

December 7, 1964

Subj: Progress Report  
Advisory Committee on Air Pollution

Dr. Robert N. Barr  
Secretary and Executive Officer  
Minnesota State Board of Health  
University Campus  
Minneapolis 14, Minnesota

Dear Dr. Barr:

Since the organizational meeting held on March 31, 1964, this Advisory Committee and its subcommittees have met many times and heard testimony from several experts on air pollution problems. As the Chairman of this Advisory Committee, I am submitting the following progress report for your consideration:

After reviewing the existing Minnesota State statutory authority and the existing legislation adopted by other states, it is our opinion that specific legislation is needed in Minnesota at the state and local levels of government to provide authority for air pollution control. This also will enable governments at the various levels to utilize funds available under the Federal Clean Air Act. The details and the essentials of the needed legislation are summarized in the "Suggested Outline of Proposed Air Pollution Control Legislation", as attached. This outline has been prepared after much deliberation and work by the members of the Advisory Committee.

As far as the role of the state government and the State Board of Health in the air pollution control program is concerned, we feel that air pollution is a statewide problem and the ultimate responsibility for dealing with it should rest with the state government. However, primary responsibility for the enforcement and administration of air pollution control programs should remain with local units of government. We recommend that the Minnesota State Department of Health should be assigned responsibility as the state agency and assume responsibility for providing the technical assistance and research in air pollution problems and their control. We also recommend that an advisory committee broadly represented should be appointed to assist the state agency in carrying out its assignment.

Our committee has reviewed a considerable amount of available literature in the field of air pollution with emphasis on that concerning or applicable to Minnesota. It was the opinion of this committee that very little work has been done on the collection of technical information on air pollution problems in Minnesota except for a report entitled "Appraisal of Air Pollution in Minnesota" prepared by the Minnesota Department of Health in 1961. We also found that funds, manpower, and the laboratory facilities are not presently available for detailed studies of air pollution problems which are necessary for establishment of a soundly based control program. The committee feels the state agency should be given a substantial appropriation by the Legislature in order to effectively carry out its responsibilities.

In regard to stimulating interest, planning, and action directed to the conservation of the vital state air resources, I am glad to report that very great interest in air pollution has developed within the committee and among those who are associated with the committee members. Since many members of this committee also have outside interests in activities related to air pollution, such as the Upper Midwest Section of the Air Pollution Control Association, we feel we are gradually moving in the direction of stimulating the interest of others in the conservation of air resources. We believe periodic news releases about the activity of this Advisory Committee and other activity related to air pollution may also be helpful in the promotion of air resources conservation.

This report only covers the progress of the work of this Committee up to the present time. Further recommendations will be made as they become available.

It is very important for us to receive the comments of the State Board of Health on our proposals so we can determine the direction we are to follow.

Very sincerely yours,

Bernard T. Holland, Chairman  
Advisory Committee on Air Pollution

AIR POLLUTION ADVISORY COMMITTEE MEMBERSHIP LIST

Dr. Ellen Z. Fifer  
Health Officer  
5925 West 37th Street  
St. Louis Park, Minnesota  
  
10200 Penn South  
Bloomington, Minnesota  
  
Richfield, Minnesota  
(Mailing address:  
10200 Penn South  
Bloomington, Minnesota)

Mr. Otto Christenson  
Executive Secretary  
Minnesota Employers' Association  
Picner Building  
St. Paul, Minnesota

Joseph T. Ling, Ph.D.  
Minnesota Mining & Manufacturing Co.  
900 Bush Avenue - Building 42..2W  
St. Paul 6, Minnesota

Mr. L. O. Mayer  
General Superintendent, Power Production  
Northern States Power Company  
15 South Fifth Street  
Minneapolis, Minnesota

Mr. F. C. Anderegg  
Utility Supervisor  
Great Northern Oil Company  
Pine Bend, Minnesota

Mr. Orville C. Peterson  
Executive Secretary  
League of Minnesota Municipalities  
314 Social Science Building  
University Campus  
Minneapolis, Minnesota 55455

Mr. Ralph Keyes  
Executive Secretary  
The Association of Minnesota Counties  
Griggs-Midway Building  
St. Paul, Minnesota 55104

Mr. George W. Martens  
Alderman  
City Hall  
Minneapolis, Minnesota

Mr. Demetrius G. Jelatis  
Mayor, City of Red Wing  
Red Wing, Minnesota

Mr. Mace Harris  
Vice-President  
Northwest Paper Company  
Cloquet, Minnesota

Dr. Harold J. Paulus, Assoc. Professor  
School of Public Health  
1140 Mayo  
University Campus  
Minneapolis, Minnesota 55455

Mr. Bernard T. Holland, Commissioner  
Department of Public Utilities  
Court House  
St. Paul, Minnesota

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DEPARTMENT OF HEALTH RESOURCE PERSONS

Robert N. Barr, M.D., Secretary and Executive Officer

F. L. Woodward, Director, Division of Environmental Health

Warren R. Lawson, M.D., Chief, Section of Radiation and Occupational Health

G. J. Raschka, Associate Chief, Section of Radiation and Occupational Health



# STATE OF MINNESOTA

DEPARTMENT OF HEALTH

UNIVERSITY CAMPUS

MINNEAPOLIS 55440

## Charge to Advisory Committee on Air Pollution

The State Board of Health for some time has been cognizant of the fact that troublesome air pollution problems now exist in small as well as in large communities throughout the State, and that unless adequate preventive efforts are undertaken now or in the very near future, the number and intensity of these problems will rapidly increase in the coming years. Our complex society, with its great urban concentrations of population, its interdependent economic system, and its increasing need for utilization of natural resources cannot exist without using air as a receptor for its waste products. The "public interest," however, in contrast demands a preservation of a quality of the air resources consistent with public health, comfort, welfare, protection of property and continued economic development and growth for the State and its communities. Air pollution control as a public problem requires a reconciliation of these divergent interests. The determination of the level of air pollution which is acceptable in our society must realistically involve questions of fact and value, of health, of esthetics, of engineering, and of law. There is no magic formula, no simple legal remedy, and it is in recognition of the complexity of these matters that the State Board of Health requests the assistance and counsel of this committee. For working objectives, the Board charges the Advisory Committee on Air Pollution to:

- (1) Gather and interpret available information regarding air pollution as a problem in Minnesota.
- (2) Stimulate interest, planning, and action directed to the conservation of the vital air resource of the state.
- (3) Develop recommendations concerning specific legislative needs at the state and the local levels of government in this problem area, with appropriate recognition of the special control problems presented by the Twin City metropolitan complex.
- (4) Assist in the delineation and definition of the appropriate role of the state government and the State Board of Health in air pollution regulatory and control functions in the state.

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It is very important for us to receive the comments of the State Board of Health on our proposals so we can determine the direction we are to follow.

Very sincerely yours,

Bernard T. Holland, Chairman  
Advisory Committee on Air Pollution

Suggested Outline of Proposed Air Pollution Control Legislation  
Advisory Committee on Air Pollution  
December 7, 1964

I. Introduction

It is the purpose of this outline to set forth the basic elements which, in the judgment of the Advisory Committee, should be included in legislation establishing an air pollution program for the State of Minnesota. The recommendations are organized in outline form rather than bill form with the thought that the requirements of legislative drafting may necessitate rearrangement and some reorganization.

The general principles on which the proposed legislation should be based are as follows:

- (1) Air Pollution is a problem of statewide concern and ultimate responsibility for dealing with it should rest with the state government. Primary responsibility for the enforcement and administration of Air Pollution Control Programs, however, should remain with local units of government.
- (2) An effective air pollution control program must utilize the resources of both the state and its political subdivisions and can be best accomplished by cooperative action between local governmental units combined with overall direction and technical assistance from the state.
- (3) A comprehensive air pollution control program must take into consideration factors in addition to those purely affecting health; therefore, it must deal with matters that affect the public welfare, including injury to agricultural crops and livestock, damage to and deterioration of property, and hazards to air and ground transportation.
- (4) Because of the unavailability of necessary data and studies at the present time, no standards regarding air pollutant emissions or ambient air quality should be included in the legislation, but the state should be given authority to adopt such standards after appropriate hearings and procedural safeguards.

II. Outline of Proposed Legislation

A. Statement of Policy

The legislation should contain a clear statement of the reasons for establishing an air pollution control program and the objectives which are sought by it. Although not essential to the validity of legislation, such policy statements do serve to focus the attention of legislators, courts, and the public on the intention of the legislature, and to some degree enhance the legislation's chances of passage and success in court. Such a policy statement might read as follows:

"The legislature of the State of Minnesota finds that the growth in the amount and complexity of air pollution brought about by urbanization and industrial development has resulted in mounting dangers to the public health and welfare, and that the prevention and control of air pollution at its source is essential to achieve a reasonable degree of purity of air resources for the state. It is the purpose of this act to protect the state's air resources so as to promote the public health

and welfare and the productive capacity of its population, to encourage and assist the development and operation of regional air pollution control programs, to initiate and accelerate a state research and development program to achieve the prevention and control of air pollution, to provide technical and financial assistance to local governments in connection with the development and execution of air pollution programs, and to designate a state agency with the authority to develop state-wide standards, rules and regulations for air quality and to enforce, in cooperation with local governments, these standards, rules and regulations."

## B. Definitions

The legislation should contain as a minimum the following definitions:

1. "Air Pollution" - This term should be defined broadly enough to include factors in addition to those affecting health only.
2. "Air Pollution Control Agency" - This term should be defined in substantially the same way as it appears in the Federal Clean Air Act, Public Law 88 - 206, Sec. 9.
3. "State Air Pollution Agency" - The State agency designated by this act to direct the state air pollution control program. The advisory committee recommends that the state agency be the State Board of Health.
4. "Municipality" - Any city, village, borough, county or town having village powers pursuant to Minn. Stats. Sec. 368.01.
5. "Standards" - This term should be defined to mean rules of the State agency which establish minimum levels of air pollution applicable to sources of pollutants and to the atmosphere, i.e., emission standards and ambient air quality standards.
6. "Rules and Regulations" - This term should be defined to include all other rules of the State and local agencies other than standards.
7. Various technical definitions (to be supplied later). (Dr. Ling will provide the writer of the bill any technical definitions needed.)

## C. Authorization for Municipalities to Conduct Air Pollution Control Programs

1. Every municipality should be authorized to conduct air pollution control programs consisting of the following elements:
  - a. Prevention and control of air pollution.
  - b. Abatement of air pollution nuisances.
  - c. Establishment of air pollution control agencies.
  - d. Research and fact finding studies in air pollution.
  - e. Inspection and enforcement to insure compliance with air pollution standards, rules and regulations.
2. Municipalities should be authorized to enter into cooperative agreements with other units for regional air pollution control programs pursuant to the Joint Powers Act, Minn. Stats. Sec. 471.59.



3. Existing air pollution control programs in municipalities should not be affected by this act except where inconsistent with provisions relating to authority of state air pollution control agency.
4. Municipalities should be authorized to finance air pollution control programs by:
  - a. General taxation.
  - b. Issuance of general obligation bonds for necessary capital acquisitions.
  - c. Imposition of permit fees and inspection fees for the installation of air pollution control devices.
  - d. Taxation outside mill limitations and indebtedness limitations.

In addition municipalities should be given clear authority to accept state and federal aid for these programs.

5. Local air pollution control agencies should be given authority to adopt air pollution rules and regulations including emission and air quality standards in the absence of state rules, regulations and standards, and where state rules, regulations and standards exist, to adopt rules, regulations and standards more restrictive than those of the state to fit the local need.
6. Municipalities shall be required to consult with the responsible state agency with regard to technical assistance before developing air quality and emission standards.
7. Local planning agencies should be required to consult with the state agency and any existing local air pollution control agency for recommendations as to factors affecting the location of air pollution sources in the area of the planning agency's jurisdiction.

D. The State Agency - Its Powers and Duties

The state's activity in the field of air pollution control should be centered in an existing state agency, the State Board of Health. This agency should be given the following duties and responsibilities:

1. Development of Air Pollution Standards. The State agency should have the authority to adopt minimum state-wide standards governing the air quality. Standards for emission may be established to attain the air quality standards designated and may vary from area to area to fit local conditions. These standards should be based on technically substantiated criteria and commonly accepted practice. The standards would be adopted by rule of the agency after hearing and notice, and would be state-wide in application but would not preclude the adoption of more restrictive standards by any local air pollution control agency.
2. Research and Technical Assistance. The state agency should be responsible for conducting the research necessary for an adequate air pollution control program. The agency should be empowered to conduct this research in cooperation with local air pollution control agencies where requested. The agency should be staffed to enable it to provide technical assistance to local agencies in conducting programs.

3. Regulatory Activity. The agency should be empowered to enforce air pollution rules and regulations in those situations
  - a. where no local regulation has been undertaken;
  - b. where local regulations have not been enforced; or
  - c. where conflicts between local jurisdictions have substantially impeded adequate regulation.

State action in the enforcement field should be undertaken only after a formal determination by the agency that one of the three above-mentioned conditions exist. The agency should be directed to use all available means of persuasion, conciliation, and informal contact to achieve compliance before resorting to enforcement procedures.

4. The agency should be charged with the responsibility of stimulating and encouraging local and regional activity in the air pollution control field.
5. The agency should be given the responsibility of administering any program of state financial assistance to local air pollution control agencies.
6. Advisory Committees. The agency should be required to appoint an advisory committee broadly representative of all sections of the state's government and economy. The agency should be required to consult with this committee on all matters affecting air pollution including the establishing of standards, the conduct of research, and the enforcement of standards, rules and regulations.
7. The agency should be given a substantial appropriation by the legislature in order to carry out these responsibilities effectively.
8. Tax Exemption. The advisory committee recommends that the legislature give due consideration to the allowance of tax exemption or for an accelerated depreciation schedule to be applied to the cost of the installation of air pollution equipment.

AN EVALUATION OF THE AIR POLLUTION ASPECTS  
OF THE PROPOSED STEAM-ELECTRIC PLANT  
AT OAK PARK, MINNESOTA

Attachment E

(Technical Assistance Branch, U. S. Public Health Service)  
December 1964

SUMMARY AND CONCLUSIONS

The installation and operation of the 550,000 kilowatt steam-electric plant at Oak Park, Minnesota, will generate large quantities of air pollutants, principally sulfur oxides, nitrogen oxides, and particulate matter. The particulate emissions will be controlled by an electrostatic precipitator with a design efficiency of 99 per cent. Thus the minimum particulate emission will be about 0.56 ton/24-hour day. It can be expected that this emission will be somewhat higher in actual operation.

A 785-foot stack will be installed to permit dispersion and dilution of gaseous pollutants. Calculations indicate that ground level concentrations of sulfur dioxide will probably not cause acute damage to vegetation. However, existing information is inadequate to predict with assurance whether long-term chronic effects will be experienced by long-lived vegetation such as trees. It is expected that the human perception threshold for  $\text{SO}_2$  will be exceeded occasionally within a mile of the plant.

The installation and operation of a second unit of 750,000 kilowatt capacity will more than double air pollution emissions. It can be expected that some damage to sensitive vegetation could occur. It can also be expected that  $\text{SO}_2$  ground concentrations will exceed the threshold perception limits more often than with only the 550,000 kilowatt unit in operation; however, this condition will still be experienced rather infrequently.

If the 550,000 kilowatt unit is built and operated, a  $\text{SO}_2$  monitoring network should be activated. This will assist in determining the effects of  $\text{SO}_2$  on the surrounding vegetation and people, as well as provide guides for future installation design.

Prevailing winds in this area are such that air pollutants will often be carried into Wisconsin. Therefore, officials of that State should take part in air pollution activities connected with the proposed plant.

Plans and studies should be started now to obviate future air pollution problems indicated by plans for expansion of this plant beyond the initial 550,000 kilowatt capacity.

# MINNESOTA STATE BOARD OF HEALTH

Statement for Public Hearing  
United States Senate  
Committee on Public Works  
Special Subcommittee on Air and Water Pollution  
Stillwater, Minnesota  
December 10, 1964

The Minnesota State Board of Health is honored to have the opportunity of being represented at this hearing for the purpose of presenting this statement regarding the activities and concerns of the Board in matters relating to air pollution. While Minnesota is not likely to experience air pollution problems as extensive as those that have been encountered in the more heavily industrialized areas, the State Board of Health has long recognized the need for development of a program of air pollution control.

The Minnesota Legislature in 1917 authorized the State Board of Health to adopt regulations having the force of law relating to matters of public health. In general, the Board has requested specific amendments to the law, Minnesota Statutes, Section 144.12, to authorize the adoption of regulations under this authority for particular areas of concern. In 1957 the Board requested the Legislature to amend the statute to permit adoption of regulations on atmospheric pollution. Before passage this amendment was reworded to read: "atmospheric pollution which may be injurious or detrimental to public health." Attachment A to this statement contains the pertinent material relating to this permissive authority.

Feeling the need for development of some competence in the field of air pollution control, the Board has made several requests for appropriations to establish a minimum air pollution control program, but thus far these requests have not been fruitful. The Board nonetheless has made every effort to use its influence constructively in these matters in every way possible. Some examples of these efforts follow:

1. For the past eleven years the Board has participated in the National Air Sampling Network, operating an air sampling station on the roof of the State Board of Health Building in Minneapolis, and also assisting in arrangements for establishing stations in other parts of the state. During the past nine years the Board has participated in the Radiation Surveillance Network of the U. S. Public Health Service, collecting air samples at the same location, in addition to other measures carried on for detection of radioactive contamination of the environment.
2. The Board has diverted personnel from other programs insofar as possible to develop a limited competence to provide technical consultative assistance to local government units, industries, and others in the design of solutions to specific air contamination problems. These activities have included the acquisition of some basic equipment for field investigations and analysis.

3. A joint study of air pollution as a present and future problem in Minnesota was undertaken in 1959 and 1960 cooperatively with the U. S. Public Health Service. The report of this nine-month appraisal was issued in early 1961 and widely circulated. A copy of this report is attached (attachment B).
4. At the request of the Ramsey County Legislative Delegation and officials of the City of St. Paul, a bill was prepared proposing a state air pollution control program for consideration by the 1963 Legislature. The bill was not enacted.
5. In March of 1964 the Board appointed an Air Pollution Advisory Committee to assist in the development of recommendations concerning "specific legislative needs at the state and local levels of government in this problem area, with appropriate recognition of the special control problems presented by the Twin Cities metropolitan complex," and to "assist in the delineation and definition of the appropriate role of the state government and the State Board of Health in air pollution regulatory and control functions in the state." The full charge to this committee and a copy of the membership of this committee are appended (attachments C). This committee has just completed a progress report and has prepared recommendations for air pollution legislation to be submitted to the Board for its consideration. The progress report and the legislative recommendations are also attached (attachment D). It is planned that a bill will be drawn with the assistance of the Office of the Revisor of Statutes for presentation to the forthcoming session of the State Legislature.
6. When preliminary proposals for a large electric-generator plant at Oak Park, Minnesota, became known, the Board immediately requested the assistance of the U. S. Public Health Service's Division of Air Pollution to evaluate this matter, and this assistance was forthcoming. A report of the Public Health Service evaluation has just been received and a copy of the conclusions and recommendations of this report is attached (attachment E). Also, the Board requested and obtained in September 1964 an emergency grant of \$3,000 from the State Legislative Advisory Committee in order to enable the Board to contract for the consultative services of a qualified air pollution control expert to render an additional objective opinion concerning these questions and to offer recommendations for any special controls necessary to prevent objectionable air pollution problems as a result of this facility. This independent report is expected to be available in the near future.

It seems apparent that while Minnesota does have specific air pollution problems, none of these are of grave magnitude or insoluble. It is the viewpoint of the Board that principal objectives of air pollution control activities at the local and state levels of government in Minnesota for the foreseeable future can be principally directed at the prevention of the development of conditions evident in many much more highly industrialized areas of the country today. The resolution of existing air pollution problems and the control and preservation of the generally excellent quality of the air resources in Minnesota require only public and industrial recognition of the need for broadened state and local authority to deal effectively with air pollution problems and adequate financing translated into effective programming by the State Legislature.

The Board has a long history of cooperating with its neighboring states in matters of joint interest, and it will most certainly cooperate with Wisconsin in any matter suggesting an interstate air pollution problem.