonia loading on dissolved oxygen levels. These graphs show the benefits from reducing the ammonia discharge exceed those of placing stricter controls on point-source carbonaceous discharges. The study points out the practicality of controlling one large source of oxygen demand, Boise Cascade's ammonia loading, rather than increasing the efficiency of BOD removal of the municipal sewage treatment plants.[1]

Graph B establishes that the most important effect of D.O. depletion via nitrification occurs in the Newberg Pool region of the Willamette (River Miles 52 thru 160). During the summer of 1974 the ammonia discharge of 20,000 lbs./day contributed to bringing the <u>average</u> D.O. level down to the state oxygen standard of 6 milligrams/liter[2] at the Newberg Pool. In fact, according to the diurnal data collected by the USGS, the 6 milligrams/liter standard was regularly violated at night. Although the average D.O. level was right at the standand, daytime levels were generally higher and nightime levels were lower.

During the summer of 1975 Boise Cascade was able to maintain an ammonia discharge level of approximately 8,000 lbs./day by substituting lime for some of the ammonia previously used. Dave Rickert of USGS has said that the 1975 data reveals "no significant oxygen depletion occurred

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1. According to the study, "Point source loading of ammonia comes from one source, reduction of ammonia loading offers a relatively simple alternative for acheiving a large improvement in the summertime D.O." The source referred to here is the Boise Cascade pulp mill at Salem.

2. OAR-340-41-045(1)(b).

as a result of Boise Cascade's ammonia discharge at that time."[1,2]

The 1975 USGS data establishes the capacity of the river to assimilate ammonia at Newberg Pool. The river can assimilate 8,000 lbs./day without a significant dissolved oxygen depletion occurring. Therefore, OSPIRG recommends that 8,000 lbs./day be established as a daily limit in the permit.

It is clear that Boise Cascade can meet an 8,000 lbs./day limit as it was accomplished in September 1975. However, the most recent (Dec., Jan., Feb.) data reveals the discharge was over 10,000 lbs./day on the average. An ammonia limit needs to be written into the permit to assure that the ammonia discharge will not be increased.

In order to assure that the company complies with the proposed ammonia limit, the ammonia discharge would have to be tested more often. USGS collected data on Boise Cascade's ammonia discharge, and significant daily fluctuations were detected. Dave Rickert of USGS recommends that ammonia be tested "at least three times a day."[3] A weekly grab sample of ammonia would fail to accurately reflect Boise Cascade's ammonia discharge.

Ideally ammonia should be recycled for reuse in plant processes. However, there are other alternatives for reducing the ammonia discharge. Lengthening the retention time of the secondary treatment lagoons would allow more of the ammonia to be oxidized before entering the river. As it has already done during the past summer, the plant could use enough lime to keep the ammonia discharge at a level of approximately 8,000 lbs./day.

1. Rickert, Dave; USGS; Personal Communication: 3/9/76.

2. The DEQ staff has indicated that they do not agree with the conclusion of the USGS study. They claim that the nitrification process is not well enough understood to be absolutely sure that ammonia is a significant D.O. sink. However, they have not offered compelling evidence to dispute the conclusions of the USGS study.

3. Rickert, Dave; USGS; Personal Communication: 3/9/76.

pH

Boise Cascade's previous permit allowed for a pH range of 6-8.5. The present permit has a 6-9 pH range. (A 0.5 increase in pH represents a three hundred percent increase in alkalinity.)

There are important reasons to be concerned with pH. Large fluctuations in pH have been shown to be detrimental to aquatic life. Inproving the monitoring program of the plant's effluents would reveal if such fluctuations occur.

The toxicity of ammonia is pH-dependant. A report by the California State Water Resources Control Board states, "If pH is raised toxicity will probably increase."[1] The report cites research showing that the toxicity of a given concentration of ammonium compounds toward fish increased by 200 percent or more between a pH of 7.4 and 8.0.[2]

An ideal monitoring program would involve continuous sampling and analysis by means of recorders used for discharge measurements.[3] A pH continuous recorder would be relatively inexpensive and need a minimum amount of maintenance once installed.

The control of pH is an additional cost for the company, so the benefits of pH control must be carefully analyzed. The appropriate mixing zone studies may reveal little damage occurs as a result of a pH range of 6-9, but this knowledge should be obtained before an increased pH limit is adopted. Therefore, the pH allowance in the permit should be studied and the results analyzed to determine the impacts of the currently allowed pH levels on aquatic life.

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1. McKee and Wolf; California Water Quality Criteria, California State Water Resources Control Board, 2nd edition, 1963, p. 133.

2. Ibid., p. 133.

3. Ibid., p. 24.

Temperature

In special condition 7, the temperature limit will be increased from 75° F to 90° F. According to the DEQ staff, the increase to 90° F is being made because Boise Cascade does not feel it is capable of adhering to the 75° F limit, previously placed in the permit.

In a letter from Boise Cascade's Resident Manager Fahlstrom to DEQ's Harold Sawyer, it is stated, "The 75° F limit would not be adequate on some days. Our original flow and temperature estimates were rough and we did not realize they were to be used as permit limits. If we are to be limited in our cooling water discharges, we wish to make sure the flow and temperature limits are adequate."[1] This temperature increase is a classic example of setting a limitation to a level which a polluter can easily achieve rather than basing the limitation on what is good for the river.

The deleterious effects of relatively small increases in temperature on fish and other organisms are well known. Some examples of those effects are given below. They include direct and indirect effects.

Animals being "vulnerable to death or shock due to short-term changes in water quality, such as temperature fluctuations,"[2] is a direct effect. The temperature increases the metabolism of fish, and their growth rate is decreased.[3] Temperature should be below 65° F and a more desirable range is 50-60° F,[4] according to Joe Weatherbee, district fisheries biologist.

1. Letter of correspondence from C. J. Falstrom to Harold L. Sawyer, Dated: November 11, 1975, on file with Portland office of DEQ.

2. Ecological Research Series Water Quality Criteria 1972, EPA-R3-73-033, March, 1973, p. 113.

3. Sien, Wayne, Dept. of Fish & Wildlife at OSU, Personal Communication; 2/24/76.

4. Weatherbee, Joe, District Fisheries Biologist, Personal Communication; 1/21/76.

Indirect effects of temperature increases on fish include decreasing fish resistance to disease and altering migratory behavior. A study reprinted in Science completed at the Western Fish Nutrition Laboratory in Cook, Washington found that, "Pollution from the discharge of waste heat into river systems is a particular concern in the conservation of anadromous fishes. In this study we show that water temperature higher than 53.6° F may alter the migratory behavior and physiological condition of steelhead trout."[1]

A study conducted at the Western Fish Toxicology Laboratory in Corvallis came to the following conclusions,

> [1]The percentage of fatal infections among steelhead trout injected with Aeromonas liquefaciens, is high at temperatures of 64° F and above, moderate at 54° and 59° F, and zero at 49° F and below.
> [2]The mean time to death of rainbow trout infected with Ceratomyxa shasta is approximately 14 days at 74° F, increasing to approximately 155 days at 44° F. Fish continually held at 39° F are not believed to develop fatal infection.[2]

This study shows increasing temperature effects the ability of fish to resist disease.

Dave Buchanan of the Oregon Fish and Wildlife Department has researched bacterial infections of fish in the Willamette River. His work has found fish resistance to bacterial infection to be temperature-dependent.[3] He maintains that any increase in the Willamette main stem temperature will effect the fish life.[4] The DEQ should determine if Boise Cascade's thermal effluent is increasing the Willametter River's temperature a significant amount.

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1. Zaugg, Adams, McLain; Steelhead Migration: Potential Temperature Effects as Indicated by Gill Adenosine Triphosphate Activites; Science, April 28, 1972, Vol. 197, p. 415.

2. Fryer, Pilcher; Effects of Temperature on Diseases of Salmonid Fishes; EPA-660/3-73-020, Jan., 1974, p. 102.

3. Buchanan, Dave; Willamette River Steelhead; Task Number 88E2508, p. 12.

4. Buchanan, Dave; State Fish and Wildlife Dept., Personal Communication; 2/27/76.

Temperatures in the Willamette during the summertime often get high enough to pose a hazard to fish, according to Oregon Department of Fish and Wildlife researchers.[1] Care must be taken not to increase the temperature even a small amount. The above examples point out the consequences of increasing temperature and are the reasons for taking a closer look at Boise Cascade's thermal discharge and its possible effects on the aquatic life in the Willamette River.

The Federal Water Pollution Control Administration has suggested a provisional maximum temperature of 68°F as compatible with the migration of salmonids. The Federal Water Pollution Control Administration continues, recommending that, "during any month of the year, heat should not be added to a stream in excess of the amount that will raise the temperature of the water by more than 5° F. We propose that a temperature of 68° F is much too high for migrating juvenile steelhead, although adults migrate upstream in waters of this temperature."[2]

State Water Quality criteria for temperature are as follows: "No wastes shall be discharged and no activities shall be conducted which...will cause in the waters of the Willamette River: Any measureable increase in temperature when the receiving water temperatures are 64°F or above, or more than 2°F increase when receiving water temperatures are 62°F or less."[3] The increase in temperature due to Boise Cascade's thermal discharge has not been determined.

This photograph was taken by the Oregon Army National Guard, unit 1042 MI, Company Aerial Surveillance, on Friday, February 20th at 6:15 p.m. It depicts Boise Cascade's thermal plume into the slough. The plume represents

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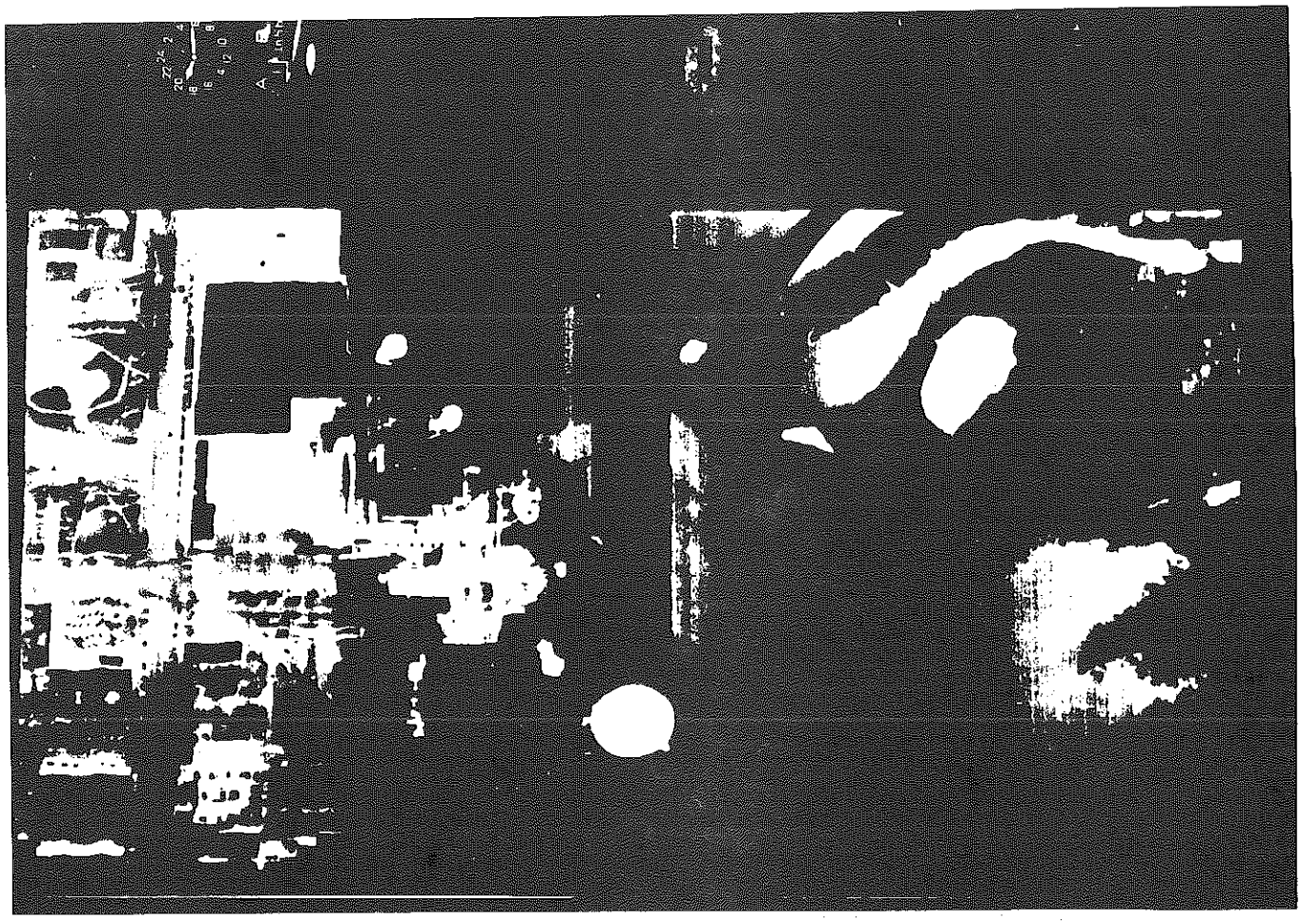
1. Buchanan, Dave; State Fish and Wildlife Dept., Personal Communication: 2/27/76.
2. Zaugg, Adams McLain; Steelhead Migration: Potential Temperature Effects as Indicated by Gill Adenosine Triphosphate Activities; Science, April 28, 1972, Vol. 176, p. 416.
3. 340-0AR-41-045 (4) (b).

at least a 6° F temperature difference from ambient conditions.[1] OSPIRG recommends that a study be conducted to determine the effects of the thermal discharge on the Slough and the Willamette River, expecially during the summer. The temperature modification on the permit should not be changed from 75° F to 90° F without completion of this study and a thorough analysis of the effects of temperature changes upon aquatic life.



1. Rosenseld, Charles; Professor of Geography, OSU, Personal Communication; 2/23/76.

Bacteria Contamination

Several years ago researchers found that pulp and paper effluents contain large numbers of Klebsiella pneumonia. Klebsiella pneumonia is a coliform bacterium which is capable of causing disease in man. "When isolated from pulp and paper wastewater effluents it represented as much as 80% of the total coliform bacteria present."[1]

The nutrients in pulp mill waste selectively support the growth of coliforms.[2] An EPA report concluded that "until K. pneumonia in pulp and paper mill wastewater effluents are shown to be non-pathnogenic, disinfections or other bacterial control methods should be practiced on these effluents."[3]

The EPA report published in June of 1975 concludes that, "The results of the DNA-DNA Duplex experiments provide a firm basis that the K. pneumonia bacteria in pulp mill waste are the same as those found in human infections."[4] Immunological and biochemical evidence was also cited to support this conclusion.

The National Council on Air and Stream Improvement has noted that the average virulence of Klebsiella strains isolated from pulp mill effluents is the same as the average virulence of Klebsiella strains isolated from hospital patients with pneumonia.[5] The average lethal dosage for 50% of

1. Knittel, Martin D., Taxonomy of Klebsiella Pneumonia Isolated from Pulp/Paper Mill Wastewater, June 1975 (EPA-660/2-75-024), p. 26.
2. Ibid., p. 1.
3. Ibid., p. 1.
4. Ibid., p. 1.
5. Gellman, Isaiah, Further Studies of the Sanitary Significance of Klebsiella Pneumoniace Occurance in Mill Effluents and Surface Waters, April 1975 (Part II), p. 8.

the test animals (LD_{50}) for the hospital isolates of Klebsiella was 5.3 x 10^5 bacteria. An average LD_{50} of 4.4 x 10^5 bacteria was found for stains of Klebsiella isolated from river water contaminated by pulp mill effluents.[1]

The virulence of the Klebsiella of industrial origin indicates that the contaminated industrial effluents constitute a potential public health hazard. Waterborne Klebsiella pneumonia infections have been observed among both wild[2] and domestic[3] animals.

A report published by the National Council of the Paper Industry for Air and Stream Improvement, Inc. in April of 1975 finds "there is no reason to believe that Klebsiella occurance in such effluents or surface waters has any sanitary significance as regards acquisition of Klebsiella infections."[4] However, the concrete epidemiological data needed to bear out this conclusion are difficult to obtain. It has already been proven that the hospital isolates and pulp mill isolates have similar virulence. This in itself justifies concern over the possible health hazards of the Klebsiella in pulp mill effluents.

Statistics on Klebsiella pneumonia infections are not kept as part of the communicable disease records of hospitals. Respiratory ailments may often be treated with antibiotics and not investigated further, if they are under control. Therefore a significant number of Klebsiella pneumonia infections stemming from recreational use of the Willamette River could

1. Ibid., Table 14 (Part II), p. 12.

2. Hermann, Braman, Eberahrt; Capsular Types of Klebsiella Pneumonia Associated with Bovine Mastitis, Journal of the American Veterinary Association, Vol. 162, January 1973.

3. Wyand, Hayden; Klebsiella Infection in Muskrats, Journal of the American Veterinary Association, December 15, 1973.

4. Gellman, Isaiah; Further Studies of the Sanitary Significance of Klebsiella Pneumoniae Occurance in Mill Effluents and Surface Waters, April 1975, p. 3.

easily go unnoticed by the medical community. Studies have revealed increased illness rates among swimmers using recreational waters with a higher level of coliform bacteria present.[1] Similar studies should be conducted to determine the health hazards of Klebsiella in the Willamette River.

DEQ basic inventory data point out that "bacteria levels exceeding water quality standards"[2] are a problem for a large part of the Willamette River. The "average total coliform counts greatly exceed the DEQ standard of 1000 organisms per 100 ml with highs as great as 70,000."[3]

DEQ inventory data for 1975 show that for twelve stations from River Miles 96.1 - 7.0: 93.8% of 520 samples exceed 100 total coliform/100ml, the public health recreational swimming limit. Also, 71.3% of the 520 samples exceeded 1000 total coliform per 100 ml, a DEQ standard for the Willamette River.[4] Chart C is a graph of these results and similar results for fecal coliforms. Boise Cascade is contributing to these high levels of bacteria and the violation of stream standards established by the DEQ.

Boise Cascade's contribution to the high levels of bacteria in the Willamette River needs to be evaluated for two reasons. The potential dangers to recreational users of the Willamette River from large concentrations of Klebsiella pneumonia. And also, because the Klebsiella in pulp mill effluents will mask sewage contamination.

The bacteria in the effluent from Boise Cascade alone are enough to

1. Cabelli; MaCabe; Levin; Duffourt; The Development of Criteria for Recreational Waters, August 1974 (London).
2. DEQ Basic Inventory Data, Report 305-A, Water Quality Profile, 1972.
3. Columbia and Lower Willamette River Environmental Statement, U.S. Army Corps of Engineers, July 1975, p. 2-11.
4. Department of Environmental Quality, Water Quality Surveillance Reports for 1975.

account for levels exceeding the DEQ standards. According to Knittle,[1] pulp mill effluents contain bacterial concentrations as high as 10^4 organisms per ml. The effluent of Boise Cascade is roughly 0.5% of the low flow of the Willamette. Boise Cascade alone could therefore increase the bacterial contamination of the Willamette by 5000 bacteria per 100 ml during low flow.

Since Klebsiella pneumonia are scored as a fecal coliform, high concentrations of them coming from pulp mill effluent mask the presence of coliform bacteria of fecal origin. Thus, serious sewage contamination problems in the Willamette may be going undetected because of the high background levels of Klebsiella pneumonia.

The physical removal of bacteria is an option that should become available to the industry in the future. Right now "technology is being developed"[2] for physical removal of suspended solids to meet the 1983 goals of Public Law 92-500. Suspended solids include fibers, color, bacteria, or any particulates. Large scale operations, such as Boise Cascade, will be able to use this process for effluent flows on the order of 15 MGD. OSPIRG recommends that the DEQ and the company closely follow the development of this technology so that it can be put into use as soon as possible.

The Klebsiella pneumonia problem should be studied thoroughly. At very least, and particularly in light of the current wide spread notion that the Willamette River has been cleaned up, the risk to swimmers and

1. Knittel, Martin D. Taxonomy of Klebsiella Pneumonia Isolated from Pulp/Paper Mill Wastewater, June 1975 (EPA-660/2-75-024).

2. Ralph Peterson of CH_2M Hill Consulting Engineers, Personal Communication: 2/23/76.

water skiers should be determined.

Eventually, the DEQ should insist that bacterial contaminants be removed from industrial effluents or that the effluents be sterilized in some manner. This is already mandated by Oregon Administrative Rules which state, "All industrial waster shall receive, . . . effective disinfection where bacterial organisms or public health are present . . . before being discharged into any public waters of the state."[1] (SIC) Oregon Administrative Rules also state bacterial pollution injurious to the public health will not be allowed.[2]

Removal of the bacteria is needed, even if they do not prove to be a cause of illness, so that true fecal contamination will no longer be masked.

1. 340-0AR-41-020 (3).

2. 340-0AR-41-025 (8).

The Mixing Zone

The mixing zone for Boise Cascade's Salem plant, as expressed in the permit, includes all of the Willamette (Croisan) Slough and that portion of the Willamette River from the point of discharge to the Center Street Bridge. This mixing zone is three-quarters of a mile long, far larger than the average length of 300 feet.[1]

A mixing zone three-quarters of a mile long is unreasonably large. "Guidelines for the Establishment of Dilution Zones" state, dilution zones for rivers "lateral boundary will be 300 feet from the center line of the diffuser." Jim Sweeney of the EPA estimated, "The average length of a mixing zone is 300-500 feet."

Environmental Protection Agency Mixing Zone Guidelines (April 1974) also state, "estimates of an acceptable percent of an aquatic environment that can be allocated to mixing zones must be conservative."[2] Put another way, mixing zones should be a small percentage of the river's width and depth.

Oregon Administrative Rules state, "The Department may suspend the applicability of all or part of the water quality standards set forth . . ., within a defined immediate mixing zone of very limited size."[3] Both these mandates establish that a mixing zone should be as limited in size as possible.

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1. Mosbaugh, Ken; Guidelines for the Establishment of Dilution Zones, Environmental Protection Agency (December, 1972).

2. For Section VII and VIII of Proposed Guidelines for Administration of 316 (a) Regulations (Public Law 92-500) relating to: Mixing Zone Guidelines; EPA, April 18, 1975, p. 48.

3. 340-0AR-41-023 (1).

OSPIRG contends that the mixing zone definition has been a general problem with NPDES permits because the DEQ defines a mixing zone large enough so that water quality standards will not be violated by the discharger. A second philosophy in regard to mixing zones takes into consideration the effects on the biota, as well as the effluent dilution rates and the assimilative power of the river. In order to protect the river habitat the biological consequences of mixing zones should be thoroughly considered.

A biological definition of mixing zones has been developed by the EPA. According to the Ecological Research Series Water Quality Criteria, "A mixing zone is a region in which a discharge of quality characteristics different from those of the receiving water is in transit and progressively diluted from the source to the receiving system. In this region water quality characteristics necessary for the protection of aquatic life are based on time-exposure relationships of organisms. The boundary of mixing zone is where the organism response is no longer time-dependant. At that boundary, receiving system water quality characteristics based on long-term exposure will protect aquatic life."[1] Mixing zones are defined to protect aquatic life. The effects mixing zones have on aquatic life should be determined and require the collection of biological data.

The Oregon Administrative Rules recognize the need for defining the mixing zone biologically. They state mixing zones shall be limited "to that which in all probability, will not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and not adversely effect any other beneficial

1. Ecological Research Series Water Quality Criteria 1972, EPA-R3-73-033, March 1973, p. 112.

use disproportionately."[1] The DEQ should begin to deal with the biological implications of mixing zones.

The actual amount of damage caused by Boise Cascade's effluents will have to be determined especially in reference to the potential for fish production of the Willamette River. Attention should be given to the requirements and possible effects of the mixing zone on young salmonids moving downstream.

Consideration should also be given to drifting organisims which are unable to avoid the mixing zone. Swimming organisms such as adult fish are capable of avoiding heavily polluted areas. However, drifting organisms may not be able to avoid such areas.

The embryos and larvae of some fish species develop while drifting. It should be determined how these organisms are effected by various mixing zones. EPA Water Quality Criteria state, "Biological considerations to protect planktonic and swimming organisms are related to the time exposure history to which organisms are subjected as they are carried or move through a mixing zone."[2] The damage to young fish exposed to Boise Cascade's mixing zone should be determined so that the effect of the plant on the Willamette River fish production can be ascertained.

Alternatives should be considered to reduce the effect the mixing zone may have on aquatic life. Diffusers are a means of reducing the effect of mixing zones on drifting organisms, since they increased the rate

1. 340-0AR-41-023 3 (A) (B).

2. Ecological Research Series Water Quality Criteria 1972, EPA-R3-73-033, March 1973.

at which effluents are diluted. Boise Cascade's present mixing zone appears to be a dark strip in the middle of the river. A diffuser would widen that strip and decrease its length.

A conflicting opinion exists between members of the Salem DEQ staff and EPA staff in regard to the use of a diffuser for Boise Cascade's effluents. The EPA staff feels the diffuser would limit the length of the mixing zone and have a net beneficial effect. The DEQ disagrees because the effluent would cover a larger portion of the river's width and might interfere with fish moving upstream. The use of a diffuser will have to be evaluated more thoroughly and assessed in terms of the benefits for aquatic life and not just for dealing with the company's color effluent.

John Yearsley of the Environmental Protection Agency says that to prevent substantial amounts of damage, "effluent limitation numbers will have to be used to restrict mixing zones."[1] Research should be conducted to determine which of Boise Cascade's effluents might need to be limited to reduce the adverse effects of the mixing zone on acquatic life. Mixing zones can be used "as a means of enforcement," according to John Valasticia of the EPA, controlling the amount of harm done to the river ecosystem once the actual mixing zone is determined.

Receiving stream water quality, turbulence, and the dilution rate of effluents should all be considered in the mixing zone study.

OSPIRG understands that the DEQ will define an interim mixing zone and will conduct a study this summer to define the permanent mixing zone. OSPIRG hopes that the attention given to mixing zones will not end there and that research will continue.

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1. Yearsley, John; EPA, Personal Communication: 2/12/76.

The EQC should support a thorough study of mixing zones. This information will be useful in planning future abatement programs.

OSPIRG considers the protection of the Willamette Slough and the fisheries of the main stem Willamette to be highly important for economic, aesthetic, and recreational reasons. The following section was prepared to justify the improvements suggested in this testimony for Boise Cascade's permit.

Protection of the Willamette Slough

Larry Bisbee of the Department of Fish and Wildlife has prepared the following statement on "The Value of Backwater Sloughs Along the Willamette and Other Main Rivers in Oregon." (See Appendix D.)

Sloughs are "the primary food production and spawning area for warm water game fish as well as food production area for anadromous fish as they move through the system."[1] Sloughs and backwaters "provide important spawning areas for many warm-water fish,"[2] such as largemouth bass; black and white crappie, bluegill sunfish, channel and bull head catfish, yellow perch and many species of lesser recreational or economic importance.

Boise Cascade's thermal effluent may well have an adverse effect on Willamette Slough. Sloughs and backwaters are important fish production areas for the entire river system. The effects of the plant's thermal effluents on the slough need to be studied. A 90° F temperature limit is very liberal for the slough, according to Irv Jones[3] of the State Fish and Wildlife Department.

1. Ross Island, Final Environmental Impact Statement, U.S. Army Corps of Engineers, Portland District; Oct. 1974; p. F8.

2. Columbia and Lower Willamette River Environmental Statement; U.S. Army Corps of Engineers; July, 1975; p. 2-11.

3. Jones, Irv; Telephone Conversation; 2/18/76.

No inventory work has been done on the slough according to Joe Weatherbee, district fisheries biologist.[1] Upper Willamette Slough has resident warm-water fish but is in poor condition. This condition is due in part to past damage. Further damage will not allow the fisheries to develop fully. The slough is not capable of flushing itself out and cannot assimilate wastes as well as the river. Therefore, the Slough merits much more consideration by the DEQ than it has received in the past.

The Willamette as a Fishery and Recreational Resource

"The Willamette is one of the bigger producers as compared to other tributaries on the Columbia River."[2] Out of 900,000 salmonids moving up the lower Columbia and its tributaries: 50% are chinook salmon, 20% coho, 20% steelhead trout, 10% sockeye, a small percentage of chum and pink salmon, cuttroat trout, and 200,000 shad and lamprey.[3]

Salmonids are transient through the lower section of the Columbia River and spawn in its tributaries. Juvenile salmon must be assured a return route to the ocean. Juvenile chinook salmon start traveling toward the ocean during a 2-3 week period in late April to late May.[4] Special attention will have to be given to the effect effluents may have on this life stage. This is important inorder to increase the net production of fish in the Willamette River.

1. Weatherbee, Joe , district fisheries biologist; Telephone Conversation: 2/20/76.
2. Columbia and Lower Willamette River Environmental Statement; U.S. Army Corps of Engineers; July, 1975; p. 2-12.
3. Ibid, p. 2-11, 2-12.
4. Weatherbee, Joe , district fisheries biologist; Telephone Conversation: 2/20/76.

A National Water Commission conclusion on recreational fishing states, "the 1990 state-wide net need is for over 11,000 miles of major streams. The supply of major streams cannot be increased; however, the fishery can be improved, which would have the effect of changing the need for fishing stream mileage."[1]

The Willamette main stem has a tremendous recreational potential but pollution has severely limited its use.[2] Chart E lists the beneficial uses to be protected in the Willamette River. They include fishing, water skiing, swimming, and pleasure boating.

"Pulp and paper mills are the largest industrial users of surface water from the Columbia and Willamette Rivers."[3] In the Columbia and Lower Willamette Rivers "of the total wasteload, 75 percent is generated by the pulp and paper industry, 12 percent by food processing and miscellaneous industries and 13 percent by municipalities."[4] These statistics establish where the responsibility lies for improving the Willamette. The Boise Cascade Salem Mill, being one of the largest pulp mills, certainly shoulders a large share of the responsibility.

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1. Ross Island, Final Environmental Impact Statement, U.S. Army Corps of Engineers; July, 1975; p. 2-8.

2. Gleeson, George; The Return of a River: The Willamette River, Oregon; WRRI-13; NSF Grant No. GT-14; June, 1972; p. 85.

3. Columbia and Lower Willamette River Environmental Statement; U.S. Army Corps of Engineers; July, 1975; p. 2-8.

4. Ibid., p. 2-24.

OSPIRG Recommendations

The following requirements and changes should be made before this permit is approved.

1. The company should install sophisticated monitoring equipment for its effluents. Boise Cascade explains in a brochure about the Salem mill, processes such as bleaching "must be closely monitored" for concentration, temperature, and pH "to achieve desired results."[1] The same type of attention should be given to the plant's effluents to prevent unnecessary damage to the environment.

A. The acid-plant effluent needs to be monitored very closely for pH and temperature. This is important in order to detect any damage to the river by an acid leak or increase in temperature. This type of information would also be helpful in gathering data on the mixing zone.

B. A grab sample is defined as "a sample collected at one time and from one location, thus not truely representing over-all conditions."[2] Grab samples do not adequately represent effluent parameters. The temperature and pH of Boise Cascade's cooling water should be monitored by continuous recorders.

In June, 1975, then-DEQ Director Kessler Cannon made the following comment in a letter to Boise Cascade:

> A review of your past monitoring reports indicates that the treatment plant effluent quality fluctuates considerably from day to day. Due to these fluctuations, which were not taken into consideration with our verbal okay to use a grab sample, the Department requests that a thorough study of your sampling and analysis procedures be undertaken immediately to determine whether or not grab samples are truly representative of

1. Brochure printed by Bosie Cascade Paper Group, Salem Mill.

2. Slime Growth Evaluation of Treated Pulp Mill Waste; Project #12040 DLQ Water Pollution Control Research Series, USEPA; August 1971, p. 53.

> actual effluent quality. Until receipt of this analysis and written concurrence from this Deparmtnet, either replicate grab sampling or refrigerated composite sampling should be substituted.[1]

OSPIRG recommends that this policy be carried out by the DEQ.

OSPIRG feels special attention should be paid to Boise Cascade's monitoring program. The detection of daily fluctuations and prevention of harmful leakages is very important. The plant should know more about its effluents and its effects on the environment.

C. The Department of Environmental Quality should do much more biological monitoring. Biological monitoring, as defined by Public Law 92-500, is the determination of effects on aquatic life, including the accumulation of pollutants in the tissues of aquatic animals. Biological monitoring should include sampling of organisms at various levels of the food chain. at appropriate frequencies and locations."[2]

D. Bioassays are a type of biological monitoring used to determine the toxicity levels of various substances on fish. Bioassays should be required by the permit. "The bioassay provides valuable information pertaining to the effects of potential or contemplated discharges on aquatic life."[3]

Bioassays of organisms other than fish are becoming increasingly common because of the realization that elimination of the lower organisms can also have serious consequences. Concern cannot just lie with fish populations, entire food chains must be appraised in order to develop the fishery to its fullest capacity.

---

1. Letter of correspondence from Director Cannon of the DEQ to Resident Manager Fahlstrom of Boise Cascade, June 24, 1975 on file with Portland office of DEQ.

2. Public Law 92-500, Sec. 502(15)(A)(B).

3. Ecological Research Series Water Quality Criteria 1972; EPA-R3-73-033; March, 1973; p. 117.

4. Ibid., p. 117.

It is suggested that care be taken in having the bioassay work done at a pH of 7.0 or above because the toxicity of ammonia is pH-dependant,[1] and becomes more toxic at higher pH levels.

2. The definition of the Boise Cascade mixing zone should be thoroughly considered. Biological data should be collected and effluent dilution rates determined. Consideration must be given to the effects of the effluents on aquatic life.

3. USGS data establishes 8,000 lbs./day as the amount of ammonia that can be assimilated by the river without significant dissolved oxygen depletion occurring. OSPIRG recommends a limit of 8,000 lbs./day be established in the permit. Also, the sampling of ammonia should be increased to three times a day to assure enforcement of the proposed ammonia limit.

4. The effects of the thermal effluent should be considered more seriously, particularly with respect to the Slough. The proposed increase in effluent temperatures should not be allowed unless it can be shown that the increase does not harm the Slough or the river. If the thermal effluent is causing significant damage to the Slough or the river, a schedule of compliance for reducing the temperature to a benign level should be placed in the permit.

The bacterial component of Boise Cascade's (and other industries) effluents should be eliminated as soon as a possible process is found.

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1. Sien, Wayne, Dept. of Fish and Wildlife at Oregon State University, Personal Communication; 2/24/76.

In the meantime, the possibility of waterborne river infections of humans should be investigated. Such investigations might use the techniques of Cabelli.[1]

Minimally, citizens using the Willamette for recreational purposes should be made aware of the Klebsiella problem. People with a history of respiratory ailments might be cautioned not to swim or water ski in the river.

1. Cabelli, MaCabe, Duffour, Levin; The Development of Criteria for Recreational Waters, London, August, 1974.

Planning Implications of D.O. in Willamette River

A.

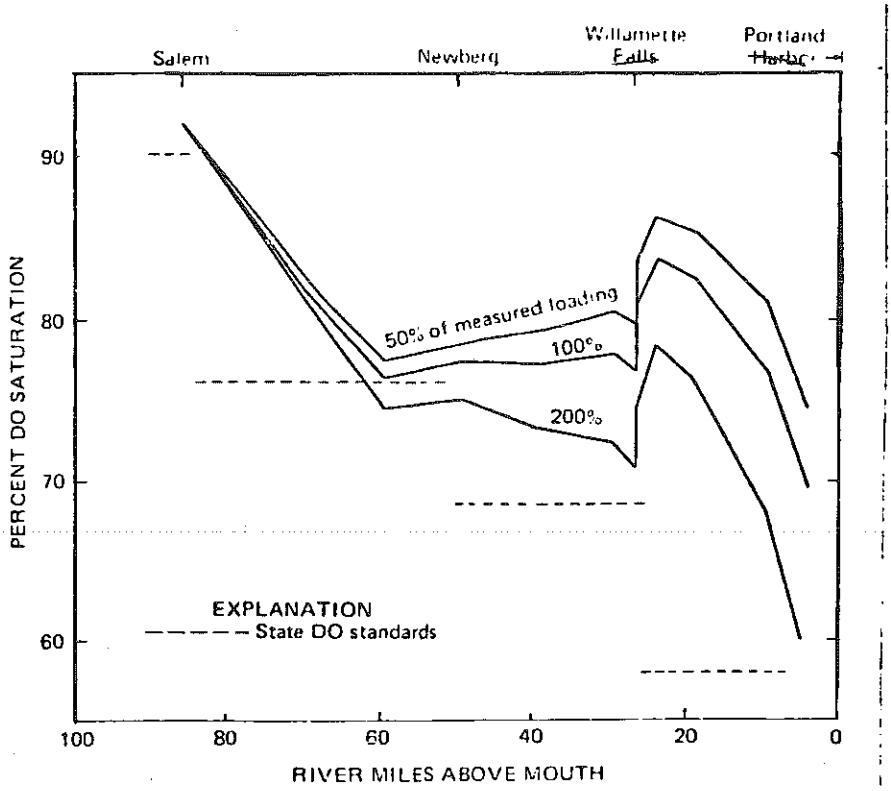


Figure 4. DO Profiles for Selected Percentages of the Measured Point-Source BOD Loading During Mid-August 1974. Flow and Ammonia Loading Held Constant at Observed Levels.

B.

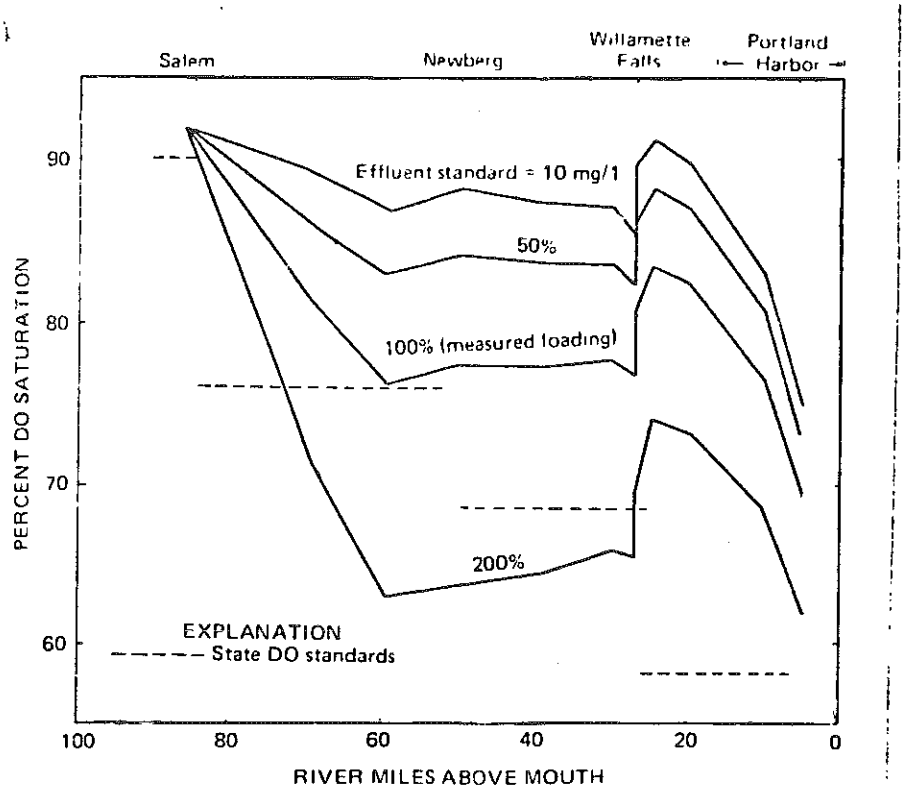
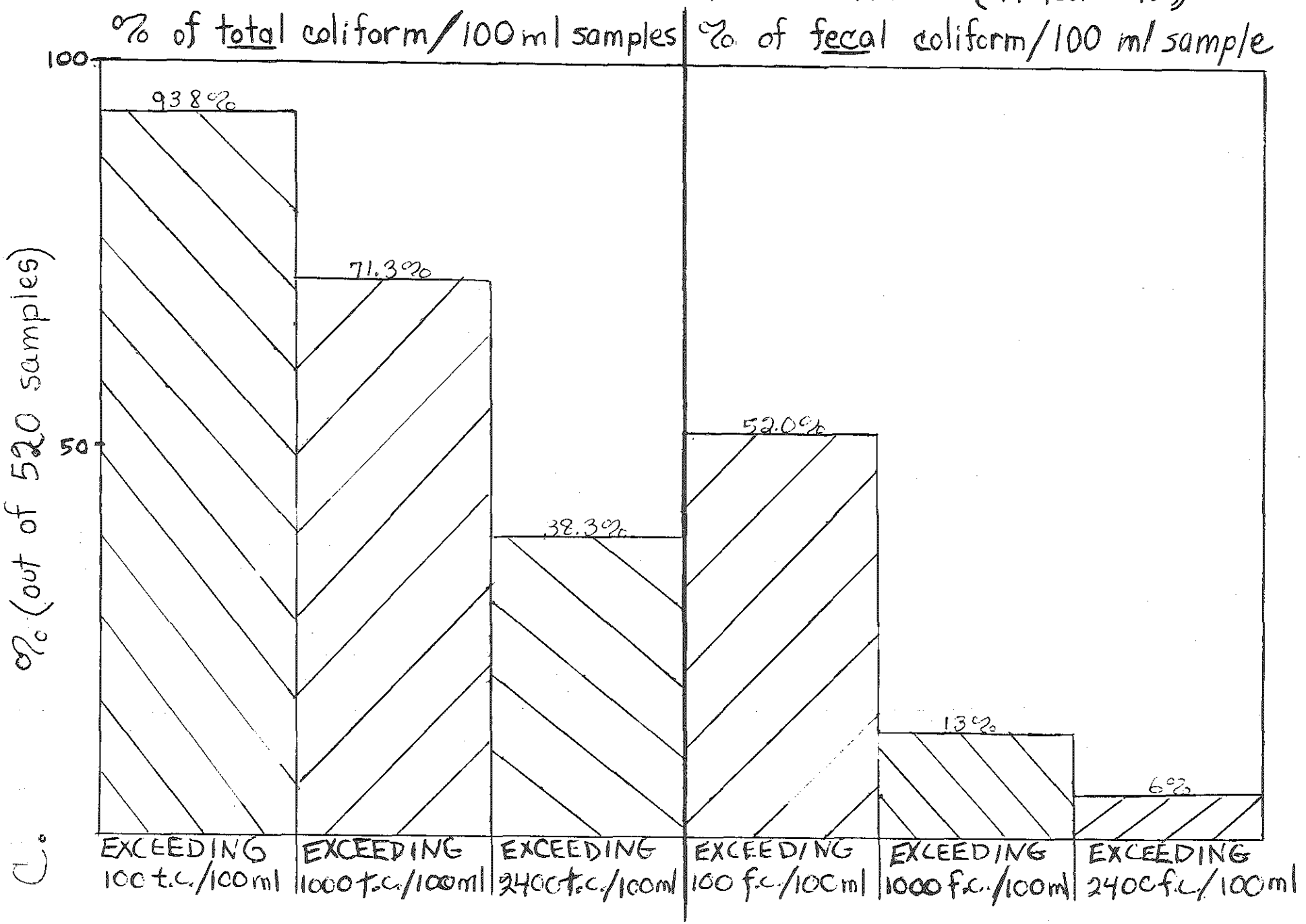


Figure 6. DO Profiles for an Effluent Standard of 10 mg/l NH_4-N and for Selected Percentages of the Measured Point-Source Ammonia Loading During Mid-August 1974. Flow and BOD Loading Held Constant at Observed Levels.

DEQ Basic Inventory Data on Willamette River 1975

TWELVE STATIONS (RM 96.1 – 7.0)



D.

The Value of Backwater Sloughs Along the Willamette and Other Main Rivers in Oregon

Prepared by Larry Bisbee
Staff Specialist - Warm-Water Game Fish
Department of Fish and Wildlife

The importance of backwater sloughs along the main rivers of Oregon cannot be over-emphasized. These backwater areas provide varied types of habitat for wildlife use and are of particular value in providing suitable habitat for an important segment of our fisheries resource - the warm-water species of game fish.

The warm-water or spiney-rayed species of game fish, as they are frequently called, live primarily in pond type situations where water movement is negligible and cover and food are abundant. In a river system this type of habitat is best duplicated in the many sloughs which lie adjacent to the main channels. The spiney-rayed fishes will live in a river-type habitat to some extent but if a choice in habitat is available, these fish prefer the sloughs.

In Oregon there are 14 species of spiney-rayed fishes which inhabit the slough areas. Species which may be found in the Willamette River sloughs are black crappie, white crappie, bluegill, brown bullhead, channel catfish, largemouth bass, smallmouth bass, pumpkinseed, warmouth, yellow bullhead, green sunfish, and shad. Columbia River sloughs are also inhabited periodically by juvenile sturgeon and salmonid species.

The sloughs play an important part in providing cover, spawning habitat, feeding and nursery areas for spiney-rayed fishes. They are also used as feeding areas by trout, juvenile sturgeon, and migrating salmon and steelhead smolts.

Sampling of the slough areas along the Willamette River between the mouth of the Yamhill River (River Mile 54.25) and Salem (River Mile 84.0) was completed in 1972. Gillnets and trapnets were used in the sampling. The resulting catch was comprised of 57 percent warm-water game fish and 43 percent rough fish. The total catch is summarized in Table 1. Similar sampling was completed in the backwater sloughs along the Columbia River between Knappa (Mile Post 27.0) and Hood River (Mile Post 168.0) in 1970 using gillnets. Sampling in 1975 in the Rooster Rock slough and Hood River areas was done with trapnet, gillnets and seining. The combined catch for the Columbia River sampling was comprised of 51.6 percent game fish and 48.4 percent rough fish. Eighteen species of game fish were represented in the catch. A summary of the total catch is presented in Table 2.

In summary, the slough areas along our major rivers are the primary habitat for warm-water game fish. They provide the areas where angling for these species occurs. Without the slough habitat, one major segment of our fishery resource would be seriously affected, particularly in NW Oregon.

TABLE A

BENEFICIAL USES TO BE PROTECTED

	Domestic Water Supply (1)	Industrial Water Supply (1)	Irrigation	Livestock Watering	Anadromous Fish Passage	Salmonid Fish Rearing	Salmonid Fish Spawning	Resident fish and other Aquatic life	Hunting and Wilflife	Fishing	Water Skiing & Swimming	Pleasure Boating	Aesthetic Qualities	Navigation
GOOSE LAKE				X		X		X	X	X	X	X	X	
GRANDE RONDE RIVER	X	X	X	X	X	X	X	X	X	X	X	X	X	
WALLA WALLA RIVER	X	X	X	X	X	X	X	X	X	X	X	X	X	
SNAKE RIVER	X	X	X	X	X(2)	X	X	X	X	X	X	X	X	
COLUMBIA RIVER	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KLAMATH RIVER														
(Klamath Lake to Keno Regulating Dam)	X(3)	X	X	X				X	X	X	X	X	X	
(Keno Regulating Dam to California Border)	X(3)	X	X	X		X	X	X	X	X	X	X	X	
WILLAMETTE RIVER														
(Mouth to Willamette Falls incl. Mult. Channel)	X(4)	X	X	X	X	X		X	X	X	X(5)	X	X	X
(Willamette Falls to Newberg)	X	X	X	X	X	X		X	X	X	X	X	X	X
(Newberg to Salem)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(Salem to Coast Fork)	X	X	X	X	X	X	X	X	X	X	X	X	X	
MARINE AND ESTUARINE		X			X	X		X	X	X	X	X	X	X

(1) With adequate pre-treatment
(2) Up to Oxbow Dam (River mile 273)
(3) By agreement of Klamath Compact Commission
(4) If no better source is reasonably attainable
(5) Not to conflict with commercial activities in Portland Harbor

Ammonia Data for Boise Cascade (Salem)

Sampled by	Date	NH_3-N	Flow	Lbs./day
DEQ	6-10-75 (spot check)	69 mg/l	14.8 MGD (weekly)	8,500
DEQ	8-13-75 (spot check)	87.5 mg/l	13.8 MGD	10,000
DEQ	8-27-75 (spot check)	76.0 mg/l	14.7 MGD	9,300
B.C.	9-9-75 weekly average	66.0 mg/l	14.8 MGD	8,100
B.C.	9-17-75 weekly average	69 mg/l	2.0 MGD (mill down)	1,100
B.C.	9-22-75 weekly average	70 mg/l	11.9 MGD	6,900
B.C.	9-29-75 weekly average	50 mg/l	17.6 MGD	7,300
B.C.	October	61 mg/l	15.0 MGD	7,600
B.C.	November	72.5 mg/l	15.0 MGD	9,100
B.C.	December	100 mg/l	13.0 MGD	10,800
B.C.	January	104 mg/l	14.0 MGD	12,100
B.C.	February	94 mg/l	15.0 MGD (estimated)	11,800

Nancy Wakefield: Audubon Society.

- ammonia discharge limit needs setting.

~~point source~~

- ammonia should be oxidized before discharge.

- nitrification studies
- lagoon improvements.

Andy Cavon -

- klebsiella bacteria are found about everywhere
  - there all over the place.

Dr. Westgarth study:

Dr. John Hatton:

Johnson, Brian:

What about study of ~~EPA federal~~

EPA funding.

OSPIRG
Oregon
Student
Public
Interest
Research
Group

400 Hughes Bldg.
115 S.W. Fourth Avenue
Portland, Oregon 97204
(503) 222-9641

Statement of Faye Baker

Before the ENVIRONMENTAL QUALITY COMMISSION

March 12, 1976

Boise Cascade's Salem Plant
Wastewater Discharge Permit

My name is Faye Baker. As an OSPIRG intern I have been researching Boise Cascade's wastewater discharge permit. I feel this permit has a number of inadequacies that should be dealt with by the Department of Environmental Quality. My concerns are the definition of the mixing zone, ammonia discharge to the river, temperature and flow modifications, and the possible health hazards stemming from the presence in the effluent of Klebsiella pneumonia, a type of colliform bacterium.

Ammonia

The ammonia discharge from Boise Cascade has been a major factor in lowering the dissolved oxygen level in the Newberg Pool stretch of the Willamette River. The ammonia problem is not directly addressed in the proposed permit beyond a requirement for a weekly test.

A U.S. Geological Survey study points out that during the summers of '73 and '74 Boise Cascade's large ammonia discharge of over 20,000 lbs./day was a major cause of dissolved oxygen depletion in the Newberg Pool.

Graphs A and B are taken from the U.S. Geological Survey study. These graphs show the benefits from reducing the ammonia discharge exceed the benefits of placing stricter controls on point-source carbonaceous discharges. The study points out the practicality of controlling one large source of oxygen demand, Boise Cascade's ammonia loading, as opposed to increasing the efficiency of BOD removal at the municipal sewage treatment plants.

Graph B establishes that the most important effect of D.O. depletion via nitrification occurs in the Newberg Pool region of the Willamette.

During the summer of '74 the ammonia discharge of 20,000 lbs./day contributed to bringing the dissolved oxygen level down to the state oxygen standard of 6 milligrams/liter at the Newberg Pool. In fact, according to the diurnal data collected by the USGS, the 6 milligrams/liter standard was regularly violated at night.

During the summer of 1975 Boise Cascade was able to maintain an ammonia discharge level of approximately 8,000 lbs./day by substituting lime for some of the ammonia previously used. Dave Rickert of U.S. Geological Survey has said that the data reveals "no significant oxygen depletion occurred as a result of Boise Cascade's ammonia discharge at that time."

The 1975 U.S. Geological Survey data establishes the assimilative capacity for the Newberg Pool in regard to ammonia. The river can assimilate 8,000 lbs./day, ~~limit~~ as it was accomplished during September 1975. However, the December, January, and February monitoring reports show that the discharge was over 10,000 lbs./day. An ammonia limit needs to be written into the permit to assure that the ammonia discharge will not increase back to the 1973-74 levels in the future.

In order to assure that the company complies with the proposed ammonia limit, the ammonia discharge would have to be tested more often. U.S. Geological Survey collected data on Boise Cascade's ammonia discharge, and significant daily fluctuations were detected. Dave Rickert of U.S. Geological Survey recommends that ammonia be tested "at least three times a day." A weekly grab sample of ammonia would fail to accurately reflect Boise Cascade's ammonia discharge.

OSPIRG recommends a limit of 8,000 lbs./day be established in

the permit. Also, the sampling of ammonia should be increased to three times a day to assure enforcement of the proposed ammonia limit.

OSPIRG recently learned that the DEQ staff report written for this hearing indicates that Boise Cascade has reduced its ammonia discharge to 6,000 lbs./day. However, data on Boise Cascade's ammonia discharge obtained from the DEQ, and verified by Boise Cascade on March 11th, indicate that the dicharge is much higher. The average ammonia discharge for the last three months - December, January, and February - was 11,400 lbs./day. Over the past six months, the ammonia discharge has been well over 6,000 lbs./day except when the plant has been shut down. The DEQ figures show, that for normal operation, the plant has increased its ammonia discharge by about 4,000 lbs./day since last September. (The DEQ ammonia discharge data for June 1975 to February 1976 is included in the accompanying table.)

Temperature

In special condition 7 the temperature limit will be increased from 75°F to 90°F, for cooling water that enters the Willamette Slough via Pringle Creek. The Slough is important to the ecology of the entire river sytem and needs more protection than given in the past.

OSPIRG recommends the permit also include a schedule of compliance for decreasing the thermal effluent as much as is necessary to protect aquatic life. The temperature modification on the permit should not be changed from 75°F to 90°F without completion of this study and a thorough analysis of the effects of temperature changes upon aquatic life.

I would like to bring the Commission's attention to the aerial

photograph of Boise Cascade's thermal plume. The temperature effluent effects the entire width of the creek and not just "a 10 ft. wide strip bordering the north shore."

Monitoring

The company should install more sophisticated monitoring equipment for its effluents.

The acid-plant effluent needs to be monitored very closely for pH and temperature. This is important in order to detect any damage to the river by an acid leak or increase in temperature.

Grab samples do not adequately represent effluent parameters. Large, daily fluctuations could occur and not be detected by a grab sample. Short-term fluctuations in water quality characteristics like temperature and pH can adversely effect aquatic life. Boise Cascade's temperature and pH should be monitored by continuous recorders.

Mixing Zone

OSPIRG understands that the DEQ has defined an interim mixing zone and will conduct a study this summer to define the permanent mixing zone. In order to protect the river habitat the biological consequences of mixing zones should be thoroughlyconsidered by the DEQ.

The Oregon Administrative Rules recognizes the need for defining the mixing biologically. They state "mixing zones shall be limited to that which in all probability, will not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and not adversely effect any other beneficial use disproportionately."

The Department of Environmental Quality should do much more biological monitoring and use this data to define the mixing zone.

Bacterial Contamination

Several years ago researchers found that pulp and paper effluents contain large numbers of Klebsiella pneumonia. Klebsiella pneumonia is a coliform bacterium which is capable of causing disease in man. Klebsiella are also included in fecal coliform counts.

There are two problems caused by Klebsiella contamination. One is the actual public health threat posed by the bacteria themselves. The other is that large numbers of Klebsiella from pulp mill effluents can mask the presence of fecal coliforms from more dangerous sources such as sewerage.

The Klebsiella pneumonia problem should be studied thoroughly. At very least, and particularly in light of the current widespread notion that the Willamette River has been cleaned up, the risk to swimmers and water skiers should be determined.

Eventually, the DEQ should insist that bacterial contaminants be removed from industrial effluents or that the effluents be sterilized

in some manner. OSPIRG is aware of the harmful effects of chlorination and would like to make clear that it is not supported as an option.

This testimony is documented and elaborated on in the written statement you have received. OSPIRG hopes that these recommendations will be seriously considered by the Environmental Quality Commission and that the Commission will direct the Department to include these recommendations in the permit. Thank you for your consideration in listening to this testimony. I would like to thank those staff members of the DEQ and Boise Cascade who helped me prepare this report.

Planning Implications of D.O. in Willamette River

A.

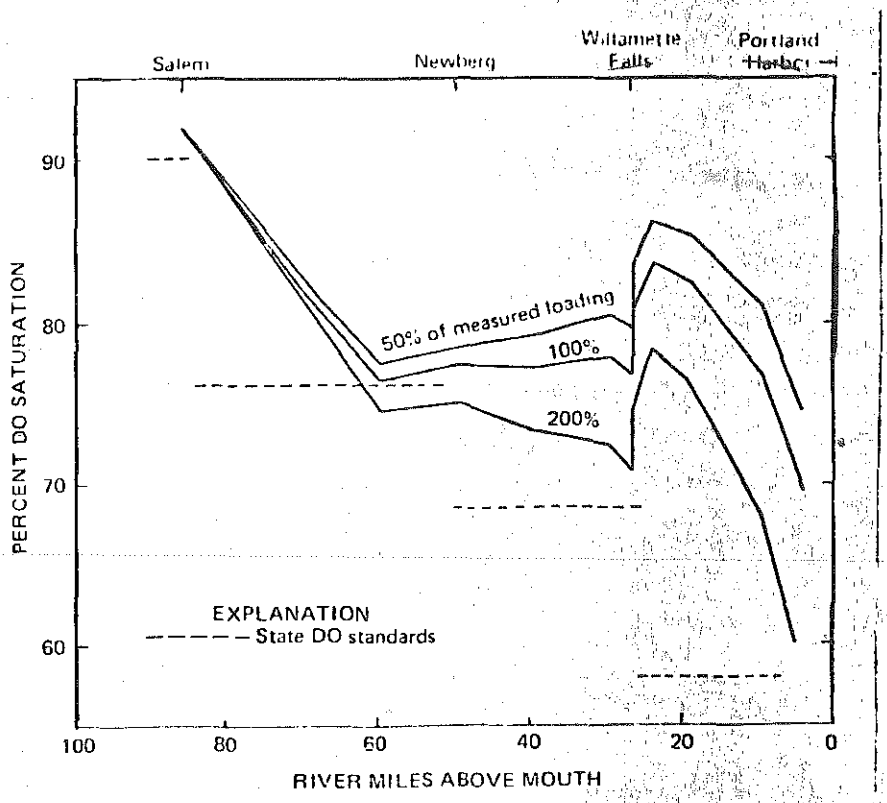


Figure 4. DO Profiles for Selected Percentages of the Measured Point-Source BOD Loading During Mid-August 1974. Flow and Ammonia Loading Held Constant at Observed Levels.

B.

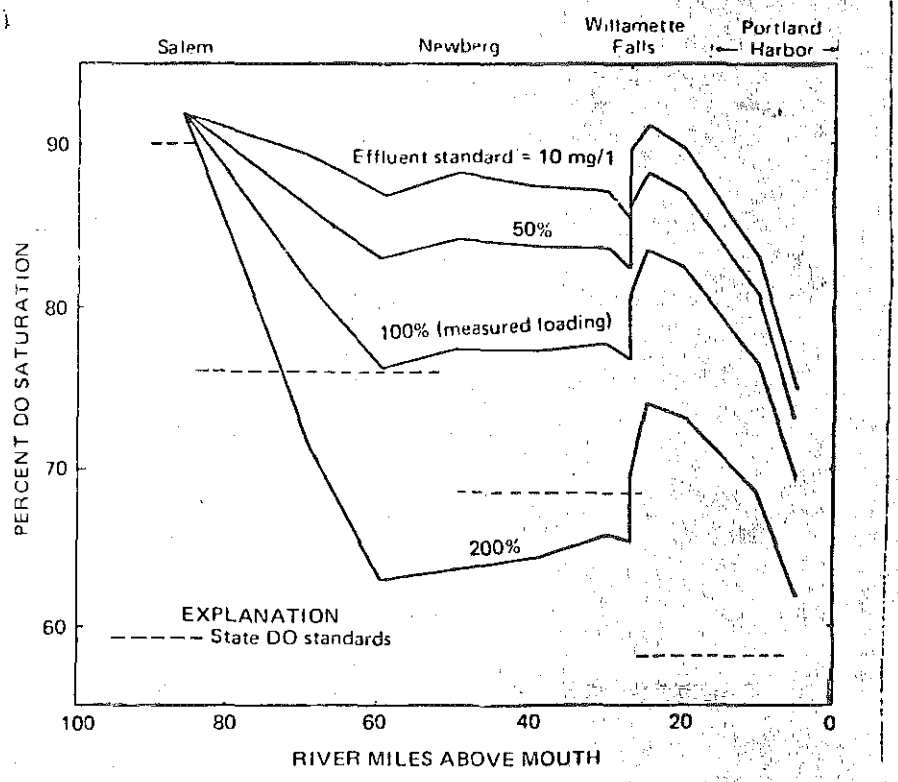


Figure 6. DO Profiles for an Effluent Standard of 10 mg/l NH_4-N and for Selected Percentages of the Measured Point-Source Ammonia Loading During Mid-August 1974. Flow and BOD Loading Held Constant at Observed Levels.

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B.C.	November 1975	72.5 mg/l	15.0 MGD	9,100
B.C.	December 1975	100 mg/l	13.0 MGD	10,800
B.C.	January 1976	104 mg/l	14.0 MGD	12,100
B.C.	February 1976	94 mg/l	15.0 MGD (estimated)	11,800

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

ROBERT W. STRAUB
GOVERNOR

February 10, 1976

Boise Cascade Corporation
Salem Sulfite Mill Operation
Post Office Box 2089
Salem, Oregon 97308

Attention: Mr. C. J. Fahlstrom, Resident Manager

Gentlemen:

Re: W.Q.-A.Q. - Boise Cascade, Salem
Marion County

This letter is to formally notify Boise Cascade Corporation that a hearing before the Environmental Quality Commission will be held to gather information concerning the Boise Cascade Salem Sulfite Mill and the following matters:

1. The proposed modification of the NPDES Waste Discharge Permit for the Boise Cascade Salem Sulfite Mill.

2. The request by Boise Cascade to begin use of the expanded pulping facilities at the Salem Mill.

The hearing will be held at 10:00 a.m. March 12, 1976, in Salem, Oregon at the Auditorium, Employment Building, 815 Union Street, N.E.

A copy of the public notice for the hearing is attached for your information. This notice will be published in both Salem newspapers on February 11, 1976. The notice has also been distributed to interested persons in the State.

If you have questions relative to this matter, please feel free to contact Mr. Dick Nichols in this office at 229-5374.

Very truly yours,

LOREN KRAMER
Director

E. J. Weathersbee
Administrator
Technical Programs Coordination

RJN:em

cc: Salem Regional Office - DEQ
Air Quality Control - DEQ
Peter McSwain - DEQ

DEPARTMENT OF ENVIRONMENTAL QUALITY

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

ROBERT W. STRAUB
GOVERNOR

NOTICE OF PUBLIC HEARING

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Date: FEB 0 6 1976

NPDES Permit Application No. OR-000084-1 Air Contaminant Permit No. 24-4171
File No. 9577 Application No. 352
County: Marion

N O T I C E

Public notice is hereby given that a public hearing will be held regarding Boise Cascade Corporation's Salem Sulfite Mill Operation in relation to the following matters:

1. A request for modification of a National Pollution Discharge Elimination System Permit to discharge pollutants into navigable waters pursuant to the provisions of Oregon Revised Statutes (ORS) 449.083 and the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, October 18, 1972.

2. A request for an Amendment to the Company's Air Contaminant Discharge Permit to allow for expanded production.

APPLICANT: Boise Cascade Corporation
Salem Sulfite Mill Operation
Post Office Box 2089
Salem, Oregon 97308

Boise Cascade Corporation owns and operates an ammonia-sulfite pulp and paper mill in Salem. The mill discharges treated process waste water to the Willamette River and filter backwash water and non-contact cooling water to Pringle Creek and Croisan Slough. Air contaminants are also discharged to the atmosphere from various operations at the mill site, the primary source being the recovery furnace used to recover spent cooking liquor. The waste water discharges and the Department's proposed determinations relative to the proposed NPDES permit modification have been previously described in a public notice issued October 16, 1975.

TIME AND PLACE OF HEARING

Auditorium, Employment Building
815 Union Street, N.E.
Salem, Oregon

10:00 a.m. Friday, March 12, 1976

Some of the issues to be considered at the hearing are:

(1) Are the proposed waste discharge permit effluent limitations adequate?

(2) Is the proposed allowable mixing zone too large and does it adversely affect any other beneficial use of the Willamette River disproportionately?

(3) Does the proposed permit require adequate safeguards to assure optimum reduction of pollutants discharged to the Willamette River?

(4) Are the Air Contaminant Discharge Permit limitations and conditions adequate?

(5) Should the company be allowed to operate the expanded production facilities?

All interested persons are invited to be present or to be represented to express their views on these and other issues relating to the matters stated herein. The hearing will be held before the Environmental Quality Commission and will be conducted in accordance with procedures specified in OAR-340-11-010 et.seq (Public Hearings.) Oral statements will be heard, but for the accuracy of the record all important testimony should be submitted in writing. Oral statements should summarize any extensive written material in the interest of time. The Commission reserves the right to limit the length of oral testimony. Written statements may be submitted to the Department in place of an oral statement. Such written statements must be submitted prior to the conclusion of the hearing and should be submitted to the Commission at the hearing or to the main office of the Department of Environmental Quality (the address is stated below.)

The applications, proposed permit conditions, related documents, files, submitted comments and other information are available for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m. weekdays at the main office of the Department of Environmental Quality, 1234 S.W. Morrison Street, Portland, Oregon 97205 (phone 229-5696), and at the Department's Regional Office, 796 Winter N. E., Salem (phone 378-8240.) A copying machine is available for use at the Portland office at a charge of $0.25 per copy sheet.

Please bring the foregoing to the attention of persons who you know would be interested in this matter.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: Russ Fetrow

Date: March 8, 1976

From: Pete McSwain

Subject:

Please bring this letter to the attention of the Commissioners when you present the agenda item on March 12, 1976. You might inform the Commissioners that this comment will be considered along with others in the general review of open burning rules for both the Portland and mid-Willamette valley areas.

MARION COUNTY

BOARD OF COMMISSIONERS

COURTHOUSE, SALEM, OREGON, 97301

COMMISSIONERS
Walter R. Heine, Chairman
Harry Carson, Jr.
Pat McCarthy

EXECUTIVE OFFICER
Bruce Prosser

LEGAL COUNSEL
Frank C. McKinney

TELEPHONE 588-5212
AREA CODE 503

March 3, 1976

Environmental Quality Commission
1234 S.W. Morrison Street
Portland, Oregon 97205

Dear Sirs:

The Marion County Board of Commissioners would like to express its position regarding Open Burning Rules, as discussed in the recent February 23, 1976 meeting held in Portland.

The Board feels it is absolutely essential that two two-month periods be set aside each year to allow residents to burn leaves and other yard clippings. We would suggest the following dates be considered: September 15 to November 15, and May 15 to July 15.

We appreciate this opportunity to state our opinion, and regret that we were unable to personally appear at the public hearing.

Sincerely,

BOARD OF COMMISSIONERS

Walter R. Heine
Chairman

WRH:if

cc: John Anderson

CHECKLIST FOR USE OF EMPLOYMENT DIVISION CONFERENCE ROOMS

We need your help. We're proud of our meeting facilities and are pleased we can make them available for your use. We've had some trouble with requests for services that we've neither the staff nor funding to provide. Would you please assist us by complying with the following items so that we can continue sharing our facilities.

A. ANNOUNCEMENTS TO BE MADE AT BEGINNING OF MEETING

- ☐ Messages may be called to 378-3015. They will be posted on a bulletin board between Rooms 101A and 101B. Someone should be appointed to check the board frequently throughout the day, as messages will not be delivered.
- ☐ Participants should use the pay phone located off the first floor lobby (directly north of elevators) to make necessary calls. Please do not ask to use phones in work areas.
- ☐ Parking
  - Street parking within two blocks of building is usually available.
  - A limited number of metered spaces in the building lot are available for short-term use and are monitored by police. Other spaces in the lot have been rented by Employment Division employees and are not to be used.
  - A limited number of parking permits for the "Green Lot" are available from General Services. Contact Judy Neperud at Ext. 4701.
- ☐ No food or beverages are to be taken into the Auditorium. Note: Coffee cannot be made outside the Auditorium; however, arrangements can be made to have cafeteria supply coffee by contacting Vicki Wulf at 585-2341.
- ☐ Uncovered food and beverages cannot be carried throughout the building. The cafeteria will supply covers upon request.
- ☐ Restrooms and drinking fountains are located north of elevators on each floor.
- ☐ Fire door in Room 101C may NOT be opened by order of Fire Marshall.
- ☐ The building cafeteria is quite small and barely accommodates building employees. To avoid overcrowding, we ask that you break for lunch at 11:30am.

B. AFTER THE MEETING

- ☐ Clean up the room.
  - ☐ Dispose of cups, plates, etc. (Empty leftover liquid into restroom basins before throwing cups in waste receptacles.)
  - ☐ Clean off blackboards.
  - ☐ Throw away papers and other materials left on tables, walls, etc.
  - ☐ Return borrowed equipment.
  - ☐ Damp wipe tables and chairs. Paper towels are available in the restrooms.
  - ☐ Replace furniture which has been moved by the user. (Note: Furniture can only be moved if prior authorized by Training and Career Development.)
- ☐ Return this checklist to the Training and Career Development Office (Room 101D).

I certify that I made the announcements listed in Section A and have cleaned up the conference room as stipulated in Section B.

Room # Used _____

Signature _____ Date _____

Office Address _____ Ext. No. _____

R-1/76

CONFERENCE ROOM INFORMATION

Employment Building
675 Union St., N.E., Salem

Conference rooms of the Employment Division may be reserved by other governmental agencies when there is no conflict with Division space requirements. Reservations will be taken up to 30 days in advance for rooms and 45 days in advance for the Auditorium. Phone 378-3015.

Each room has a specified number of chairs, tables and equipment (see reverse). We have no provisions nor staff to increase the furniture available. If you need audio/visual equipment, please make arrangements in advance. You are responsible to pick up and return equipment to the Training Office or designated storage area. You must also have an experienced person available to operate the equipment.

Please note the following information and advise your group participants of the appropriate items:

Parking
- Street parking within 2 blocks is usually available.
- A limited number of metered spaces in the building lot are available for short-term use and are monitored by police. Other spaces are rented out by ED employees and are not to be used.
- A limited number of parking permits for the "Green Lot" are available from General Services. Contact Judy Neperud at Ext. 4701.

Telephones
- Messages may be called to 378-3015. These will be posted on a bulletin board in the hallway between Rooms 101A and 101B. Someone should be appointed to check the board frequently throughout the day, as messages will not be delivered.
- Pay phone is located off the lobby directly north of elevators. Please do not ask to use phones in work areas.

Rest Rooms and Drinking Fountains
- Located north of elevators on each floor.

Coffee Breaks
- Arrangements may be made with the cafeteria manager, Vicki Wulf, 585-2341, to supply coffee.
- No beverages or food are to be taken into the Auditorium. The lobby may be used to serve coffee if the cafeteria provides it. Coffee may not be made there.

Lunch
- There is a cafeteria on the 3rd floor. To avoid overcrowding, meetings comprised of people who do not normally work in this building must break for lunch at 11:30.

Clean-Up
- Building janitorial service includes only ash trays, waste baskets and vacuuming.
- Users are responsible for:
  - Disposing of cups, plates, etc. (Empty leftover liquid into rest room basins before throwing cups in waste receptacles.)
  - Cleaning off blackboards.
  - Throwing away papers on tables, walls, etc.
  - Returning borrowed equipment.
  - Replacing furniture which has been moved by the user.
  - Damp wipe tables and chairs after meeting.

(over)

(R-12/75)

CONFERENCE ROOM FACILITIES

Auditorium
- seats 176, theatre style
- no public address system - acoustics are excellent
- no beverages or food in room - lobby may be used for coffee breaks
- 2 small 30"x40" tables on stage
- chairs on stage
- large table (30"x96") in lobby - may be moved into Auditorium by user but must be returned to lobby after use
- excellent lighting system

Room 311
22'x34'
- 2 large tables, each seats 10 people
- 3 smaller tables, each seats 6 or 7
- 20 arm chairs
- 15 miscellaneous chairs
- 1 easel with newsprint
- 1 blackboard
- directly opposite cafeteria
- lights cannot be turned off
- one window wall, north exposure, translucent drapes

Room 203
17'x27'
- table space and chairs for maximum of 20
- lights cannot be turned off
- easel with newsprint
- blackboard
- no windows

Room 101C
22'x26'
- on/off light switch
- 20 chairs
- 6 tables (36"x60")
- 2 window walls, lined drapes (north and east exposures)
- easel with newsprint
- blackboard

Room 101A
20'x20'
- on/off light switch
- 20 chairs
- 3 tables (34"x60")
- 1½ glass walls facing lobby, lined drapes
- easel with newsprint
- blackboard