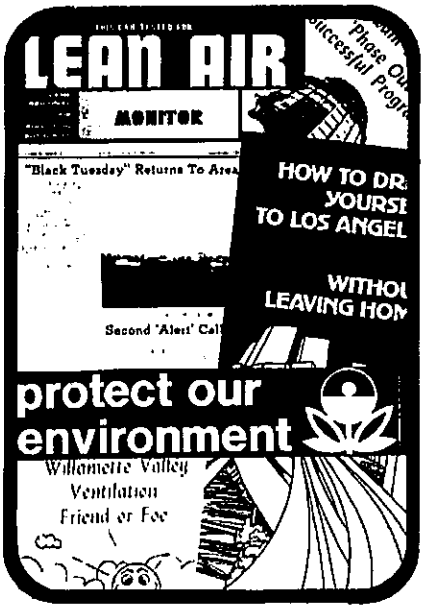
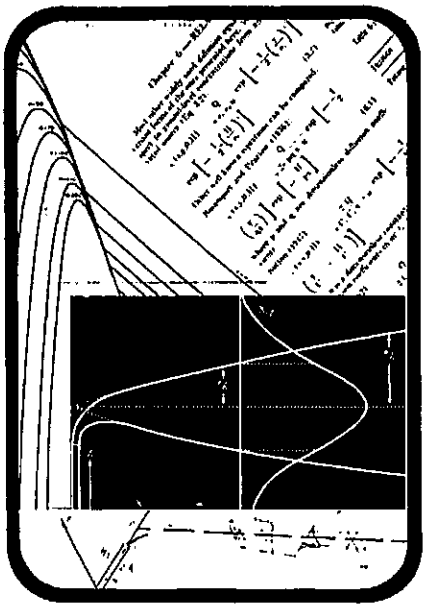


Lane Regional Air Pollution Authority



1974 ANNUAL REPORT

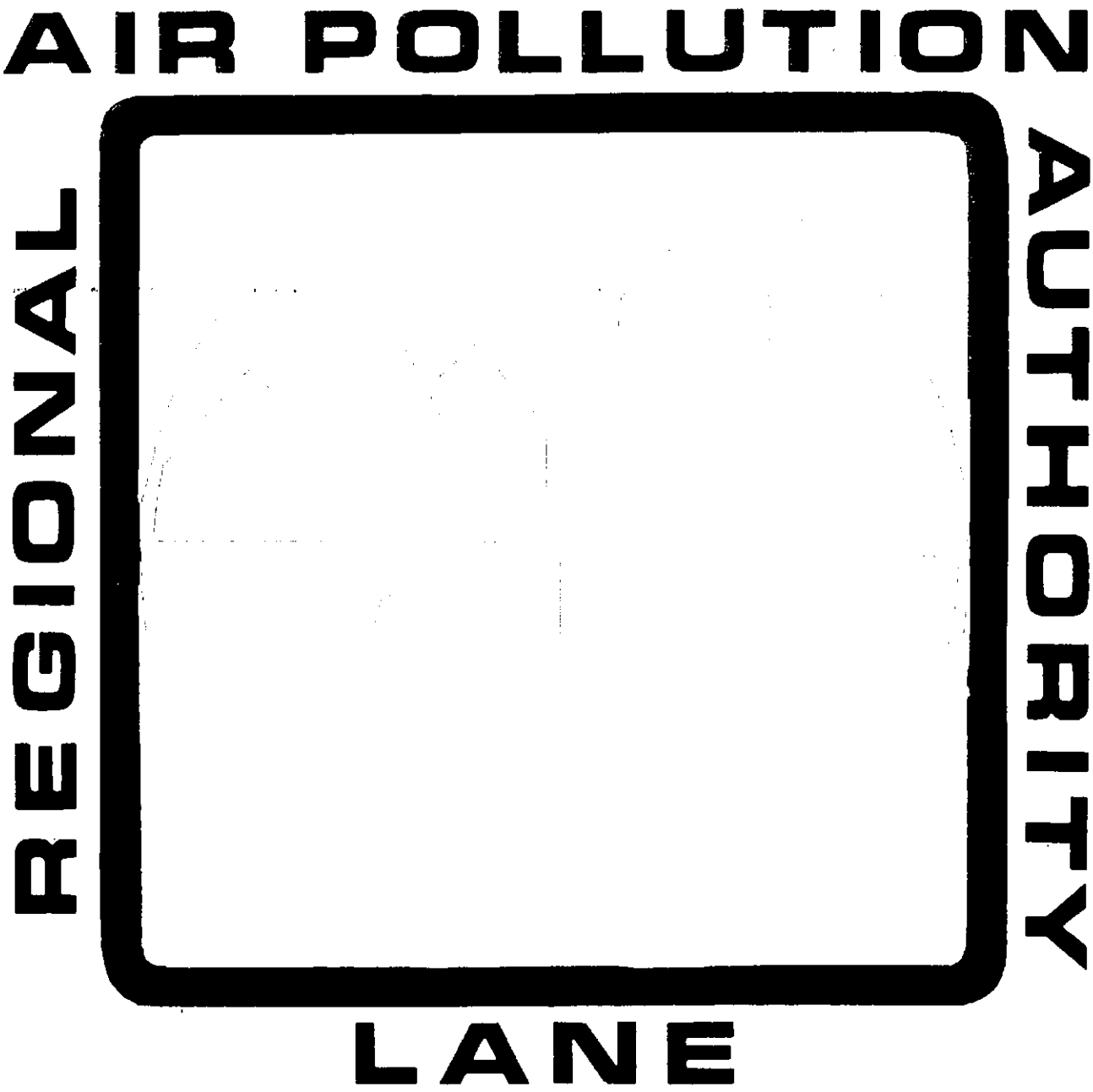

AIR POLLUTION
REGIONAL
AUTHORITY
LANE

TABLE OF CONTENTS

DIRECTOR'S MESSAGE

Improving the air quality of Lane County has required the cooperation of many individuals, companies, and governmental agencies. The great strides we have made over the initial years of air pollution control and the continuing development of control technology by both private and public sectors, have brought about continued gains in reducing stationary industrial source pollution.

As we continue in our fight against air pollution in the Willamette Valley, more complex sources are being dealt with. Pollution from indirect sources, such as parking lots, highways and large complexes that, in themselves, do not pollute, but attract large volumns of automobiles that do cause air pollution, have become increasingly more important to us as we roll back the more obvious industrial pollution.

"People Pollution", as some have referred to it, is elusive and demanding upon an air pollution control agency. Great hours of study and planning must go into every step of control strategy. These pollutants, which are mostly gaseous and invisible, yet very toxic and damaging, are demanding a new posture from local air pollution control agency's. This posture requires more sophisticated instrumentation to measure the pollution concentrations, more expertise to run the equipment, and most important, the ability of the agency to digest and organize the data we collect into logical and concise control strategy.

I hope, as we move into this new era of air pollution control in addition to our established control programs, that we continue to receive the excellent local support and cooperation that has exemplified the Lane Regional Air Pollution Authority throughout the State and Nation.

Thank you,

Verner J. Adkison
Director

BLUE SKY ACHIEVEMENT AWARDS

Lane Regional

AIR POLLUTION AUTHORITY

RULES

& REGULATIONS

LANE REGIONAL AIR POLLUTION AUTHORITY **MONITO**

Lane Regional Air Pollution Authority
16 Oakway Mall, Eugene, Oregon 97401

LRAPA Director ..... Vern Adkison

Board of Directors

Chairperson ..... Nancy Hayward
Vice-Chairperson ..... Gus Keller
Member ..... Wickes Beal
Member ..... Gerald L. Cates, O.D.
Member ..... Darwin D. Courtright

LRAPA M

LRAPA
MONTH
GRANT
MATER
CREDIT

AIR POLLUTION AUTHORITY
LANE REGIONAL

BOARD OF DIRECTORS

Beginning the year with the election of Nancy Hayward, Lane County Commissioner, as Chairperson, the Board of Directors became involved in decisions that saw the Oregon Appellate Court make an important constitutional decision for environmental agencies, set in motion a contract with the Department of Environmental Quality, revised laws governing Air Contaminant Discharge Permits, and Board of Directors powers ruled in favor of Mazama Timber Products in a civil penalty case, held a multitude of hearings, and participated in honoring local industry with a record of excellence in cleaning our air.

Nancy Hayward, Vice-chairperson of the LRAPA Board during 1973, was elected to the Chairperson spot by unanimous vote during the first meeting of the year. It was the first time Mrs. Hayward has held the position. Gus Keller, Eugene City Councilman, was elected Vice-chairperson to fill Mrs. Hayward's vacancy.

An earlier decision by the 1973 Board of Directors upholding a civil penalty against Mazama Timber Products forced a question of constitutionality by the Mazama counsel to a court test during 1974. The point in question was the law authorizing air pollution authorities to issue civil penalties. The law, it was contended, did not allow for court action during administrative processing. Civil penalties are a strong tool in achieving air pollution reduction by all agencies. An adverse decision by the Oregon State Court of Appeals would have taken this tool away from all environmental agencies. The decision by the courts upheld the civil penalty, and the constitutionality of the law. In its decision the court explained that while court action was not provided for during processing of the civil penalty, the right of appeal to the courts was preserved to the individual or company involved. The court decided that the Board did follow proper procedure in the case.

After voting to approve a proposed contract with the Department of Environmental Quality in late 1973, Chairperson, Nancy Hayward, signed the contract in February. The signing set into motion an agreement with the DEQ that LRAPA Director, Vern Adkison, would become administrator of the Midwest Region of the DEQ. The contract called for LRAPA staff to accomplish air quality tasks within the four county region, to house the DEQ staff, and to provide administrative and technical help to the DEQ in return for dollars, material and experience. As best as possibly could be determined, this was the first such contract ever entered into between the DEQ and a regional air pollution authority.

In significant law making action during the year, the Board adopted a revised Air Contaminant Discharge Permit law. The changes in the law are designed to make the LRAPA permit regulations more compatible with those of the State. Included in the Changes were provisions to: provide thirty days for comment on the permit rather than the application; deletion of specific dates of implementation; provision for a letter permit; a new permit fee schedule; and added a number of new sources not previously covered in the permit laws.

The only other regulation change made during the 1974 calendar year involved Title 12, Duties and Powers of the Board of Directors. In an additional move to bring Authority regulations into consistancy with other air pollution agencies in the State, the Board ratified a change in a proviso that exempted officers and employees of government agencies from penal action by the Authority. In deleting this wording from the regulations, and removing the exemptions, it provides the Authority with a greater control over governmental bodies in violations of air pollution laws.

A second case dealing with a civil penalty against Mazama Timber Products was decided in favor of the company by the Board of Directors. After hearing testimony from both sides the board reached an impass, which resulted in the dismissal of the penalty. The penalty had been levied against Mazama for violation of maintaining an open outdoor fire in violation of LRAPA regulation Section 33-015(A).

In celebration of Cleaner Air Week, the Board participated in the second annual Blue Sky Achievement Awards which recognized deserving local industry and government who had made outstanding gains toward the goal of clean air in Lane County. Co-sponsored by the Lane Regional Air Pollution Authority and the Oregon Lung Association, the awards were presented to three small industry and two governmental bodies. In presenting the awards Board members expressed the need for such recognition and the desire for the awards to become a continuing event.

As a continuing effort to solicit public response on air pollution matters in Lane County, the Board of Directors held four public hearings during the 1974 calendar year. Each of the hearings was well publicized in the local media, but re-

sulted in a dissappointing turn out of citizen comments. The public hearings are considered very important to the air quality program in Lane County and will be continued, with additional effort to achieve citizen response.

During the year the Board voted approval on seven compliance schedules for Lane County industry, eleven parking structure applications, and one variance in compliance date. In addition the Board submitted suggestions to the State Legislature pertaining to matters dealing with Oregon environmental Law. Included in their suggestions were to strongly urge that no change or extension be made in the date to ban field burning; to ask the legislature to memorialize congress to change the shipping laws so that it would be more economically feasible to recycle materials now incinerated; that we do not relax our efforts to clean up the air and, in that effort we should try to stop slash burning in order to conserve energy.

In fiscal matters the Board approved the Agency's 1974-75 fiscal year budget and commended the administrative switch to a program budget. In commenting on the program budget the Board expressed pleasure in the visibility provided to the Agency programs and assurance from the staff that the new budget would provide better guidance and direction to all concerned with Agency goals.

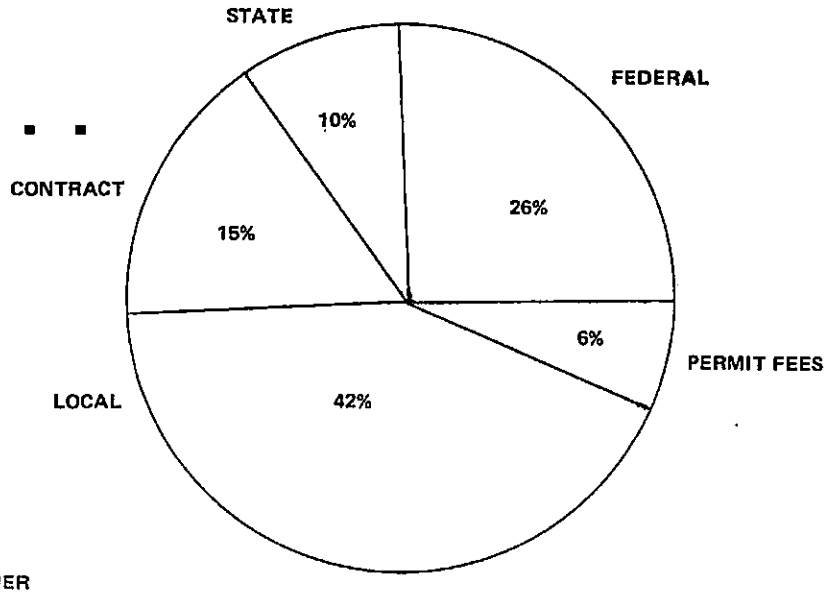
Field Burning smoke influxes prompted two letters of protest from the Board to express extreme concern as to the health and safety of the citizens in Lane County. The Board has expressed letters of protest to the responsible bodies of the Field Burning program before, but the heavy incidence this year was felt to call for re-emphasis of the Board's position.

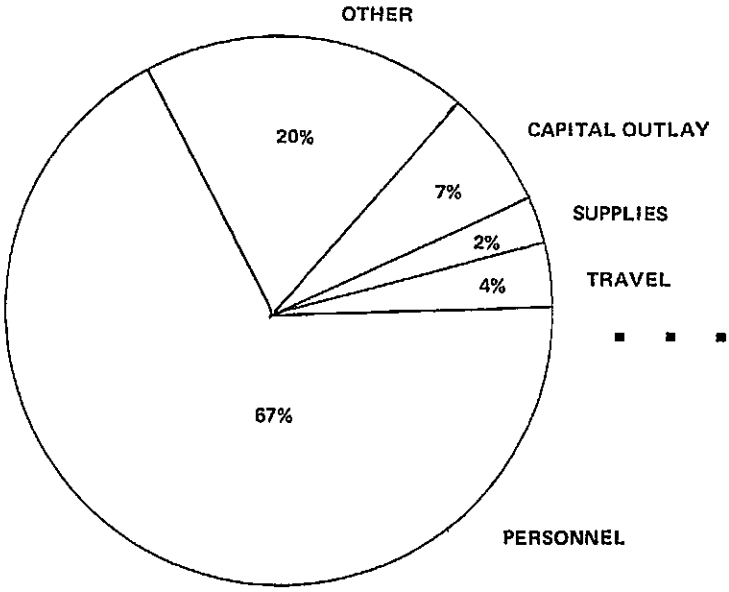
With the failure of the Cottage Grove City budget in the general election, and the subsequent fee cut of the Lane Regional dues, the final action of the Board of Directors centered around the current Board position held by Cottage Grove. In their December meeting the Board moved to inform the city of Cottage Grove of the action that must be taken if they can not re-evaluate their budget cut and remain a contributing member of the corporate body. The Board moved to inform Cottage Grove by letter of the alternatives available to them to keep their board seat, and that if the City could not meet any of the alternatives, the seat would be declared vacant, and then refilled according to lawful procedure. The outcome of the action would not affect the Agencies efficiency in that area, but would greatly affect the City's position to policy making decisions by losing the Board representation. Final action was not expected until early 1975.

1974 BLUE SKY AWARDS ACTIVITIES

FISCAL MANAGEMENT

Revenue. . . .





. . . .Expenses

Lane Regional AIR POLLUTION AUTHORITY

16 OAKWAY
EUGENE, O
AC 503 48

VERNER J. ADKISON
Program Director

MONDAY

1974

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1

JULY 1974

AUG. 1974

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– APPOINTMENTS –

AIR POLLUTION REGIONAL AUTHORITY LANE

ROUTE SLIP

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REFERENCE NO. _____

TO: _____

FROM: _____

CHECK ACTION:

___ APPROVAL
___ NECESSARY ACTION
___ PREPARE REPLY
___ INITIAL & RETURN
___ INVESTIGATE & REPORT
___ FOR YOUR INFORMATION
___ NOTE & FILE
___ INITIAL & PASS ON

The individual whose identification appe
reverse side of this card is an employee of the

**Lane Regional Air Pol
Authority**

16 OAKWAY MALL
EUGENE, OREGON 97401

AREA

Signed _____ Date
Verner J. Adkison
Director

WEEKLY TIME RECORD

Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Total

Date

While You Were Out

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ADMINISTRATIVE SERVICES

Two key administrative programs dominated the 1974 calendar year, providing somewhat unusual, yet important insight to the operation of the Lane Regional Air Pollution Authority.

Nearly six months of exhaustive preparation during the 1974 budget season ended with the adoption of a Program Budget for the 1974-75 fiscal year. Earmarked to provide the most insight possible in administration of a small agency such as the Authority, the program budget broke the total Agency Program into smaller more visible programs, and then into actual task assignments.

Developed primarily for better visibility of work loads and cost factors, and adopted by the agency for those reasons, the Program budget has enabled greater tracking of actual manhour expenditures on described projects. This information will allow more realistic estimates on future projects and programs to be undertaken by the Authority. When implemented in full a program budget will allow mid-year adjustments to correct shortages and overages and direct the Authority in the correct direction.

Adjustment by the Authority staff to the program budget procedure in the first six months of use has been slow. New tracking and reporting methods must be used to adequately make the budget procedure work. These tools have been mastered in the tracking category, but are not as proficient as necessary in the reporting category.

What has been grasped by the program budget procedure is complete definition of programs, projects, tasks, and positions, remarkable visibility in the ongoing direction of assigned programs, clear indication of deficiencies in the programs, and a better grasp of monetary expenditures. All of this has led to a more efficient administration, and a better coordinated effort by the Authority Staff.

A second effort to lower the administrative costs incurred by the Authority involved a contractural agreement with the State Department of Environmental Quality. In final form the contract called for administrative services from the Authority in return for monies, expertise, and experience. Involved in the contract was the DEQ's Midwest Region, which was to be housed with the Authority and administered by the Authority administrative staff. The contract agreement provided for a reduction in the duplication of efforts by the two agencies, thus saving money for both and all the governments concerned.

Monies from the contract has allowed the Authority to add needed personnel to the staff, providing the necessary manpower to accomplish the missions of both agencies. Lane Regional Air Pollution Authority Director, Vern Adkison, was named Regional Administrator for the Midwest Region, and services from LRAPA'S Administrative Assistant, Public Information Officer, Field Engineering, Engineering, Technical Services and Secretarial personnel help round out the contractural agreement.

On board for the DEQ are five personnel. These personnal include one Sanitarian, two Public Health Engineers, one Environmental Technician, and one Secretary. Plans for the Midwest Region call for more positions that yet are to be filled.

Basic benefits so far received by the Authority has been a reduction in the monetary costs and the ability to hire additional personnel the Agency would not have otherwise been able to afford.

New facilities were another highlight of the 1974 year. Late 1973 saw the Authority move from its original office location at the Eugene Airport, to larger and more convenient facilities at 16 Oakway Mall. Besides providing more convenient access to the general public, the new facilities enabled LRAPA to comfortably house its staff and to share the facilities with the Department of Environmental Quality. Many more Lane County citizens are enjoying casual visits to both environmental agencies for information and business. Travel costs incurred by the Authority have been cut in half with the move as most of the travel was between the airport and downtown Eugene.

As with all administrative staffs, much time is spent in meetings, coordination efforts, letters and telephone calls. LRAPA's administrative staff works continuously with other governmental agencies to insure an efficient and deliberate effort from the staff to enhance the environmental quality in Lane County. LRAPA personnel sit on scores of governmental committees, sub-committees, task forces and panels to achieve what citizens want from an environmental agency.

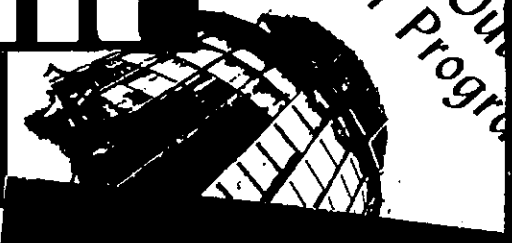
THIS CAR TESTED FOR

LEAN AIR

LANE REGIONAL AIR POLLUTION AUTHORITY

AQMONITOR

VOLUME II, ISSUE 3 "Clean Air is Everyone's Business" September, 197



"Black Tuesday" Returns To Area

Infamous "Black Tuesday" of August, 1969, returned to the Southern Willamette Valley this month when a change in wind patterns brought field burning smoke pouring into the region.

Tuesday, September 3, will probably go down into the history books as one of the most polluted days in the Emerald Empire. Deluged with smoke from field burning fires in the Willamette Valley, residents experienced concentrations of suspended particulate second only to the first "Black Tuesday" in 1969.

What started as a very beautiful summer day, with light south winds, turned out to be a nightmare for the Air Pollution Authority, Department of Environmental Quality and hundreds of persons who suffered under the extreme smoke conditions.

Department of Environmental Quality officials opened field burning to acreage in the South valley with advent of winds from the south. But by early afternoon the wind pattern shifted from the south to a north direction and brought heavy smoke from thousands of acres of field burning into the area.

Concentrations in the Eugene area were measured at 740 ug/m^3 for the highest one hour and 1184 ug/m^3 in Springfield. Visibility was down to less than one mile in many portions of the metropolitan area.

Reports of smoke were received from as far away as Oakridge and from areas such as Junction City and Veneta which seldom are bothered

SOUTH VALLEY UNDER "SMOG" BLANKET

Second 'Alert' Call

Strong atmospheric stagnation and intense daytime temperatures in the metropolitan area coupled with high pollutant concentrations to produce Eugene-Springfield's second, and longest, photochemical oxidant alert

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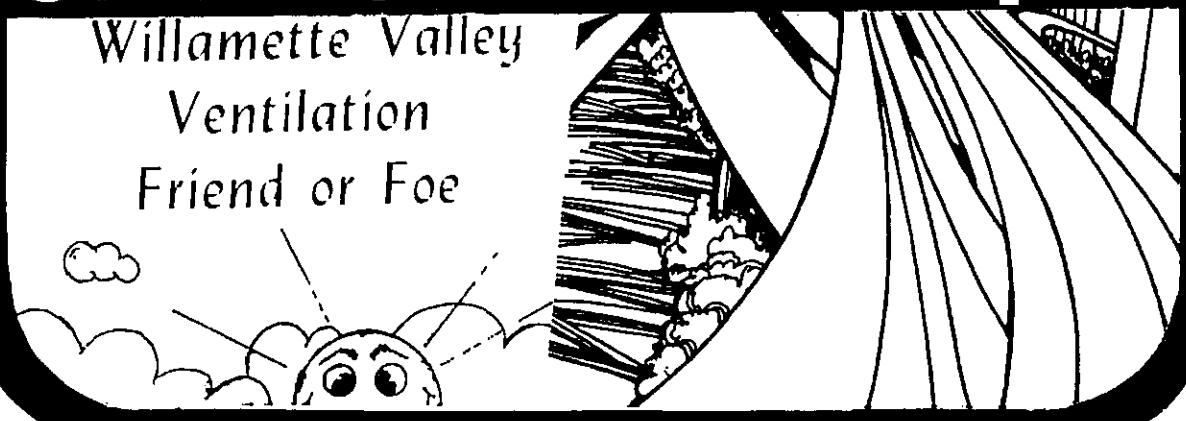
U.S. ENVIRONMENTAL PROTECTION AGENCY

Willamette Valley
Ventilation
Friend or Foe



PUBLIC INFORMATION AND EDUCATION

A second edition of the Blue Sky Achievement Awards, continuation of the LRAPA Monitor newsletter, and participation in the Lane County Fair and the Springfield Broiler Festival highlighted the Public Information and Education activities during 1974.

Presented during Cleaner Air Week, the 1974 Blue Sky awards honored the small industry and government for their efforts to clean Lane County's Air. Three small industries, Kaufman Production Welding, Cascade Plating, and All American Stud Company were recognized for superior efforts to comply with Air Quality Regulations and doing their part to clean our air.

A special Achievement award was presented to the Lane Transit District for efforts to increase use of mass transit facilities, and the City of Eugene received recognition for banning all open burning within the city limits.

Blue Sky Achievement Awards are co-sponsored by the Oregon Lung Association and are presented as a way to recognize hard work and determination by local entities to curb the air pollution problem. Public response to the award presentations has been encouraging and proper support indicates the awards to be a continuing program.

Volume II of the LRAPA Monitor began with the new fiscal year and is considered an essential tool to the Information Program. Not only does the Monitor provide the public with current activities of the Agency, but often contains in-depth articles featuring theory and explanations of Agency Programs. Interest for copies of the Monitor has continued to increase with each issue, with the total circulation now more than three times the original.

Participation by the Agency for the second straight year in both the Lane County Fair and the Springfield Broiler Festival served the public as a direct communications approach to ask questions of the Agency's functions and to learn of the air pollution problem in the County. With both fairs reaching a combined, estimated, total of more than 50,000 citizens, important information was exchanged in both directions. Information dissemination was provided through printed material and posters, photographs and a slide presentation. Top attraction for the Lane County Fair was a working model demonstrating temperature inversions are formed over the Willamette Valley.

In addition to these highlighted activities the Public Information Office continued a regular program that included School classroom presentations, a speakers project, press releases and media coordination, information request dissemination, research, media presentations, and complaint answering.

This last category, complaint answering, was at times overbearing on both the section and the staff. During one heavy field burning smoke intrusion more than 700 formal complaints were recorded in a two day period. In total, more than 1100 complaints were registered with the agency about field burning smoke. Although the agency has no jurisdiction in the field burning problem, the complaint answering policy is considered an important vent of public frustration and provides important information to the Agency and the Department of Environmental Quality as to the extent and severity of the field burning incidents and to the smoke management program overall.

It is the Agency policy to answer satisfactorily all complaints given to the Agency. This policy assures citizens that the agency is performing responsibly, and provides the necessary information to competently run an enforcement program.

Requests for information from the Authority has continued to increase over the past several years. Most of the information requests are conducted by telephone and mail. However, since the office location change to the Oakway Mall, drop in traffic is also increasing. Along this same interest, Agency spokesmen made air pollution presentations to an estimated one-quarter of the Lane County public schools. In many cases repeat presentations were made two and three times. Because of the limited manpower for the Information program, school presentations were limited this year to Junior High School level and above. In addition to school presentations, requests from civic and citizen groups were met.

Complimenting these activities to assure information flow to the public and industry, extensive coordination and program relations were established and continually used with all the local news media. Excellent coverage was provided by all media, especially during periods of heavy pollution concentrations when public awareness was mandatory.

The notation 2.16 E-1 means 2.16×10^{-1}

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exp —a/b = $e^{-a/b}$ wher
is approximately equal

FIELD ENGINEERS

Additional programs, along with regular program maintainance, resulted in a heavy workload during 1974 for the Field Engineering staff. More than 1100 individual source inspections were performed by LRAPA's liasons in the field. More than 250 citizen complaints received investigation and more than 260 Air Contaminant Discharge Permits were reviewed or drafted by this department.

Individual source inspections play a key role in the administration of a Regional Air Pollution Authority as they allow immediate attention to problems cropping up in the field. This type of immediacy provides smoother implementation of control efforts and coordinates information on these projects to other industry to benefit by.

This type of coordinated effort is believed to have allowed LRAPA to develop an accelerated wigwam burner phase-out program, to have continued to increase wood waste markets in the area, and to provide the best control technology available to all the industry in Lane County.

Immediate attention from the Field Engineers was given to more than 250 citizen complaints. Most of these actions resulted in the surfacing of illegal practices or operations in violation of air pollution rules, regulations or standards. The field engineering staff were responsible for the levying of 17 civil penalties in accordance with Agency and State Environmental Laws.

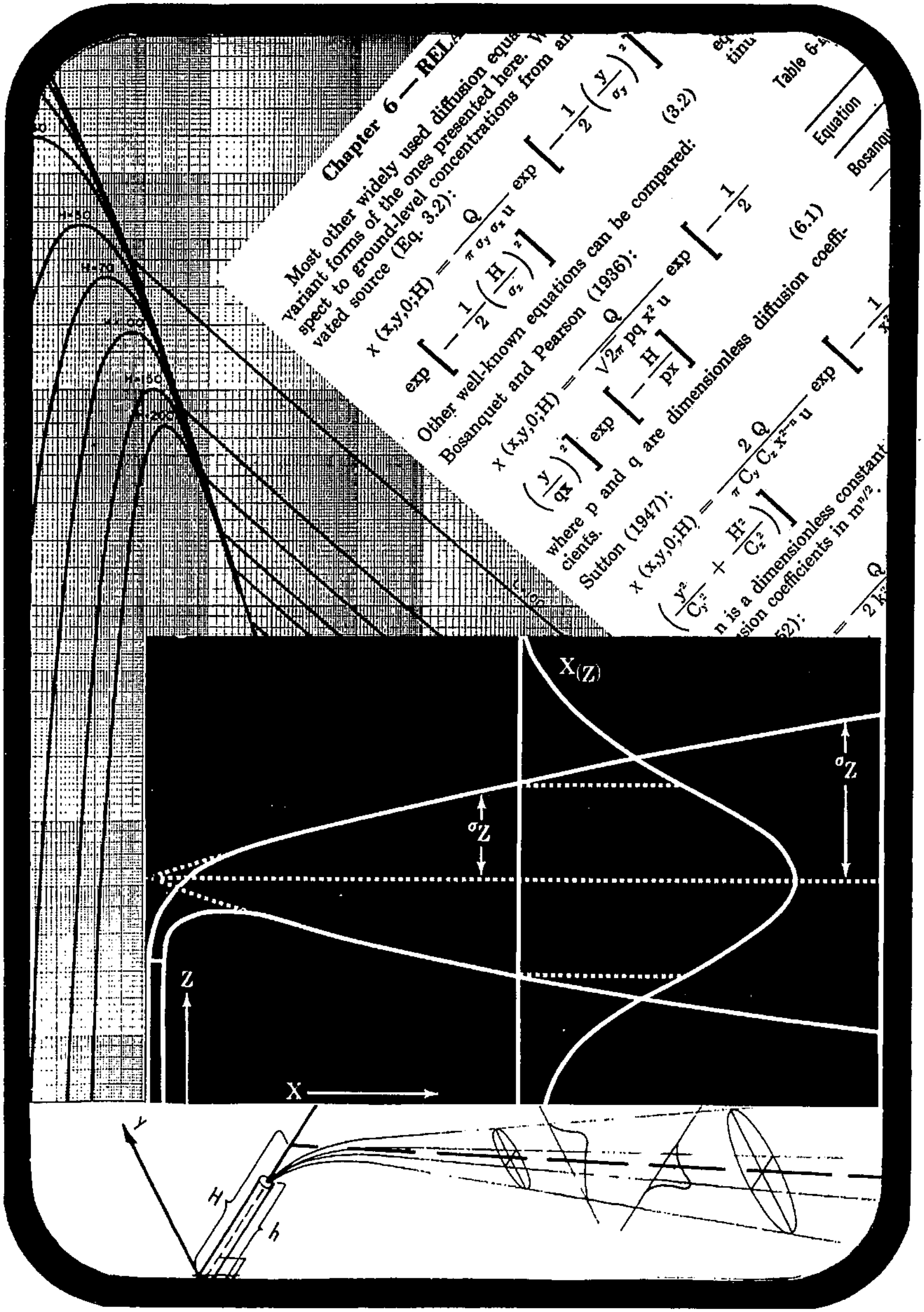
In addition to the regular plant inspections LRAPA field engineers were busy participating in testing sources. More than 150 source tests were either performed or observed by LRAPA personnel. Many of these were compliance tests for oil fired boilers. It is important that Agency personnel observe all source testing not performed by the Agency. This assures the results to qualify to EPA standards and that the tests are performed by adopted EPA methods.

As a measure to the effectiveness of the Field Engineers work with the local industry, only three variances to existing compliance schedules had to be issued during the year. These variances were basically issued due to delays in supply of equipment.

Besides the heavy workload in the Field, the Field Engineering staff also processes Air Contaminant Discharge Permits for the Industrial sources and continuously updates the Lane County Emission Inventory.

More than 260 air contaminant discharge permits were processed through the Field Engineering Office, many of which had to be completely drafted. Air Contaminant Discharge Permits involve information as to process weight and flow, and calculated emissions from each of the point sources contained in a facility. Discharge permits required a cross of the heavy field activities and long hours of desk calculations to determine emissions. These same calculations are also used for updating of the Emission Inventory. As an example of the workload involved in the permit and emission inventory programs, more than 560 company sources were calculated for the some 260 permits issued by the Agency.

LRAPA stack sampling team on location at the Eugene Sand and Gravel Asphalt Plant prepares to begin a 'run.' The team is equipped with an intercom system to coordinate actions from the stack to the ground. The sampling team will perform ten such tests on industrial sources during the year.



Chapter 6 — RELA
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spect to ground-level concentrations from an
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(3.2)
Other well-known equations can be compared:
Bosanquet and Pearson (1936):
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where p and q are dimensionless diffusion coeffi-
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ENGINEERING

Determination of source compliance, development of air pollution control regulations, review of engineering and technical design of industrial construction and special air quality studies and evaluations are some of the major efforts made by the LRAPA Engineers during 1974.

As a major part of the Engineering program, status of compliance with air pollution regulations and standards was determined for all sources in Lane County emitting 25 or more tons of air contaminants per year. This process involved review of more than 40 companies, observations of source testing, engineering review of process and equipment, and calculation of emissions.

Some of the major industry involved in the review procedure were such complex sources as Weyerhaeuser, Springfield; Georgia Pacific; Pope and Talbot; and Bohemia. Determination of compliance status is important in evaluating the Agency's overall enforcement program and planning for additional program workloads.

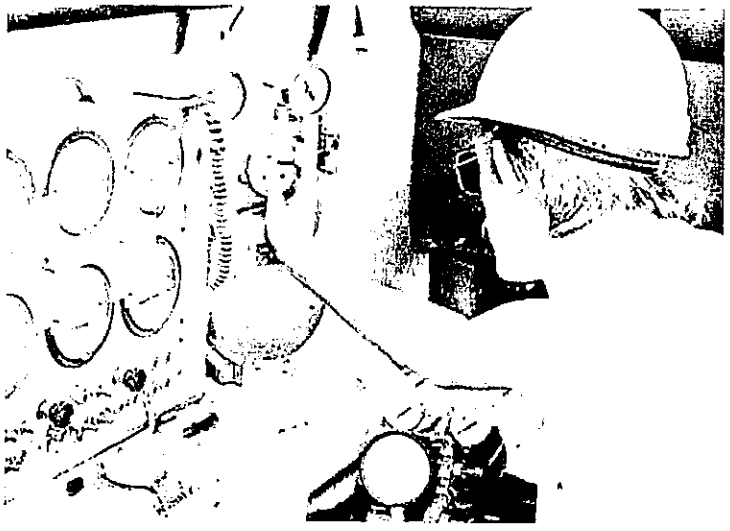
While determining the status of industry with existing regulations, the LRAPA Engineering section was also involved in revision and promulgation of proposed air pollution control regulations. Major revisions were made in Air Contaminant Discharge Permit Regulations, while new regulations were being drafted for the air contaminant lead, for indirect sources, for hazardous pollutants, and a review of the Veneer Dryer regulations.

Review of engineering and technical design of industrial construction is performed on all major and minor sources that require compliance determination. This review allows the agency to determine the effectiveness of control measures and the industry to be sure of the correct control program.

Construction review also involves the review of proposed indirect sources such as new parking facilities. Parking facilities can become a potential for excessive carbon monoxide emissions because of the traffic volumes drawn to them. All new parking structures and improvements to existing structures of 50 cars or greater are reviewed by the Agency for impact on the area's air quality.

Often, in the case of large facility improvement or construction, special investigation of the air quality must be performed. Two such cases this year involved Fred Meyer and Valley River Center. Both of the sites involved were tested with special equipment by the Agency staff. Impact in both cases was found to be within tolerable ranges and would not significantly endanger the carbon monoxide standard for the areas studied. Review of this type assures the public that large untolerable growth of pollution concentrations in developing areas will not occur or present any danger to the health and welfare of the citizens.

Other special studies conducted by the Engineering section included review of Environmental Impact Statements and participation in the City of Eugene's study of air quality in the right of way for the Amazon Expressway extension. The information gathered from the Amazon study will be formulated into an environmental impact statement.



LRAPA Engineer, Dave Baker, checks dry gas meter and other controls at the base station, while sample is being drawn from stack. The base station and the platform are connected by an umbilical cord containing all the necessary apparatus to provide duplicate functions at both locations.

ALERT
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1PM

TECHNICAL SERVICES

Expansion, refinement, and maintenance were the key words to describe the continuing high quality program of the Agency's Technical Services. Responsible for air quality surveillance monitoring in Lane County, processing of air quality data, and assisting the Engineering Section in performing and analysis of special sampling programs, Technical Services was expanded to include a Supervisor, Assistant Engineer and an Environmental Technician.

Two new Continuous Air Monitoring Stations (CAM Stations) were completed and reporting data in 1974. Actually completed in 1973, but not included in an annual report was the establishment of a Springfield CAM Station at the Department of Motor Vehicles Building in the Mohawk shopping center. The new station includes a display cabinet providing public viewing of the monitor in operation. The monitoring station consists of an integrating nephelometer to indicate approximate fine suspended particulate concentrations in the Springfield area. Installation of the nephelometer compliments the Eugene nephelometer, and provides more complete data for formation of pollution models of the metropolitan area.

Installation of the second CAM station in South Eugene was featured in a February picture story in the LRAPA Monitor. Originally an incinerator location for the Edgewood Elementary School, the CAM station structure was built on the original concrete slab and now houses a photochemical oxidant analyzer. Installation of the oxidant analyzer brought an immediate new dimension to the Agency's air quality surveillance program. With the continuous monitoring of photochemical oxidants in the area for the first time, concentrations exceeding the alert criteria of the emergency episode plan were recorded twice during the summer.

As a result the first alert conditions ever called by the Agency were placed on the metropolitan area in August. The condition was short lived, lasting one day, before concentrations dropped to less hazardous levels. But within a month, the first alert was forgotten as a second and more sustained air quality episode problem developed in September. The second alert condition lasted nine days, which the Environmental Protection Agency said was the longest any Northwest reporting station had ever reported a continuous episode condition.

While the new oxidant analyzer reported alert level concentrations the two nephelometers were busy, along with the high volumn sampler network, reporting heavy concentrations of suspended particulate. Most of the heavy particulate concentration was the results of field burning in the Willamette Valley, but in addition, the same extremely stable conditions that caused oxidant levels to increase, helped trap heavy concentrations of particulates. On September 3, the Southern end of the Willamette Valley experienced the highest concentrations of suspended particulate ever recorded. The major cause of the particulate buildup was heavy smoke from field burning. Approximate concentrations in the downtown Eugene area reached one hour high levels of 740 ug/m3 and the highest one hour concentrations in Springfield were recorded at 1184 ug/m3.

In addition to the three continuous air monitoring instruments already mentioned, the technical services section operates and maintains two other electronic instruments. Both of the additional instruments are located at the main Eugene CAM Station. One is a brand new Carbon Monoxide analyzer purchased and installed this year to replace a malfunctioned monitor. The other is a Total Hydrocarbon analyzer.

Rounding out the sampling network in Lane County are ten mechanical sampling sites. These sites use high-volumn samplers to mechanically filter ambient air and determine the concentration of particulate material by weight. These stations are sometimes run continuously during peak of potently high periods of pollution.

All data collected from the sampling network is stored in the Department of Environmental Quality computer system and contributed to the Storage and Retrieval of Aerometric Data (SAROAD) aquisition and processing system. Keeping in line with this federal program modifications were made in LRAPA's existing data reduction procedures to make our information compatible with the rest of the country.

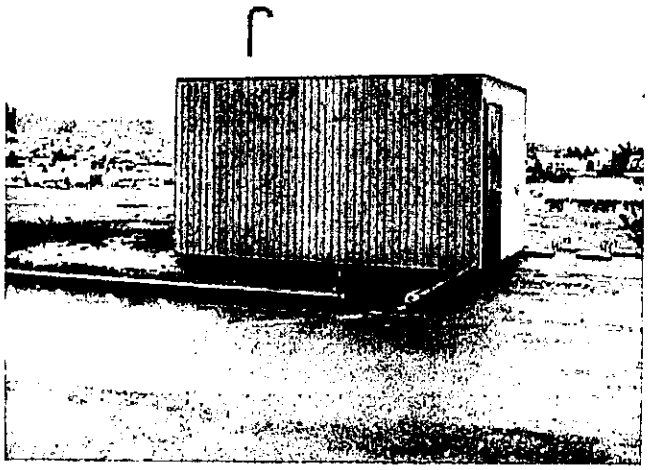
In addition to maintaining the sampling network the Technical Services section developed a mobile carbon monoxide sample collection unit for ambient air impact studies of proposed parking lots. LRAPA performed three such studies during 1974. Valley River Center was studied for impact due to proposed growth. Findings and projections indicate no adverse impact will result from proposed development in the area.

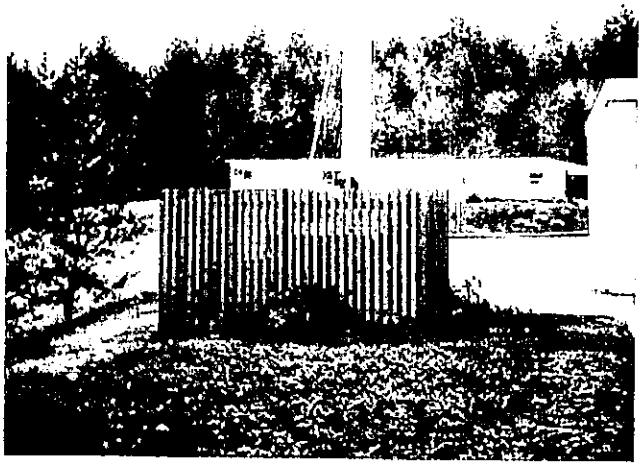
Studies were also conducted at the proposed Fred Meyer shopping development on River Road and at the developing Springfield Shopping complex. No adverse impact was found at either site.

Special investigations were also conducted, as a public service, at the Eugene City Hall and the Oregon State Office Building using the same collection system. Although not within the responsibilities of the Authority, the samples were made to determine if high concentrations of carbon monoxide and total hydrocarbons existed within these buildings. Findings and possible sources of the problem were turned over to the office requesting the service.

Assistance was also provided to environmental consulting firms working in the area to evaluate proposed construction of parking facilities and highways. Expertise, and equipment were used in most cases by these firms as a resource, and data from LRAPA data banks were also made available.

Technical Services personnel continued the practice of sharing knowledge and educating both interested persons and themselves by conducting tours of the LRAPA laboratory facility and participating in Seminars, schools and both the PNWIS – APCA and National APCA conventions.





FROM SOURCE TO SURVEILLANCE

The Lane Regional Air Pollution Authority's newest Continuous Air Monitoring Station (CAM Station) has a long history in the air pollution field. Previous to becoming a monitoring station, the site was an incinerator for the Edgewood Elementary School in South Eugene. With the cooperation of the Eugene School District the incinerator has been phased out and the site developed to house an ozone monitoring instrument to keep track of concentrations of photochemical smog in the metropolitan area. Photochemical smog is developed through the reaction of hydrocarbon emissions with other gases in the atmosphere in the presence of sunlight. The reaction produces secondary pollutants that are toxic to the human body and cause materials to deteriorate more quickly. Ozone is one of these secondary pollutants. Smog is best known as the main pollutant in large metropolitan areas such as Los Angeles. The main source of hydrocarbon emissions in the Eugene/Springfield area is the automobile.

1974 AIR QUALITY

Air Quality data released by the Lane Regional Air Pollution Authority shows that 1974 was not a very good year for clean air in many portions of Lane County.

Sampling stations located in Eugene, Springfield, the Eugene Airport, and at Cottage Grove all reported data in violation of Federal Air Quality Standards. The only pollutant to show improvement in relation to recent years and the air quality standards was that of Carbon Monoxide.

Measured in the center of the downtown core of Eugene, carbon monoxide concentrations exceeded the air quality standard only once during 1974. This was two fewer than in 1973 and a dozen times less than in 1972. Previous to 1972 the Authority had not recorded any violations of the air quality standard which is 10 mg/m^3 for an eight hour average.

The sole violation of the standard occurred in November. Previous trends have shown that the months of October, November and December are the most likely months to generate high concentrations of this pollutant.

The air quality picture for two other pollutants, those of suspended particulates and photochemical oxidants, is not nearly as attractive. Data from six locations on the valley floor showed heavy concentrations of suspended particulates. Implementation of a new photochemical oxidant monitor in South Eugene in May, immediately showed its worth by indicating emergency episode levels of that pollutant.

No less than four monitoring stations in the LRAPA air quality surveillance network detected violations of the ambient air standards for suspended particulates. At the same time, two continuous air monitoring (CAM) stations gave indications of high concentrations during the year.

Monitoring equipment at the Eugene Airport, in downtown Eugene, in Springfield and in Cottage Grove all reported violations of the ambient air standard of 150 ug/m^3 for more than once a year.

The air quality standard was exceeded 11 times at the Eugene Airport, 17 times in downtown Eugene, 19 times in Springfield, and once in Cottage Grove. 1974 was the first time the standard had ever been exceeded at the Cottage Grove site and the first time the standard has been exceeded at the Eugene Airport since 1970.

In the five years the Authority has been recording air quality data, the number of violations of the standard in 1974 was the highest ever for the Airport station, the Eugene Station and the Cottage Grove location. In Springfield, only 1971 had more violations than recorded during 1974.

Eugene and Springfield CAM stations, using integrating nephelometers to indicate suspended particulate levels, showed substantial concentration increases over the previous 1973 levels. The Eugene CAM station recorded 18 days with concentrations heavy enough to reduce visibility to less than 10 miles. Springfield CAM station recorded 28 similar days during 1974. In comparison the Eugene station recorded only three such days in 1973 and Springfield recorded six. Earlier data is available only for the Eugene CAM station. In 1972 that station recorded the all-time high of 26 days exceeding concentrations heavy enough to reduce visibility to under 10 miles. In 1971, the first year the station was in operation, only two such days were recorded.

Similar data is available from the Weather Service at the Eugene Airport for suspended particulate through their smoke/haze designation. Each day smoke is detected visually in the atmosphere, it is recorded as a smoke/haze day. During 1974 the Weather Service recorded 51 such smoke/haze days. This compares to 50 in 1973, 75 in 1972, 57 in 1971 and 76 in 1970. Data from both the Weather Service and the Eugene CAM station indicate that 1972 was a very bad air quality year.

The Eugene/Springfield metropolitan area has been designated an Air Quality Maintainance Area by the Environmental Portection Agency and the State Department of Environmental Quality. (See LRAPA Monitor May 1974). This will involve a rigidly enforced plan to bring the area within air quality standards, and maintain that level of air quality for 10 years. Determination of where and how this additional control of suspended particulates will be made is under examination by the Authority at this time.

Of great concern to the Authority is the air quality data being recorded at the new CAM station in south Eugene for photochemical oxidants. Since its installation in May of 1974, it has recorded more than 130 hours of photochemical oxidant concentrations exceeding the standard. The standard for this pollutant is 160 ug/m^3 for a one hour average. In addition to the

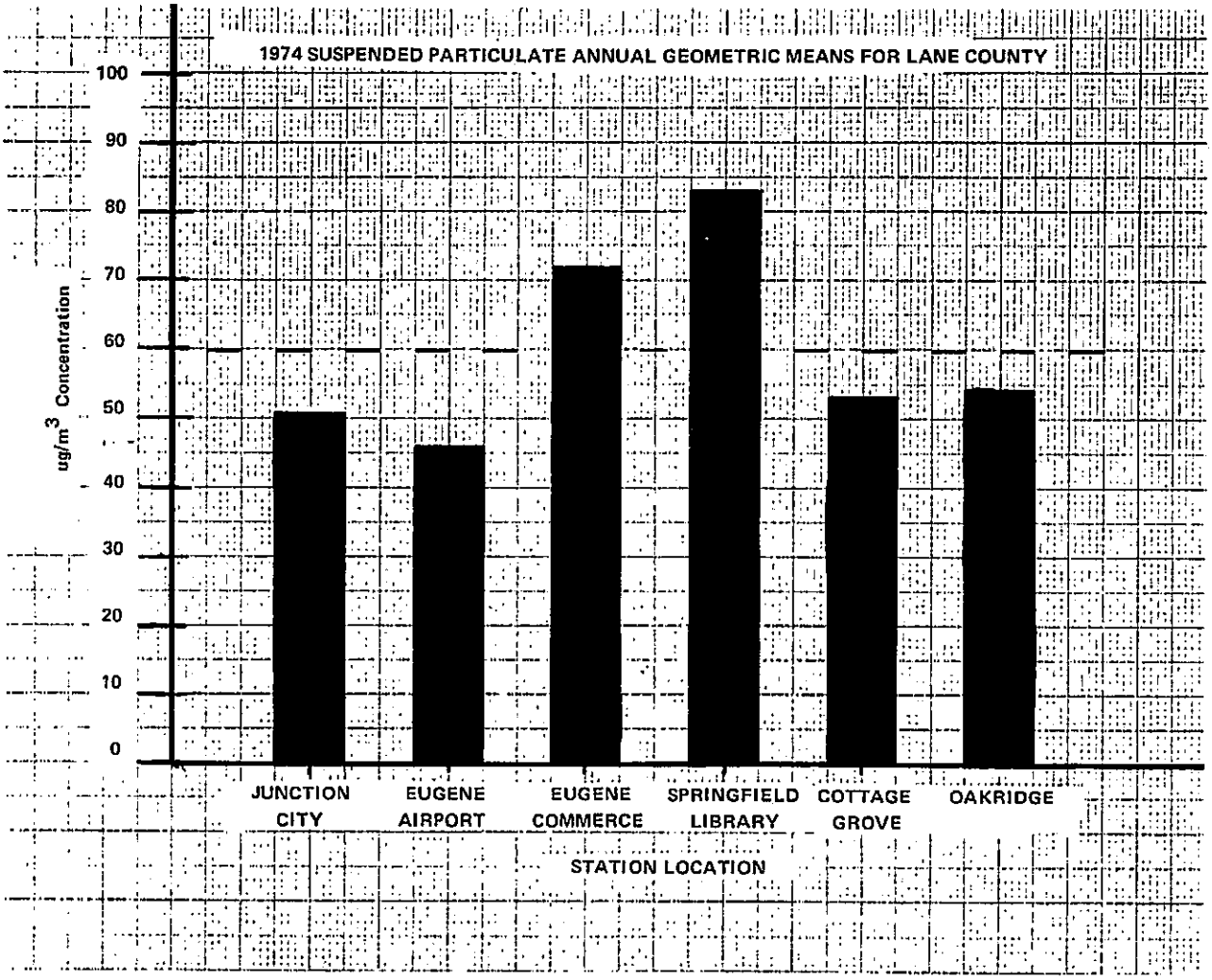
large number of hours exceeding the standard, two episodes were recorded that exceeded the alert level of the emergency episode criteria of 200 ug/m3.

Emergency episode procedures were adopted by the Authority in 1972 to deal with potential and actual air pollution concentrations surpassing specified levels. The emergency episode levels are in four major steps. The first is a forecast, then an alert, then warning, then an emergency. (See LRAPA Monitor August 1974).

September recorded 61 total hours exceeding the standard on 12 individual days. Out of those hours exceeding the standard, 22 of them were in excess of the emergency episode level, falling on eight days. August recorded the second worse concentrations with 35 hours exceeding the standard on 7 days and four of those exceeding the emergency episode levels on just one day. Violations were recorded in the months of June, July and October also.

Since the formation of photochemical oxidants generally depends on temperature, long days of strong sunlight and the presence of the right gaseous contaminants, it is believed violations of the standard will occur only during the summer months. This is supported by the fact that during the first year of operation no violations occurred during May and November, and the heaviest concentrations occurred during August and September.

The Lane Regional Air Pollution Authority is working to determine causes and potential sources of our pollution problem. Air Quality data is dependent on many factors, any of which can determine the resulting fate of the air quality. Many of these factors are uncontrollable by man or the Air Pollution Authority, but must be determined to be able to plan the most effective course in control of air pollution in the region.



1974 Estimated Emissions

LANE COUNTY AS OF DECEMBER 4, 1974

TONS PER YEAR

CATEGORY	TOTAL ORGANICS	TOTAL PARTICULATES	NOx	SOx	CO	OTHERS	TOTAL	PERCENT
Wood Products	1,750	9,011	5,938	8	1,242	NG*	17,949	8.9%
Pulp & Paper	398	1,603	4,085	869	176	114	7,245	3.5%
Other Industry	4,194	1,127	850	902	786	NG*	7,859	3.8%
Municipal Power Generation	524	1,214	1,960	NG*	3,290	NG*	6,988	3.4%
TOTAL INDUSTRIAL SOURCES	6,866	12,955	12,833	1,779	5,494	114	40,041	19.6%
Transportation	19,261	1,373	10,018	1,134	96,548	NG*	128,334	62.7%
Home Space Heating	55	143	689	322	14	NG*	1,223	.6%
Open Burning/Incineration	808	431	162	27	2,290	NG*	3,718	1.8%
TOTAL INDIVIDUAL SOURCES	20,124	1,947	10,869	1,483	98,852	NG*	133,275	65.1%
Orchard Prunings	44	37	4	NG*	132	NG*	217	NG*
Slash Burning	3,090	2,320	515	NG*	16,500	NG*	22,425	11.0%
Forest Fires	521	391	87	NG*	2,780	NG*	3,779	2.0%
Field Burning	439	585	73	NG*	3,690	NG*	4,787	2.3%
TOTAL SPECIAL SOURCES	4,094	3,333	679	NG*	23,102	NG*	31,208	15.3%
GRAND TOTAL LANE COUNTY	31,084	18,235	24,381	3,262	127,448	114	204,524	100.0%

NG* — Negligible

LANE REGIONAL AIR POLLUTION AUTHORITY
MONITOR

16 Oakway Mall
Eugene, Oregon 97401

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glass jars & bottles tin cans aluminum newspaper magazines phone bo oks catalogs paper sacks egg cartons cardboard office paper computer paper & cards household scrap paper rags plastic bags eyeglasses rubb er bands crankcase oil cooking fat automobile bodies & parts scrap m etal appliances oyster shells vegetable & yard wastes glass jars & bottl es tin cans aluminum newspaper magazines phone books catalogs pap er sacks egg cartons cardboard office paper computer paper & cards household scrap paper rags plastic bags eyeglasses rubber bands crank case oil cooking fat automobile bodies & parts scrap metal appliances oyster shells vegetable & yard wastes glass jars & bottles tin cans alum inum newspaper magazines phone books catalogs paper sacks egg cart ons cardboard office paper computer paper & cards household scrap paper rags plastic bags eyeglasses rubber bands crankcase oil cooking fat automobile bodies & parts scrap metal appliances oyster shells veg etable & yard wastes glass jars & bottles tin cans aluminum newspaper magazines phone books catalogs paper sacks egg cartons cardboard of fice paper computer paper & cards household scrap paper rags plastic bags eyeglasses rubber bands crankcase oil cooking fat automobile bo dies & parts scrap metal appliances oyster shells vegetable & yard was tes glass jars & bottles tin cans aluminum newspaper magazines phone books catalogs paper sacks egg cartons cardboard office paper compu ter paper & cards household scrap paper rags plastic bags eyeglasses ru bber bands crankcase oil cooking fat automobile bodies & parts scrap metal appliances oyster shells vegetable & yard wastes glass jars & bot tles tin cans aluminum newspaper magazines phone books catalogs pa per sacks egg cartons cardboard office paper computer paper & cards household scrap paper rags plastic bags eyeglasses rubber bands crank case oil cooking fat automobile bodies & parts scrap metal appliances