

9/6/1967

OREGON STATE SANITARY  
AUTHORITY MEETING  
MATERIALS



State of Oregon  
Department of  
Environmental  
Quality

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AGENDA

State Sanitary Authority Meeting

10:00 a.m., September 6, 1967

Room 72, State Office Building, Portland

- A. Minutes of 117th (July 10, 1967) meeting.
- B. Project plans for May, June, July and August.
- C. American Can Company.

MINUTES OF THE 118th MEETING

of the

Oregon State Sanitary Authority  
September 6, 1967

The 118th meeting of the Oregon State Sanitary Authority was called to order by John D. Mosser, Chairman, at 10:05 a.m., September 6, 1967, in Room 72, State Office Building, Portland, Oregon. The members and staff present were: John D. Mosser, Chairman; Herman P. Meierjurgan, Edward C. Harms, Jr., B. A. McPhillips and Storrs Waterman, Members; Kenneth H. Spies, Secretary; John O. Denman, Legal Advisor; E. J. Weathersbee, Deputy State Sanitary Engineer; H. M. Patterson and H. E. Milliken, Assistant Chief Engineers; Fred M. Bolton and J. A. Jensen, District Engineers; Dr. Warren C. Westgarth, Laboratory Director; H. W. McKenzie, Associate Sanitary Engineer, Glen D. Carter, Aquatic Biologist; C. A. Ayer, Sanitary Engineer; and R. Bruce Snyder, Meteorologist.

MINUTES:

It was MOVED by Mr. Harms, seconded by Mr. McPhillips, and carried that the minutes of the July 24, 1967, meeting be approved.

PROJECT PLANS:

It was MOVED by Mr. McPhillips, seconded by Mr. Harms, and carried that the action taken on the following 110 project plans and engineering reports for water pollution control and the 27 project plans for air quality control for the months of May, June, July and August, 1967, be approved:

Water Pollution Control

<u>Date</u>	<u>Project</u>	<u>Location</u>	<u>Action</u>
5/4/67	Tigard	Farmers Ins. Co. Sewer	Prov. app.
5/5/67	Forest Grove	Elm Street Sewer	Prov. app.
5/5/67	N. Umpqua S.D.	N. Bank Intercenter & Pump Sta.	Prov. app.
5/8/67	Eugene	Valerie Park Sewers	Prov. app.
5/8/67	Cascade Locks	Preliminary Report	Prov. app.
5/9/67	Oak Lodge S.D.#2	Lateral 2C-0-11	Prov. app.
5/9/67	Portland (L-GL)	Change Order #3-Unit I Phase I	Approved
5/10/67	Amity	Sewerage facilities	Prov. app.
5/11/67	Twin Rocks S.D.	Engineering Report	Approved
5/11/67	Bay City	Engineering Report	Approved
5/12/67	Tigard	Burlwood III Sewers	Prov. app.
5/17/67	Clatskanie	Fourth St. sewers	Prov. app.
5/17/67	Gresham	NE 17th St. Sewer	Prov. app.
5/17/67	Bend	N. Pilot Butte Add. sewers	Prov. app.
5/17/67	Milwaukie	Chlorination Facilities	Prov. app.
5/18/67	Jacksonville	Oregon St. Extension	Prov. app.
5/18/67	Coos Bay	Thompson Road Area san. sewers	Prov. app.
5/19/67	Albany	So. Residential san. sewers	Prov. app.
5/22/67	Ontario	Engineering Report	Approved
5/22/67	Bandon	Engineering Report	Approved
5/23/67	Hayden Island	Sewage treatment plant	Prov. app.
5/25/67	Sherwood	Orcutt Place sewers	Prov. app.
5/25/67	Oak Lodge S.D. II	El Centro Way sewer	Prov. app.
5/25/67	Tigard	Phil Lewis School sewer	Prov. app.
5/25/67	Multnomah Co.	AP Industrial Park sewer	Prov. app.
5/25/67	Multnomah County	Della Rose Subd. sewers	Prov. app.
5/26/67	Gladstone	Pump station	Approved
5/29/67	Oregon City	Netzel Acres LID 28	Prov. app.
5/29/67	Coos Bay	Thompson Road Pump Station	Prov. app.
5/29/67	Willamette Basin	Revetment and weed control	Approved
5/31/67	Sheridan	Waste treatment	Prov. app.
5/31/67	Lebanon	West Side Interceptor	Prov. app.
6/5/67	Multnomah County	Rev. AP Industrial Park	Prov. app.
6/8/67	Halfway	Sewerage system	Prov. app.
6/8/67	Raleighwood S.D.	Lars Bong Lateral	Prov. app.
6/9/67	Oaklodge S. D.	Lateral 2A-7-10	Prov. app.
6/9/67	Forest Grove	Oxford Court sewers	Prov. app.
6/9/67	Sunset Valley S. D.	NW 119th Avenue sewers	Prov. app.
6/9/67	Oregon City	LID-30	Prov. app.
6/12/67	Tillamook	Engineering Report - STP	Prov. app.
6/13/67	Oakridge	Engineering Report - sewerage	Prov. app.
6/16/67	Jackson County	Bel Air Subd. sewerage	Prov. app.
6/16/67	Gresham	Force main Mt. Hood College	Prov. app.
6/16/67	Coos and Curry Co.	BLM Weed control	Remarks
6/20/67	Green San. Dist.	Sunnyslope Subd. sewer	Prov. app.
6/20/67	Salem	Oakleaf Terrace and Southwood Park sewers	Prov. app.

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
6/21/67	Eugene	Sewers	Prov. app.
6/21/67	Lake Oswego	LID 105 Stone Acres #3	Prov. app.
6/21/67	La Grande	Industrial Site lift Station	Prov. app.
6/21/67	Aloha San. Dist.	Green Tree Acres sewers	Prov. app.
6/22/67	West Slope S.D.	Laterals BR-2, BR-2-1, B-9-5	Prov. app.
7/3/67	Benton County	Skyline West sewage lagoon	Prov. app.
7/5/67	Monmouth	Gentle's Fourth Addn. sewers	Prov. app.
7/6/67	Multnomah Co.	Sewers-Strathmore Assessment Dist.#1	Prov. app.
7/7/67	Gresham	Dela Cruz Subd. sewers	Prov. app.
7/7/67	Pendleton	Relocation of water and sewer lines	Prov. app.
7/11/67	Multnomah Co.	Bevest Industrial Park sewers	Prov. app.
7/11/67	Oak Lodge	Sewer ext. Y, Y-1, Y-2	Prov. app.
7/11/67	Portland	Phase I Tunnel Portals L-GL sewers	Prov. app.
7/12/67	Whitford-McKay	Rosegarden and Rambler Subd. sewers	Prov. app.
7/12/67	Gresham	Sundown, NE 190 & 191st Streets	Prov. app.
7/14/67	Medford	Monterest Subd. sewers	Prov. app.
7/14/67	Jackson County	Bel Air Heights Subd. sewers	Prov. app.
7/18/67	Tigard	Pinebrook Interceptor	Prov. app.
7/17/67	Benton County	Skyline West sewers	Prov. app.
7/19/67	Oak Lodge #1	Lateral D-5-3 sewers	Prov. app.
7/19/67	Oak Lodge #2	Lateral C-10-5-5-C	Prov. app.
7/19/67	Oregon City	LID #31 sewers	Prov. app.
7/18/67	Union Creek Camp	Sewage treatment facilities	Prov. app.
7/19/67	Forest Grove	Cambridge Drive sewers	Prov. app.
7/19/67	Creswell	Mill St. & Art Lot Lane sewers	Prov. app.
7/19/67	Milwaukie	Natalie Addn. sewers Lateral B-2-4a	Prov. app.
7/20/67	Lebanon	Wynn ext. sewers	Prov. app.
7/20/67	St. Helens	Block 140 sewers	Prov. app.
7/20/67	Tillamook	Eastgate First Addition sewers	Prov. app.
7/20/67	Oak Hills	Ext. and pump station-O.H. #5	Prov. app.
7/25/67	Central Co. S.D.	Lancashire sewer district #2	Prov. app.
7/25/67	Multnomah Co.	Sewers-Tualatin Hts. Co. Serv. Dist.	Prov. app.
7/26/67	Hillsboro	Laterals-Baseline and Walnut St.	Prov. app.
7/26/67	Springfield	Mt. Vernon Elem. School sewers	Prov. app.
7/27/67	Somerset West	Parkview #2 sewers	Prov. app.
7/27/67	Canyonville	Airport Cafe Lateral sewer	Prov. app.
7/31/67	King City	Outfall line	Prov. app.
7/31/67	West Slope	East Beaverton Interceptor	Prov. app.
7/31/67	Port Orford	Sewers	Prov. app.
8/1/67	Brookings	Memory Lane pump sta. & interceptor	Prov. app.
8/1/67	Monroe	Sewerage system-	Prov. app.
8/7/67	McLaren School	Animal waste disposal	Prov. app.
8/8/67	Albany	S. Res. Ext. 16, Lat. A & B	Prov. app.
8/9/67	Goshen Elem. Sch.	Chlorination and effluent pump	Prov. app.
8/9/67	Sherwood	S.E. Highland Drive sewer	Prov. app.

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
8/10/67	Hillsboro	Rock Creek pump station	Prov. app.
8/10/67	S. Sub. San. Dist.	Ext. D-17-8 Climax St.	Prov. app.
8/10/67	Washington Co.	Union Oil Co. Sewer	Prov. app.
8/10/67	McMinnville	Divco-Wayne sewer	Prov. app.
8/10/67	Tektronix	Contact Chamber and dry beds	Prov. app.
8/14/67	Tolovana Park	Engineering Report	Approved
8/16/67	Mult. Co. Central	Sewage treatment plant	Prov. app.
8/16/67	Woodburn	Nazarene Dist. Center	Prov. app.
8/17/67	Salem	S. Salem relief sewer	Prov. app.
8/25/67	Beaverton	Westbrook sewers	Prov. app.
8/30/67	Klamath Falls	Unit 42 Eldorado	Prov. app.
8/30/67	Aloha San. Dist.	Southview Sewers	Prov. app.
8/30/67	Washington Co.	Rock Creek Subd. sewers	Prov. app.
8/31/67	Beaverton	S. E. Allen Ave. sewer district	Prov. app.
8/31/67	Springfield	Mains - sewer	Prov. app.
8/31/67	West Slope	Lateral L-5-1-1	Prov. app.
8/31/67	Beaverton	Murmuring Pines #2, Wilson Park #7	Prov. app.
8/31/67	Gresham	S. E. Metzger St. sewer	Prov. app.
8/31/67	Oak Lodge #1	Miniview Court-Greenvew Estates	Prov. app.

Air Quality Control

5/2/67	Eugene	Fox Hollow Elem. Sch. incinerator	Additional Info. Request ed
5/2/67	Salem	Mid-Willamette Valley APA Clean Air Act Project Grant Application #421	Approved
5/11/67	Sherwood	Frontier Leather Co. special waste incineration	Add. Info. requested
5/11/67	Sheridan	Wigwam waste burner installation	Cond. app.
5/17/67	Mt. Angel	Elementary School incinerator	Add. Info. requested
5/17/67	Ontario	Ontario Rendering Co. control of non-condensibile from cooker	Cond. app.
5/17/67	Clackamas Co.	Clackamas Middle Sch. incinerator	Add. Info. requested
5/17/67	Gresham	Union High Sch. incinerator	Change rec.
5/22/67	Corvallis	Forest Products Lab. Application for Solid Waste Grant for Timber Industries	Comments submitted

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
5/25/67	Central Point	Jr. High Sch. CR-200 incinerator	Cond. app.
5/31/67	Oregon City	Publishers' Paper Co. incinerator	Cond. app.
5/31/67	Ontario	Rendering Company resubmission	Cond. app.
6/8/67	Lane Co.	Cone Lumber Co. incinerator	Add. Info. requested
6/22/67	Halsey	American Can Co. prel. proposal	Under consid- eration
6/23/67	Hillsboro	Smith's Market incinerator	Cond. app.
6/23/67	Ashland	Walker Elem. Sch. incinerator	Cond. app.
6/26/67	Knappa	Hilda Lahti Elem. Sch. incinerator	Not app.
6/28/67	Warrenton	Northwest Aluminum Co. prel. proposal	Add. info. requested
7/6/67	Astoria	Jr. High Sch. incinerator	Add. info. requested
7/6/67	Corvallis	Forest Research Laboratory federal grant application	Comments submitted
7/19/67	Sherwood	Frontier Leather Pathological Incin.	Approved
7/21/67	Albany	Wah Chang Corporation	Cond. app.
7/31/67	Bend	Central Oregon College incinerator	Add. info. requested
8/14/67	Albany	Wah Chang Corporation scrubber	Under consid- eration
8/21/67	Halsey	American Can Co. proposal on Kraft pulp mill	Recommendations made
8/23/67	Wauna	Crown Zellerbach Oxidation and non-condensable systems	Cond. app.
8/31/67	Rockwood	Rockwood Alder School incinerator	Add. info. requested

LOWER WILLAMETTE

Mr. Mosser then stated he would like to take up the situation in the lower Portland Harbor although it was not on the agenda. He asked the secretary if he had a report on the present status of the fish run, the oxygen in the harbor and the steps that are being taken or should be taken in that respect.

The secretary explained that the hot weather that we have been experiencing here in the state of Oregon this summer has had some very serious effects upon water quality. As a result of the warm weather the temperature of the rivers and streams has been considerably higher than normal and because of this higher water temperature it has not been possible to improve materially the oxygen content. The DO for most of the summer in the Willamette River has been about the same as it was last year and occasionally it has been slightly lower in spite of the fact that the flow in the river has been slightly greater than it was a year ago and the pollution loads from the upstream cities and industries have been lower than last year. For example, during the second week in August reports indicated that the oxygen demand of the loads of the 7 pulp mills in the Willamette Basin was some 20,000 lbs less than for the corresponding week last year. Because of the combination of circumstances, the DO in the lower Portland Harbor has been running about 3 ppm whereas the standards that were adopted on July 1 of this year specify a minimum of 5 ppm. A communication from the Fish and Game Commissions last week requested that the Authority try to improve this situation due to the fact that it is the time of the year when the fall run of Chinook salmon should be migrating upstream.



Although the run is taking place in the main Columbia as has been proven by daily fish counts made at Bonneville Dam, so far no fish have been observed at the Willamette Falls in the Willamette River.

Mr. Carter then passed out to the members a summary of fish run data while the secretary added that in response to the communication from the Fish and Game Commissions he directed a letter to the Federal Water Pollution Control Administration asking them to support the Sanitary Authority in a request to the Corps of Engineers for an increase in the release of stored waters. As a result, the Army Engineers on September 5 agreed to release stored waters sufficient to maintain a low flow of 7500 cu.ft. per second at Salem. He said this would be an increase of more than 1500 cfs. He also pointed out that about 60% of the flow as measured at Salem has actually come from storage in the reservoirs.

Mr. Carter then explained that the main run of fish in the Columbia River the last of August and first week of September was Chinook Salmon. On September 4 and 5 more than 4,000 per day were counted at Bonneville. Since 1938 the run has peaked on an average about the 7th of September. He emphasized the point that high water quality must be maintained during the September period if we are to attract these fish. He said these fish will be peaking fast and if we are to get any of them started up the Willamette, we must improve the water quality immediately in order to attract them.

It was explained that it would take 7-8 days before the increased flow would get from the reservoirs down to the harbor although apparently there had been some additional releases for power generation over the week end as there already was an increased flow at Salem.

Mr. Kelly Conover of the Fish Commission then stated that from surveys made last year from the Molalla River to the Santiam it appears that the spawning occurred the first week in October and that since it is already the month of September he thought there could be no delay in getting the fish to their spawning grounds.

The secretary stated that as a result of the shutdown of the pulp mills over the Labor Day week end the DO at the first station below the falls had increased to over 8 ppm whereas previously it had been about 6 ppm. This increase was believed due to aeration of the water cascading over the falls.

Mr. Mosser then stated that in the river we have situations comparable to those in the forest and that there are times when we have to shut operations down in order to preserve our resources. He said he was not willing to cut off a lot of jobs and shut off production unless the people who are responsible for the affected resource are willing to take the positions that are necessary.

Mr. Conover then said it was the duty of the Fish Commission to see that these fish are taken care of adequately and therefore the Fish Commission would have to take the position of requesting a shutdown of the mills sufficient to improve water quality.

Mr. Harms stated that he thought perhaps 10 days would be a time to consider as that could include two week ends.

After further discussion it was MOVED by Mr. McPhillips, seconded by Mr. Meierjurgan and carried that based on present conditions the pulp mills at Oregon City and West Linn be requested to shut down immediately for 10 days with the provision that should in this 10-day period a sudden change in the weather or other factors result in improvement in the stream conditions the mills could be permitted to resume operations.

Mr. Mosser asked the secretary to notify the mills of this action and to keep the companies advised of the conditions of the river and the members informed.

AMERICAN CAN CO.

Mr. Mosser said that there had been numerous requests to postpone a decision on the proposal of the American Can Company to build a pulp mill at Halsey. If it would be of any purpose to delay he would be happy to do so but he didn't feel that the Authority would have any more information in a month or three months than it has today. He stated he had spent the entire time since the hearings going through all the exhibits, the many communications that had been given to him and discussing the matter with the staff. He then read a prepared statement which is attached to and made a part of these minutes.

The Chairman then called on Mr. Harms who said that he agreed with much of what Mr. Mosser had said. He then read his prepared statement and as a final comment said that he was going to vote "No" on the American Can Company proposal. His statement likewise is attached to and made a part of these minutes.

Mr. McPhillips said that he did not have a prepared statement but had listened with great interest to the Chairman's and Mr. Harms' statements. He said he also had studied all of the testimony that was presented in written form and listened to the many witnesses who took the time to come and appear before the Authority at the Eugene and Corvallis hearings. He reviewed briefly the situation as he had seen it for the more than 23 years that he has served on the Sanitary Authority. He said he felt a good deal

like Mr. Harms that we have almost reached the point of no return, giving full regard to the integrity of the American Can Company, the fact that we would have a new industry if a permit is granted which will boost our economy and will utilize our raw products but we must also think of the people who live here. He said he has spent his life in this valley and has seen the quality of the air and water depreciate year by year. He said because of the objectionable pollution caused by industry he was going to vote "No" on the proposal.

Mr. Meierjurgan said that he had no prepared statement either but that he spent a restless weekend studying the many pages of material and testimony that had been presented at the Eugene and Corvallis hearings. He said that he had given particularly close attention to the joint statement presented by the Fish and Game Commissions and that if he felt the proposed mill would in any way affect detrimentally the fishery resources of the Willamette he would be opposed to its construction. He said he was convinced that adequate controls could and would be provided to protect the water quality in the Willamette River. He expressed concern however about possible increases in nutrients. He also indicated that in his opinion industry should undertake aquatic research and that existing industry should clean up its pollution. After considering all of the letters and material presented he said that he was going to vote "For" the mill.

Mr. Waterman said he too had thoroughly examined and studied the staff report, the proposal of the American Can Company and all of the testimony that had been supplied by the people in the area involved. He stated

that he had the utmost confidence in the State Sanitary Authority staff and he thought that they had done a fine job in putting together their report and that he concurred with their recommendations. He said he readily understood the problems involved with controlling air pollution as opposed to the problems of controlling water pollution, and that air pollution was much more difficult. He felt that American Can Company is a responsible organization and will be a good industrial neighbor in the community. He stated that he had an obligation to take a very personal interest in the installation and operation and the results of the control equipment. He said that he was "For" the approval of the plans.

The Chairman then stated the consensus seems to be 3 to 2 in favor of the installation. In deference to the members who stated they were opposed he asked if they had any suggestions for additional controls or steps to be taken other than those outlined in his remarks.

Mr. Harms said the difficulty in this position is that there are no additional controls beyond those that the chairman had suggested, and that is one of the reasons why he had reached his conclusion.

Mr. McPhillips said he felt the same way as Mr. Harms. He pointed out that the controls we have thus far have not been effective. He said he hoped for the good of the country that more adequate controls are developed.

The Chairman said he felt very strongly that we should get on with the business of the establishment of air quality standards and not wait till the Federal Government tells us we have to do it. He pointed out it is a more difficult job than water quality standards because of the variety of emissions, the lack of information as to what goes into the air, how it mixes, etc.

It was MOVED by Mr. Mosser, seconded by Mr. Waterman and carried that the staff be instructed to start what undoubtedly would be a long and difficult task of developing air quality standards with perhaps priority given to problems of the kraft mills and considering the problems of the metal industries and all other sources of pollution.

In addition it was MOVED by Mr. Mosser, seconded by Mr. Waterman and carried that the staff be instructed to change its attitude to not concern itself with economic feasibility but instead to confine its study to technological feasibility, to bring to the Authority members the maximum recommendations, to let industry bring to the Authority members its problems and to let the members be the judge of where the balance lies.

It was MOVED by Mr. Mosser, seconded by Mr. Waterman and carried that as indicated in the staff report and with the qualifications in Mr. Mosser's statement and the research remarks of Mr. Meierjurgan, the Authority approve the preliminary water quality control plans and the proposed provisions of the water quality permit as outlined in the staff report for the American Can Company. Mr. Harms and Mr. McPhillips voted "No". Mr. Harms stated that he wanted to make clear as he has stated before that he had no objection to the company's water quality control plans and that he thinks they are excellent.

It was MOVED by Mr. Mosser, seconded by Mr. Waterman and carried that the company's proposal for air quality control be accepted with the understanding that the standards we propose to adopt will require all possible controls on the sulfide and mercaptan emissions and will involve the points raised in the staff report and in the Chairman's statement. Mr. Harms and Mr. McPhillips voted "No". Meeting adjourned at 11:50 a.m.

Respectfully submitted,

*Kenneth H. Spies*

OREGON STATE SANITARY AUTHORITY

Staff Report  
on American Can Co. proposal  
for Air and Water Quality Control at proposed Kraft Mill  
near Halsey, Oregon

August 21, 1967

INTRODUCTION

The American Can Company has submitted a proposal to the Oregon State Sanitary Authority for controlling the liquid and gaseous emissions from a proposed 300 tons per day bleached Kraft (sulfate process) pulp and paper mill which the company is seeking to build on a 1500 acre site located approximately two miles due west of the community of Halsey, Oregon.

The proposal was first submitted to the Sanitary Authority technical staff on June 22, 1967, and adjustments and clarification of details of the proposal have continued thereafter.

Primarily because it produces a stronger, more versatile pulp at lower cost, the kraft pulping process as proposed by the American Can Co. has become the dominant process nationwide for production of pulp and paper. In 1920 the total production of pulp in the United States was approximately 3.8 million tons annually of which approximately 4.5% was produced utilizing the kraft process. By 1966, nationwide production of paper pulp had risen to more than 35 million tons annually of which approximately 63% was produced by the kraft process.

Growth of the kraft process in Oregon has been similar to that experienced nationwide. In 1939, pulp production capacity in Oregon was approximately 575 tons per day of which 20% (120 T/D) was by the kraft process.

By 1966, pulp production in Oregon had risen to more than 4400 tons per day of which 78% (3400 T/D) was produced by the kraft process.

Kraft mills operating in Oregon at the present time include the following:

Boise Cascade Co. Mill at St. Helens - -	450 T/Day
currently expanding to - -	730 T/Day
Georgia Pacific Corporation, Toledo - -	830 T/Day
Western Kraft Corp., Albany - -	520 T/Day
Weyerhaeuser Paper Co., Springfield - -	1050 T/Day
International Paper Co., Gardiner - -	460 T/Day
Crown Zellerbach Corp., Wauna - - under initial operations	
that will soon reach a capacity of	750 T/Day

The production advantages of the kraft or sulfate pulping process are accompanied by a greatly reduced stream pollution potential over the sulfite process where chemical recovery of pulping chemicals is not practiced. The kraft process, however, does emit reduced sulfur compounds into the atmosphere which produce, even at extremely low concentrations, odors which are very unpleasant to most people. The odorous emissions can be minimized, however, by proper design, sizing and operation of production and control facilities. Discharges can be maintained well below levels considered to have any deleterious physiological effects on human, animal or plant life; however, technology to completely solve the odor problem is not presently known.



EVALUATION OF WATER QUALITY CONTROL FACILITIES

The American Can Company proposes to install essentially the same type of liquid waste control and treatment system that has proven successful at the Weyerhaeuser mill at Springfield, Oregon.

The principal features of the proposed system consist of the following:

1. Provisions to intercept and hold for later return to process, any slugs of strong wastes that may result from spills and equipment malfunctions.
2. Primary settling of the entire waste flow of 18 MGD, except for the 2 MGD first stage bleach wash water which experience has shown to be essentially free of settleable solids.
3. Secondary or biological treatment of all process wastes in a two-cell aerated stabilization basin which would be sized for a treatment period of 8 to 12 days at a flow rate of 18 MGD.
4. Final settling of all process waste waters, after biological treatment, to remove essentially all settleable solids.
5. Secondary biological treatment plus disinfection with chlorine of the sanitary sewage in a separate treatment facility.
6. Discharge of the treated effluents through a diffuser to the Willamette River.

It is the opinion of the staff that the preliminary proposal of the American Can Company contains all of the basic elements of a satisfactory treatment system based upon presently known treatment technology for Kraft mill wastes.

The proposed system should be capable of producing overall BOD reductions of 85 to 90%, with effluent characteristics within the limits stated in the American Can Company proposal, namely:

BOD	10-20 ppm
pH	6.5 to 8.5
Color	approximately 1500 units
Turbidity	35 to 75 JTU

The Willamette River in the area of the proposed mill is generally shallow and quite swift running with relatively few pool-like zones. The water is normally clear in appearance and aesthetically appealing. Excellent fish populations abound in the area and surveys indicate that it is an important and highly productive rearing ground for juvenile chinook salmon. The Oregon Fish and Game Commissions consider this reach of the river as prime potential spawning areas for fall chinook salmon. The city of Corvallis water intake is located approximately 12 miles downstream. It is therefore particularly important that this section of the river be kept as clean and free from pollution as possible.

The proposed rate of effluent discharge of 18 MGD and an assumed minimum river flow of 4000 cfs appear reasonable. These conditions would provide a minimum dilution factor or ratio of river flow to waste discharge of approximately 140 to 1 and would result in calculated changes in the river as follows:

An increase in BOD of 0.07 to 0.14 ppm

No change in pH

An increase in color of approximately 11 units

An increase in turbidity of approximately  $\frac{1}{2}$  unit.

The BOD is actually exerted over a period of several days and maximum depletion of dissolved oxygen that would occur in the river as a result of a 2500 #/day BOD discharge at the Halsey site was calculated to be 0.02 ppm which is well below the limits of detectability in the river.

Before the first paper machine could be placed in operation, estimated to be around December, 1968, reductions will be made in BOD discharges to the Willamette River at the Evans Products Corporation mill in Corvallis and the Crown Zellerbach pulp mill in Lebanon amounting to some 25,000 pounds per day. Further substantial BOD reductions entering the Willamette River system, for an overall total of almost 70,000 pounds per day, will be made prior to the projected startup of the proposed pulp mill, in July 1969.

Studies of the Weyerhaeuser waste control system at Springfield indicate that the proposed waste discharges would not produce a significant or measurable increase in the temperature of the river.

Experience and laboratory tests indicate also that the waste discharges, at minimum river dilutions, should have no discernible effect on the city of Corvallis water supply from the Willamette River. The color which would be added should not be apparent, and would be expected to be removed in the normal water purification process.

It is, therefore, concluded that the liquid wastes, after proper control and treatment in the manner proposed by the American Can Company, could be assimilated by the Willamette River without violating water quality standards which the Sanitary Authority has established to protect the beneficial uses and values of the Willamette River.

Recommendations Relative to Water Quality Control

If the American Can Company proposal for control of liquid effluents is to be approved, it is recommended that such approval be only tentative and subject to final approval of detailed plans and specifications for all liquid waste control and treatment facilities, and further that liquid waste discharge conditions be imposed as follows:

1. The average normal process waste discharge shall not exceed 18 MGD.
2. The pH of the combined waste discharges shall not be outside the range of 6 to 9.
3. Turbidity of the waste discharges shall not exceed 100 JTU.
4. The average color of the waste discharges shall not exceed 1500 color units.
5. The 5-day, 20<sup>o</sup> C. BOD discharges to the river shall not exceed 2500 lb/day. This BOD limit shall apply only during periods of low river flow; however, all waste control and treatment facilities shall be operated at maximum efficiency throughout the year.
6. The waste discharges shall be essentially free of settleable solids.
7. Sufficient bioassays shall be run to demonstrate that no statistically significant mortality of salmonid fingerlings will occur in a 96-hour bioassay using a 65% concentration of effluent.
8. Waste handling and discharges shall be controlled in such manner so as not to cause pollution of groundwater, or water quality standards applicable to the Willamette River to be violated.
9. The company shall effectively monitor its waste discharges and submit such data to the Sanitary Authority as may be reasonably required to demonstrate continued compliance with the imposed waste discharge conditions.

EVALUATION OF AIR QUALITY CONTROL FACILITIES

The air quality problems associated with kraft pulp mills are related to emission of particulates, malodorous gases, and water vapor. In general, quantities of malodorous gases emitted into the atmosphere from kraft pulp mills are related to mill capacity, that is, the larger the mill, the greater the emissions; however, this is not necessarily true for mills that have expanded or have been constructed using the latest and best known control techniques. For example, for the Weyerhaeuser Company at Springfield, emissions of sulfurous gases per ton of pulp produced have been reported on expanded or new facilities as from 1/4 to 1/8 of that reported on the old facilities.

In addition to installed control facilities, emission of gaseous components in part depend upon the operating characteristics of each mill. The staff has gathered emission data from other Oregon kraft mills, from the National Council for Stream Improvement, the Public Health Service, and literature review for comparison with the emissions estimated for the American Can Company mill.

American Can Company proposes to install all presently known technically feasible controls and to operate the facilities in a manner to minimize emissions. The gaseous sulfur emissions to the atmosphere per ton of pulp production as predicted by the company are lower than those reported for any Oregon kraft mill. Because of the relatively small size of the proposed mill (300 T/Day) and the advanced nature of the controls being proposed, the total emissions of hydrogen sulfide and methyl mercaptan are estimated to be less than  $\frac{1}{2}$  the average total emissions at other Oregon kraft mills.

Particulate Emissions

Major sources of particulate emissions in a kraft mill are the recovery furnace, the lime kiln and the smelt tank. On an uncontrolled mill, it is expected that particulate emissions might be 55% from the recovery furnace, 38% from the lime kiln and 7% from the smelt tank.

The recovery furnace emission will be controlled by electrostatic precipitators with guaranteed efficiency of 99% removal at an inlet loading of 1-3 grains of salt cake ( $\text{Na}_2\text{SO}_4$ ) per cubic foot of gases.

The lime kiln emission will be controlled by a venturi scrubber of a type which has proven successful at other plants, with an expected efficiency of greater than 99%.

The smelt tank emissions which are a less significant source of particulates will be controlled by a scrubber.

The staff has requested that monitoring equipment be placed on the electrostatic precipitator effluent to sound an alarm in case of excessive emissions due to reduced collection efficiency caused by power or equipment failure.

Other Oregon kraft mills are controlling particulates from the recovery furnace by less efficient precipitators, venturi scrubbers, and one mill by precipitators and scrubbers.

In the judgment of the staff, the approach to control of particulates proposed by American Can Company is as good as is available, and will provide effective control of particulates relating to particle fallout and suspended particulate matter.

### Gaseous Emissions

Malodors are caused by the emission of reduced sulfur compounds in gaseous form. Major sources of gaseous sulfur emissions are the recovery furnace, evaporators, and the blow and relief gases from the digester.

The recovery furnace is by far the largest source of kraft mill odors. It is also important to the economy of the kraft process. Instead of discharging the pulping chemicals and the organic materials dissolved out of the wood chips in the cooking process into the river as is often done in the sulfite process, the so called black liquor from the kraft or sulfate process is sprayed into the furnace and burned to recover heat and re-usable chemicals. Even with the best of equipment, controls, and operation some odorous gases will escape. Malodors from the recovery furnace can be greatly minimized, however, by operating the furnace at or below design loading, by maintaining a proper balance of oxygen and combustibles in the furnace, and by completely oxidizing the sulfurous compounds in the black liquor before it is injected into the furnace.

The recovery furnace, as proposed, will be designed for 400 T/Day for a proposed actual pulp production of 300 T/Day, and black liquor oxidation will be practiced with a guarantee of 99% oxidation efficiency. It is extremely important from the standpoint of odor control that the recovery furnace and black liquor oxidation facilities are not overloaded.

Digester blow and relief gases and hot-well gases which are the other significant sources will be condensed and the non-condensable portion of these gases will be burned in the lime kiln. The combustion of these gases in the lime kiln is a proven procedure and is generally accepted as the best available method of control.

Less significant gaseous sources including the pulp washer, condensates from the evaporator, dissolving tank, and bleach plant will be collected and treated.

In the judgment of the staff the controls proposed for gaseous emissions include all of those known to be technically feasible. Control of emissions from the oxidation tower has not been proposed, and at the present time the staff does not have an evaluation of the magnitude of these emissions or the feasibility of controlling them. This matter will be given additional study and controls will be required if control is found to be feasible.

#### Field Experience

With all of the proposed control systems operating at maximum efficiency, odorous gases will still escape. Kraft type odors will be detected adjacent to and at varying distances from the plant under varying meteorological conditions.

Some of the sulfurous gases emitted from a kraft pulp mill are detectable at concentrations of one to 10 parts per billion parts of air.

Field experience with other kraft mills has shown downwind concentrations to vary markedly with source strength and meteorological conditions. In general field experience can be summarized as follows:

Field odor surveys have shown that kraft odors from the Western Kraft Corporation plant can be detected at the definite or No. 2 level consistently 3 to 4 miles from the plant. Odors have been reported at the threshold (No.1) level as far as 10 to 25 miles from the Western Kraft plant.



Kraft type odors from the Weyerhaeuser Company mill in Springfield have been commonly detected at the definite level (No. 2) at a distance of 6 miles and strong odors (No. 3) are frequently detected at 2 and 3 miles from the plant. Threshold (No. 1) values have been infrequently reported from 12 to 20 miles from the plant. Little continuous information is available on International Paper Company in Gardiner; however, threshold levels (No. 1) have been reported as far as 31 miles from the plant. It has been reported also that an occasional strong west wind brings threshold odors (No. 1) from Georgia-Pacific Corporation in Toledo to Corvallis some 38 miles away.

#### Staff Studies

To predict the frequency and extent of expected odor travel, meteorological data were gathered and empirical diffusion equations were applied to gaseous emissions estimated for the proposed Halsey mill. The Salem weather data for winds aloft for 8 years and the Eugene data for 16 years were summarized and used in the prediction studies. Low speed wind direction data from Salem and Eugene for  $4\frac{1}{2}$  years ending June 1967, were used to predict frequency of occurrences. The application of empirical equations to the solution of diffusion problems involves a number of assumptions and some degree of objective judgment. These equations do not consider any process other than diffusion. The effects of such phenomena as combining, oxidation, absorption, washout, topographic channeling or synergistic effects which might effect the concentration of materials once emitted to the atmosphere are not possible to predict.

The staff studies show that highest concentrations of sulfurous gases (hydrogen sulfide and mercaptans) will occur under meteorological conditions which produce fumigation. Fumigation usually results from solar heating of lower layers of the atmosphere.

When the heated layer is deep enough to reach the plume, thermal turbulence will bring high concentrations to the ground along the full length of the plume. This condition is favored by clear skies and light winds and is apt to occur more frequently in early morning during the summer months.

Meteorological conditions causing fumigation are usually of a localized nature and the frequency of occurrence cannot be reasonably estimated. Under fumigation conditions, threshold odors (just detectible odor levels) of hydrogen sulfide and mercaptan would be expected to occur throughout the fumigated area.

The studies also show that significant levels of sulfurous compounds would occur only at low wind speeds (0-5 miles per hour). Winds in this speed class prevail toward Albany 15 days/year, toward Corvallis 17 days per year, and toward Eugene 27 days per year.

Based upon the staff study it appears that winds of the right speed and direction will combine with sufficiently high values of stack emissions to cause persistent threshold odor concentrations at ground level in Albany and Corvallis from 2 to 8 days per year and in Eugene from 0 to 3 days per year.

However, it is emphasized that these are indicative of the number of full days per year that the cities would be affected, and that there will undoubtedly be portions of other days when the wind speed and direction are such that concentrations at or above threshold may be experienced for shorter periods.

### Reduced Visibility

There is no reliable method of precisely predicting the effects of the proposed mill on area visibility. The primary effects may be expected to be due to the addition of condensation nuclei and release of water vapor to the area atmosphere. Studies have shown that reduced visibility occurs over metropolitan areas or major air pollution sources but direct correlations between emissions, ambient air measurements and visibility have not been possible. Examples of particulate emissions which may significantly affect visibility at considerable distances from their source, but which may not be accompanied by proportionate increases in particulates as detected by sampling equipment, are those from field and slash burning and from forest fires.

Reduced visibility due to condensed water in emissions from the mill may be expected periodically in the immediate vicinity of the mill and predominately in the fall and winter months. It is not expected that this will seriously affect the community of Halsey or highway I-5.

The particulate matter in the mill's recovery furnace emissions will also contribute to reduced visibility in the valley, but the magnitude of this contribution likewise cannot be quantitatively assessed.

### Conclusions Relative to Air Quality Control

1. The staff concludes that the systems as proposed for controlling total particulates are capable of being installed and operated in a manner such that Sanitary Authority regulations pertaining to particle fallout rate, suspended particulate matter and lime dust will not be exceeded.

2. Visible emissions will be present and the emissions can be expected to combine with presently existing sources and somewhat reduce visibility in the valley. The degree will vary with atmospheric conditions, but visible emissions will be predominately in the form of water vapor from pulp dryer vents, scrubbers, water vapor in the recovery stack, etc.

3. Some effect upon area visibility by particulates and water vapor will occur but the extent of carry, frequency and time of occurrence, and persistence cannot be accurately assessed. General overall improvement in area visibility should be possible in time by requiring the best possible controls for all presently existing sources as well as for all new sources that might be added.

4. Gaseous sulfur-bearing compounds having an extremely low threshold odor level will be emitted, although the control systems as proposed will minimize these emissions. It is the opinion of the staff that after a reasonable start up period to provide time for proper adjustment of production facilities and to gain experience in operating the control facilities, the projected hydrogen sulfide emissions can be kept at or below 2 lbs/T of pulp.

5. Odors at threshold levels and above will almost always be discernible adjacent to the plant site in the downwind direction. The perimeter and distance that odors will be perceived and their frequency will depend upon wind direction and other meteorological factors and can only be estimated. American Can Company consultants and the Sanitary Authority staff projected frequency of occurrence and odor travel to more distant cities of Corvallis, Albany and Eugene using slightly different approaches. The ranges of days, within limitations of data and available means to project odor levels from both studies indicate that Corvallis and Albany may be affected for periods of from 2 to 10 days per year and Eugene from 0 to 3 days per year.

Recommendations Relative to Air Quality Control

If the American Can Co. proposal for control of air polluting emissions is to be approved, it is recommended that such approval be conditional to final approval of detailed plans and specifications for all facilities related to the control of atmospheric pollutants, and that further conditions relating to the control of air pollution be imposed as follows:

1. Approval of the proposed facilities be given specifically for an average production not to exceed 300 BDT/Day of bleached Kraft pulp until such time that it may be demonstrated that emissions into the atmosphere can be effectively controlled at that level and application has been made and approval granted for operation at a higher level.
2. As soon as the pulp mill is in normal operation, stack emission tests shall be completed and data submitted to the Sanitary Authority so that predicted and actual emissions can be compared. These tests shall include measurements of black liquor oxidation and electrostatic precipitator efficiencies.
3. Monthly reports shall be submitted covering production, sulfidity of cooking liquor, sodium sulfide concentration in black liquor both before and after oxidation, routine monitoring results of excess oxygen, sulfur compounds, and particulate in the flue gas, and upon request precipitator efficiency.
4. The Sanitary Authority shall be notified immediately of equipment breakdown or malfunction that is likely to result in an increased emission of air pollutants, further that a program of corrective action will follow which may involve production curtailment or shutdown, if necessary, to prevent widespread or excessive air pollution.

For release Wednesday, September 6, 1967

STATEMENT BY EDWARD C. HARMS, JR.  
Member, Oregon State Sanitary Authority

In arriving at my conclusion as to how I should cast my vote on the issue of approval of plans submitted by American Can Company for a proposed Kraft pulp mill in the Halsey area, I have carefully examined all evidence available to us, including thoughtful consideration of almost thirteen hours of statements by the public, as I am sure other members of this Authority have also done.

The issue requires a balancing, a delicate balancing, of what each of us perceives to be the public interest.

ORS 449.765 provides: (Re: Air Pollution)

"In the interest of the public health and welfare of the people, it is declared to be the public policy of the State of Oregon to maintain such a reasonable degree of purity of the air resources of the State to the end that the least possible injury should be done to human, plant or animal life or to property and to maintain public enjoyment of the State's natural resources and consistent with the economic and industrial well being of the State..."  
(underlines mine)

I have attempted to make a judgment consistent with that declared public policy.

I am not swayed by obtuse legal arguments which relate to the establishment of standards as contained in ORS 449.785 which we heard at such great length in Eugene. We are not concerned with the establishment of standards but rather with approval or disapproval of plans which may or may not comply with air purity

standards which may in the future be adopted for this area. Nonetheless, I am convinced that the Sanitary Authority has given consideration to and taken into account the available facts concerning all of those items listed in that statute relating to standards in considering the matter now before it.

Certainly it is not required that the Staff make formal findings and report on those matters apparent to all those who have eyes to see.

For example, it does not require an economist to determine that a new manufacturing industry employing 450 persons and requiring a capital investment of \$40 million is of some economic benefit to the area and the State.

I would like to compliment the people of the area on their interest in this matter of great public concern, as evidenced by the attendance at the Eugene and Corvallis public hearings. Obviously a great deal of thoughtful consideration had been given to many of the presentations made to us and I think particular recognition should be made to the Citizens for Clean Environment group in Corvallis for the comprehensive study which they have made of the problem. Since all pollution is in one way or another caused by people, it is only by such public interest that our problems in the area of water and air pollution may be solved in the future.

I must, however, also comment that I noted at the hearing what I felt was a distressing tendency on the part of many of our citizens to attribute to all those of differing view, ig-

ignorance or bad faith, or both; an assumption that no one was interested in the public good except themselves and those agreeing with them without reservation; and implying that the applicant and the Sanitary Authority Staff were guilty of incompetence at the least.

I reject all such implications and assumptions categorically, and my own opinion shortly to be expressed is not to be construed as even the slightest agreement with such non-thinking.

I believe that the American Can Company's plans for both air and water pollution control are the best, or very nearly so, that can be devised within the practical and economic limits of present technology.

I am satisfied with their plans for water pollution control and would vote for approval if that was all that was involved. I believe the staff report is complete and contains all information necessary to reaching a decision. My own conclusion is based upon it, not upon a rejection of it.

The Staff points out, in the field of air pollution, numerous difficulties, as for example on page 10:

"Odorous gases will still escape. Kraft type odors will be detected adjacent to and at varying distances from the plant under varying meteorological conditions..."

The Staff further states on page 11:

"The effects of such phenomena<sup>as</sup> combining, oxidation, absorption, wash-out, topographic channeling or synergistic effects which might effect the concentration of materials once emitted to the atmosphere are not possible to predict."

On page 14 we read that "visible emissions will be present and these emissions can be expected to combine with the presently existing sources and somewhat reduce visibility in the valley."



In reference to odors, the Staff stated that "the perimeters and distance that odors will be perceived and their frequency will depend upon wind direction and other meteorological factors and can only be estimated." It is important to emphasize that the Staff did not necessarily recommend approval of American Can Company's plans. The Staff merely recited facts and stated if the plans are approved, certain conditions should be imposed. These facts are known to us:

(1) From observation on Tuesday, August 29, it is apparent that a considerable air pollution problem already exists in the valley, particularly in the summer months.

(2) If this plant is allowed, there will be odor of varying intensity and distances from the plant. (The extent of both the intensity and distances may be debated--the important fact is that it will exist.)

(3) Visibility will be reduced even further in the valley.

Further, we have the unknown factor as to what the effect may be when the known additional pollutants from this plant, however minimal, are combined with existing air pollution sources.

Certainly, it is reasonable to expect that the condition and quality of air in the upper valley will further deteriorate.

Considering these matters, I cannot in good conscience, as a resident of the area, beneficiary of its advantages, and sufferer of its disadvantages vote to approve another significant air pollution source in this area.

The fact is that we cannot keep adding more wastes into the air in an already pollution saturated air-shed, highly prone to

inversion conditions. My witness is the past summer in particular and the noticeable progressive deterioration of air quality in the past several years, especially the last two or three.

It is said that "Man lives in delicate equilibrium with the biosphere on the precious earth-crust, using and re-using the waters, drawing breath from the shallow sea of air. While these can cleanse themselves, they can only do so to a finite point. That point is being reached and passed in many places in the United States." (A Strategy for a Livable Environment, A Report to the Secretary of Health, Education and Welfare by the Task Force on Environmental Health and Related Problems, June, 1967). I believe that we have reached that point and are on the brink of passing it in our Willamette Valley.

We have not reached that point where the air is actually dangerous to health; however, we are treading on the thin edge, in my opinion. An individually acceptable amount of water pollution, added to a tolerable amount of air pollution, added to a bearable amount of noise and congestion can produce a totally unacceptable health environment. Health experts have repeatedly pointed out that grave, delayed physical manifestations can result from repeated exposure to concentrations of environmental pollutants so small that they do not make one ill enough to send him to the doctor. Knowing that we already face grave problems, I am unwilling to take that risk in the Willamette Valley until some of the existing pollution is eliminated or until technology advances to reduce the risk of Kraft pulp mills as a pollution source.

Economics deter us from eliminating many existing sources,

industrial and private, and it would not make sense to me to shut down existing industries to make way for new ones or to find that we might have to shut them all down because we have placed that final disastrous overload on our natural environment. It is better to face the issue now to prevent the condition from becoming worse.

I recognize, as stated at the outset, that the matter requires a delicate balancing of the public interests; of economic advancement versus our greatest and most essential natural resource, the very air we breathe. Reasonable men may differ as to the conclusion. For myself, I must decide in favor of attempting to preserve what is left of our environment in a safe, if not pure, (for that is long gone) condition. If, in the next few years, technology advances to where the air pollution can be further reduced from Kraft mills, then this technology should be applied to existing mills and required of them by this Authority, or, when field burning can economically be eliminated without undue hardship on agriculture; or, if new developments allow reductions by auto and other private sources, then and only then should new pulp mills be allowed in the valley. I think under present conditions we cannot impose this additional burden on the atmosphere, and on the people and industries presently dependent upon it.

This does not mean no new industry for the valley, so far as I am concerned. It does mean that I do not believe that the air in the valley can take this industry at this time.

I am therefore compelled to vote in opposition to approval of the proposed plans.

EDWARD C. HARMS, JR.  
Member, Oregon State Sanitary Authority

STATEMENT BY JOHN D. MOSSER  
Chairman, Oregon State Sanitary Authority  
September 6, 1967

A chairman may sit back and wait for others to make motions and then vote only in the event it is necessary to break a tie. There may be times when I shall exercise those options; but this is not one.

As a new member of the Authority acting on a major application under revised laws not yet generally understood, it seems appropriate that I should give a full expression of my views. Although speaking with so little experience will undoubtedly expose my ignorance, it has seemed to me that this statement would better serve the public who will be regulated or affected by this and future decisions, the staff working for the Authority, and the Governor who appointed me, than a simple "yes" or "no" or even silence in these circumstances.

Before discussing the water and air quality details of the proposal, I would like to interject a comment on our procedure in this case.

#### THE HEARINGS

The Authority felt this proposal of sufficient importance to warrant advance publicity of it and the staff analysis of it as well as the holding of hearings to secure public comment, although the law apparently requires none of these procedures in advance of action.

The great interest in the hearings is most encouraging, for public support is essential if we are to control and reduce pollution.

Even more important was the quality of much of the testimony. I would particularly commend the Citizens for a Clean Environment, whose analysis of the proposal is thorough, professional and constructive. They reinforce

my already stated belief that by utilizing informed and willing volunteers we may greatly expand the progress that has been possible with the efforts of only a small full-time staff.

We shall continue to try to provide a maximum of public information and to work cooperatively with all who are willing to devote time and talent to the goal of clean air and water. Hopefully, better planning in the future will eliminate the inconvenience suffered by many members of the public who had to stand for hours through the hearings in Eugene. I apologize to them for those conditions.

#### WATER POLLUTION CONTROL

The water pollution laws of Oregon were greatly strengthened by the last Legislature. Significant discharge of wastes into any state waters without a permit or in violation of its conditions is prohibited after January 1, 1968. Any pollution harmful to beneficial uses is prohibited.

Not only are the requirements stringent but enforcement means are expanded. Plans for construction of pollution treatment facilities must be approved. Conditions may be attached to the required waste discharge permits. Injunction or abatement suits brought by the Authority are to receive priority in the courts. The State may sue for damage to fish and wildlife and their habitat as well as seeking criminal penalties.

The law does not require, however, that there be no waste discharges or that water taken from a river be returned unchanged. The Willamette Greenway Association and several individuals testified or wrote that such standards should be adopted by the Sanitary Authority. I do not believe

the law authorizes us to do so. And if we could, the only means I would know for enforcing them would be to require the people of Oregon to leave the State.

The Sanitary Authority has adopted general water quality standards for all of the waters of the State including the Willamette River. These have won praise from Federal authorities as among the best in the nation. They require that this portion of the river be kept pure enough not only for passage but also spawning and rearing of salmon, for swimming and all forms of aquatic recreation, for irrigation and other agricultural use, and, with minimal treatment, for domestic water supply and industrial uses requiring maximum purity.

The pollution limitations designed to preserve these high standards are based on extensive knowledge of river flows, water characteristics, and fish and plant life in the river. In addition, existing sources of waste discharge are known, so that total cumulative effects can be judged. While we have more to learn, we know enough to impose and enforce standards with expectation of success in the high goals we have set.

It is the conclusion of the Sanitary Authority staff that the treatment system proposed for this plant will preserve those high standards of quality.

There was no testimony to the contrary. Nevertheless, several areas of concern and suggestions for safeguards were expressed and deserve comment.

A joint statement by the Fish and Game Commissions, while not enthusiastic about any additional waste discharge in the river, found the treatment system adequate and the plant unobjectionable from a water quality standpoint

provided the Authority pursues the clean-up of other more serious sources of pollution so that a net downstream reduction in total pollution of the river occurs. The Authority has already adopted an enforcement plan which will achieve this. I intend to see that it is vigorously pursued, even to the extent of closing some existing industry during extended low flow periods if that proves necessary. I should make clear my firm belief that it would be folly for Oregon to deny expanding or new, relatively clean, industries for the sake of preserving existing dirty ones. We cannot afford vested interest in pollution.

The Fish and Game Commissions also requested screening of the plant water intake. This is a standard requirement on all intakes and will apply at this plant. They further expressed the desire for continuation of research programs instituted by American Can Company to monitor effects of the plant on fish life and habitat. I believe this should be a condition of the waste discharge permit.

The Upper Willamette Valley Anti-Pollution League expressed concern for insect life. Prior to installation of secondary treatment at the Springfield mill, the effluent was damaging to both insect and other aquatic life. Recent inspections show abundant insect life as well as return of bottom snails and fish. Secondary treatment proposed by American Can is even more extensive than that proved successful at Springfield.

The Citizens for Clean Environment group made a number of suggestions. Several of these, although not covered by the original proposal of American Can Company, had been incorporated in the final proposal. Thus, emergency storage to contain and treat all accidental spills has been provided and the entire secondary treatment basin has been divided into two parallel

chambers either of which could operate independently in the event it became necessary to shut down one. With the division of the secondary treatment lagoon additional aerator capacity was also proposed. Secondary settling facilities, although only suggested by this group for future consideration, have been provided. The division of the lagoon also results in manifolding of the inlet piping to come up under two of the initial aerators, one in each lagoon. Doubling of this to provide manifold inlets to each lagoon chamber would more than meet the C2E suggestion. I believe we should require it.

The recommendation for test wells to monitor ground water quality in the vicinity of the lagoon is also entirely reasonable and should be required.

The suggestion of future utilization of treated effluent for irrigation should be investigated. However, preliminary investigation indicates that the soil in the immediate area of the proposed mill is impervious clay not suitable for irrigation. Possible reduction of river flow and increased temperature of irrigation returns to the river must also be considered and may be adverse to extensive diversion to irrigation here. Summer discharge through gravel bars also deserves experiment.

Only two of the group's water quality recommendations appear unreasonable and in fact not supported by their own task force findings. Thus, the task force gave general praise and approval to the method of water treatment. This is based upon natural processes and the effect of sunlight, oxygen, plant and animal action in reducing the organic matter in the settling basin. It works best at high temperature and sunshine when the demand for high treatment is also greatest because of low river



flows. In the opinion of the Sanitary Authority staff a requirement as suggested by the C2E Board of Directors of 95% efficiency in this process is simply not attainable on a continuous basis even under favorable conditions and certainly not on a year-round basis. The staff proposed requirement of minimum 90% efficiency during low flow periods and maximum efficiency at all times seems to be entirely proper and adequate. To reach a 95% treatment efficiency an entirely different process of treatment would have to be devised.

There similarly seems to be no justification in the background material for the suggestion of continuous biological assay of the lagoon effluent. Periodic sampling and tests, together with selective research projects as proposed by the Fish and Game Commissions, should be adequate.

One woman testified that this portion of the river was sometimes closed to swimming and that no further pollution should be allowed while that condition existed. To the extent that the area has been closed to swimming it was because until this year Eugene and Corvallis did not provide secondary treatment of their municipal sewage, the Albany plant has been badly overloaded and Monroe has been dumping raw sewage into the river. Happily, these conditions have already been largely cured with the new Corvallis and Eugene plants. Construction has been authorized and will soon be completed at Monroe and Albany. The proposed mill discharges will not contain the bacteria that has led to recreational closures.

In summary, the water pollution control facilities proposed by American Can Company seem not merely adequate but outstandingly good to me.

There is only one further qualification I would add to those in the staff recommendations and the comments I have already made. What is

impact of this mill on even the large communities, much less the smaller ones that are equally deserving of consideration.

Since, as this summer amply demonstrates, weather is notoriously variable it may take years to accumulate data enough to develop the sophisticated formulas that would represent the precise predictions this group claims we must make.

There is no continuous monitoring of stack emissions simply because there is no equipment capable of doing it. Efforts to develop it are being carried out. Some experimental success has been had at the Crown Zellerbach Mill in Camas, but only under the expert personal control of its developers. The time when it can be installed in all mills may not be far off, but it is not here.

Most of the economic testimony was exceedingly superficial. The plant will add to the tax rolls. Obviously, however, it and its employees will also require services that cost tax dollars. It will affect other property values, both up and down. It will provide jobs, but may also eliminate some. The Sanitary Authority has neither a staff economist nor money to hire a consultant to furnish any refined weighing of these pluses and minuses.

All this does not mean that we know nothing or that we cannot act. At least I hope not or the result would be quite the opposite of that contended by the Eugene group.

The reason is quite simple. The air pollution statute is relatively weak. No permit is required to emit wastes into the air as it is to discharge them into the water. Several major sources of pollution are entirely exempt from regulation, a fact which must be considered in regulating others. The

outstandingly good today may become inadequate in the future under increased pressures from growing use. I would limit the waste discharge permit at the indicated levels to five years, which in my opinion is the maximum period which we should allow in any permit at this time.

#### AIR POLLUTION CONTROL

The picture is far different when we turn from water to air. The laws, our standards, knowledge on which to base additional standards and available technology of control all leave something to be desired.

The Authority has established standards only for smoke emission, particulate fallout and suspension and lime dust. These do not reach the most objectionable feature of kraft pulp mills -- the sulphide gas emissions-- at all.

The Upper Willamette Valley Anti-Pollution League urges that we should not approve this plant until we have standards for control of hydrogen sulphide, mercaptan and other emissions. Its spokesmen further contend that before we set such standards we must carefully gather evidence on each of the fourteen points mentioned in ORS 449.785(1).

Thus, they emphasize the inadequacy of the meteorological data available. Again, they point out that there has been no continuous monitoring of kraft recovery furnace stack emissions to furnish reliable data on the exact problem to be dealt with. Further, they note the lack of detailed economic studies of the probable effect of the proposed project.

With all of their observations on our lack of desirable data, I concur.

Weather data is largely confined to a few major population centers. Although the number of stations and breadth of data collected has increased in the past two years it offers no precise formula for predicting the exact

Authority can require plans for "any air cleaning device" to be submitted to it, but no approval is required. No special enforcement procedures or priority in the courts is given us.

Under the statute, the Eugene group is putting the cart before the horse. We must adopt standards, not before we can approve, but before we can set the stage for any effective control.

I do not read the statutes to require that we await the ultimate in information. ORS 449.765 expressly states that "The program for control of air pollution . . . shall be undertaken in a progressive manner."

Let us look at the fundamentals of information we have rather than the mass of detail we lack:

1. The people of Oregon and the nation want and use ever increasing quantities of paper.
2. The kraft process produces the strongest paper. Because of chemical recovery it produces it more economically and with less total pollution than other chemical processes.
3. The forest products industry is economically dependent on maximum utilization of wood. The sale of chips and sawdust is the margin of profit in many wood processing plants.
4. Forests are Oregon's chief raw material. The recent Water Quality Control and Management Study of the Willamette River Basin by the federal government forecasts expansion of the pulp and paper industry in the whole Willamette basin and particularly the middle and upper basins, each of which is expected to nearly double in available raw material before 2010.

5. There is no available technology to completely eliminate kraft mill air pollution. It is possible, as the new mill at Wauna demonstrates, to do a substantially better job of reducing this pollution than has been done in the older plants now in the Willamette Valley.
6. The air pollution these mills cause is of two types:
  - a) Particulates (largely water) which affect visibility.
  - b) Sulphide gases, which stink.
7. The Willamette air shed presents both geographical and frequent temperature inversion barriers to pollutant dispersal that render any increase in air pollution in it a cause for concern.

These to me are the basic facts. Reasonable men may draw different conclusions from them; and in fact the members of this Authority do. My conclusions are these:

First, that the development of an integrated forest products industry with maximum utilization of this resource is too important to Oregon to adopt any blanket prohibition against expansion of the pulp industry in the Willamette Valley. If the people of Oregon wish to rule out this basic industry, it should be done by the Legislature or a state zoning authority under directive from the elected representatives of the people. Significantly, no county or city has to my knowledge exercised existing zoning power in such fashion.

Second, if we are not to rule them out, we must control kraft mills better. I think our basic policy should be that sulphide and mercaptan odors are so objectionable that both new and old mills be required to install every technologically feasible control as rapidly as possible after

it becomes available. I would instruct our staff to cease thinking about costs and recommend to us every control they think feasible. Let the industry worry about proving to us that it is not economically feasible. In view of the Legislature's new policy of underwriting a substantial portion of such costs with tax credits, that burden of proof will be difficult to meet.

Third, we should instruct our staff to proceed at once with the studies necessary to establish ambient air standards limiting the concentrations of kraft odors in any location. I would hope that that standard can be held to threshold, or lowest detectable, levels. It is not enough to control each individual source if an undue concentration of sources reduces the best of controls to high pollution. This is one way to encourage the industry to initiate new technology, since without progress expansion at any site will be limited. It also will provide the foundation for control in the event of unusual weather or equipment function problems.

To the American Can Company, I would say everything in your record and your dealings with the Authority indicates you are an outstanding industrial citizen. If you can live with these proposals, I say welcome to you and this facility, though the welcome will always have reservations to Oregonians until we jointly eliminate this odor problem. Specifically the above proposals, in addition to the requirements suggested by the staff would mean:

1. Control of the oxidation tower by any feasible means.
2. Increase in precipitator efficiency from 99% to 99.5% unless you can persuade us it is not economically feasible.

3. Continuous monitoring of oxygen and combustion in the recovery furnace to prevent overloading.
4. Installation of further continuous monitoring devices and additional controls as fast as technology permits.

To the people and the Legislature, I would add that we may not always be fortunate enough to be dealing with a company as responsible as this. In this application review we have depended on its stated willingness to design not only for present limited air quality standards but also others likely to be adopted. Clarification of the air pollution laws, provision for air waste discharge permits and stronger enforcement procedures will be needed to control air pollution just as much as water pollution.

Project Plans

During the month of August 1967, the following 25 sets of project plans and engineering reports were received and the action taken as indicated by the Water Quality Control Section:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
8/1/67	Brookings	Memory Lane Pump sta. and Interceptor	Prov. app.
8/1/67	Monroe	Sewerage System	Prov. app.
8/1/67	McLaren School	Animal waste disposal	Prov. app.
8/8/67	Albany	S. Res. Ext. 16, lat. A & B,	Prov. app.
8/9/67	Goshen Elem.Sch.	Chlorination and effluent pump	Prov. app.
8/9/67	Shertwood	S. E. Highland Drive sewer	Prov. app.
8/10/67	Hillsboro	Rock Creek pump station	Prov. app.
8/10/67	S. Sub. San.Dist.	Ext. D-17-8 Clinax St.	Prov. app.
8/10/67	Washington Co.	Union Oil Co. Sewer	Prov. app.
8/10/67	Madisonville	Diveo-Hayne sewer	Prov. app.
8/10/67	Tektronix	Contact Chamber and dry beds	Prov. app.
8/14/67	Tolsons Park	Engineering Report	Approved
8/16/67	Mult. Co. Central	Sewage treatment plant	Prov. app.
8/16/67	Woodburn	Hazzards Dist. Center	Prov. app.
8/17/67	Salem	S. Salem relief sewer	Prov. app.
8/25/67	Beaverton	Westbrook sewers	Prov. app.
8/30/67	Klaath Falls	Unit 1/2 Eldorado	Prov. app.
8/30/67	Aloha San. Dist.	Southview Sewers	Prov. app.
8/30/67	Washington Co.	Rock Creek Subd. sewers	Prov. app.
8/31/67	Beaverton	S. E. Allen Ave. sewer district	Prov. app.
8/31/67	Springfield	Main - sewer	Prov. app.
8/31/67	West Slope	Lateral L-5-1-1	Prov. app.
8/31/67	Beaverton	Murmuring Pines #2, Wilson Park #7	Prov. app.
8/31/67	Gresham	S. E. Metzger St. sewer	Prov. app.
8/31/67	Oak Lodge #1	Riverview Court-Greenview Estates	Prov. app.



Project Plans

During the month of July 1967, the following 36 sets of project plans and engineering reports were received and the action taken as indicated by the Water Pollution Control Section:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
7/3/67	Benton County	Skyline West sewage lagoon	Prov. app.
7/5/67	Monmouth	Gentle's Fourth Addn. sewers	Prov. app.
7/6/67	Multnomah Co.	Sewers-Strathmore Assessment Dist. #1	Prov. app.
7/7/67	Gresham	Dela Cruz Subd. sewers	Prov. app.
7/7/67	Pendleton	Relocation of water and sewer lines	Prov. app.
7/11/67	Multnomah Co.	Bevest Industrial Park sewers	Prov. app.
7/11/67	Oak Lodge	Sewer ext. Y, Y-1, Y-2	Prov. app.
7/11/67	Portland	Phase I Tunnel Portals L-3L sewers	Prov. app.
7/12/67	Whitford-Wolky	Rosegarden and Rambler Subd. sewers	Prov. app.
7/12/67	Gresham	Sundown, NE 190 & 191st Streets	Prov. app.
7/14/67	Medford	Montcrest Subd. sewers	Prov. app.
7/14/67	Jackson County	Bel Air Heights Subd. sewers	Prov. app.
7/18/67	Tigard	Pinebrook Interceptor	Prov. app.
7/17/67	Benton County	Skyline West sewers	Prov. app.
7/19/67	Oak Lodge #1	Lateral D-5-3 sewers	Prov. app.
7/19/67	Oak Lodge #2	Lateral C-10-5-5-C	Prov. app.
7/19/67	Oregon City	LID #31 sewers	Prov. app.
7/18/67	Union Creek Camp	Sewage treatment facilities	Prov. app.
7/19/67	Forest Grove	Cambridge Drive sewers	Prov. app.
7/19/67	Creswell	Mill St. & Art Lot lane sewers	Prov. app.
7/19/67	Milwaukie	Natalie Addn. sewers Lateral B-2-4a	Prov. app.

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
7/20/67	Lebanon	Wynn ext. sewers	Prov. app.
7/20/67	St. Helms	Block 140 sewers	Prov. app.
7/20/67	Tillamook	Eastgate First Addition sewers	Prov. app.
7/20/67	Oak Hills	Ext. and pump station-O.H. #5	Prov. app.
7/25/67	Central Co. Service District	Lancashire sewer dist. #2	Prov. app.
7/25/67	Multnomah Co.	Sewers-Tualatin Heights Co. Serv.D.	Prov. app.
7/26/67	Hillsboro	Laterals-Basaltine and Walnut Street	Prov. app.
7/26/67	Springfield	Mt. Vernon Elem. School sewers	Prov. app.
7/27/67	Somerset West	Parkview #2 sewers	Prov. app.
7/27/67	Canyonville	Airport Cafe Lateral sewer	Prov. app.
7/31/67	King City	Outfall line	Prov. app.
7/31/67	West Slope	East Beaverton Interceptor	Prov. app.
7/31/67	Port Orford	Sewers	Prov. app.

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8/2/67-75

Project Plans

During the month of June 1967 the following 19 sets of project plans and engineering reports were received and the action taken as indicated by the Water

## Pollution Control Section:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
6/5/67	Multnomah Co.	Rev. AP Industrial Park	Prov. app.
6/8/67	Halfway	Sewerage system	Prov. app.
6/8/67	Raleighwood S.D.	Lars Bong Lateral	Prov. app.
6/9/67	Oaklodge S.D.	Lateral 2A-7-10	Prov. app.
6/9/67	Forest Grove	Oxford Court sewers	Prov. app.
6/9/67	Sunset Valley S.D.	NW 119th Ave. Sewers	Prov. app.
6/9/67	Oregon City	LID-30	Prov. app.
6/12/67	Tillamook	Engineering Report - STP	Prov. app.
6/13/67	Oakridge	Engrg. Report - sewerage	Prov. app.
6/15/67	Jackson County	Bel Air Subd. sewerage	Prov. app.
6/16/67	Gresham	Force main Mt. Hood College	Prov. app.
6/16/67	Coos and Curry Co.	ELM Need control	Remarks
6/20/67	Green San. Dist.	Sunnyslope Subd. sewer	Prov. app.
6/20/67	Selen	Oakleaf Terrace and Southwood Park sewers	Prov. app.
6/21/67	Eugene	Sewers	Prov. app.
6/21/67	Lake Oswego	LID 105 Stone Acres #3	Prov. app.
6/21/67	La Grande	Industrial Site Lift Station	Prov. app.
6/21/67	Aloha San. Dist.	Green Tree Acres sewers	Prov. app.
6/22/67	West Slope S. D.	Laterals BR-2, BR-2-1, B-9-5	Prov. app.

Project Plans

During the month of May, 1967, the following 32 sets of project plans and engineering reports were received and the action taken as indicated by the Water Pollution Control Section:

<u>Date</u>	<u>Project</u>	<u>Location</u>	<u>Action</u>
5/4/67	Tigard	Farmers Ins. Co. Sewer	Prov. app.
5/5/67	Forest Grove	Elm Street Sewer	Prov. app.
5/5/67	N. Umpqua SD	N. Bank Interceptor & Pump Sta.	Prov. app.
5/8/67	Eugene	Valerie Park Sewers	Prov. app.
5/8/67	Cascade Locks	Preliminary Report	Prov. app.
5/9/67	Oak Lodge SD #2	Lateral 2C-0-11	Prov. app.
5/9/67	Portland - L-GI	Change Order #3-Unit I Phase I	Approved
5/10/67	Amity	Sewerage facilities	Prov. app.
5/11/67	Twin Rocks SD	Engineering Report	Approved
5/11/67	Bay City	Engineering Report	Approved
5/12/67	Tigard	Burlwood III Sewers	Prov. app.
5/17/67	Clatskanie	Fourth St. sewers	Prov. app.
5/17/67	Gresham	NE 17th St. Sewer	Prov. app.
5/17/67	Bend	N. Pilot Butte Add. sewers	Prov. app.
5/17/67	Milwaukie	Chlorination Facilities	Prov. app.
5/18/67	Jacksonville	Oregon St. Extension	Prov. app.
5/18/67	Coos Bay	Thompson Road Area san. sewers	Prov. app.
5/19/67	Albany	So. Residential san. sewers	Prov. app.
5/22/67	Ontario	Engineering Report	Approved
5/22/67	Bandon	Engineering Report	Approved
5/23/67	Hayden Island	Sewage treatment plant	Prov. app.
5/25/67	Sherwood	Orcutt Place sewers	Prov. app.

Project Plans-May 1967 (Continued)

<u>Date</u>	<u>Project</u>	<u>Location</u>	<u>Action</u>
5/25/67	Oak Lodge SD II	El Centro Way sewer	Prov. app.
5/25/67	Tigard	Phil Lewis School sewer	Prov. app.
5/25/67	Multnomah Co.	AP Ind. Park sewer	Prov. app.
5/25/67	Multnomah Co.	Della Rose Subd. sewers	Prov. app.
5/26/67	Gladstone	Pump station	Approved
5/29/67	Oregon City	Netzel Acres LID 28	Prov. app.
5/29/67	Coos Bay	Thompson Road Pump Sta.	Prov. app.
IM 5/29/67	Willamette Basin	Revetment & Weed control	Approved
IM 5/31/67	Sheridan	Waste treatment	Prov. app.
5/31/67	Lebanon	West Side Interceptor	Prov. app.

PROJECT PLANS AND REPORTS

The following plans or reports were received and processed by the Air Quality Control staff during the month of August 1967:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
14	Albany	Wah Chang Corporation Scrubber	Under consideration
21	Halsey	American Can Co. Proposal on Kraft pulp mill	Recommendations made
23	Wauna	Crown Zellerbach Oxidation & Non-condensable Systems	Cond. approval
31	Rockwood	Rockwood Alder School Incinerator	Additional informa- tion requested

PROJECT PLANS AND REPORTS

The following plans or reports were received and processed by the Air Quality Control staff during the month of July 1967:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
6	Astoria	Astoria Sr. High School Incinerator	Additional information requested
6	Corvallis	Forest Research Laboratory Federal grant application	Comments submitted
19	Sherwood	Promitor Incinerator Pulchery Incinerator	Approved
21	Albany	Wah Union Corporation	Comments approved
31	Medford	Central Oregon College Incinerator	Additional information requested

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8/13/67-80

PROJECT PLANS AND REPORTS

The following plans or reports were received and processed by the Air Quality Control staff during the month of June 1967:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
8	Lane County	Cone Lumber Company Incinerator	Additional informa- tion requested
22	Halsey	American Can Company Preliminary proposal	Under construction
23	Killsboro	Smith's Market Incinerator	Cond. approval
23	Ashland	Walker Elementary School Incinerator	Cond. approval
26	Knappa	Hilda Lehti Elementary School - Incinerator	Not approved
28	Warrenton	Northwest Aluminum Co. Preliminary proposal	Additional informa- tion requested

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7/7/67-55



PROJECT PLANS AND REPORTS

The following plans or reports were received and processed by the Air Quality Control staff during the month of May 1967:

<u>Date</u>	<u>Location</u>	<u>Project</u>	<u>Action</u>
2	Eugene	Fox Hollow Elementary School Incinerator	Additional information requested
2	Salem	Mid-Willamette Valley APA Federal Clean Air Act Project Grant Application No. 421	Approved
11	Sherwood	Frontier Leather Co., special waste incineration	Additional information requested
11	Sheridan	Wigman waste burner installation	Cond. approval
17	Mt. Angel	Mt. Angel Elementary School Incinerator	Additional information requested
17	Ontario	Ontario Rendering Company Control of non-condensable from cooker	Cond. approval
17	Clackamas Co.	Clackamas Middle School Incinerator	Additional information requested
17	Gresham	Gresham Union High School Incinerator	Change recommended
22	Corvallis	Forest Products Laboratory Application for Solid Waste Grant for Timber Industries	Comments submitted
25	Central Point	Central Point Jr. High School CB-200 Incinerator	Cond. approval
31	Oregon City	Publishers' Paper Company Incinerator	Cond. approval
31	Ontario	Ontario Rendering Company resubmission	Cond. approval

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6/5/67-65