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AIR POLLUTION

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

EIGHTY-EIGHTH CONGRESS

FIRST SESSION

ON

H.R. 4415, H.R. 4750

BILLS TO IMPROVE, STRENGTHEN, AND ACCELERATE PROGRAMS FOR THE PREVENTION AND ABATEMENT OF AIR POLLUTION

H.R. 3507, H.R. 4061

BILLS TO ACCELERATE, EXTEND, AND STRENGTHEN THE FEDERAL AIR POLLUTION CONTROL PROGRAM

MARCH 18 AND 19, 1963

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AIR POLLUTION

MONDAY, MARCH 18, 1963

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON PUBLIC HEALTH AND SAFETY OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10:15 a.m., pursuant to call, in room 1301, Longworth Building, Hon. Kenneth A. Roberts (chairman of the subcommittee), presiding.

Mr. ROBERTS. The Subcommittee on Public Health and Safety of the House Committee on Interstate and Foreign Commerce is meeting this morning to begin hearings on air pollution bills pending before the committee to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution.

These bills are H.R. 4415, which I introduced; H.R. 3507 by Representative Fulton of Pennsylvania; H.R. 4061 by Representative Rodino of New Jersey; and H.R. 4750 by Mr. Halpern of New York.

H.R. 4415 and H.R. 4750 are identical; H.R. 3507 and H.R. 4061 are identical.

While the two sets of bills differ in some details, they have the same purpose; namely, to provide for a comprehensive national effort to control air pollution which presently jeopardizes the health and well-being of our Nation.

Unless we take prompt action on this matter, the problem will become increasingly severe in the near future.

The Subcommittee on Public Health and Safety has been interested in the problem of air pollution for a period of years. In 1955, the committee reported favorably on basic legislation establishing the present Federal air pollution research and technical assistance program. Since that time the subcommittee has been studying and reporting on this problem in every Congress. It is my hope that we can again enact good legislation on this subject this year.

Copies of H.R. 4415 and H.R. 3507 will be inserted in the record at this point, together with agency reports on these bills.

(The bills and reports referred to follow:)

[H.R. 4415, 88th Cong., 1st sess.]

A BILL To improve, strengthen, and accelerate programs for the prevention and abatement of air pollution

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of July 14, 1955, as amended (42 U.S.C. 1857–1857g), is hereby amended to read as follows:

"FINDINGS AND PURPOSE

"SECTION 1. (a) The Congress finds—

"(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally

cross the boundary lines of local jurisdictions and often extend into two or more States;

"(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

"(3) that the prevention and control of air pollution at its source is the primary responsibility of States and local governments; and

"(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

"(b) The purposes of this Act are—

"(1) to protect the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;

"(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

"(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

"(4) to encourage and assist the development and operation of regional air pollution control programs.

"COOPERATIVE ACTIVITIES AND UNIFORM LAWS

"SEC. 2. (a) The Secretary shall encourage cooperative activities by the States and local governments for the prevention and control of air pollution; encourage the enactment of improved and, so far as practicable in the light of varying conditions and needs, uniform State and local laws relating to the prevention and control of air pollution; and encourage the making of agreements and compacts between States for the prevention and control of air pollution.

"(b) The Secretary shall cooperate with and encourage cooperative activities by all Federal departments and agencies having functions relating to the prevention and control of air pollution, so as to assure the utilization in the Federal air pollution control program of all appropriate and available facilities and resources within the Federal Government.

"(c) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts, not in conflict with any law or treaty of the United States, for (1) cooperative effort and mutual assistance for the prevention and control of air pollution and the enforcement of their respective laws relating thereto, and (2) the establishment of such agencies, joint or otherwise, as they may deem desirable for making effective such agreements or compacts. No such agreement or compact shall be binding or obligatory upon any State a party thereto unless and until it has been approved by Congress.

"RESEARCH, INVESTIGATIONS, TRAINING, AND OTHER ACTIVITIES

"SEC. 3. (a) The Secretary shall establish a national research and development program for the prevention and control of air pollution and as part of such program shall—

"(1) conduct, and promote the coordination and acceleration of, research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, and control of air pollution; and

"(2) encourage, cooperate with, and render technical services and provide financial assistance to air pollution control agencies and other appropriate public or private agencies, institutions, and organization, and individuals in the conduct of such activities; and

"(3) conduct investigations and research and make surveys concerning any specific problem of air pollution confronting any air pollution control agency with a view to recommending a solution of such problem, if he is requested to do so by such agency or if, in his judgment, such problem may affect or be of concern to communities in various parts of the Nation or may affect any community or communities in a State other than that in which the source of the matter causing or contributing to the pollution is located.

"(4) in view of the nationwide significance of the problems of air pollution from motor vehicles, conduct studies of the amounts and kinds of substances

discharged from the exhausts of motor vehicles and of the effects of the discharge of such substances, including the amounts and kinds of such substances which, from the standpoint of human health, it is safe for motor vehicles to discharge into the atmosphere.

"(b) In carrying out the provisions of the preceding subsection the Secretary is authorized to—

"(1) collect and make available, through publications and other appropriate means, the results of and other informaton, including appropriate recommendations by him in connection therewith, pertaining to such research and other activities;

"(2) cooperate with other Federal departments and agencies, with air pollution control agencies, with other public and private agencies, institutions, and organizations, and with any industries involved, in the preparation and conduct of such research and other activities;

"(3) make grants to air pollution control agencies, to other public or nonprofit private agencies, institutions, and organizations, and to individuals, upon such terms and conditions as he may determine;

"(4) contract with public or private agencies, institutions, and organizations, and with individuals, without regard to sections 3648 and 3709 of the Revised Statutes (31 U.S.C. 529; 41 U.S.C. 5);

"(5) provide training for, and make training grants to, personnel of air pollution control agencies and other persons with suitable qualifications;

"(6) establish and maintain research fellowships, in the Department of Health, Education, and Welfare and at public or nonprofit private educational institutions or research organizations;

"(7) collect and disseminate, in cooperation with other Federal departments and agencies, and with other public or private agencies, institutions, and organizations having related responsibilities, basic data on chemical, physical, and biological air quality and other information pertaining to air pollution and the prevention and control thereof;

"(8) develop effective and practical processes, methods, and prototype devices for the prevention or control of air pollution; and

"(9) recommend to air pollution control agencies and to other appropriate organizations, after such research as he determines to be necessary, such criteria of air quality as in his judgment may be necessary to protect the public health and welfare.

"GRANTS FOR SUPPORT OF AIR POLLUTION CONTROL PROGRAMS

"SEC. 4. (a) There are hereby authorized to be appropriated $5,000,000 for the fiscal year ending June 30, 1964, $6,000,000 for each succeeding fiscal year to and including the fiscal year ending June 30, 1967, and $7,000,000 for the fiscal year ending June 30, 1968, for grants to air pollution control agencies to assist them in meeting the costs of establishing and maintaining programs for the prevention and control of air pollution. Sums so appropriated shall remain available for making grants as provided in this section during the fiscal year for which appropriated and the succeeding fiscal year.

"(b) From the sums available therefor for any fiscal year the Secretary shall from time to time make allotments to the several States, in accordance with regulations, on the basis of (1) the population, (2) the extent of the air pollution problem, and (3) the financial need of the respective States. For purposes of this section, population shall be determined on the basis of the latest figures furnished by the Department of Commerce, and per capita income for each State and for the United States shall be determined on the basis of the average of the per capita income of the States and of the continental United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce.

"(c) From each State's allotment under paragraph (b) for any fiscal year, the Secretary is authorized to make grants to air pollution control agencies in such State in an amount equal to two-thirds of the cost of establishing and maintaining programs for the prevention and control of air pollution: *Provided*, That the Secretary is authorized to make grants to air pollution control agencies described in section 10(b) (2) or (4) in an amount equal to three-fourths of the cost of establishing and maintaining regional air pollution control programs which meet criteria established in regulations by the Secretary as necessary for the effective control of air pollution in the area: *And provided further*, That in the case of grants to an interstate air pollution control agency (as defined in this Act) the

grant shall be made from the allotments of the several States which are members of such agency on such basis as the Secretary finds reasonable and equitable. As used in this subsection, the term "regional air pollution control program" means a program for the prevention and control of air pollution in an area that includes the areas of two or more municipalities, whether in the same State or different States.

"(d) Such grants shall be made, in accordance with regulations, upon such terms and conditions as the Secretary may find necessary to carry out the purposes of this section.

"(e) Sums allotted to a State under subsection (b) of this section which have not been obligated by the end of the fiscal year for which they were alloted because of a lack of approvable applications shall be realloted by the Secretary, on such basis as he determines to be reasonable and equitable and in accordance with regulations promulgated by him, to States from which approvable applications have been made but which have not been approved for grants because of a lack of funds in the allotment of such State. Any sum made available to a State by reallotment under the preceding sentence shall be in addition to any funds otherwise allotted to such State under this Act and shall be available for grants to air pollution control agencies in such State.

"ABATEMENT OF AIR POLLUTION

"SEC. 5. (a) The pollution of the air in any State or States which endangers the health or welfare of any persons, shall be subject to abatement as provided in this section.

"(b) Consistent with the policy declaration of this Act, municipal, State, and interstate action to abate air pollution shall be encouraged and shall not be displaced by Federal enforcement action except as otherwise provided by or pursuant to a court order under subsection (f) (1).

"(c) (1) (A) Whenever requested by the Governor of any State, a State air pollution control agency, or (with the concurrence of the State air pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to air pollution which is alleged to endanger the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originate, give formal notification thereof to the air pollution control agency of the municipality where such discharge or discharges originate, to the air pollution control agency of the State in which such municipality is located, and to the interstate air pollution control agency, if any, in whose jurisdictional area such municipality is located, and shall call promptly a conference of such agency or agencies and of the air pollution control agencies of the municipalities which may be adversely affected by such pollution, and the air pollution control agency, if any, of each State, or for each area, in which any such municipality is located.

"(B) Whenever requested by the Governor of any State, a State air pollution control agency, or (with the concurrence of the State air pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to alleged air pollution which is endangering the health or welfare of persons only in the State in which the discharge or discharges (causing or contributing to such pollution) originate and if a municipality affected by such air pollution, or the municipality in which such pollution originates, has either made or concurred in such request, give formal notification thereof to the State air pollution control agency, to the air pollution control agencies of the municipality where such discharge or discharges originate and of the municipality or municipalities alleged to be adversely affected thereby, and to any interstate air pollution control agency, whose jurisdictional area includes any such municipality, and shall promptly call a conference of such agency or agencies, unless, in the judgment of the Secretary, the effect of such pollution is not of such significance as to warrant exercise of Federal jurisdiction under this section.

"(C) The Secretary shall also call such a conference whenever, on the basis of reports, surveys, or studies, he has reason to believe that any pollution referred to in subsection (a) is endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate is occurring.

"(2) The agencies called to attend such conference may bring such persons as they desire to the conference. Not less than three weeks' prior notice of the conference date shall be given to such agencies.

"(3) Following this conference, the Secretary shall prepare and forward to all air pollution control agencies attending the conference a summary of conference discussions including (A) occurrence of air pollution subject to abatement under this Act; (B) adequacy of measures taken toward abatement of the pollution; and (C) nature of delays, if any, being encountered in abating the pollution.

"(d) If the Secretary believes, upon the conclusion of the conference or thereafter, that effective progress toward abatement of such pollution is not being made and that the health or welfare of any persons is being endangered, he shall recommend to the appropriate State or municipal air pollution control agency (or to both such agencies) that it take necessary remedial action. The Secretary shall allow at least six months from the date he makes such recommendations for the taking of such recommended action.

"(e)(1) If, at the conclusion of the period so allowed, such remedial action or other action which in the judgment of the Secretary is reasonably calculated to secure abatement of such pollution has not been taken, the Secretary shall call a public hearing, to be held in or near one or more of the places where the discharge or discharges causing or contributing to such pollution originated, before a hearing board of five or more persons appointed by the Secretary. Each State in which any discharge causing or contributing to such pollution originates and each State claiming to be adversely affected by such pollution shall be given an opportunity to select one member of such hearing board and at least one member shall be a representative of the Department of Commerce, and not less than a majority of such hearing board shall be persons other than officers or employees of the Department of Health, Education, and Welfare. At least three weeks' prior notice of such hearing shall be given to the State, interstate, and municipal air pollution control agencies called to attend such hearing and to the alleged polluter or polluters.

"(2) On the basis of evidence presented at such hearing, the hearing board shall make findings as to whether pollution referred to in subsection (a) is occurring and whether effective progress toward abatement thereof is being made. If the hearing board finds such pollution is occurring and effective progress toward abatement thereof is not being made it shall make recommendations to the Secretary concerning the measures, if any, which it finds to be reasonable and suitable to secure abatement of such pollution.

"(3) The Secretary shall send such findings and recommendations to the person or persons discharging any matter causing or contributing to such pollution; to air pollution control agencies of the State or States and of the municipality or municipalities where such discharge or discharges originate; and to any interstate air pollution control agency whose jurisdictional area includes any such municipality, together with a notice specifying a reasonable time (not less than six months) to secure abatement of such pollution.

"(f) If such action reasonably calculated to secure abatement of the pollution within the time specified in the notice following the public hearing is not taken, the Secretary—

"(1) in the case of air pollution which is endangering the health and welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originate, may request the Attorney General to bring a suit on behalf of the United States to secure abatement of the pollution. The court shall receive in evidence in any such suit a transcript of the proceedings before the hearing board in such case and copy of such board's recommendations and shall receive such further evidence as the court in its discretion deems proper. The court, giving due consideration to the practicability and to the physical and economic feasibility of securing abatement of any pollution proved, shall have jurisdiction to enter such judgment, and orders enforcing such judgment, as the public interest and the equities of the case may require.

"(2) in the case of air pollution which is endangering the health or welfare of persons only in the State in which the discharge or discharges (causing or contributing to such pollution) originate, shall send to the Governor and the attorney general of such State the findings and recommendations of the hearing board and his notice, together with a transcript of the hearing and his finding that action reasonably calculated to secure abatement of the pollution has not been taken, and at the request of such Governor or attorney general he shall provide such technical and other assistance as in his judgment is necessary to assist the State in judicial proceedings to secure abatement of the pollution under State or local law.

"(h) Members of any hearing board appointed pursuant to subsection (e) who are not regular full-time officers or employees of the United States shall, while participating in the hearing conducted by such board or otherwise engaged on the work of such board, be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding $100 per diem, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law (5 U.S.C. 73b–2) for persons in the Government service employed intermittently.

"(i) In his summary of any conference pursuant to this section, the Secretary shall include references to any discharge allegedly contributing to pollution from any Federal property. Notice of any hearing pursuant to this section involving any pollution alleged to be affected by any such discharges shall also be given to the Federal agency having jurisdiction over the property involved and the findings and recommendations of the hearing board conducting such hearing shall also include references to any such discharges which are contributing to the pollution found by such hearing board.

"REQUIREMENT OF REPORTS

"SEC. 6. (a) The Secretary is authorized to require any person whose activities result in the emission of air pollutants causing or contributing to air pollution which has been the subject of a conference under section 5 to file with him, in such form as he may prescribe, a report, furnishing to the Secretary such information as may reasonably be required as to the character, kind, and quantity of pollutants discharged and the use of devices or other means to prevent or reduce the emission of pollutants by the person filing such reports. Such report shall be made under oath or otherwise, as the Secretary may prescribe, and shall be filed with the Secretary within such reasonable period as the Secretary may prescribe, unless additional time be granted by the Secretary. All information in such report shall be considered confidential for the purposes of section 1905 of title 18 of the United States Code.

"(b) If any person required to file any report under this section shall fail to do so within the time fixed by the Secretary for filing the same, and such failure shall continue for thirty days after notice of such default, such person shall forfeit to the United States the sum of $100 for each and every day of the continuance of such failure, which forfeiture shall be payable into the Treasury of the United States, and shall be recoverable in a civil suit in the name of the United States brought in the district where such person has his principal office or in any district in which he does business: *Provided*, That the Secretary may upon application therefor remit or mitigate any forfeiture provided for under this subsection and he shall have authority to determine the facts upon all such applications.

"(c) It shall be the duty of the various United States attorneys, under the direction of the Attorney General of the United States, to prosecute for the recovery of such forfeitures. The costs and expenses of such prosecution shall be paid out of the appropriation for the expenses of the courts of the United States.

"COOPERATION BY FEDERAL AGENCIES TO CONTROL AIR POLLUTION FROM FEDERAL FACILITIES

"SEC. 7. It is hereby declared to be the intent of Congress that any Federal department or agency having jurisdiction over any building, installation, or other property shall, to the extent practicable and consistent with the interests of the United States and within any available appropriations, cooperate with the Department of Health, Education, and Welfare and with any air pollution control agency in preventing and controlling the pollution of the air in any area insofar as the discharge of any matter from or by such building, installation, or other property may cause or contribute to pollution of the air in such area.

"INFORMATION AVAILABLE TO PUBLIC

"SEC. 8. All research within the United States contracted for, sponsored, cosponsored, or authorized under authority of this Act shall be provided for in such manner that all information, uses, products, processes, patents, and other developments resulting from such research developed by Government expenditure will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be available to the general public.

This subsection shall not be so construed as to deprive the owner of any background patent relating thereto of such rights as he may have thereunder.

"ADMINISTRATION

"SEC. 9. (a) The Secretary is authorized to prescribe such regulations as are necessary to carry out his functions under this Act. The Secretary may delegate to any officer or employee of the Department of Health, Education, and Welfare such of his powers and duties under this Act, except the making of regulations, as he may deem necessary or expedient.

"(b) Upon the request of an air pollution control agency, personnel of the Public Health Service may be detailed to such agency for the purpose of carrying out the provisions of this Act. The provisions of section 214(d) of the Public Health Service Act shall be applicable with respect to any personnel so detailed to the same extent as if such personnel had been detailed under section 214(b) of that Act.

"(c) Payments under grants made under this Act may be made in installments, and in advance or by way of reimbursement, as may be determined by the Secretary.

"DEFINITIONS

"SEC. 10. When used in this Act—

"(a) The term 'Secretary' means the Secretary of Health, Education, and Welfare.

"(b) The term 'air pollution control agency' means any of the following:

"(1) A single State agency designated by the Governor of that State as the official State air pollution control agency for purposes of this Act;

"(2) An agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution;

"(3) A city, county, or other local government health authority, or, in the case of any city, county, or other local government in which there is an agency other than the health authority charged with responsibility for enforcing ordinances or laws relating to the prevention and control of air pollution, such other agency; or

"(4) An agency of two or more municipalities located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution.

"(c) The term 'interstate air pollution control agency' means—

"(1) an air pollution control agency established by two or more States, or

"(2) an air pollution control agency of two or more municipalities located in different States.

"(d) The term 'State' means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

"(e) The term 'person' includes an individual, corporation, partnership, association, State, municipality, and political subdivision of a State.

"(f) The term 'municipality' means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

"OTHER AUTHORITY NOT AFFECTED

"SEC. 11. This Act shall not be construed as superseding or limiting the authorities and responsibilities, under any other provision of the law, of the Secretary or any other Federal officer, department, or agency.

"SEPARABILITY

"SEC. 12. If any provision of this Act, or the application of any provision of this Act to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this Act, shall not be affected thereby.

"SHORT TITLE

"SEC. 13. This Act may be cited as the 'Clean Air Act'."

SEC. 2. The title of such Act of July 14, 1955, is amended to read: "An Act to provide for air pollution prevention and control activities of the Department of Health, Education, and Welfare, and for other purposes".

[H.R. 3507, 88th Cong., 1st sess.]

A BILL To accelerate, extend, and strengthen the Federal air pollution control program

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of July 14, 1955, as amended (42 U.S.C. 1857–1857g), is hereby amended to read as follows:

"FINDINGS AND PURPOSE

"SEC. 1. (a) The Congress finds—

"(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

"(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

"(3) that the prevention and control of air pollution at its source is the primary responsibility of States and local governments; and

"(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

"(b) The purposes of this Act are—

"(1) to protect the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;

"(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

"(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

"(4) to encourage and assist the development and operation of regional air pollution control programs.

"COOPERATIVE ACTIVITIES AND UNIFORM LAWS

"SEC. 2. (a) The Secretary shall encourage cooperative activities by the States and local governments for the prevention and control of air pollution; encourage the enactment of improved and, so far as practicable in the light of varying conditions and needs, uniform State and local laws relating to the prevention and control of air pollution; and encourage agreements and compacts between States for the prevention and control of air pollution.

"(b) The Secretary shall cooperate with and encourage cooperative activities by all Federal departments and agencies having functions relating to the prevention and control of air pollution, so as to assure the utilization in the Federal air pollution control program of all appropriate and available facilities and resources within the Federal Government.

"(c) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts, not in conflict with any law or treaty of the United States, for (1) cooperative effort and mutual assistance for the prevention and control of air pollution and the enforcement of their respective laws relating thereto, and (2) the establishment of such agencies, joint or otherwise, as they may deem desirable for making effective such agreements or compacts. No such agreement or compact shall be binding or obligatory upon any State a party thereto unless and until it has been approved by Congress.

"RESEARCH, INVESTIGATIONS, TRAINING, AND OTHER ACTIVITIES

"SEC. 3. (a) The Secretary shall establish a national research and development program for the prevention and control of air pollution and as part of such program shall—

"(1) promote the coordiation and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, and control of air pollution; and

"(2) encourage, cooperate with, and render technical services and financial assistance to air pollution control agencies and other appropriate public

or private agencies, institutions, and organizations, and individuals in the conduct of such activities; and

"(3) conduct investigations and research and make surveys concerning any specific problem of air pollution confronting any air pollution control agency with a view to recommending a solution of such problem, if he is requested to do so by such agency or if, in his judgment, such problem may affect or be of concern to communities in various parts of the Nation or may affect any community or communities in a State other than that in which the source of the matter causing or contributing to the pollution is located.

"(b) In carrying out the provisions of the preceding subsection the Secretary is authorized to—

"(1) collect and make available, through publications and other appropriate means, the results of and other information, including appropriate recommenadtions in connection therewith, pertaining to such research and other activities;

"(2) cooperate with other Federal departments and agencies, with air pollution control agencies, with other public and private agencies, institutions, and organizations, and with any industries involved, in the preparation and conduct of such research and other activities;

"(3) make grants to air pollution control agencies, to other public or nonprofit private agencies, institutions, and organizations, and to individuals, upon such terms and conditions as he may determine;

"(4) contract with public or private agencies, institutions, and organizations, and with individuals, without regard to section 3648 of the Revised Statutes (31 U.S.C. 529);

"(5) provide training for, and make training grants to, personnel of air pollution control agencies and other persons with suitable qualifications;

"(6) establish and maintain research fellowships, in the Department of Health, Education, and Welfare and at public or nonprofit private educational institutions or research organizations;

"(7) collect and disseminate, in cooperation with other Federal departments and agencies, and with other public or private agencies, institutions, and organizations having related responsibilities, basic data on chemical, physical, and biological air quality and other information pertaining to air pollution and the prevention and control thereof;

"(8) develop effective and practical processes, methods, and prototype devices for the prevention or control of air pollution;

"(9) recommend to air pollution control agencies and to other appropriate organizations, after such research as he determines to be necessary, such criteria of air quality as in his judgment may be necessary to protect the public health and welfare; and

"(10) establish, equip, and maintain regional field laboratory and research facilities for the conduct of research, investigations, experiments, field demonstrations and studies, and training relating to the prevention and control of air pollution, and insofar as practicable, each such facility shall be located near institutions of higher learning in which graduate training in such research might be carried out.

"GRANTS FOR SUPPORT OF AIR POLLUTION CONTROL PROGRAMS

"SEC. 4. (a) There are hereby authorized to be appropriated $5,000,000 for the fiscal year ending June 30, 1964, $6,000,000 for each succeeding fiscal year to and including the fiscal year ending June 30, 1967, $7,000,000 for each succeeding fiscal year to and including the fiscal year ending June 30, 1970, and $10,000,000 for each succeeding year to and including the fiscal year ending June 30, 1973, for grants to air pollution control agencies to assist them in meeting the cost of establishing and maintaining programs for the prevention and control of air pollution. Sums so appropriated shall remain available for making grants as provided in this section during the fiscal year for which appropriated and the succeeding fiscal year.

"(b) From the sums available therefor for any fiscal year the Secretary shall from time to time make allotments to the several States, in accordance with regulations, on the basis of (1) the population, (2) the extent of the air pollution problem and (3) the financial need of the respective States. For purposes of this section, population shall be determined on the basis of the latest figures furnished by the Department of Commerce, and per capita income for each State and for the United States shall be determined on the basis of the average

of the per capita incomes of the States and of the continental United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce.

"(c) From each State's allotment under paragraph (b) for any fiscal year, the Secretary is authorized to make grants to air pollution control agencies in such State in an amount equal to two-thirds of the cost of establishing and maintaining programs for the prevention and control of air pollution: *Provided*, That in the case of grants to an interstate air pollution control agency (as defined in section 10(b)(2), the grant shall be made from the allotments of the several States which are members of such agency on such basis as the Secretary finds reasonable and equitable.

"(d) Such grants shall be made, in accordance with regulations, upon such terms and conditions as the Secretary may find necessary to carry out the purposes of this section. Such regulations shall include provision for special financial incentives for regional air pollution control programs which meet criteria established by the Secretary as necessary for the effective control of air pollution in the area.

"(e) Sums allotted to a State under subsection (b) of this section which have not been obligated by the end of the fiscal year for which they were allotted because of a lack of approvable applications shall be reallotted by the Secretary, on such basis as he determines to be reasonable and equitable and in accordance with regulations promulgated by him, to States from which approvable applications have been made but which have not been approved for grants because of a lack of funds in the allotment of such State. Any sum made available to a State by reallotment under the preceding sentence shall be in addtion to any funds otherwise allotted to such State under this Act and shall be available for grants to air pollution control agencies in such State.

"(f) Payments of grants under this section shall be made through the disbursing facilities of the Treasury Department.

"AIR POLLUTION CONTROL ADVISORY BOARD

"SEC. 5. (a)(1) There is hereby established in the Department of Health, Education, and Welfare an Air Pollution Control Advisory Board, composed of the Secretary or his designee, who shall be chairman, and nine members appointed by the President none of whom shall be Federal officers or employees. The appointed members, having due regard for the purposes of this Act, shall be selected from among representatives of various State, interstate, and local governmental agencies, of public or private interests contributing to, affected by, or concerned with air pollution, and of other public and private agencies, organizations, or groups demonstrating an active interest in the field of air pollution prevention and control, as well as other individuals who are experts in this field.

"(2)(A) Each member appointed by the President shall hold officer for a term of three years, except that (i) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term and (ii) the terms of office of the members first taking office after July 1, 1964, shall expire as follows: Three at the end of one year after such date, three at the end of two years after such date, and three at the end of three years after such date, as designated by the President at the time of appointment. None of the members appointed by the President shall be eligible for reappointment within one year after the end of his preceding term.

"(B) The members of the Board who are not regular fulltime officers or employees of the United States, while attending conferences or meetings of the Board or while otherwise serving at the request of the Secretary, shall be entitled to receive compensation at a rate to be fixed by the Secretary of Health, Education, and Welfare, but not exceeding $100 per diem, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law (5 U.S.C. 73b–2) for persons in the Government service employed intermittently.

"(b) The Board shall advise, consult with, and make recommendations to the Secretary on matters of policy relating to the activities and functions of the Secretary under this Act.

"(c) Such clerical and technical assistance as may be necessary to discharge the duties of the Board shall be provided from the personnel of the Department of Health, Education, and Welfare.

"ENFORCEMENT MEASURES AGAINST AIR POLLUTION

"SEC. 6. (a) The pollution of the air in any State or States which endangers the health or welfare of any persons, shall be subject to abatement as provided in this section.

"(b) Consistent with the policy declaration of this Act, municipal, State, and interstate action to abate air pollution shall be encouraged and shall not be displaced by Federal enforcement action except as otherwise provided by or pursuant to a court order under subsection (g).

"(c)(1) Whenever requested by the Governor of any State, a State air pollution control agency, or (with the concurrence of the State air pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to air pollution which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originate, give formal notification thereof to the air pollution control agency of the municipality where such discharge or discharges originate, to the air pollution control agency of the State in which such municipality is located and to the interstate air pollution control agency, if any, of such State, and shall call promptly a conference of such agency or agencies and of the air pollution control agencies of the municipalities which may be adversely affected by such pollution, and the air pollution control agency and interstate agency, if any, of the State or States in which such municipalities are located. Whenever requested by the Governor of any State, a State air pollution control agency, or (with the concurrence of the State air pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to air pollution which is endangering the health or welfare of persons only in the requesting State in which the discharge or discharges (causing or contributing to such pollution) originate, give formal notification thereof to the air pollution control agency and interstate agency, if any, of the requesting State, to the air pollution control agencies of the municipality where such discharge or discharges originate, and of the municipality or municipalities alleged to be adversely affected thereby, and shall promptly call a conference of such agency or agencies, unless, in the judgment of the Secretary, the effect of such pollution is not of such significance as to warrant exercise of Federal jurisdiction under this section. The Secretary shall also call a conference whenever, on the basis of reports, surveys, or studies, he has reason to believe that any pollution referred to in subsection (a) and endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate is occurring.

"(2) The agencies called to attend such conference may bring such persons as they desire to the conference. Not less than three weeks' prior notice of the conference date shall be given to such agencies.

"(3) Following this conference, the Secretary shall prepare and forward to all the air pollution control agencies attending the conference a summary of conference discussions including (A) occurrence of air pollution subject to abatement under this Act; (B) adequacy of measures taken toward abatement of the pollution; and (C) nature of delays, if any, being encountered in abating the pollution.

"(d) If the Secretary believes, upon the conclusion of the conference or thereafter, that effective progress toward abatement of such pollution is not being made and that the health or welfare of any persons is being endangered, he shall recommend to the appropriate State or municipal air pollution control agency (or to both such agencies) that it take necessary remedial action. The Secretary shall allow at least six months from the date he makes such recommendations for the taking of such recommended action.

"(e) If, at the conclusion of the period so allowed, such remedial action has not been taken or action which in the judgment of the Secretary is reasonably calculated to secure abatement of such pollution has not been taken, the Secretary shall call a public hearing, to be held in or near one or more of the places where the discharge or discharges causing or contributing to such pollution originated, before a hearing board of five or more persons appointed by the Secretary. Each State and each municipality in which any discharge causing or contributing to such pollution orginates and each State and each municipality claiming to be adversely affected by such pollution shall be given an opportunity to select one member of such hearing board and at least one member shall be a representative of the Department of Commerce, and not less than a majority of such hearing

board shall be persons other than officers or employees of the Department of Health, Education, and Welfare. At least three weeks' prior notice of such hearing shall be given to the State, interstate, and municipal air pollution control agencies called to attend the aforesaid hearing and the alleged polluter or polluters. On the basis of evidence presented at such hearing, the hearing board shall make findings as to whether pollution referred to in subsection (a) is occuring and whether effective progress toward abatement thereof is being made. If the hearing board finds such pollution is occurring and effective progress toward abatement thereof is not being made it shall make recommendations to the Secretary concerning the measures, if any, which it finds to be reasonable and suitable to secure abatement of such pollution. The Secretary shall send such findings and recommendations to the person or persons discharging any matter causing or contributing to such pollution, together with a notice specifying a resonable time (not less than six months) to secure abatement of such pollution, and shall also send such findings and recommendations and such notice to the State, interstate, and municipal air pollution control agencies of the State or States, and of the municipality, where such discharge or discharges originate.

"(f) If action reasonably calculated to secure abatement of the pollution within the time specified in the notice following the public hearing is not taken, the Secretary—

"(1) in the case of air pollution which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originate, may request the Attorney General to bring a suit on behalf of the United States to secure abatement of the pollution.

"(2) in the case of air pollution which is endangering the health or welfare of persons only in the State in which the discharge or discharges (causing or contributing to such pollution) originate, may, with the written consent of the Governor of such State, request the Attorney General to to bring a suit on behalf of the United States to secure abatement of the pollution.

"(g) The court shall receive in evidence in any such suit a transcript of the proceedings before the hearing board in such case and a copy of such board's recommendations and shall receive such further evidence as the court in its discretion deems proper. The court, giving due consideration to the practicability and to the physical and economic feasibility of securing abatement of any pollution proved, shall have jurisdiction to enter such judgment, and orders enforcing such judgment, as the public interest and the equities of the case may require.

"(h) Members of any hearing board appointed pursuant to subsection (e) who are not regular full-time officers or employees of the United States shall, while participating in the hearing conducted by such board or otherwise engaged on the work of such board, be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding $100 per diem, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law (5 U.S.C. 73b–2) for persons in the Government service employed intermittently.

"(i) In his sumamry of any conference pursuant to this section, the Secretary shall include references to any discharges allegedly contributing to pollution from any Federal property. Notice of any hearing pursuant to this section involving any pollution alleged to be affected by any such discharges shall also be given to the Federal agency having jurisdiction over the property involved and the findings and recommendations of the hearing board conducting such hearing shall also include references to any such discharges which are contributing to the pollution found by such hearing board.

"REQUIREMENT OF REPORTS

"SEC. 7. (a) The Secretary is authorized to require any person whose activities result in the emission of air pollutants causing or contributing to air pollution which has been the subject of a conference under section 6 to file with him, in such form as he may prescribe, a report, furnishing to the Secretary such information as may reasonably be required as to the character, kind and quantity of pollutants discharged and the use of devices or other means to prevent or reduce the emission of pollutants by the person filing such reports. Such report shall be made under oath or otherwise, as the Secretary may prescribe and shall be filed with the Secretary within such reasonable period as the Sec-

retary may prescribe, unless additional time be granted by the Secretary. All information in such report shall be considered confidential for the purposes of section 1905 of title 18 of the United States Code.

"(b) If any person required to file any report under this section shall fail so to do within the time fixed by the Secretary for filing the same, and such failure shall continue for thirty days after notice of such default, such person shall forfeit to the United States the sum of $100 for each and every day of the continuance of such failure, which forfeiture shall be payable into the Treasury of the United States, and shall be recoverable in a civil suit in the name of the United States brought in the district where such person has his principal office or in any district in which he does business: *Provided*, That the Secretary may upon application therefor, remit or mitigate any forfeiture provided for under this subsection and he shall have authority to determine the facts upon all such applications.

"(c) It shall be the duty of the various United States Attorneys, under the direction of the Attorney General of the United States, to prosecute for the recovery of such forfeitures. The costs and expenses of such prosecution shall be paid out of the appropriation for the expenses of the courts of the United States.

"COOPERATION BY FEDERAL AGENCIES TO CONTROL AIR POLLUTION FROM FEDERAL FACILITIES

"SEC. 8. It is hereby declared to be the intent of Congress that any Federal department or agency having jurisdiction over any building, installation, or other property shall, to the extent practicable and consistent with the interests of the United States and within any available appropriations, cooperate with the Department of Health, Education, and Welfare and with any air pollution control agency in preventing and controlling the pollution of the air in any area insofar as the discharge of any matter from or by such building, installation, or other property may cause or contribute to pollution of the air in such area.

"ADMINISTRATION

"SEC. 9. (a) The Secretary is authorized to prescribe such regulations as are necessary to carry out his functions under this Act. The Secretary may delegate to any office or employee of the Department of Health, Education, and Welfare such of his powers and duties under this Act, except the making of regulations, as he may deem necessary or expedient.

"(b) Upon the request of an air pollution control agency, personnel of the Public Health Service may be detailed to such agency for the purpose of carrying out the provisions of this Act. The provisions of section 214(d) of the Public Health Service Act shall be applicable with respect to any personnel so detailed.

"(c) Payments under grants made under this Act may be made in installments, and in advance or by way of reimbursement, as may be determined by the Secretary.

"DEFINITIONS

"SEC. 10. When used in this Act—

"(a) The term 'Secretary' means the Secretary of Health, Education, and Welfare.

"(b) The term 'air pollution control agency' means any of the following:

"(1) A single State agency designated by the Governor of that State as the official State air pollution control agency for purposes of this Act;

"(2) An agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution;

"(3) A city, county, or local government health authority, or, in the case of any city, county, or other local government in which there is an agency other than the health authority charged with responsibility for enforcing ordinances or laws relating to the prevention and control or air pollution, such other agency; or

"(4) An agency of two or more cities, counties, or other local governments located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution.

"(c) The term 'State' means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

"(d) The term 'person' includes an individual, corporation, partnership, association, State, municipality, and political subdivision of a State.

"(e) The term 'municipality' means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

"OTHER AUTHORITY NOT AFFECTED

"SEC. 11. This Act shall not be construed as superseding or limiting the authorities and responsibilities, under any other provision of law, of the Secretary or any other Federal officer, department or agency.

"SEPARABILITY

SEC. 12. If any provision of this Act, or the application of any provision of this Act to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this Act, shall not be affected thereby.

"SHORT TITLE

"SEC. 13. This Act may be cited as the 'Clean Air Act of 1963'."

SEC. 2. The title of such Act of July 14, 1955, is amended to read: "An Act to provide for air pollution prevention and control activities of the Department of Health, Education, and Welfare, and for other purposes".

DEPARTMENT OF AGRICULTURE,
Washington, D.C., March 19, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: This is in reply to your requests for comments on H.R. 3507 and H.R. 4415, bills to strengthen the air pollution control program.

This Department favors the enactment of legislation for this purpose. The bills would authorize the Secretary of Health, Education, and Welfare to engage in a more intensive national research program permitting full investigation of the causes, effects, and control of air pollution through encouragement of State and local cooperation with Federal departments and agencies. Additionally, the bills provide for grants to air pollution control agencies to assist them in meeting the costs of establishing and maintaining their programs.

This Department has a direct interest in the abatement of air pollution as it affects human health. Additionally, individuals who produce, handle, process, and market farm and forest products, including animals, crop plants, and forest trees upon which this country depends for food, fiber, shelter, and other materials, are affected adversely by air pollutants. Adverse effects include not only the impairment of health and comfort to the individual, but also normal growth and development of farm animals and plants, and of forest trees.

Air pollution, especially from effluents containing fluorine, sulfur, and other compounds and combustion products, has been demonstrated to cause extensive crop, livestock, and forest damage. This Department has authority and will undertake such research and other appropriate action in the abatement of air pollution affecting agriculture as the relative importance of such problems make it necessary to include funds for them in budget requests.

The Bureau of the Budget advises that enactment of legislation along the lines of H.R. 4415 would be in accord with the program of the President.

Sincerely yours,

ORVILLE L. FREEMAN, *Secretary.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., March 26, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your request of March 9, 1963, for comments on H.R. 4415, a bill "to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution," and your request of February 22, 1963, for comments on H.R. 3507, a similar bill, "to accelerate, extend, and strengthen the Federal air pollution control program."

These bills would replace the act of July 14, 1955, as amended (42 U.S.C. 1857–1857g), with a new act which is to be known as the Clean Air Act. This new act provides authority for (1) intensified research, investigation, and training programs; (2) financial grants to State, municipal, and other air pollution control agencies; and (3) Federal action to abate interstate air pollution and, under certain conditions, to provide assistance to States and municipalities in the abatement of intrastate air pollution.

On February 7, 1963, the President sent to the Congress a special message on improving American health, which called for the enactment of new legislation to strengthen and intensify Federal air pollution control efforts in four broad areas, as follows:

"(*a*) To engage in a more intensive research program permitting full investigation of the causes, effects, and control of air pollution.

"(*b*) To provide financial stimulation to States and local air pollution control agencies through project grants which will help them to initiate and improve their control programs.

"(*c*) To conduct studies on air pollution problems of interstate or nationwide significance.

"(*d*) To take action to abate interstate air pollution, along the general lines of the existing water pollution control enforcement measures."

Both bills, H.R. 4415 and H.R. 3507, appear to be generally responsive to the needs in this field as outlined by the President. In his report to you on these bills, the Secretary of Health, Education, and Welfare has indicated the reasons for generally preferring the provisions of H.R. 4415 to those of H.R. 3507. The Bureau of the Budget concurs in the report of the Secretary of Health, Education, and Welfare and, for the reasons stated in the Secretary's report, believes that H.R. 4415 more appropriately meets the needs in this field.

We wish to call your attention specifically to section 4 of H.R. 4415, which authorizes grants for support of air pollution control programs. The report of the Secretary of Health, Education, and Welfare recommends a substantial revision of this section, since it authorizes a formula grant program for providing continuing support of air pollution control agencies rather than project grants to initiate and improve such programs, as called for by the President.

It is our view that Federal grants to State and local air pollution control agencies should be to initiate, stimulate, and improve air pollution control programs in those areas with the greatest need and problem. The bill rightly recognizes the primary responsibility of States and municipalities for the prevention and control of air pollution. Since there is considerable disparity among the States and localities both as to the seriousness of the air pollution problem and their efforts to deal with the problem, the objective of a Federal grant program at this time should be to provide short-term assistance directed toward initiating or strengthening control programs in those States and localities which have the most severe air pollution problems. We, therefore, recommend the following: (1) That section 4 be amended to provide for Federal project grants of limited duration for the purpose of initiating or strengthening air pollution control programs; (2) that authority be provided so that these grants could be made on a flexible basis, with provision that the Federal Government could match up to 66 percent of new project costs on State or local projects, and that special financial incentives could be provided for regional air pollution control programs which meet criteria established by the Secretary; and (3) that Federal grant support be provided on a declining basis over the duration of the projects in order to facilitate the gradual assumption of financial support for the control programs by the States and localities.

We have one further specific comment to make on H.R. 4415. The last sentence of subsection (c) of section 6 (which provides for certain reports to be made to the Secretary in enforcement cases and spells out the penalties for failure to make such reports) states that "The costs and expenses of such prosecution shall be paid out of the appropriation for the expenses of the courts of the United States." Since executive powers are to be exercised under this subsection, it would be inappropriate for the courts to bear the costs and expenses of carrying out this function. On this basis, we recommend deletion of this sentence.

The effect of this proposed deletion would be that any costs and expenses resulting from subsection (c) would be paid from appropriations to the Department of Justice.

Subject to the above considerations, you are advised that legislation along the lines of H.R. 4415 would be in accord with the program of the President.

Sincerely yours,

(Signed) PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

GENERAL COUNSEL OF THE DEPARTMENT OF COMMERCE,
Washington, D.C., March 20, 1963.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in further reply to your requests for the views of this Department concerning H.R. 3507 and H.R. 4415, bills to extend, accelerate, and strengthen air pollution prevention and control programs.

The President in his message of February 7, 1963, to the Congress relative to the health program recognized the damage caused by air pollution to the health and economy of our country, and stressed that greater emphasis be given to air pollution control by communities, States, and the Federal Government. He made the following recommendation:

"I therefore recommend legislation authorizing the Public Health Service of the Department of Health, Education, and Welfare—

"(*a*) To engage in a more intensive research program permitting full investigation of the causes, effects, and control of air pollution;

"(*b*) To provide financial stimulation to States and local air pollution control agencies through project grants which will help them to initiate or improve their control programs;

"(*c*) To conduct studies on air pollution problems of interstate or nationwide significance; and

"(*d*) To take action to abate interstate air pollution along the general lines of the existing water pollution control enforcement measures."

We have reviewed the subject bills and both appear to implement the recommendation of the President. The major differences in the bills concern the extent and duration of the grant programs and the provisions relating to enforcement measures against air pollution. Also, H.R. 3507 would provide for the establishment in the Department of Health, Education, and Welfare of an Air Pollution Control Advisory Board composed of the Secretary of HEW as Chairman and nine non-Government members to be appointed by the President.

This Department has consistently supported a vigorous Federal program in air pollution since its inception in 1955. Both the Weather Bureau and the National Bureau of Standards have direct interests in air pollution programs. Accordingly, we favor enactment of legislation such as H.R. 3507 and H.R. 4415. However, since the Department of Health, Education, and Welfare would be responsible for the administration of such legislation, we would defer to their views as to which bill would provide the most effective implementation of the President's recommendation.

We do offer for your consideration the following specific comment concerning these bills:

Section 3(b)(7) of both bills relating to research, investigation, training, and other activities should be clarified to insure the most efficient use of Federal competence. We suggest this section be revised to read:

"(7) collect and disseminate, in cooperation with other Federal departments and agencies, *and using the facilities of such departments and agencies where suitable*, and with other public or private agencies, institutions, and organizations having related responsibilities, basic data on chemical, physical, and biological air quality and other information pertaining to air pollution and the prevention and control thereof."

The Bureau of the Budget advised there would be no objection to the submission of this report to the committee.

Sincerely,

ROBERT E. GILES.

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., March 20, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense with respect to H.R. 3507 and H.R. 4415, 88th Congress, bills relating to air pollution control.

The purpose of the bills is to extend and strengthen the Federal air pollution control program.

In his message of February 7, 1963, relative to a health program, the President recommended legislation authorizing the Public Health Service of the Department of Health, Education, and Welfare—

(*a*) to engage in a more intensive research program permitting full investigation of the causes, effects, and control of air pollution;

(*b*) to provide financial stimulation to States and local air pollution control agencies through project grants which will help them to initiate or improve their control programs;

(*c*) to conduct studies on air pollution problems of interstate or nationwide significance; and

(*d*) to take action to abate interstate air pollution along the general lines of the existing water pollution control enforcement measures.

The Department of Defense endorses legislation to accomplish the purposes set forth above. However, this Department defers to the Department of Health, Education, and Welfare as to the wording of the legislation, inasmuch as it would be administered by that Department.

The Bureau of the Budget advises that, from the standpoint of the administration's program, there is no objection to the presentation of this report for the consideration of the committee.

Sincerely,

(Signed) JOHN T. MCNAUGHTON.

FEDERAL AVIATION AGENCY,
OFFICE OF THE ADMINISTRATOR,
Washington, D.C., April 16, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your letters of February 22, 1963, and March 9, 1963, requesting the views of this Agency on H.R. 3507, a bill to accelerate, extend, and strengthen the Federal air pollution control program, and H.R. 4415, a bill to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution.

Since the Department of Health, Education, and Welfare will administer any pollution abatement program which is authorized by the Congress, we defer to the views of that Department on the named bills.

We would note, however, that one of the findings of these bills is that air pollution poses hazards to air transportation. While smoke and smog and other pollutants detract from optimum flying conditions at times, we have no evidence that air pollution currently constitutes a condition of danger to flight.

The Bureau of the Budget has advised that there is no objection from the standpoint of the administration's program to the submission of this report to your committee.

Sincerely,

(Signed) N. E. Halaby,
N. E. HALABY,
Administrator.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
March 15, 1963.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of March 9, 1963, for a report on H.R. 4415, a bill "to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution," and your request of February 22, 1963, for a report on H.R. 3507, a similar bill "to accelerate, extend, and strengthen the Federal air pollution control program." This report also covers H.R. 4061, which is identical with H.R. 3507.

These bills would amend the act of July 14, 1955, as amended (42 U.S.C. 1857–1857g), to replace that act with a new version, a "Clean Air Act," which would provide for an increased and intensified research, investigation, and training program; would add new authority for financial grants to air pollution control agencies for establishing and maintaining air pollution control programs; and would provide new authority for action to abate air pollution. The major provisions of the bills are summarized below:

H.R. 4415 would authorize the Secretary of Health, Education, and Welfare to establish a national research and development program for the prevention and control of air pollution, including a directive to study air pollution deriving from motor vehicle exhausts, and providing, among other things, authority to develop processes, methods, and prototype devices for the prevention or control of air pollution; to recommend criteria for air quality; to provide training; and to collect and disseminate basic data.

The bill would also authorize a 5-year program of grants to State, local, or regional air pollution control agencies for the establishment or support of air pollution control programs. For this purpose, $5 million would be authorized to be appropriated for fiscal year 1964, $6 million for each succeeding fiscal year to and including fiscal year 1967, and $7 million for fiscal year 1968. Appropriations would be allotted among the States on the basis of population, extent of the air pollution problem, and financial need of the respective States (measured by per capita income). Funds not obligated by the end of the fiscal year for which they are allotted would be reallotted by the Secretary. From each State's allotment, the Secretary would make grants to air pollution agencies in an amount equal to two-thirds of the cost of establishing and maintaining programs for the prevention and control of air pollution, except that in the case of regional air pollution control programs which meet criteria established by the Secretary, in regulations, as necessary for the effective control of air pollution in the area, grants would be in an amount equal to three-fourths of the cost of establishing and maintaining the programs. (Provision is made for grants to interstate air pollution control agencies to be made from allotments of the constituent States.)

As a part of the national research and development program for the prevention and control of air pollution, the Secretary would be authorized to conduct investigations, research, and make surveys concerning any specific problem of air pollution confronting any air pollution control agency, if he is requested to do so by such agency, or if, in his judgment, the problem is interstate in nature or of nationwide significance. He would also be authorized to make recommendations for the solution of such problems.

In addition, the bill would authorize the Secretary to take action to abate interstate air pollution along the general lines of the existing water pollution control enforcement measures. In the case of air pollution which is endangering the health or welfare of persons in a State other than that in which the discharge originates, the Secretary would call a conference of the local and other air pollution control agencies of the States and areas involved either at the request of the Governor of a State, a State air pollution agency, or a municipality (with the concurrence of the State), or on his own initiative. Following the conference, if the Secretary believes that effective progress is not being made toward abatement and that the health or welfare of any person is being endangered, he would be required to recommend appropriate remedial action. If after 6 months appropriate remedial action has not been taken, the Secretary would be required to call a public hearing before an ad hoc hearing board of five or more persons appointed by him. Each State involved would be given an opportunity to choose one member of the board; one member would be a representative of the Department of Commerce; and at least a majority of the board would be persons other

than officers and employees of the Department of Health, Education, and Welfare. The board would make findings as to whether pollution is occurring and whether effective progress toward abatement is being made, and would recommend to the Secretary appropriate abatement measures. The findings and recommendations of the board would be sent to those causing or contributing to the pollution and to the control agencies concerned, with a notice specifying a reasonable time (not less than 6 months) to secure abatement of such pollution. If appropriate action is not taken in the specified time, the Secretary would be authorized to request the Attorney General to bring suit on behalf of the United States to secure abatement of the pollution.

In the case of intrastate air pollution, the Secretary would call a conference either upon the request of the Governor, the State air pollution agency, or a municipality (with the concurrence of the State agency). However, if a municipality has not made the request, then the concurrence of a municipality involved—i.e., the municipality where the pollution originates, or a municipality affected by the pollution—would be required. The Secretary would, however, not call such a conference if, in his judgment, the effect of such pollution is not of such significance as to warrant exercise of Federal jurisdiction. The same procedural steps as those involved in the case of interstate pollution would be provided up to and through the hearing stage. Enforcement, however, would remain with the State concerned. The Secretary would send the findings and recommendations to the Governor and the attorney general of the State and, if requested by the Governor or attorney general, would provide technical and other assistance necessary to assist the State in judicial proceedings to secure abatement of the pollution under State or local law.

A person whose air pollution activities have been the subject of a conference under the above-described provisions could be required by the Secretary to file a report furnishing such information as may be reasonably required as to the pollutants involved and as to the use of pollution control devices, and failure to furnish such information within the required time would, if such failure continues for 30 days after notice of default, give rise to a forfeiture of $100 per day recoverable by civil suit. (This provision is patterned on a similar one in the Federal Trade Commission Act.)

One other provision of the bill deserves mention. It would provide that research supported under the authority of the bill shall be provided for in such a manner that all patents, processes, products, uses, and information resulting therefrom will "be available to the general public." It is specifically provided that this section is not to be construed to deprive the owner of any background patents of his rights thereunder.

The need for a Federal program in air pollution control sufficiently augmented and reconstituted to deal effectively with the national responsibilities in this field was outlined by President Kennedy in his 1963 health message, presented to the Congress on February 7. The President called for legislation in four broad areas of activity. He asked the Congress for authority (*a*) to engage in a more intensive research program permitting full investigation of the causes, effects, and control of air pollution; (*b*) to provide financial stimulation to States and local air pollution control agencies through project grants which will help them to initiate or improve their control programs; (*c*) to conduct studies on air pollution problems of interstate or nationwide significance; and (*d*) to take action to abate interstate air pollution along the general lines of the existing water pollution control enforcement measures.

The bill would provide the authorities requested by the President, and we are in full accord with its objectives and, in most respects, with the specific provisions to carry out those objectives. However, the provisions of section 4, relating to grants for the support of air pollution control programs, are in need of revision in certain respects.

In the first place, the requirement that grants under this section be made for meeting a specified portion of the cost of establishing and maintaining programs for prevention and control of air pollution appears to imply continuing support which would apply to existing as well as new programs, and would embrace the entire program of a recipient agency until the end of the last fiscal year for which appropriations are authorized. This seems incompatible with the appropriation ceiling coupled with other fiscal requirements of the section. Even at the present level of State and local expenditures, the proposed annual appropriation authorization would be insufficient to meet the required two-thirds (or in the case of regional programs, three-fourths of the

maintenance costs of existing programs. (Currently throughout the Nation, States and local government agencies are expending more than $10 million annually in maintaining existing programs.) No provision is made in the bill for prorating of grants in the event of insufficient total appropriations.

There is, moreover, considerable disparity among and within the States in their air pollution control problems and needs, and great variation in the present readiness of States and communities to develop or improve programs for air pollution control. The vital need at this early stage, as indicated in the President's message, is for flexible authority to apply the limited Federal grant appropriations toward stimulation of air pollution control programs by giving support to the initiation of such programs where they do not now exist, and to the expansion and improvement of programs now in being, rather than furnishing continuing and programwide grant support of ongoing programs. To this end, we recommend that the Secretary be authorized to make grants (of limited duration), within the appropriation ceilings stated in the bill, to assist in meeting up to two-thirds (or up to three-fourths in the case of regional projects) of the cost of projects for the initiation, expansion, or improvement of air pollution control programs, rather than the cost of "maintaining" such programs.

In the second place, a statutory allotment provision such as that contained in the bill, which envisions distribution of funds according to formula, is not, at this stage, well suited to the accomplishment of these objectives. Such a provision would probably result in allotment of sums where they are not needed and later reallotment, with a year's delay in each instance. We therefore recommend deletion of the allotment provisions of the bill, and insertion of a paragraph directing the Secretary, in acting upon applications for grants, to take into consideration the desirability of an equitable geographical distribution of projects (giving due weight to the extent of the air pollution problem in various areas of the Nation and other relevant factors). We feel that these changes, and the larger Federal share for regional projects as an incentive for collaborative action by two or more States or municipalities, would make possible the most effective distribution of limited Federal funds and would assure that Federal aid would be directed toward those projects which are most directly related to the national objectives of the program.

We would also suggest amendment of section 3(a)(3) of the bill to make clearly discretionary the provision which authorizes the Secretary, if requested by an air pollution control agency, to conduct investigations and research or make surveys concerning any specific problem of air pollution confronting that agency. This could be done by inserting on page 4, line 24 of the bill, after the word "agency," the phrase "and in the judgment of the Secretary such problem is of sufficient significance."

With respect to the intrastate abatement provisions in subsection (c)(1)(B) of section 5 of the bill, we recommend changing the word "shall" in line 16, page 11, to "may" thus giving the Secretary flexibility and discretion in determining when to call a conference, so that he could take into consideration not only the significance of the air pollution problem but the extent to which the State and local agencies have attempted to exercise their authorities under appropriate State and local law.

Most of the provisions of H.R. 3507 and H.R. 4601 are identical with, or very similar to, those of H.R. 4415 and the comments and recommendations we have made above would apply to them as well. We would, however, call your attention to the major differences between the bills.

Instead of the 5-year program of grants for the support of air pollution control programs authorized in H.R. 4415, a 10-year program would be authorized in H.R. 3507 and H.R. 4601, with appropriation authorizations varying between $5 and $7 million the first 5 years, and going to $10 million for each of the last 3 years of the program. We prefer the 5-year authorization of H.R. 4415 as being more appropriate for a new grants program and offering a timely opportunity for congressional review after a reasonable period of experience under the new program.

H.R. 3507 and H.R. 4601 would authorize the Secretary to establish, equip, and maintain regional field laboratory and research facilities for the conduct of research and training relating to the prevention and control of air pollution. This authority is not at the present time necessary to carry out the research and training responsibilities under these bills.

H.R. 3507 and H.R. 4601 would establish an Air Pollution Control Advisory Board, consisting of the Secretary and nine members appointed by the President,

to advise and make recommendations to the Secretary on matters of policy relating to his functions under the act. We believe it preferable, however, to provide authority to establish by executive action such advisory committee or committees as the Secretary, from time to time, may deem appropriate to the circumstances rather than using the more rigid statutory approach.

H.R. 3507 and H.R. 4601 would authorize the Secretary, when action to secure abatement of an intrastate problem is not taken following a hearing thereon, and with the written consent of the Governor of the State concerned, to request the Attorney General of the United States to bring suit on behalf of the United States to secure abatement of the pollution. We prefer the enforcement provisions included in H.R. 4415 which limit the Secretary's action in such cases to notifying the State and, at its request, to render technical or other assistance to the State in judicial proceedings to secure abatement of the pollution under State or local law.

In brief, while the provisions of these bills are parallel in most respects, and they would effectively implement the recommendations in the President's health message, we prefer the provisions of H.R. 4415 and accordingly recommend its enactment with the modifications indicated above.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

(Signed) ANTHONY J. CELEBREZZE,
Secretary.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., March 18, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: This responds to your request for the views of this Department on H.R. 4415, a bill to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution.

We recommend enactment of the bill but recommend that it be amended as suggested below.

As the title of the bill states, it is intended to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution. The bill provides for air pollution prevention and technological source control activities within the Federal Government wherever these can be provided by available resources. The Department of the Interior has been active in air pollution abatement research and investigations since before 1912, in which year its Bureau of Mines published three bulletins on causes and means of preventing smoke emissions from coal-burning equipment. Publications followed shortly that recorded work of the Bureau of Mines on control of fumes from metallurgical processes and on developing adequate ventilation standards for automotive vehicular tunnels. Through the years that followed until mid-1954, during which period the major assigned Federal responsibilities regarding air pollution were concentrated within this Department, a long and impressive list of achievements and their documenting publications was developed by the Bureau of Mines.

Since 1955, this Department has been pleased to cooperate, through its Bureau of Mines, in the Federal air pollution abatement program that became a primary responsibility of the Public Health Service under Public Law 84–159. The Bureau of Mines air pollution interests center around technologic developments for the control of the sources of pollution which result from the production, processing, and utilization of minerals, mineral fuels, and their products. Bureau research on automobile and diesel engine exhaust has materially contributed to the knowledge on this subject. Research on the problem of reducing air pollution from thermal powerplants and other industrial, fuel-burning installations has provided much needed new information on the development of economic means for reducing the concentration of sulfur dioxide and oxides of nitrogen in the effluent gases from the stack.

We favor the enactment of H.R. 4415 because we believe there is a need for increased emphasis on air pollution abatement and because the bill provides the means and encouragement for the Secretary of Health, Education, and Welfare

to utilize fully the resources available to him from agencies such as our own that have much to offer to the Federal program of air pollution abatement.

Section 5(e)(1) provides for a public hearing to be held in or near one or more of the places where the discharge or discharges causing or contributing to pollution originate, before a hearing board of five or more persons appointed by the Secretary of Health, Education, and Welfare. The section also provides that at least one member of the hearing board shall be a representative of the Department of Commerce. Because operations involving production, processing, or utilization of mineral substances are major sources of air pollution, we believe that in many hearings this Department should be represented on the hearing board. We recognize that other Federal agencies may also have a similar need, and we recommend that the bill be amended as follows:

On page 13, lines 7–9, delete "at least one member shall be a representative of the Department of Commerce," and substitute "and each Federal agency that has a substantial interest in the subject matter shall be given an opportunity to select one member of such hearing board,".

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

JOHN M. KELLY,
Assistant Secretary of the Interior.

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, March 25, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: This is in response to your request for our comments on H.R. 4415, a bill to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution.

In his health message to the Congress last month the President called attention to the compelling need for greater emphasis on the control of air pollution by the local communities, States, and Federal Government. Evidence linking air pollution with the aggravation of certain illnesses, and the annual costs from an economic standpoint totaling about $11 billion were cited in the message as making action imperative.

We strongly urge the enactment of legislation in line with the recommendations of the President in his health message. However, we defer to the Department of Health, Education, and Welfare as to the specific provisions which such legislation should contain.

The Bureau of the Budget advises that there is no objection to the submission of this report from the standpoint of the administration's program.

Yours sincerely,

W. WILLARD WIRTZ,
Secretary of Labor.

Mr. ROBERTS. Our first witness today is a gentleman from California, the Honorable Everett G. Burkhalter, Member of Congress. Mr. Burkhalter came to us with some experience in the field and has served on the city council of Los Angeles and is quite familiar with this problem.

Mr. Burkhalter, it is a pleasure to welcome you to the committee. We are happy to have you proceed with your statement.

STATEMENT OF HON. EVERETT G. BURKHALTER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BURKHALTER. Thank you. Mr. Chairman and members of the committee, the No. 1 problem in America today, I feel, is air pollution. Some sections of the country refer to it as smog, but regardless of what

it is called it is a daily detriment, a serious daily detriment, to the health and welfare of each and every community in the land.

Certain of the scientists and air pollution experts and some health authorities try to say that this problem is confined to parts of California and a few of the other large metropolitan areas in the Nation. However, I have also discussed the problem of air pollution with many other individuals who feel that they are as well qualified to speak about the problems as any other authorities; and this latter group is of the opinion that air pollution is fast becoming the No. 1 problem in the Nation.

Physicians and health authorities have long held that air pollution is certainly a contributing factor, and perhaps one of the major causes, of lung cancer, heart ailments, asthma, tuberculosis, and other respiratory ailments.

The general public is still skeptical about what is really causing smog, or air pollution. Most experts still insist that the automobile, rather the motor vehicles, contribute in excess of 60 percent of all the pollutants and irritants which are discharged into the atmosphere.

The other factors which constitute the remaining 40 percent are spread out in smaller percentages; the following are some of these sources of air pollution: petroleum refineries, steel mills, chemical plants, rubber processing and finishing establishments, foundries, electroplating plants, steamplants, open dumps and even the municipally owned incinerators and a host of unlisted and unnamed industrial processing plants. Air pollution is also contributed to by each little community restaurant. What I mean by that is they are vented to the atmosphere. Your large hotels, your heating units in department stores, office buildings, and we find in California even the home heating unit, they are all vented, particularly gas and fuel oil. Of course you don't get air pollution from the use of electricity. These other basic fuels are all contributing factors to the air pollution problem.

It is our thinking in California when we start to control and come up with a solution it does not make any difference whether the pollutant is 1 or 20 percent as long as it is a contributing factor. We try to do what we can to curtail or eliminate it.

Each open burning of trash and leaves—in Los Angeles all backyard incinerators were outlawed because of the solid pollutants carried into the air each day. We had to close down our backyard incinerators, we had to abandon them. We even had to close our publicly owned municipal incinerators because they would not pass the requirements of our Air Pollution Control Board in Los Angeles County.

The first conclusion a person was apt to jump to was—if you didn't see smoke or dust, no air pollution was occurring. However, because of the intensive research and public educational programs presented today concering the many reasons for the pollution of air the public has become well aware that it is for the most part, the unseen vapors and chemicals which react one with the other to cause one's eyes to water and burn and cause terrific pains and discomfort in breathing to some individuals.

It has been pointed out that local, city, county, and even State laws are not the answer. Some of the industries that contribute a great deal to the smog problem in Los Angeles County are situated in other neighboring counties that have little or no regulation or law enforcement that has to do in any way with the control of air pollution.

Why? Because today there are thousands of individuals who commute to and from their daily occupations or businesses who may travel well over 50 miles a day over freeways, and these people may cross and recross many local, county, and even State boundaries during the day. It is easy to see that these local ordinances which attempt to control air pollution are meaningless, because the moving, fleeting pollutants are carried out and beyond the local boundaries of their origin by the changing wind and weather patterns and air currents.

The same rule naturally applies to the tourists, as well as the commuter.

There is the problem of air inversion in Los Angeles that is possibly different than any other community in the United States. We are living in a bowl in Los Angeles County. Our air currents shift two or three times a day. The air currents will move southerly, let's say, out toward Catalina Island; they may move out as far as 40 or 50 miles, depending, of course, on how fast the air currents are moving. The air currents will shift again in the evening or late hours of the morning; they will move back again into Los Angeles City and County, hit the mountains and reverse their course to the ocean. This movement of the air currents creates a perfect figure 8. This will go on sometimes for several days until such time as we get a constant air current, in one direction, say, that will last possibly 12 hours. Then it will shift and escape the Los Angeles Basin, going clear out beyond San Bernardino, most of it going over what we refer to as Cajon Pass in San Bernardino County. Coming in in airplanes you can see the smog overlay as far as 200 miles drifting clear down into Arizona. It causes terrific damage to plant life, agriculture, vegetation.

In the face of ordinary facts such as these, it is imperative for any control which is to be really effective to originate at the Federal level.

Today there are four or five different devices which have been tested and proven effective by the State of California Air Pollution Control Board for the control of air pollutants discharged into the atmosphere from the motor vehicle exhausts.

They have been tested by the county air pollution control board and I have seen thm tested in Detroit as far back as 4 or 5 years ago, at General Motors and Ford. We have gone into testing rooms, started the motors up with these devices on them, run them for a considerable time; no ill effects whatsoever. We went into another testing room immediately adjacent, started up a motor vehicle with no air pollution control device on it, and in five minutes you better get out of there; if you don't you will drop dead. Believe me, it is that bad. These control devices may be installed on automobiles at the factory as standard equipment.

I have discussed this problem with automobile manufacturers for many years—when I represented the city of Los Angeles—they said, "Yes," they agreed, they could install them as standard equipment. Some of the automobiles today, the 1962 models, are equipped with smog suppressors.

Unfortunately, these devices will cost the consumer money; but the comfort and contribution to the well-being, of not only the consumer and his family, but to every citizen in the Nation, far overrides the expenditure. These devices vary in cost. The devices I refer to would cost approximately $7 or more, or up to as much as $150—the more

costly device being a permanent type which would not have to be periodically replaced or re-cored, as in the case of some of the less expensive ones.

Now some of these devices start to break down, the cheaper models I speak of, at about 12,000 miles. Then they must be replaced, the core I refer to or a refill, for somewhere in the neighborhood of about $3.50 or $4.00.

In regard to the other 40 percent of air contamination, the control of the pollutants from the small and large industrial establishments is a factor which can be a financial drain on companies which are still paying interest and principal on original loans, and will be for the next 10 or 15 years. A large portion of these new industrial plants have been started and established in the last 7 to 15 years, and a high percentage of the owners are veterans who received their initial loan from the Small Business Administration.

In talking to many of these individual owners, I have found that, although they are incumbered with present financial obligations they would be more than willing to seek further loans which would make it possible for them to install air pollution control devices on any all processes they employ which are presently contaminating the atmosphere, if such loans would be made available from the governmental agncies at a low interest rate.

It is not the desire of any of us advocating the enforcement of controls of air pollution to harass or close down any of our industrial, commercial, or any firms which are contributing to the economic well-being of our country. However, this is a two-way street, and the public health is of the first importance.

Due to this dual involvement, and to the ready cooperation of many of the firms to install devices to control the emission of pollutants from their establishments. I believe that those of us in the legislative branches of the Federal Government are obligated to make low-interest loans available to this group because of the very important contribution to the welfare and health of the Nation this control of air pollution would be.

I, therefore, urge all members of the Committee on Interstate and Foreign Commerce to weight the responsibilities involved in the interest of public health, and urge that Congressman Robert's bill, H.R. 4415, be supported and passed by this committee.

Mr. Smith Griswold, our air pollution control officer, could not be here this morning, but he has sent a representative. In my opinion Mr. Griswold is the top expert in the field of air pollution in this country.

One thing I want to comment about: we didn't have this trouble, say, prior to 20 years ago. The man that caused all this trouble in the first place is a man known as Dr. Houdry, a French chemist who came to America in the early 1920's, practically penniless, and invented and patented a process known as the Houdry cracking method to refine petroleum; and he became immensely wealthly because of the process.

Now the gentleman is deceased; he just passed away about a year ago or so. Some of you may have known him. I think he lived in Pennsylvania; I have been in his home several times. He is one of the gentlemen that invented one of these processes that is considered to be one of the best in the country that will eliminate, or control, let's say, air pollution and contamination. It comes from the motor vehicle.

Something else I want to remind you of, and it is one that affects every municipality in this country of over 50,000 people. It is mass transportation. They are so closely alined and so closely related. When we talk of mass transportation, and when we purchase equipment, I don't care whether it be buses, street cars, monorail, dual rail, whatever system it might be; don't make the mistake, I say, that a lot of municipalities have made, because today there is no device manufactured and proven that will control the emissions that are discharged into the air and atmosphere from a diesel motor.

On all of our gasoline-propelled motors, we have had to install air pollution control equipment in Los Angeles and we have had the best of cooperation from industry.

I want to say this in closing, too: That had we not had the support and cooperation that we have received from industry—I refer to the oil industry and all those that I mentioned that were some of the contributing factors—we would not be able to live in Los Angeles City and County today. I have gone out with the air pollution control officers. They patrol the city and county just like a police patrol car patrols a community. When they see a plant or an industry discharging, in the atmosphere, something that appears to be smog, we stop, go in and talk to the management. As I mentioned before, they say, "Yes, we will be willing to cooperate, we would be willing to install some kind of antismog device or equipment in our plant but we are still in hock. We still have unpaid obligations which amount to a third of our total investment." These are small businesses now—under $100,000. The cheapest air pollution control equipment you can install in any kind of an industrial plant is in excess of $18,000 up. Many of our large industrial plants, including our refineries, steel mills, and chemical plants have spent into the hundreds of thousands of dollars to control the pollutants and contamination that is coming from their plants.

We have had to cope with this problem as I mentioned, I think, as far back as 1945. We were one of the first major cities in this country troubled with the smog problem. We set up State legislation, enabling legislation to deal with this dangerous new problem. I was in the legislature at the time when the Los Angeles Air Pollution Control Board was created by the board of supervisors. I think they dedicated their building in 1949.

In California, more than half of all the moneys that have been spent in this country on air pollution and research, more than half—more than $4½ million has been spent in the State of California.

Thank you so much, gentlemen. I do appreciate the opportunity of coming here and appearing before your committee and expressing my views and my thinking on what I believe to be one of the major problems that confront practically every municipality in this country today that has a population in execess of 50,000 people.

If there are any questions, gentlemen, that any of you care to ask, if I can answer them, I will be glad to do so.

Mr. ROBERTS. Thank you, Mr. Burkhalter. I want to express the feeling of the subcommittee in saying we do appreciate your statement. We congratulate you on having been officially connected, even prior to your membership in the Congress, with the official family of your city which has done a very fine job, and is going to a great deal of effort and expenditure of funds in trying to cope with this problem.

I might say that a great deal of the support that we have had in this committee for this type of legislation has come from the experience and the support of people you mentioned, like Mr. Griswold and others, who have been outstanding in this field.

I also appreciate the fact that you see that it will be somewhat of a financial drain on many of these companies to acquire this equipment; and I am sure that when we start considering this bill, these other bills which I have mentioned, we may very well consider some type of loan provision that we might be able to recommend even in the bill or in the report.

I would like to ask you just one question with reference to the blowby devices that I believe are now installed on all new cars and sold in your State.

Do you have any experience or any knowledge of what the contribution of this blowby device has been up to this point or is it too early to assess that?

Mr. BURKHALTER. Mr. Chairman, I believe our legislature in California as recently as January passed State legislation, I could be mistaken but I believe it was in January, concerning the blowby devices and they are being installed. Just how efficient, percentagewise, they are, I don't know but I do understand—that they do contribute or help to reduce the amount of pollutants and irritants that are discharged into the air from the motor vehicles on which they are installed. Percentagewise I don't know whether it is 30 or 40 percent. I am inclined to believe from some of the people I talked to that somewhere in the neighborhood of 40 percent; but I could be wrong, sir.

Mr. ROBERTS. Of course, as you mentioned, until this is a nationwide thing—you still have the many tourists coming into your wonderful State—and until those cars also have some type of reduction device or purification device, your problem will continue to grow because I know you still want us to come to California.

Mr. BURKHALTER. Yes, we do.

Mr. ROBERTS. That is all I have.

Mr. Rogers?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

We do appreciate your statement.

Mr. BURKHALTER. Thank you very much.

Mr. ROGERS of Florida. What do you do in California now when particular factories and companies say they cannot put on the necessary equipment to prevent the pollutants?

Mr. BURKHALTER. Well, we go out there, as I mentioned before, and they say, "Well, look, we just don't have the finances to install the equipment." It is certainly not the intent to close down any industry.

Now we talked about it there in Los Angeles City when I was on the council and certainly we said it is not the intent and we are not going to close them down unless it is absolutely necessary.

Now there are times in the summer, when the smog is the worse, when the humidity gets the lowest—we have had to close down some industries temporarily for a few hours. We have had to convert over from diesel fuel to natural gas, particularly in our steamplants for sometimes as long as 3 or 4 months.

Mr. ROGERS of Florida. Was any financial aid given?

Mr. BURKHALTER. No financial aid, no. Not to my knowledge.

Mr. ROGERS of Florida. But you did take the action of closing them down?

Mr. BURKHALTER. Temporarily, a few of them. I say that is not the answer to the solution and we want to keep as far away from interfering with private industry as possible.

Mr. ROGERS of Florida. Is there any attempt on the part of the State of California of maybe through our State government to provide funds of lower interest?

Mr. BURKHALTER. Oh, we have discussed it but there has been no favorable action taken on it.

Mr. ROGERS of Florida. They do not think it's a problem for the States?

Mr. BURKHALTER. No; they think it is a national problem; and in my opinion it is. As I say, pollution and smog know no boundaries. People today commute—as the case happens right here in the District, people from Virginia, Maryland, and other counties and so forth.

Mr. ROGERS of Florida. Is there a State law that required the blow-by devices on automobiles or was it a county law which required the devices?

Mr. BURKHALTER. No; State.

Mr. ROGERS of Florida. So the State acted in that particular instance?

Mr. BURKHALTER. Yes.

Mr. ROGERS of Florida. And you feel that is being effective?

Mr. BURKHALTER. It does help a lot, yes.

Mr. ROGERS of Florida. Thank you very much.

Mr. BURKHALTER. Thank you so much.

Mr. ROBERTS. Mr. Nelsen.

Mr. NELSEN. I noticed in your testimony that you pointed out the success that had been achieved because of local, shall we say, pressure or request for proper arrangements for smog. I am just wondering if it has been successful as you have indicated, if there is not the possibility that the few dollars that are included in this bill is of little consequence as far as an individual State is concerned, it seems to me we are assuming that the Federal Government will cure something with a few dollars that you have so successfully cured by local leadership.

I notice in the bill there is $5 million through 1963, $6 million through 1967, $7 million up to 1970 and $10 million up to 1973. Now that is a lot of money but when you divide it between 50 States it can't begin to substitute for what you have done by local leadership and local initiative. And I have in mind, for example, in some of our instances where we move in the way Federal programs and what have you, I know of many municipalities that lay back and wait because they think maybe sometime in the near future they will get the Federal appropriation instead of doing what you have done out there by local leadership. It is possible that we may not solve it in this manner. I would like to also refer to the so-called blowby device which is now generally becoming being installed in automobiles.

I just bought a new car and it is so equipped. That has been done largely because of hearings that we have had where the industry has been alerted to the need and they have seen the wisdom of doing

something on a voluntary basis. Now we had extensive hearings on the seat belt situation and many of the manufacturers are moving in that direction because of leadership as you have exercised and as we have tried to exercise. And it seems to me that it is almost clear that the hearings that we have had, for example, on this bill, may be more contributory to a solution that the dollars involved. Of course, I am thinking of the budget angles and I am not sure that this is even included in the budget; and if there is proper requests made for this I don't know.

I want to compliment you for the testimony that you have given. I think you have endorsed to a degree the point I make and I think the real emphasis must be at the State level and local level to bring to mind the needs that exist in the community.

Thank you, Mr. Chairman.

Mr. BURKHALTER. Thank you so much, Mr. Chairman.

Mr. ROBERTS. Our next witness will be the Under Secretary of the Department of Health, Education, and Welfare, Hon. Ivan A. Nestingen, who is accompanied by the Surgeon General of the U.S. Public Health Service, Luther L. Terry.

We are glad to have you gentlemen with us today and I say it is always a pleasure to have you, Mr. Secretary, and to have you with us, Dr. Terry.

You may proceed with your statement.

STATEMENT OF HON. IVAN A. NESTINGEN, UNDER SECRETARY, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE; ACCOMPANIED BY HON. LUTHER L. TERRY, SURGEON GENERAL, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE; AND U. G. MacKENZIE, CHIEF, DIVISION OF AIR POLLUTION, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mr. NESTINGEN. Thank you, Mr. Chairman and members of the committee. It certainly is my pleasure to make this appearance on behalf of the Department of Health, Education, and Welfare, along with Dr. Terry and Mr. MacKenzie on a subject matter which in my judgment is really quite important across the country. I say it is quite important in the real sense of the word because I do believe that there is no doubt that, unless there is an increased Federal effort in air pollution control, the situation existing today is going to become much more aggravated to a point that is unwarranted in the judgment of our Department and in my judgment by any standard of good commonsense.

I, therefore, am particularly appreciative of this opportunity to make comments to the committee in support of legislation designed to strengthen and extend Federal efforts to combat air pollution and to provide new means for stimulating and reinforcing State and local air pollution control programs.

In the interest of conserving the limited time available for these hearings—and in recognition of your committee's review of this problem last year, I shall not undertake at this time to outline the scope and significance of our national air pollution problem or to review the progress that has been made in developing effective measures of pre-

vention and control. Rather, my statement will be directed primarily toward the additional steps that need to be taken, with particular attention to the program proposals contained in the related bills now under consideration by your committee.

In support of my comments and recommendations, however, there is appended to this statement a background statement which briefly summarizes the nature and extent of the air pollution problem, the advances and remaining gaps in our scientific knowledge and technology in the field, and the scope and status of Federal, State, and local programs relating to air pollution.

This background review—reinforced by the findings and conclusions of many special studies and of two national conferences—clearly demonstrates a twofold need.

First, we must extend and increase present programs of Federal leadership and assistance with respect to air pollution research, training, and the development of measurement and control techniques. We have made gratifying progress in advancing scientific knowledge of the causes and processes of air pollution and in the development of certain techniques for effective controls, but for many of our most difficult problems we have yet to discover an effective answer. Furthermore—and this point needs to be underscored—many of our most difficult air pollution problems stem from a revolution in industrial and scientific technology that is still in progress. The advancement and dissemination of scientific knowledge regarding air pollution must therefore be given continued emphasis as the foundation on which future progress will depend.

Second, without diminishing our research efforts, we must give new emphasis to programs aimed at applying the scientific knowledge now available to correct or ameliorate existing air pollution problems. The immediate application of available knowledge will have a threefold value:

(*a*) It can substantially help to reduce existing health, agricultural, and economic hazards of air pollution. Certainly it makes no sense to invest in research programs if the practical findings of such research are not applied as rapidly as possible.

(*b*) The immediate application of known control methods is the best method of preventing future problems. Two of the chief characteristics of environmental contamination are the cumulative nature of contamination and the difficulty of correcting established sources of contamination. This is true in air pollution as well as in water pollution and in the field of radiological contamination. Prevention is almost always less costly and more effective than the elimination of established hazards.

(*c*) While the scope and techniques of control will undoubtedly change and improve in the years ahead, their success will depend in large measure on the availability of trained and experienced control personnel. The establishment now of such a basic staff is therefore one of the most prudent investments possible for the control of the more acute air pollution problems that will undoubtedly have to be met in the near future.

It is for these reasons that the President, in his special health message on February 7 of this year, stated that—

> it is imperative that greater emphasis be given to the control of air pollution by communities, States, and the Federal Government.

His specific recommendations, which are reflected in the legislation under consideration today, give new and emphatic stress to the control concept and approach to air pollution problems.

Before proceeding to a review and evaluation of the particular provisions of the bills before you, Mr. Chairman, let me comment briefly on two terms or concepts—"control" and "enforcement"—that have particular significance in this new approach to the air pollution problem. These two terms or concepts are often used as if they were synonymous, but in our opinion this is a misleading use that needs correction.

Enforcement is certainly one of the necessary tools in any program to prevent or control pollution. But it is not the only tool. Generally speaking, enforcement is the last control device to be applied, and it will be required in only a few situations in most communities. For the most part effective control relies on the development of valid data on local pollution problems and their causes, upon competent technical advice and consultation, upon the development of technical standards and of practical and equitable measures for eliminating or reducing specific pollution hazards, and finally upon education of the community as to the nature of the existing problem and the significances of remedial action proposed. It is this broader concept of control that underlies the legislative proposals we are discussing today—a concept that gives emphasis, at all governmental levels, to the development of technically competent solutions for specific air pollution problems, including law enforcement where such might be necessary.

As indicated in our departmental report, Mr. Chairman, while all four of the bills before you are similar in their approach and principal provisions, we have a preference for the provisions of H.R. 4415 and, subject to certain modifications, would recommend its enactment.

The provisions of the bill would constitute a substantial revision and expansion of the existing statutory authority in the act of July 14, 1955. Following a section on congressional findings and purpose, section 2 of the proposed Clean Air Act would carry over existing provisions of law relating to cooperation among governments and among Federal departments and agencies and would grant the consent of Congress to interstate compacts and agreements directed toward the prevention and control of air pollution.

Section 3 of the bill would provide continuing authority, without specific annual appropriations limitations, for the conduct and support of research, investigations, training, and demonstrations relating to air pollution. While most of this authority is provided in existing statutory provisions, subject to time limitations and appropriations ceilings, the proposed authority is more explicit in several respects. For example, it would specifically authorize the Secretary to "develop effective and practical processes, methods, and prototype devices for the prevention or control of air pollution" and also to recommend to air pollution agencies and other appropriate agencies—

such criteria of air quality as in his judgment may be necessary to protect the public health and welfare.

These provisions are supplemented by a later requirement (in section 8 of the bill) that all information, products, and patents resulting from research supported pursuant to provisions of this bill will, subject

to limitations in the interests of national defense, be available to the general public.

In our opinion, these provisions of the bill are excellent and would provide an even more complete statutory base than we now have for our research, training, and related activities.

Section 4 of the bill would authorize an entirely new 5-year program of Federal grants for the establishment and maintenance of air pollution control programs of interstate, State, and local agencies. Appropriations of $5 million would be authorized for such grants for the first year, $6 million each for the next 3 years, and $7 million for the fifth year. Grant funds would be allotted among the States on the basis of the population, the extent of the air pollution problem, and relative financial need. In the case of single State or local agency, Federal grants would be in amounts equal to two-thirds of the cost of establishing and maintaining programs. In the case of an interstate agency or an agency of two or more municipalities, the Federal grant would be equal to three-fourths of the program costs. Provision is made for the reallotment of unused allotments of any States.

We are in complete accord with the basic purposes and objectives of this new grant authorization. The principal focus of any nationwide program to develop effective air pollution control programs must be the establishment and strengthening of control agencies in every State and in all the larger municipalities. While considerable progress has been made in this direction in recent years, only 17 States now have agencies with annual budgets of $5,000 or more. At the local level, there are only 86 agencies with annual budgets of $5,000 or more, and only 34 spend more than $25,000 per year.

We would therefore assign high importance and priority to a State and community grant program. We also endorse the concept that preferential grant terms should be provided for interstate and intermunicipal air pollution control agencies. Since effective control programs in many areas will require concerted action by two or more States or municipalities, such preferential terms are highly desirable as an incentive for collaborative action.

As indicated in our report on H.R. 4415, however, we believe that some modification is needed in the present provisions of the bill governing these control grants to State and local agencies. Even at the present level of State and local expenditures he proposed annual appropriations of from $5 to $7 million would be insufficient to meet two-thirds or three-fourths of the program budgets of existing agencies. No provision is made for prorating the grants in the event of insufficient total appropriations or total State allotments.

In our opinion, the most effective and appropriate means of reconciling these partly conflicting provisions would be: to retain the present annual appropriation ceilings and Federal-grant percentages, but to delete the State allotment provisions and authorize direct Federal project grants of limited duration to applicant agencies for meeting part of the costs of projects for the initiation, expansion, or improvement of air pollution control programs.

Such a revision would make possible the most effective distribution of limited Federal aid funds. Federal funds would be used only to stimulate new or expanded programs; there would be no commitment of Federal funds on a continuing "maintenance" basis; Federal funds could not be available merely to replace local funds; and Federal aid

could be directed, in the event of limited appropriations, to those projects which are most directly related to the national objectives of the program. Furthermore, during a 5-year period which will undoubtedly be characterized by some variations in response in different parts of the country, the elimination of State allotments will avoid the complications and delays associated with the reallotment process.

The other major addition to Federal air pollution control legislation contained in H.R. 4415 is found in section 5 of the bill. This section, which is patterned generally after existing provisions in the Federal Water Pollution Control Act, provides for Federal participation, under certain circumstances, in actions directed toward the abatement of certain air pollution hazards.

In the case of interstate air pollution, on the request of a Governor, State agency, or municipality (with the consent of the State agency), the Secretary would be required to call a conference of the air pollution control agencies involved. He would also be empowered to call a conference on his own initiative in such a case. Following the conference, if the Secretary should find that effective progress is not being made toward abatement he would recommend appropriate remedial action. If after 6 months such action has not been taken, the Secretary would call a public hearing. Each State involved would be able to choose one member of the hearing board. The board would recommend appropriate remedial measures if such are necessary. The findings and recommendations of the board would be sent to those causing or contributing to the pollution and the control agencies concerned with a notice specifying a reasonable time (not less than 6 months) to secure abatement. If appropriate action is not taken in the specified time, the Secretary could request the Attorney General to bring a suit on behalf of the United States to secure abatement.

In the case of intrastate air pollution, the Secretary could at his discretion call a conference upon the request of a Governor, the State air pollution control agency, or a municipality with the concurrence of the State agency. The concurrence of a municipality would be required in all cases. The procedural steps would be the same as those provided for interstate cases through the hearing stage. The findings and recommendations arising from the hearing would be transmitted to the Governor and attorney general of the State for such abatement action as they may wish to take under State law. The Secretary would, on request, provide technical and other assistance to the State authorities in such abatement actions.

In addition, section 6 of the bill would authorize the Secretary to require any person whose activities result in the emission of air pollution which has been the subject of a conference under section 5 to file reports relating to the kind and quantity of pollutants discharged and the use of devices or means to prevent or reduce such emissions.

These provisions of the bill provide an appropriate framework for Federal participation in abatement proceedings. They place primary responsibility for abatement actions on State and local agencies, an approach which we fully endorse. At the same time, they recognize that the interstate nature of many pollution problems—plus the superior technical resources of the Federal agency in some matters—justifies and demands a supportive Federal role in certain kinds of enforcement action.

As I indicated earlier in this statement, we expect that abatement actions will be instituted in comparatively few cases. When such actions are required, however, it is of the utmost importance that they be soundly based and forcefully prosecuted. Otherwise they will command no respect, either in the community or in the courts, with the result that the total control program will lose force and effectiveness. Therefore, we believe that appropriate provisions—such as those contained in H.R. 4415—for concerted enforcement actions by Federal, State, and local agencies are essential to the establishment of any effective national program of air pollution control.

In summary, Mr. Chairman, we believe that the dimensions and significance of the air pollution problem require a broadened program of action throughout the country. While there are still many ununknowns and many half-solved problems, we already possess the knowledge and the techniques for significant advances in controlling present pollution problems. The greatest immediate need is for a national effort to establish effective State and local air pollution control agencies and programs. The Federal Government should play a role in stimulating the establishment and improvement of State and local programs and in reinforcing them in certain enforcement situations. With the revision suggested, we believe that the provisions contained in H.R. 4415 and H.R. 4750 will provide an excellent statutory basis for such supportive Federal action. We therefore recommend favorable consideration of this legislative proposal by your committee.

I would like to add extemporaneously, Mr. Chairman, as a former mayor and as a former municipal official and as a former State official—as a personal observation as well as by virtue of the position that I now hold—to make a strong recommendation for favorable action on this bill.

The very nature of this subject, and the related subject matter of water pollution, very definitely calls for Federal action to a stronger degree and a more extensive degree than has been reached to date. Whether it be from the standpoint of jurisdictional problems that State and local governments face or from the standpoint of financial problems that either State and local governments face, they have limitations on ability to control air pollution.

I recognize the Federal Government has its financial problems also, but the Federal Government has greater resources and the commensurate jurisdictional authority. In addition, it has the greater technical knowledge available through the Public Health Service on this problem. Federal action is required on this most important subject matter for the benefit of the health and welfare of the people of this country. We may rely on voluntary action, and voluntary action is important in this field, but in my opinion, we just are not moving fast enough. In the industrial and technical revolution which is occurring in our modern times and will continue in the immediate years ahead, we will not move fast enough unless there is greater Federal authority in this field.

That is not to say that local action is not important or that local initiative is not important because these are fundamental to successful action in this field. It is not to say that State action and State interest are not important because they are equally so. But it is to say this: That Federal leadership and supplementary action, and

supplementary technical programs, and coordination, are important and should be recognized in legislation of this nature.

Insofar as State, local, and regional control programs are concerned, the $5 million, the $6 million for the 3 succeeding years, and the $7 million in the fifth year, will provide grant assistance that will help to stimulate action. It will help to focus on the means by which we can answer this problem. Consequently, I would like to urge most strongly the adoption of this legislation, amended as we have proposed in our report on the bills.

Thank you very much.

Mr. ROBERTS. Thank you, Mr. Secretary.

As a former mayor, and you might say a former holder of an outstanding State position, do you see in this bill anything that in your opinion would interfere with action on a local level? Do you see any interference with States rights in this particular bill?

Mr. NESTIGEN. I most definitely do not see any such interference. There is no interference with State and local rights. The State and local rights are protected. Putting it in a different way, the bill recognizes a national problem and provides for the leadership and the coordinating efforts of the Federal Government as a supplementary type of authority to State and local rights.

Mr. ROBERTS. Do you think that the program that could be initiated under this bill would allow us to go as far as we have been able to go at the present time?

Mr. NESTINGEN. I do. I think that, under this bill, more can be done to control air pollution, and I think there is much more that will be done. However, there is a certain amount of knowledge and technical information that still must be acquired, developed, or discovered. Consequently, with the knowledge and information that is available, this is the type of bill that will furnish the authority for the type of program that we need now.

Mr. ROBERTS. Do you believe that the type of procedure that we have outlined, the conference, the hearing, and the final step of abatement gives the polluting agency enough time to get ready to take care of whatever problem they may be causing?

Mr. NESTINGEN. I do. Besides the statutory time allowances, there is need to give recognition to what efforts are being provided to secure a solution. In any event, there is a 6-month period of time that is called for in the bill for securing progress toward abatement after the conference is held.

As a practical matter in the implementation of legislation of this nature, the Department would recognize efforts that are being made. The statutory time is a minimum and is not as important as the recognition of those local efforts. A very reasonable amount of time is provided by the bill or will be provided for as an administrative matter.

Mr. ROBERTS. Now in connection with the final step, the step of abatement that would be in the nature of a suit by the Attorney General of the United States, I believe you said in your opinion that it will not be necessary to have many of those suits.

I would like for you to expand a little bit on why you think that this final step would probably not be necessary in many cases?

Mr. NESTINGEN. Our experience with abatement under the water pollution control program indicates that resort to this step is neces-

sary only under aggravated circumstances. In fact, under that program, the bringing of a suit was required by the Federal Government in only one case.

In addition to that, we find that much of the success of these programs comes through cooperative action at the local level and through education of the citizenry as to what the problem is, how we can best answer it, and what the consequences are going to be if we don't take abatement action.

With that education and working cooperatively with people at the local level, you will find the bulk of the solutions being obtained. The mayor will find this across the county and so will State officials.

However, we should not overlook the need for the possibility of enforcement by court suit. There are those few occasions where enforcement by court action through the Federal Government might be required. So we do need that authority, even though the exercise of commonsense and good judgment will minimize the situations that will require such actions to be brought.

Mr. ROBERTS. This question you might want to have Dr. Terry answer. Do you feel that unless we were moved into this field with a new sound program that we may be facing the same situation that has already occurred in 1952 and in thousands of deaths, and not long ago with many deaths, that may or may not be attributable to the smog problem?

Mr. NESTINGEN. I would prefer to have Dr. Terry answer that.

Dr. TERRY. Mr. Chairman, I don't think there is any question but that is so, even though we have active programs going on in some areas and have an active national program. The programs generally are not of the magnitude needed to cope with the existing and developing problem today. There is no question in my mind but that, if we continue at the present level and do not get a more active national program in terms of aiding and assisting the communities in the States to face this problem, we are going to face similar situations to those which have been encountered in Japan, particularly in the Yokohoma-Tokyo area, and in Great Britain in 1952 and during the last few months.

I think it is very important that we move ahead to avoid this because the buildup that we are encountering in terms of air pollution in many areas will certainly suggest that this is imminent over a period of time unless we are more active.

Mr. ROBERTS. Now, unless we found that we would be dealing with an interstate problem, what would be the extent, in your opinion, of the Federal activity in a strictly intrastate or local problem, Mr. Secretary?

Mr. NESTINGEN. The extent in terms of frequency of occurrence?

Mr. ROBERTS. No, in extent of the anticipation of the Department on this bill in intrastate matters?

Mr. NESTINGEN. Largely the furnishing of technical advice and furnishing of information, which is one of the main benefits of this type of Federal program. We do have by all means the greatest amount of technical competence and information available because of the work that has been going on.

The greatest benefit of our being involved in an intrastate matter is in the furnishing of that information and assistance.

Mr. ROBERTS. In the provision in the bill which bears the name of the distinguished gentleman from Ohio, Mr. Schenck, I would like to direct a question to Mr. MacKenzie.

What progress do you feel we are making in connection with the research that has been done under the Schenck Act?

Mr. MACKENZIE. I believe in the past several years we have made distinct progress on the problems of emissions from motor vehicles. We understand now, much better than before this program was initiated, the types of pollutants, their magnitudes and characteristics as discharged under varying circumstances from such vehicles.

We also have improved our knowledge to a very considerable extent with respect to some of the effects which are being produced. We know that there are adverse effects produced on biological systems, both in the case of animals and in the case of plants. We know that the pollutant problem from this source is extensive throughout our country. We find effects from it in the vicinity of all major cities and, indeed, in many instances, at distances as far as 100 miles or more from some large major urban sources of pollution.

There has been progress made also along the lines of prevention of this problem; that is, its control. There has been mentioned here this morning the progress that has been made through the installation of blowby devices on automobiles and this is a distinct item of progress, without question.

On the automobile totally, there are two primary sources of pollutaent emissions: the crankcase, and more importantly the exhaust pipe. The blowby device, by piping the emissions from the crankcase back to the engine intake, will reduce the emissions of one type of pollutant; namely, hydrocarbons, by approximately 30 percent.

The blowby device has no effect on emissions of carbon dioxide or oxides of nitrogen. It does, however, give in many locations in this country, what I would classify as a breathing spell, that is, a time during which we will be able to hold back the effects of pollutant emissions while research is underway on controlling the major source of the emissions, namely, the exhaust.

Now, with respect to the control of exhaust it has been technically demonstrated that there are procedures that have real promise in effecting the control of the contaminants issued through the exhaust system.

In the main, the major approaches that have been used up to now are in the nature of afterburners. There are two types of these, direct flame afterburners and catalytic type afterburners. Both have been demonstrated to be technically feasible.

The precise hardware, however, by which these systems would be applied on actual vehicles is still under development. A considerable number of companies have such systems under development and, indeed, they are under performance tests currently in California. That State has established requirements for such afterburners with respect to their durability, cost, and effectiveness and currently such devices are under lifetime test on the road during which they must maintain their effectiveness for at least 12,000 miles of operation.

All in all, Mr. Chairman, I think that, in the past several years under the provisions of the Schenck Act, distinct contribution and progress has been made not only by the Federal Government but by other organizations as well.

I think also that certainly the Federal Government can take some credit for having stimulated the attention which other organizations have been giving to this problem.

Mr. ROBERTS. Are you satisfied with the provisions in H.R. 4415 which specifically call for the concentration of this work under the Schenck Act?

Mr. MACKENZIE. Yes, I am, sir. I think this would provide the necessary basic authority for us to continue effectively and productively the work which has been initiated in this area.

Mr. ROBERTS. Thank you.

Dr. Terry, going back to the effect on human beings of unburned hydrocarbons and other pollutants, what age group seems to be affected, if there is a group, and seems to take the burden more any other group?

Dr. TERRY. I think, Mr. Chairman, that we probably get a pretty good spread across all age groups in terms of the effects of pollutants on the population. Quite commonly we see more evidence in individuals who already have some disease, such as chronic heart disease or chronic lung disease. It becomes much more manifest and it does not matter whether it is a child or adult for this to be true.

So I think that we have to look upon it at the present time, Mr. Chairman, in the light of the fact that these effects are more evident in people who already have some chronic disability but that there is also medical evidence accumulating that there are further low-grade, long-term effects on all segments of the population.

Mr. ROBERTS. I would like to handle this very carefully. A lot has been said about the effect of pollution either in inducing or aggravating lung cancer. What is your opinion of what we know now in these areas of pollution in that respect?

Dr. TERRY. In my opinion, Mr. Chairman, there is evidence accumulating in this area which raises a serious question with regard to this matter of pollution and lung cancer. I don't think that we know the answer today and this is one of the reasons it is very important for us to continue with our research program.

However, in relation to hydrocarbons particularly, in certain animal work there has been production of tumors in animals which would suggest a causative effect in human beings. On the other hand, the evidence that we have in human beings is largely confined to statistics on population groups. In other words, the incidence of lung cancer among urban residents is higher than that among rural residents. On the other hand, I don't think we have yet excluded all the other factors which may participate in making a difference between those two groups which would enable us to say positively that this pollution is responsible for the higher incidence of lung cancer in urban groups. I think we have some highly suggestive evidence both from the experimental laboratory and from our studies of population groups, but I think we need more before we make positive statements in this direction.

Mr. ROBERTS. One reason I asked that, too, is that in many of these opinions that we find in the press and otherwise, it seems to me that sometimes we think of a smog area as being a big industrial area, an area of a lot of plans, coal-burning areas, and other industrial cities.

Is it not true, however, that this problem is becoming common even in areas such as Washington, here in the District of Columbia?

Dr. TERRY. That is certainly true. We have had some serious incidents of air pollution here in the District of Columbia, particularly within the last 2 or 3 years, sir.

Mr. ROBERTS. Do you feel that this program under this legislation will allow us to go as far as we can go at the present time?

Dr. TERRY. Well, I think quite frankly, Mr. Chairman, that with a larger authorization we could probably go faster, but in terms of the amount of information available, the technical personnel available to apply that information, I think this is a reasonable estimate of what we should be doing at the Federal level in this direction.

Mr. ROBERTS. Thank you very much. I am sure that there will be other questions from members of the subcommittee.

Mr. Rogers?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

Mr. Secretary, what is the amount of the present Federal program for this problem?

Mr. NESTINGEN. Approximatey $11 million for this fiscal year 1963.

Mr. ROGERS of Florida. Now, will this bill give sufficient moneys compared to the present program?

Mr. NESTINGEN. At the rate of $5 million under section 4 for the first year, and so on. I think, in my judgment, in light of the comments I made before and the comments of Dr. Terry now, that it is a reasonable program and a good program.

Mr. ROGERS of Florida. Is this a decrease in your yearly expenditure?

Mr. NESTINGEN. No, it would be supplementary.

Mr. ROGERS of Florida. It is in addition to the $11 million?

Mr. NESTINGEN. Yes. Actually, our fiscal year budget in 1964 calls for approximately $13 million independent of the provisions of this bill.

Mr. ROGERS of Florida. Aout $13 million, so this would add another $5 million to that?

Mr. NESTINGEN. Yes.

Mr. ROGERS of Florida. That is mainly a grant program?

Mr. NESTINGEN. Mainly a grant program.

Mr. ROGERS of Florida. How long will the other program continue now?

Mr. NESTINGEN. The other program would continue indefinitely and we would expect it would gradually increase over the years.

Mr. ROGERS of Florida. I see. How many employees now are devoting their efforts to this field?

Mr. NESTINGEN. 407 is the 1963 authorized strength.

Mr. ROGERS of Florida. 407?

Mr. NESTINGEN. Yes.

Mr. ROGERS of Florida. Are those in research or in administrative?

Mr. NESTINGEN. The bulk of it is in research.

Let me defer, if I might, on that to Mr. MacKenzie.

Mr. ROGERS of Florida. Just a general breakdown.

Mr. MACKENZIE. Approximately 85 percent of our current financial resources are being used either for the conduct of research or its support in other organizations. The remaining 15 percent is being used

approximately equally first for the extension of technical assistance to the State and local agencies; and second, for the conduct and support of technical training of personnel, primarily employees of State and local agencies and of industry.

Mr. ROGERS of Florida. How much of your funds is now being used for intramural research?

Mr. MACKENZIE. Approximately 50 percent, and the remaining research funds are used for the support of research grants to universities and for contracts with non-Federal organizations.

Mr. ROGERS of Florida. What is the extent of those grants? In other words, must there be matching State funds for those grants?

Mr. MACKENZIE. No, sir; these research grants do not require any matching funds. Essentially, the purpose of the research grants segment of our program is to utilize the competency that we have available nationally in universities for the conduct of research that would be helpful in this total program.

Mr. ROGERS of Florida. Thank you.

Now, why was it decided $5 million would be appropriate and what do you plan to do with this $5 million in this bill for fiscal 1964?

Mr. NESTINGEN. That would be for the encouragement of the programs at State and local levels. The $5 million figure is a reasonable estimate in the judgment of persons who are most involved technically, for a reasonable rate of development.

Mr. ROGERS of Florida. Do we know how many States will respond? Do you have an idea who might respond?

Mr. NESTINGEN. Mr. MacKenzie might better answer that.

Mr. MACKENZIE. This is a matter of judgment largely, sir. We know that many of the States that do not have programs at the present time are actively considering the enactment of legislation and the initiation of programs in this field.

I might sketch for your information the progress that has been going on in this area on a State level. The first comprehensive State program was initiated in 1952. Since that time, about 17 States have enacted specific legislation that would authorize activities and about 15 carry on activities of varying extent and character. Of these, however, only four to six are actually prosecuting a control program. There is a widespread interest in expanding activities on a State level in this field but, in our opinion, it is going too slowly.

Mr. ROGERS of Florida. Can you submit for the record your justifications for the findings? I realize this would be somewhat of a projection but certainly there must be some basis for this figure.

Could you let us have as well the projection for the remaining 5 years of the programs as it is anticipated? That would be helpful to me and to the committee as well.

(The following information was subsequently submitted:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, April 2, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety,
Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Enclosed herewith for your information is a copy of our letter transmitting, to Chairman Harris, as required by Public Law 801, 84th Congress, our 5-year estimate of cost on H.R. 4415, and pointing out that this cost is included in the President's budget under "Contingencies." I should appre-

ciate it if you would have the enclosed letter and estimate included in the record of the hearings on this bill immediately following our testimony.

Also enclosed is the information requested by Mr. Rogers of Florida, describing the development of the $5 million grant figure.

Sincerely yours,

IVAN A. NESTINGEN, *Under Secretary.*

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, March 25, 1963.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Enclosed herewith in accordance with the requirements of Public Law 801, 84th Congress (5 U.S.C. 642a) is a 5-year estimate of the additional cost, over expenditures under existing law, that will be entailed by the enactment of H.R. 4415 which we recommended (with certain amendments) in our report of March 15, 1963.

At the hearing held on March 18 before the Subcommittee on Health and Safety, the question was raised whether these additional costs under this bill are included in the President's budget for the fiscal year 1964. The answer is in the affirmative. These costs are embraced by the item on "Contingencies" (which covers among other things "Smaller items of proposed legislation") on page 308 of the President's budget.

Sincerely,

ANTHONY J. CELEBREZZE, *Secretary.*

Program: Air pollution: Estimate of additional cost, 1964–68, H.R. 4415

	1964	1965	1966	1967	1968
Appropriation requirements:					
Grants to air-pollution control agencies	$5,000,000	$6,000,000	$6,000,000	$6,000,000	$7,000,000
Grant review and approval and related technical assistance	200,000	250,000	300,000	300,000	300,000
Investigations of intrastate and interstate air-pollution problems	170,000	250,000	500,000	500,000	500,000
Hearings, conferences, enforcement	80,000	150,000	250,000	400,000	400,000
Development of air-pollution standards	50,000	125,000	350,000	700,000	700,000
Device development	100,000	225,000	600,000	1,000,000	1,000,000
Total requirements	(51) 5,600,000	(78) 7,000,000	(109) 8,000,000	(136) 8,900,000	(136) 9,900,000
Expenditures:					
Grants to air-pollution control agencies	5,000,000	6,000,000	6,000,000	6,000,000	7,000,000
Grant review and approval and related technical assistance	190,000	240,000	290,000	290,000	290,000
Investigations of intrastate and interstate air-pollution problems	160,000	240,000	490,000	490,000	490,000
Hearings, conferences, enforcement	70,000	150,000	250,000	400,000	400,000
Development of air-pollution standards	40,000	115,000	320,000	670,000	670,000
Device development	90,000	215,000	590,000	950,000	950,000
Total	5,550,000	6,960,000	7,940,000	8,800,000	9,800,000
Man-year employment	38	68	97	124	129

NOTE.—The above projected additional costs relate only to new substantive authorization under the proposed legislation. Cost of implementation of additional activity under existing authorizations are not included.

CONTEMPLATED USE OF $5 MILLION STIPULATED FOR GRANTS IN H.R. 4415

Several studies have been conducted pertaining to current air pollution control activity and expenditures by States and local governments, the extent of air pollution problems, and the general dimension of control needs which are not being met. Much of this information is available in the attached paper by Jean J. Schueneman, Chief, Technical Assistance Branch, Division of Air Pollution, Public Health Service:

Schueneman, Jean J., "Air Pollution Problems and Control Programs in the United States," Journal of the Air Pollution Control Association volume 13, No. 3, March 1963, pages 116–125.

The data from this study constitute the principal source for the Public Health Service staff planning in connection with air pollution legislative proposals. Studies by the Public Health Service indicate that all communities in the United States having a population greater than 50,000, and about 40 percent of the communities of the 2,500–50,000 brackets, have air pollution problems. In total, about 6,000 communities have air pollution problems of varying degree for which active control programs should be initiated or strengthened. Currently, air pollution programs having full-time staffs provide coverage to about only 45 percent of the residents in areas having air pollution problems, and many of these existing programs are not adequate for the intended purpose.

It is known that there is active interest in expanding air pollution control programs on State or local government levels in many areas of the United States, including as examples, the States of Florida, Idaho, Washington, West Virginia, and the metropolitan areas of San Francisco, Chicago, St. Louis, Philadelphia, New York, and Miami.

H.R. 4415 includes an authorization for appropriation of $5 million for the initial year for the new grant activity. However, as has been pointed out in Secretary Celebrezze's letter of March 15, 1963, this figure is not adequate to carry out the mandatory matching provisions contained in the fiscal provisions of the bill. As presently drafted, H.R. 4415 requires a fixed two-thirds, or three-fourths (in the case of regional projects), Federal contribution, which would be inconsistent with the grant ceiling or $5 million. The figure of $5 million would be more appropriate if it were based on the criteria of Federal financial assistance for projects for the initiation, expansion, or improvement of air pollution control programs, rather than for the cost of "maintaining" such programs. Further, the statutory ceiling for the new grant provisions of the bill would be more administratively feasible on the basis of a Federal matching requirement up to the stated figures of two-thirds (or up to three-fourths in the regional projects).

These revisions of the proposed Federal stimulatory grant program would provide for a decreasing proportion of Federal participation in the total national expenditures. This would be accomplished by making such grants for limited time duration for special projects for control program initiation, expansion, or improvements.

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Paper No. 62-84

AIR POLLUTION PROBLEMS AND CONTROL PROGRAMS IN THE UNITED STATES

Jean J. Schuereman
Chief, Technical Assistance Branch
Division of Air Pollution

For presentation at the 1962 annual meeting of the
Air Pollution Control Association, Chicago, Ill., May 20-24, 1962.

U. S. Dept. of Health, Education and Welfare
Public Health Service
Robert A. Taft Sanitary Engineering Center
Cincinnati 26, Ohio
April 1962

ABSTRACT

Air Pollution Problems and Control Programs
in the United States

Jean J. Schueneman
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Public Health Service
Robert A. Taft Sanitary Engineering Center
Cincinnati 26, Ohio

Surveys of air pollution problems have been made in thirteen states and studies of air pollution have been made in many communities. Trends in such matters as urbanization, fuel use, manufacturing activities, etc., are noted briefly. This information is interpreted in terms of the need for governmental activity in air resource management.

State and local governmental activities in the air pollution control field are summarized. In view of these activities and information developed on the nature and extent of the problem, observations are made relative to activities needed to provide adequate air quality now and in the future.

INTRODUCTION

The Public Health Service has been actively engaged in an extensive program of research, technical assistance, and training in the air pollution field since 1955. The major emphasis has been on research directed toward development of basic facts about air pollution. The time has come when more emphasis can be given to application of existing knowledge to management of our air resources. The role of the U. S. Public Health Service in air resource management has been, and is expected to be, one of providing technical assistance and other support to state and local air pollution agencies. The Public Health Service is not involved in regulatory enforcement work in the air pollution field.

As part of the work done in considering the Public Health Service's program of assistance to state and local agencies, a review was made of the nature and extent of the air pollution problem and efforts that are presently being made to cope with it. In the following, we have presented information which helps describe the air pollution problem from a national viewpoint and which indicates the general nature and extent of existing state and local air pollution control programs. From this, we have made some observations about certain aspects of present and future air pollution control programs.

General Indications of the Extent of the Problem

State-wide surveys have been made of air pollution problems in 13 states.[1-13] Data from the National Air Sampling Network[14,15] have become available and community air pollution studies too numerous to reference have been made. Information resulting from this and other work provides a basis upon which to estimate the number of communities that have an air pollution problem. The estimates reflect, to a degree, the opinions and knowledge of state and local officials in the various surveyed states as to the severity of the air pollution problem in their areas, and opinions of the author.

In smaller communities, air pollution problems are generally (but not always) neighborhood (or larger area) situations caused by one or a few major sources of pollutants. In larger communities, problems more often prevail over a major part of the community and are attributable to a large number of pollution sources. Obviously large communities also may have neighborhood problems and pollution levels may vary greatly within the community. Furthermore, opinions vary widely as to what constitutes a major air pollution problem. These factors must be recognized when considering the estimates presented in the following.

It is estimated that 308 urban places in the United States with a population of 2500 or more have a "major" air pollution problem (Table 1). About 43,000,000 people (24 percent of the Nation's population) live in these areas. About 30,000,000 people (15 percent of the Nation's population) live in about 850 areas with a moderate problem. Together these people constitute 58 percent of the urban population of the Country. Including the people who live in communities of less than 2500 population that have air pollution problems and those in all sizes of places with minor problems, it is estimated that about 7300 places are confronted with an air pollution problem of one kind or another. About 107,000,000 people live in these communities; 60 percent of the Nation's population.

Considering only urban places of 2500 or more people, it is estimated that 23,000,000 more people were living in areas with air pollution problems in 1960 than in 1950 (Table 2) and that about 700 more communities had an air pollution problem of some kind in 1960 than in 1950. About 6,000,000 more people, and 84 more urban places were confronted with a major air pollution problem in 1960 than in 1950.

Another general indication of the trend in the extent of the air pollution problem is the number of Standard Metropolitan Statistical Areas (SMSA's) having a population of 1,000,000 or more. In 1950, there were about 44,500,000 people living in 14 such areas. In 1960, 62,800,000 people were living in 22 such areas. It is likely that by 1970, there will be four or five more SMSA's with populations of a million or more. These major urban centers are the areas where problems are most likely to be severe. The data indicated rapid growth of urban centers and indirectly reflect the need for major expansion of air pollution control programs.

Total urban population in 1960 was almost 170 percent of what it was in 1940. By 1980, urban population is expected to be about 75,000,000 more than it was in 1960 (Figure 1). The number of urbanized places with 50,000 or more population increased from 232 to 333 from 1950 to 1960. Total energy consumption has been increasing relatively more rapidly than population and is expected to nearly double in the next 20 years. The amount of combustible refuse per person, number of motor vehicle registrations, the use of motor fuels, the number of manufacturing establishments, and the gross national product have all been increasing rapidly and are expected to continue to do so (Figure 1). These trends clearly show that the air pollution problem is one that must be given serious attention — now.

Fuel Use Patterns Affecting Air Pollution

The kind and amount of fuel used and the way it is used have an important bearing on the air pollution problem. The most significant changes over the past 10 to 20 years have been, of course, replacement of oil- and coal-fired railroad locomotives with diesel locomotives; replacement of coal-fired units in domestic and commercial establishments with oil- and natural gas-fired units; and, the large increase in use of coal by electric power utilities (Figure 2 and Table 3). Total use of residual fuel oil has remained fairly constant over the last 10 years while total use of natural gas and distillate fuel oil has increased markedly. Total use of coal and use of coal in manufacturing and mining has declined somewhat over the past 10 years. Sales of space heating equipment indicate that natural gas is receiving increasing favor as a fuel for this purpose (Table 4). Sales of coal- and oil-fired central heating equipment have declined in the past 10 years, while sales of gas-fired units have almost doubled. Sales of direct heating equipment for use with the three fuels declined from 1950 to 1959; oil-fired by 65 percent; gas-fired by 29 percent; and, coal-fired by 18 percent. From the foregoing, we can infer what has been happening to the nature and extent of air pollution problems due to use of fuel and we can estimate what the problems may be in the future.

Industrial Patterns Affecting Air Pollution

Industrial activities, especially manufacturing, have been increasing rapidly over the past 20 years or so. Some of the outstanding increases of interest have been in electric power generation and production of primary aluminum, phosphoric acid, and wood pulp (Figure 3). Generally speaking, industrial production has increased at a rate relatively greater than population. The size of indivudual industrial plants is also increasing. For example, in 1950, there were 3867 electric generating plants which produced 383×10^9 kwh. In 1959, there were 3457 plants which generated 795×10^9 kwh. For another example, in 1940, there were 556 oil refineries which had a crude oil capacity of 4.7×10^8 barrels per day.[6] In 1959, there were 311 refineries which had a capacity of 10.0×10^8 barrels per day. Thus, more pollution is being discharged at fewer locations, tending to create localized pollution levels which are relatively higher than would be the case with a larger number of smaller plants located apart from each other.

The number of manufacturing plants increased from 260,000 in 1950 to 298,200 in 1958. No doubt many were taken out of service and thus, the number of plants built is more than the apparent increase of 28,200. The number of establishments employing more than 20 people increased from 90,500 to 95,100 from 1954 to 1958.[20] These data indicate the magnitude of the job that needs to be done to insure that new plants are provided with suitable means to prevent excessive pollutant emissions.

Solid Waste Disposal

The amount of refuse burned and the way in which it is burned have a considerable influence on air pollution problems. The amount of combustible waste produced per capita has increased to around 1000 pounds per year in 1960, from about 640 in 1930[19] (Figure 1). Burning of wastes from demolition of buildings has been increasing as has the burning of combustible parts of junk auto bodies, prior to re-use of the steel. No data are available on quantitites burned but it is known that around 4,000,000 automobiles are scrapped each year.

Burning dumps cause air pollution problems in about 25 percent of the urban communities of the country, according to data collected in state-wide air pollution surveys. They are the most frequently reported cause for localized air pollution problems. About two-thirds of all cities employ open dumps to dispose of refuse, the proportion being higher in smaller cities and lower in larger cities. Open burning of refuse on domestic, commercial and industrial premises causes problems in many areas. In Detroit, for example, in 1960, nearly 40 percent of all public complaints about air pollution involved open fires. Policing and adjudicating these problems consumes a lot of the control agencies' resources.

Incineration of refuse on domestic premises is permitted in some cities and encouraged in a few (using "approved" incinerators) even though it has been shown that in urban areas, this procedure is usually more expensive than municipal collection and disposal[22] and, in all probablility, will result in difficulties from an air pollution control viewpoint.

Existing Air Pollution Levels

Trends in pollution levels are available for only a few communities and for a few pollutants. Dustfall is the only measure of pollution which has been made continually for very many years. Considerable reduction in dustfall has occurred during the period 1930 to 1950.[23] This is attributable to reduced use of coal in small and medium sized units and to application of fly-ash and process dust

collecting equipment. However, since about 1950 dustfall rates in major cities have pretty well stabilized and are declining slowly, if at all. In many cities, dustfall rates are still excessive.

Excessive smoke emissions from coal- and oil-fired units and from refuse burners have, without doubt, been greatly reduced. However, the problem of dense smoke cannot be considered eliminated. For example, in 1960, in New York, there were nearly 5000 smoke emission violations and in Cincinnati, nearly 600.

Photochemical smog has been noted in many parts of the country. Haagen-Smit and Middleton report that typical photochemical smog manifestations have been reported in urban areas in 20 states and the District of Columbia.[24] Went, in 1955, reported photochemical smog damage to vegetation in Los Angeles, San Francisco, New York, Philadelphia, Baltimore, and several foreign cities.[25] Atkisson, in 1961, estimated that the photochemical smog problem would reach the "acute" stage in at least 9 of the 14 largest metropolitan areas of the United States by about 1975.[26] He indicated that the nuisance level of photochemical smog has already been exceeded in these 14 areas. If automobile engine blowby control devices are installed, the acute level would, he feels, be reached in at least 9 of the areas by 1985 or so. Observations and estimates of these workers and reported oxidant measurements indicate, in general, that photochemical smog reaches the nuisance level (0.15 ppm by the KI method) in poorly ventilated areas of about 250,000 or more people and in well-ventilated areas of about 750,000 or more. It is clear that photochemical smog is a problem confronting a large segment of the population.

Suspended particulate matter samples have been collected in many communities as part of the National Air Sampling Network of the U. S. Public Health Service.[14,15] Results of this and other work indicate, in general, that about 40 to 50 percent of the communities with a metropolitan population of 1,000,000 or more experience excessive pollution by particulate matter, on a long-term average basis (one or more years of data with at least one sample being collected every two weeks). On the same basis, about 25 percent of the communities with populations ranging from 100,000 to 1,000,000 experience excessive average suspended particulate pollution. These estimates were based on the assumption that long-term average suspended particulate loadings greater than 125 micrograms per cubic meter of air are "excessive." Occurrence of high particulate pollution levels from time to time also indicates the severity of pollution since a few real "dirty" days can be objectionable. In this regard, some 80 percent of the communities with populations of 1,000,000 or more experience excessively high particulate pollution levels from time to time. About half of the communities with populations of 100,000 to 1,000,000 experience excessively high particulate pollution levels from time to time. These estimates were based on the assumption that occurrence of a suspended particulate loading greater than 200 micrograms per cubic meter on any day (24 hour sample) is "excessively high."

Interjurisdictional Problems

Most people agree that air pollution should be regulated by the lowest level of government capable of dealing with a particular problem area in its entirety. Sometimes this is a city government but more often the "air basin" involves a much broader area encompassing a great many cities and perhaps several counties and states. To get some idea of the extent of such problems, we can look at the Standard Metropolitan Statistical Areas (SMSA's). Some 113,000,000 people lived in 212 SMSA's in 1960. About half the people lived in the central cities of the areas while the rest lived outside the central city. Pittsburgh, Pa., and Allegheny County are an example. Total population of the county in 1960 was 2,405,000 of which only 604,000 lived in Pittsburgh. There were 101 urban places in the county ranging in size from less than 2500 people up to 604,000. While county agencies would be able to handle many "air basin" problems, there will also be a need to handle problems involving more than one county. This is indicated by the fact that 70 SMSA's include two or more counties in one state. The need to unify activities in air pollution control in logical air pollution basins is clear.

Interstate flow of air pollution is a major problem. Of the 212 SMSA's, 24 include parts of two or more states. About 38,000,000 people lived in these interstate areas in 1960. Thirty states are involved. In addition, about 31,000,000 people lived in SMSA's which adjoin a state line, involving 36 states. These areas include the Standard Metropolitan Consolidated Areas of New York City and Chicago which, in reality, are interstate in nature. The need for governmental mechanisms for coping with interstate flow of air pollution is apparent.

AIR POLLUTION PROGRAMS

State Air Pollution Programs

In 1947, California adopted a statute enabling the formation of county air pollution control districts. Oregon, in 1951 adopted a law creating an air pollution study and control program. Since that time, most states have adopted air pollution legislation of one kind or another. However, there are only 17 states with air pollution programs which involve expenditure of $5,000 per year or more (Table 5). A little over $2,000,000 was spent in the 1961 fiscal year, of which 57 percent was spent by the State of California. About 150 people were employed by state air pollution agencies.

Depending on the exact meaning given to the word "enforcement," there are 4 to 6 states that "enforce" pollution regulations. Most states engage in a program of technical assistance and development of local programs. Six or seven states do air quality monitoring on a state-wide basis and five review and approve plans for certain new installations which may cause air pollution. New York has recently adopted rules which require that the Air Pollution Control Board approve plans for certain installations which might cause air pollution, before construction begins. Provision is made for plan approval by qualified local agencies, in lieu of state approval. One state, California, has set up a program for regulation of emissions from motor vehicles. Nine states have adopted laws which authorize cities or counties to operate air pollution control agencies with authority transcending municipal boundries or to otherwise undertake interlocal cooperation. Two states (Oregon and California) have adopted certain standards for ambient air quality. Thirteen states have conducted state-wide surveys to develop bases for programs. Such surveys are under way in four other states. Other activities of state agencies include training, dissemination of information, nuisance abatement work, provision of laboratory services to local agencies, study of pollutant emissions, and research on the effects of pollution on man's health. However, only a few states engage in more than a few of these activities.

Since state health departments often have, or may be assigned responsibility for air pollution programs, it is appropriate to mention that these departments, in 1950, employed 744 engineers and about 1000 sanitarians.[28] Eight states had more than 30 engineers on their staff, which, collectively comprised 49 percent of all engineers hired by state health departments. The other 42 states had an average of 11 engineers each. These engineers are working in programs dealing with water supply, water pollution, refuse, rodents, mosquitoes and other insects, plumbing, housing, food, milk, occupational health, etc. Fourteen percent of the engineering positions were vacant as were 7 percent of the positions for sanitarians. There were, in 1950, a total of 367 persons engaged in occupational health work, of which 183 or 50 percent were employed by just 6 states. This leaves an average of 4 people per state for the other 44 states. The foregoing indicates that existing staffs of state health departments cannot readily assume responsibility for air pollution control. They will have to have additional personnel and other resources.

Local Air Pollution Control Programs

Available tabulations[29-32] indicate that there are 86 local air pollution control agencies which spend $5000 per year or more (Table 6). Thirty-four of them spend more than $25,000 per year. A total of about $8,200,000 is spent. Local agencies employ a total of about 876 people,

not including clerical staff. Per capita expenditures range from less than one cent to 57 cents (Table 7), with the median being 10.8 cents per capita per year. Fifty-eight percent of the agencies are one or two man operations (Table 8) and only 13 employ more than ten people. Sixty-nine percent of the agencies employ less than 2 people for each 100,000 population served (Table 9).

When the number of communities having an air pollution control agency (Table 6) is compared with the estimate of the number of places with air pollution problems (Table 1) it becomes obvious that there is a great need for more activity in the field. Of the 218 urban places with more than 50,000 population which have a major or moderate air pollution problem, only 119, or 55 percent are served by an air pollution control agency (Table 10). It is also noteworthy that a small percentage (31 to 52) of urban places with a major or moderate air pollution problem and with less than 50,000 people are served by a control agency. This percentage would be much lower were it not for county programs which serve many small communities. For example, the San Francisco Bay Area Air Pollution Control District serves 89 urban places of all sizes.

Many of these local air pollution control agencies are inadequate to cope with the problems confronting them. This can be inferred from data in Table 6. Further evidence comes from the nature and extent of their activities. For example, in the 22 SMSA's of 1,000,000 or more population, oxidant was measured in only 10 during the past few years and in only 5 were these measurements made extensively enough to be of great value. During the period January 1, 1956 to June 30, 1959, nitrogen oxides were measured in only 14 cities (outside of California) and in only about 6 were these measurements extensive. During the same period, sulfur dioxide was measured in 25 cities, many for only brief periods. Obviously, local agencies are not getting the air quality data they need. There is also a dearth of information available to local agencies as to where pollution arises. Very few have even a list of pollution sources, much less a good pollutant emission inventory.

An important aspect of air pollution control programs is prevention of new sources of excessive pollution. This is achieved by registration or permit systems for new installations. However, only about three-fourths of the agencies serving communities of 200,000 or more population provide for plan review[33] and many of these only review plans for combustion equipment and do not review plans for other process equipment which may cause air pollution. About one-third of the agencies serving smaller communities review plans for new installations. Thus, even in areas served by a control agency, many new plants are being built without governmental review of plans. Of course, many plants are being built in areas where there is no air pollution control agency to review plans.

Local air pollution agencies, with a few exceptions, do not have large enough budgets to support the kind of program they need, as indicated by data in tables 6 through 9. Another problem confronting most of these agencies, as well as most city and county governments generally, is low salary schedules. Sterling[29] reports the median salary of engineers in charge of city agencies to be $8300 per year and of air pollution control districts as $11,448. Other "intermediate" engineers receive about $8300 in city agencies and about $10,400 in district agencies. Median annual salaries for all engineers in 1960 was reported to be about $10,500 by the National Science Foundation.[34] Thus, engineers in city air pollution control agencies receive around $2200 per year less than the median for all engineers. This, no doubt, makes it difficult for these agencies to recruit and retain engineers, a factor in determining the kinds of work that city agencies can be expected to carry on. District agencies, apparently, pay their engineers more in keeping with prevailing rates.

Available tabulations of money spent and personnel employed by local agencies in 1952 and 1956 [31,32] are not strictly comparable with data given in table 6. A reasonable estimate would be that the number of personnel in local air pollution control agencies has increased about one-third from 1952 to 1961, not including the major increases which have taken place in California jurisdictions. California agencies in 1961 employed about 3.6 times as many people as in 1952. In 1961, there were about 37 more local agencies than there were in 1952 but outside of the new agencies in California, only 5 now employ more than 2 people. Also, during this period it appears that about 5 local agencies were discontinued. Thus, when it is recognized that urban population increased by about 30 percent from 1952 to 1961, it appears that little or no headway has been made in the last 10 years to bring the resources of local air pollution control agencies more into line with what is needed to cope with the problem, except in California jurisdictions.

Since the local health departments often assume or are assigned responsibility for air pollution control work, it is appropriate to make a few observations about them. In 1960, there were about 1557 local health agencies which served about 167,000,000 people or 94 percent of the total U. S. population. Fifty-eight percent of the agencies were single county agencies which served almost 70,000,000 people in 902 counties. There were 307 city health departments which served almost 50,000,000 people; 237 local health districts consisting of 2 or more counties or other types of local governmental units which gave service to 665 counties and about 16,000,000 people; and 111 state health districts (in which the state provided direct services or advisory or supervisory services) which gave service to 851 counties and about 32,000,000 people.[36] Thus, from the standpoint of geographical coverage and population served, it would appear that local health organizations would be in a position to assimilate air pollution control into their programs. This is especially

true since many serve entire counties, making it possible for a single agency to work with air pollution on an "air basin" scale. However, consideration must be given to the probable technical capability of these agencies. Collectively, in 1960, the 1557 local health agencies employed only 446 engineers. Sixty-three percent of the engineers (282) were employed in 7 states leaving only 163 for the other 43 states, or less than 4 per state, on the average. Of the 446, there were 179 who were actually state employees in local health districts operated by the states. The 1557 local agencies also employed about 6100 professional sanitarians. Here again, they were largely in 8 states which employed 65 percent of them. The other 42 states, on the average, had only 11 professional sanitarians per state.[35] These local health agencies have problems in securing budgetary support. Public health administrators have recognized for some time that $2 to $3 per capita is required to provide local health services. Yet, only 193 agencies (12.4 percent) serving 24.2 percent of the population served by local health agencies had per capita budgets of $2 or more. Almost 30 percent of the population served by local health agencies was served by agencies spending less than $1 per capita. Furthermore, these local health agencies are beset with low salary schedules, much the same as indicated above for air pollution control agencies. This is indicated by the fact that in 1956, 23 percent of the engineering positions in local health agencies were vacant. Thus, it can be inferred that local health agencies will need strong public support and new budgetary allocations if they are to do very much toward assuming responsibility in the air pollution field, especially in view of the pressures on these agencies to do more of all sorts of environmental sanitation work.

OBSERVATIONS ABOUT THE FUTURE

Public Support

First, and foremost, it seems to me that the question of how to get adequate air pollution control programs is basically one of how to get public support. The general public must be convinced that clean air is something they want and need and can achieve and that clean air is beneficial to their total interests. Merchants must be convinced that clean air will reduce their losses because of soiled shelf stock and that clean air and clean buildings will attract more people to their stores. Legislators must be convinced that support of air pollution control laws and appropriations for control programs will bring them support from their constituents, and industry must be truly convinced that control of air pollution will mean improved public relations, fewer recruitment problems, and freedom from litigation stemming from pollutant emissions. The national press has been hard at work in this area and seems to be making an impression. However, to get a local program going, there must be local public support. The local public information media must deal with the local situation because most people view air pollution as something in Los Angeles, or Pittsburgh, or St. Louis or any place but their own home town. This is a particularly hard job today in areas

where the plainly visible smoke of years past has been greatly reduced. Where air pollution problems do exist, the best case possible must be made in the light of all we know, limited though this knowledge is. For a fine commentary on this aspect of program initiation and operation, I suggest the paper by Dr. Hilleboe in the Proceedings of the 1958 National Conference.[37] Only through increased public awareness and public desire can we expect increased appropriations and necessary legislation.

State and Federal Grants

Another important matter is providing financial support for state and local air pollution control programs. In addition to efforts made by state and local governments, to obtain additional funds from within their own jurisdictions, it appears that some support from the Federal government in the form of grants is needed to "get the ball rolling." Such Federal support has been instrumental in getting programs under way in the fields of venereal disease, tuberculosis control, water pollution control, and others. There is pending in Congress (April 1962) a bill which, if passed, would provide such support. It also seems appropriate that states should consider the need for grants to local air pollution control agencies, in much the same way that state monies now provide about 25 percent of the funds expended by local health organizations.[38]

State Level Activities

On the state level, a number of activities suggest themselves. A few are discussed here.

A rather simple, yet important and sometimes difficult action, is for states to extend to local governmental bodies, the authority to join together in one way or another to solve area-wide air pollution problems. This can be done by the states on a selfish basis, if on no other, since, by fostering formation of interlocal cooperative activities, the problems confronting many small jurisdictions, which might fall to the states for solution otherwise, can be handled by the interlocal co-operative group. Nine states have already adopted enabling laws in this field and experience in these states can be reviewed in determining the nature of future state laws. The Council of State Governments has also published a suggested plan for enabling interlocal cooperation to proceed.[39]

Preventing establishment of new sources of excessive pollution through review of plans for new installations is an important aspect of air pollution control activities. This may be done through a "permit system" or a "registration system." Major local air pollution control agencies can be expected to accomplish work in this field on their own but it is very unlikely that smaller agencies will be able to do so.

There are also many establishments built in areas not served by a local agency. Thus, it would seem necessary for the states to assume responsibility for certain phases of this vital work. The new rules of the State of New York covering this matter seem to have much merit. Four other states have activities in this field. It may be appropriate to provide that the state will only concern itself with certain kinds of installations of a more complex nature and with the larger of certain kinds of plants and to provide that local agencies will bear responsibility for review of plans for all other proposed establishments.

As indicated earlier herein, there is a considerable need for governmental machinery and action with respect to interstate air pollution problems. The Interstate Sanitation Commission in the New York City area and the New York-New Jersey Cooperative Committee on Interstate Air Pollution are the only current significant organizations working on interstate air pollution problems. States must give serious attention to providing means for attacking interstate problems. The Council of State Governments suggests that individual states survey their current and potential problems and consider any or all of the following actions:[39/]

1. Enact legislation permitting border localities to:

   a. Contract with localities across the border to share technical services or facilities; or

   b. Establish joint or inter-community control agencies.

2. Authorize state air pollution control agencies to enter into administrative agreements with similar agencies in adjoining states.

3. Enter interstate compacts for the control of interstate air pollution. The compact approach may especially commend itself for dealing with pollution problems of large metropolitan regions comprising parts of two or more states.

With the great number of small communities faced with an air pollution problem, even though the problem be caused by only one or a few pollution sources, it would seem that state agencies must be in a position to carry out certain enforcement work. The smaller communities, for many reasons, will not be able to handle their own problems when they are due to major, complex pollution sources. Counties, in many cases, will likewise be unable to act for lack of resources, trained personnel, and other reasons. The states are the only agencies that can hope to resolve problems under such circumstances and should be in a position to do so. States might limit their enforcement activities to those associated with certain listed major, complex sources of pollution located throughout the state and to other situations involving interjurisdictional problems. States might further provide that all responsibility for enforcement would rest with populous jurisdictions, except in cases involving interjurisdictional disputes.

Local Program Activities

In general, there appears to be a need for re-examination of the content of existing programs. The nature of the problem, in many areas, has changed from one of visible smoke emissions to one associated with a variety of pollutant emissions (including smoke), photochemical smog or otherwise. Today's problems require a knowledge of atmospheric pollution levels and of all the sources of pollution. This means that air pollution measurements should be made and pollutant emission inventories should be prepared. With these in hand, and with a variety of other knowledge, a program of air resource management can be developed for today and for the future.

There will always be, of course, a need for control of smoke emissions and for adjudication of complaint situations but each agency should set aside a part of its resources for study of the overall problem and for development of broad plans of attack.

Those agencies which do not now review plans for new installations should seek authority to do so, if it is not already available, and all agencies that can possibly do so should have a plan review program, be it "permit" or "registration" in nature. Such action is essential if future problems are to be avoided. Cooperative work with community planning and zoning agencies is also vital in prevention of future problems.

Open burning of refuse on the premises where produced and at dumps is a needles source of pollution. Much time and effort on the part of the enforcement agency could be saved if this practice could be eliminated, to say nothing of the reduction of air pollution that could be achieved and other problems that could be avoided. All possible action should, of course, be taken to work toward elimination of open burning of refuse.

CONCLUSION

There is ample information at hand that the air pollution problems before us are of major importance. These range all the way from excessive dustfall at a home located across the road from a portable asphaltic road mix plant in a rural area to the complex and extensive problems of the megalopolis of the eastern seaboard. It is also clear that inadequate attention is being given to these problems. While today we seem to be "getting by"(although not too well, I'm sure) with the misuse of our air resources, it appears that the rate of growth of our country will surely force us to conserve and manage our air resources, whether we want to or not. The growth of our country is fast and seems to take no special prodding but the growth of air pollution control programs takes years and a lot of "doing." The time to start has passed. While some states and communities have started, a further major increase in efforts is required if we are not to find ourselves in the year 2000 with cities more blighted than were St. Louis, Pittsburgh, and their brethren, 25 years ago.

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Table 1

ESTIMATED(a) NUMBER OF PLACES WITH AIR POLLUTION PROBLEMS
AND POPULATION EXPOSED TO AIR POLLUTION(b)
(1960 POPULATION IN 1000's)

Population class	All urban places[17]		Major problem			Moderate problem			Minor problem			All problems		
	Number in class	Approx. population	Places Percent	Places Number	Approx. population	Places Percent	Places Number	Approx. population	Places Percent	Places Number	Approx. population	Places Percent	Places Number	Approx. population
Urban places														
1,000,000 or more	5	17,500	100	5	17,500	0	0	0	0	0	0	100	5	17,500
500,000 - 1,000,000	16	11,100	70	11	7,800	30	5	3,300	0	0	0	100	16	11,100
250,000 - 500,000	30	10,700	45	13	4,800	45	14	4,800	10	3	1,100	100	30	10,700
100,000 - 250,000	81	11,600	25	20	2,900	50	40	5,800	25	21	2,900	100	81	11,600
50,000 - 100,000	201	13,800	20	40	2,800	35	70	4,800	45	91	6,200	100	201	13,800
25,000 - 50,000	432	14,900	10	43	1,500	25	108	3,700	45	194	6,700	80	345	11,900
10,000 - 25,000	1134	17,600	8	91	1,400	20	227	3,500	37	420	6,500	65	738	11,400
5,000 - 10,000	1394	9,800	3	42	290	12	168	1,200	35	487	3,400	50	697	4,890
2,500 - 5,000	2152	7,600	2	43	150	10	215	760	28	602	2,100	40	860	3,010
Unincorporated parts of urbanized areas	—	9,900	—	—	3,800	—	—	2,300	—	—	2,300	—	—	8,400
Subtotal	5445	124,500	5	308	42,940	15	847	30,160	33	1818	31,200	53	2973	104,300
Urban and rural places under 2500	14,345	11,100	—	—	—	—	—	—	—	—	—	(d)30	4300	3,300
Grand total	19,790	135,600	5	308	42,940	15	847	30,160	33	1818	31,200	37	7273	107,600
Percent of total U. S. population (c)	—	76	—	—	24	—	—	17	—	—	17	—	—	60

(a) Accuracy of estimates not to be inferred from number of significant digits reported.
(b) Urban places as defined by U. S. Dept. of Commerce, Bureau of the Census. Number of places and population data from reference 17.
(c) Total U. S. population in 1960 was 179,323,000.
(d) Problems are mostly minor.

Table 2.

ESTIMATED (a) INCREASE IN URBAN PLACES WITH AIR POLLUTION PROBLEMS AND PEOPLE EXPOSED TO POLLUTION (b)

(Urban places of 2,500 or more population)
(Population in 1,000's)

Year	Type of urban air pollution problem and number of people exposed							
	Major problem		Moderate problem		Minor problem		All problems	
	No. of places	No. of people	No. of places	No. of people	No. of places	No. of people	No. of places	No. of people
1950(c)[16]	224	36,710	636	22,450	1,407	21,920	2,267	81,080
1960	308	42,940	847	30,160	1,818	31,200	2,973	104,300
Increase 1950-1960	84	6,230	211	7,710	411	9,280	706	23,220

(a) Accuracy of estimates not to be inferred from number of significant digits reported.

(b) Urban places as defined by U.S.Dept. of Commerce, Bureau of the Census.

(c) Number of places with problems based on same percentages as places of various populations shown on table 1.

Table 3.

ESTIMATED CENTRAL HEATING EQUIPMENT IN USE [21]

	1950	1955	1959
Gas-fired furnaces, conversion burners, and boilers	4,022,000	7,999,000	11,926,300
Oil-fired furnaces, conversion burners, and boilers	5,172,000	8,255,000	9,646,800
Stokers (Domestic and commercial class 1 and 2)	1,176,000	773,700	548,200

Table 4.

SALES OF HEATING EQUIPMENT [21]

(Units)

	1950	1955	1959
Central heating equipment			
Gas-fired			
Warm air furnaces	599,800	874,400	1,053,400
Conversion burners (a)	345,300	209,100	156,200
Boilers	79,600	90,100	147,662
Floor and wall furnaces	613,000 (a)	554,800	546,800
Total	1,637,700	1,728,400	1,904,062
Oil-fired			
Furnaces	156,700	371,200	344,000
Conversion burners	608,000	241,000	152,900
Boilers	82,100	196,500	140,200
Floor and wall furnaces	73,400	59,700	40,000
Total	920,200	868,400	677,100
Coal			
Stokers (Domestic and commercial class 1 and 2).	19,600	13,300	12,200
Direct heating equipment			
Gas-fired	2,023,300	1,729,100	1,446,300
Oil-fired	1,320,600	634,500	473,900
Coal-fired	888,500	654,200	727,900

(a) Estimated

Table 5

STATE AIR POLLUTION PROGRAMS- 1961[27/](d)

(Those spending $5000 per year or more)

State	Land area (1000 sq. miles)	Population 1960 (Millions)	Type of program (b)	Budget-fiscal Year 1961-dollars	Personnel 1961
California	157	15.7	(1) Technical assistance and research (2) Motor vehicle pollution control	(1) 661,000 (2) 500,000	(1) 45 (2) 17
Colorado	104	1.8	Technical assistance	10,000	4 PT(a)
Connecticut	5	2.5	Technical assistance	7,200	1
Delaware	2	0.4	Comprehensive	18,000 (c)	1
Florida (1) Special District (2)	54	5.0	(1) Technical assistance throughout state	(1) 12,000	(1) 1
			(2) Comprehensive in Polk-Hillsborough Counties	(2) 50,600	(2) 7
Hawaii	6	0.6	Comprehensive	10,000	2
Maryland	10	3.1	Conduct studies	37,700	3
Massachusetts (1) Metropolitan Boston (2)	8	5.1	(1) Comprehensive	(1) 20,000	(1) 1½
			(2) Regulatory program operated by the State	(2) 52,000	(2) 8
Michigan	58	7.8	Technical assistance and studies	20,000	19 PT
Minnesota	80	3.4	Technical assistance	5,000	2 PT
New Jersey	8	6.1	Comprehensive	104,000	14
New York	48	16.8	Comprehensive	228,220	20
Ohio	41	9.7	Technical assistance and studies	95,000	7
Oregon	96	1.8	Comprehensive	63,000	8
Pennsylvania	45	11.3	Comprehensive	60,000	9
Texas	264	9.6	Technical assistance and studies	(c) 22,800	1 4 PT
Washington	67	2.9	Technical assistance and studies	24,000	3
TOTAL		103.6		2,039,920	148 29PT

(a) PT means part-time
(b) Comprehensive includes regulation (control) technical assistance, studies, etc.
(c) 1959 estimate
(d) Reference somewhat modified by present author

Table 6

LOCAL AIR POLLUTION CONTROL AGENCIES IN THE UNITED STATES **
(With annual budget of $5000 or more; Feb 1961)

	Population 1960 (1000)	Staff(a)	Budget ($1000)	Per capita budget (cents)	Staff per 100,000 population
Agencies with budgets of $25,000 or more per year					
1. San Francisco Bay Area, Calif.	3,364	31	560	16.7	0.9
2. Los Angeles County, Calif.	5,970	373	3,402	57.0	6.3
3. Orange County, Calif.	698	11	117	16.8	1.6
4. Sacramento County, Calif. (b)	500	* 4	50	10.0	0.8
5. San Bernardino County, Calif.	498	(c) 8	(b) 259	52.0	1.6
6. Riverside County, Calif.	302	4	67	22.2	1.3
7. San Diego County, Calif.	1,001	4.5	79	7.9	0.5
8. District of Columbia (d)	746	6	* 42	5.6	0.8
9. Polk-Hillsborough County, Fla. (e)	592	4	50	8.5	0.7
10. Chicago, Ill.	3,512	(c) 52	* 364	10.4	1.5
11. Indianapolis, Ind.	469	6	38	8.1	1.3
12. Jefferson County (Louisville) Ky.	606	11	63	10.4	1.8
13. Baltimore, Md. (d)	922	10	70	7.6	1.1
14. Boston Metropolitan District, Mass. (e)	1,998	8	52	2.6	0.4
15. Detroit, Mich.	1,654	20	180	10.9	1.2
16. St. Louis, Mo.	747	13	118	15.8	1.7
17. Newark, N. J. (d)	403	10	63	15.6	2.5
18. Buffalo, N. Y. (d)	530	6	59	11.1	1.1
19. New York, N. Y.	7,710	74	734	9.5	1.0
20. Niagara Falls, N. Y.	102	3	28	27.4	2.9
21. Syracuse, N. Y.	215	5	36	16.7	2.3
22. Cincinnati, Ohio (Area) (d)	542	18	165	30.4	3.3
23. Cleveland, Ohio	870	23	236	27.1	2.6
24. Cleveland Heights, Ohio	62	(c) 4	* 28	45.3	6.5
25. Columbus, Ohio	469	7	50	10.7	1.5
26. Dayton, Ohio (d)	258	7	55	21.3	2.7
27. Allegheny County, Pa.	1,629	18	217	13.3	1.1
28. Philadelphia, Pa.	1,971	23	166	8.4	1.2
29. Providence, R. I. (d)	206	8	31	15.0	3.9
30. Knoxville, Tenn. (d)	110	2	25	22.7	1.8
31. Harris County, Texas (d)	1,243	* 6	* 42	3.4	0.5
32. Salt Lake City, Utah	189	* 4	* 30	15.8	2.0
33. Richmond, Va.	218	4	25	11.4	1.8
34. Milwaukee County, Wisc.	733	15	128	17.5	2.1
Summary for group	40,929 Total	802 Total	7629 Total	14.1 Median	1.6 Median
Agencies with budgets of less than $25,000 per year					
1. Birmingham, Ala.	341	2	12	3.5	0.6
2. Denver, Colo.	494	2	15	3.1	0.4
3. Dade County, Fla.	935	PT 1	5	0.5	—
4. Atlanta, Ga.	485	1	13	2.7	0.2
5. Cicero, Ill.	69	PT 1	5	7.2	—
6. Peoria, Ill.	103	1	8	7.8	1.0
7. East Chicago, Ind.	58	1	11	19.3	1.7
8. Evansville, Ind.	140	1	10	7.2	0.7
9. Des Moines, Ia. (d)	208	PT 2	11	5.3	—
10. McCracken County (Paducah) Ky.	57	1	* 12	20.9	1.8
11. Dearborn, Mich.	112	(e)PT 2	(r) 5	4.5	—
12. Grand Rapids, Mich.	175	PT 2	(r) 6	3.4	—
13. Monroe, Mich.	23	1	* 6	26.1	4.3
14. Wayne County, Mich.	2,666	14	20	0.8	.06
15. Minneapolis, Minn.	478	1	11	2.3	0.2
16. Omaha, Neb.	300	2	(g) 20	6.7	0.7
17. Camden, N. J.	125	(e) 1	* 7	5.6	0.8
18. Hillside Township, N. J.	21	(e)PT 3	* 5	23.8	—
19. Perth Amboy, N. J.	38	1	13	34.2	2.6
20. Trenton, N. J.	114	1	5	4.4	0.9
21. Illion, N. Y.	10	(e) 1	* 5	49.0	1.0
22. Rochester, N. Y.	316	1	10	3.2	0.3
23. Tonawanda, N. Y.	84	(e) 2	* 15	17.9	2.4
24. Watertown, N. Y.	33	(e) 1	* 7	21.2	3.0
25. Asheville, N. C.	59	3	16	27.2	5.1
26. Charlotte, N. C.	201	2	19	9.5	1.0
27. Winston-Salem, N. C.	111	2	12	10.8	1.8
28. Akron, Ohio	288	2	16	5.6	0.7
29. East Cleveland, Ohio	38	(e) 1	* 7	18.4	2.6
30. Sandusky, Ohio	32	1	* 7	21.9	3.1
31. Toledo, Ohio	316	2	12	3.8	0.6
32. Youngstown, Ohio	166	2	17	10.3	1.2
33. Painesville, Ohio	39	1	5	12.8	2.6
34. Eugene, Ore.	50	(e) 1	(g) 10	20.0	2.0
35. Portland, Ore.	371	(e) 1	(g) 17	4.6	0.3
36. Erie, Pa.	138	2	15	10.8	1.5
37. Lehigh Valley, Pa. (Area)	278	1	14	5.0	0.4
38. East Providence, R. I.	42	1	8	19.1	2.4
39. Pawtucket, R. I.	81	(e) 1	* 5	6.3	1.2
40. Columbia, S. C.	96	1	6	6.3	1.0
41. Chattanooga, Tenn. (d)	128	2	16	12.5	1.6
42. Kingsport, Tenn.	26	1	* 7	26.6	3.9
43. Memphis, Tenn. (d)	492	2	13	2.6	0.4
44. Nashville, Tenn.	167	2	13	7.8	1.2
45. Roanoke, Va.	97	1	11	11.4	1.0
46. Seattle, Wash.	552	1	(g) 12	2.2	0.2
47. Tacoma, Wash.	147	1	* 8	5.4	0.7
48. Wheeling, W. Va.	53	2	17	32.1	3.8
49. Fond du Lac, Wisc. (d)	33	1	* 7	21.4	3.0
50. Green Bay Wisc. (d)	63	1	* 7	11.2	1.6
51. Madison, Wisc.	126	2	14	11.1	1.6
Summary for group	10,475 Total	74 Total	548 Total	7.8 Median	1.0 Median
Summary for all agencies	51,404 Total	876 Total	$8,177 Total	10.8 Median	1.3 Median

** Table prepared largely from data collected by Morton Sterling in early 1961, when he prepared his paper, reference 29.
* Estimated by present author.
PT means Part-time
(a) Not including clerical personnel.
(b) 1960 fiscal year.
(c) Based on reference 30.
(d) Staff believed to spend considerable time on work other than air pollution.
(e) Operated by the state in which located.
(f) Based on reference 31.
(g) Taken from reference 32.

Table 7.

PER CAPITA EXPENDITURES OF

LOCAL AIR POLLUTION CONTROL AGENCIES - 1961

(From Table 6)

Annual per capita expenditures (cents)	Number of agencies reporting	Per cent of agencies reporting
1 - 4	16	19
5 - 9	20	23
10 - 14	16	19
15 - 19	12	14
20 - 24	9	11
25 - 29	5	6
30 or more	7	8
Median expenditure 10.8 cents/capita/year		

Table 8.

SIZE OF LOCAL AIR POLLUTION CONTROL AGENCY STAFFS AND POPULATION SERVED - 1961 *

(From Table 6)

Number of staff positions	Number of agencies	Percent of agencies	Total personnel	Population served (1,000)
1	30	35	30	3,829
2	20	23	40	6,676
3-4	9	11	33	2,045
5-10	13	15	89	9,527
11-20	7	8	106	6,609
21-40	3	4	77	6,205
41 or more	3	4	499	17,192
	85	100	874	52,083

* Agencies spending $5,000 per year or more.
Staff members do not include clerical personnel.
Population based on 1960 U.S.Census of Population.

Table 9.

STAFF MEMBERS PER 100,000 POPULATION SERVED LOCAL AIR POLLUTION CONTROL AGENCIES - 1961

(From Table 6)

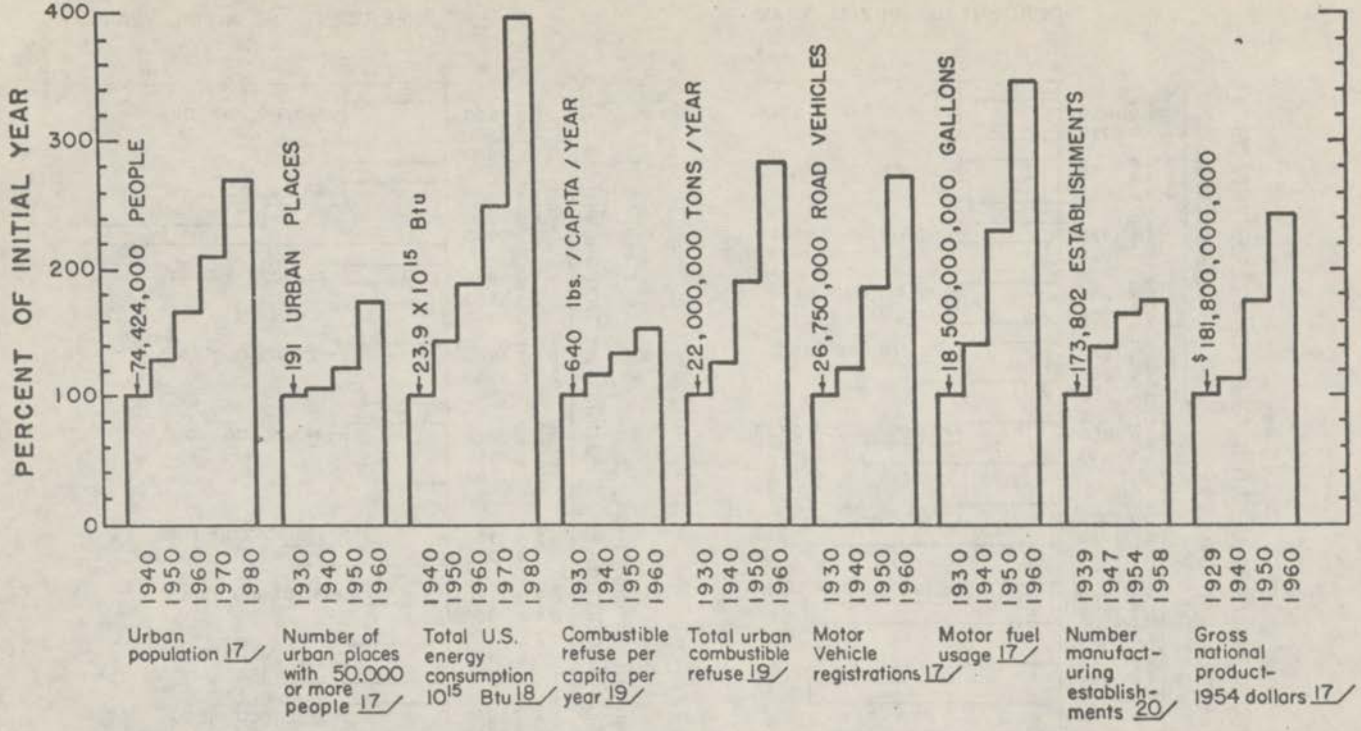
Staff members per 100,000 population (a)	Number of agencies	Percent of agencies
0.01-0.99	24	30
1.00-1.99	31	39
2.00-2.99	13	17
3.00 or more	11	14
Median about 1.3 staff members per 100,000 population		

Table 10

URBAN PLACES SERVED BY A LOCAL AIR POLLUTION CONTROL AGENCY
(Places with 2,500 or more people; agencies spending $5,000 per year or more.)

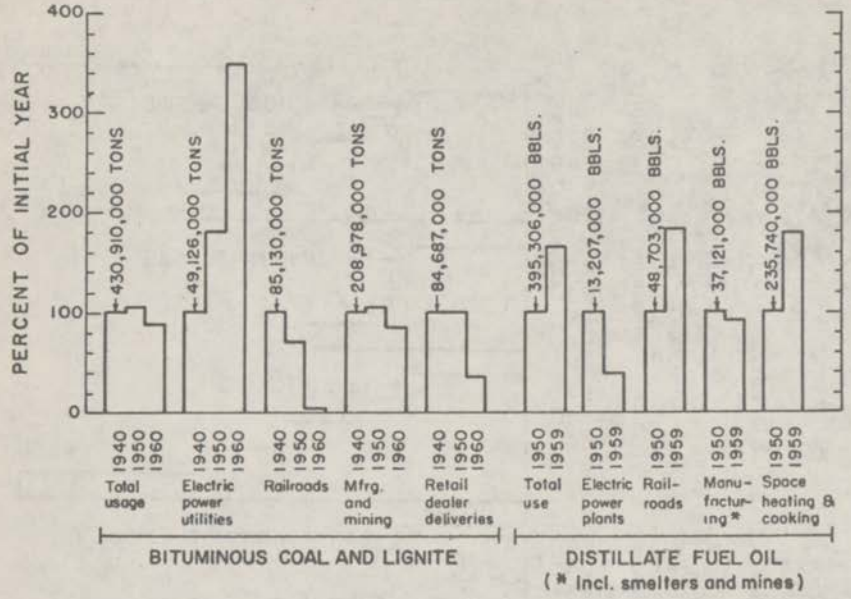
Population class	Number of places in class (1960)	Number of places with major or moderate air pollution problem (From Table 1)	Places served by local air pollution control agency.(a)		
			Number (b)	Per cent of total	Per cent of places with major or moderate problem (d)
1,000,000 or more	5	5	5	100	100
500,000 - 1,000,000	16	16	13	81	81
250,000 - 500,000	30	27	20	67	74
100,000 - 250,000	81	60	32	40	53
50,000 - 100,000	201	110	49	24	45
25,000 - 50,000	432	151	80	19	52
10,000 - 25,000	1,134	318	125 (c)	11	39
5,000 - 10,000	1,394	210	93 (c)	7	44
2,500 - 5,000	2,152	258	80 (c)	4	31
	5,445	1,155	497	9	43

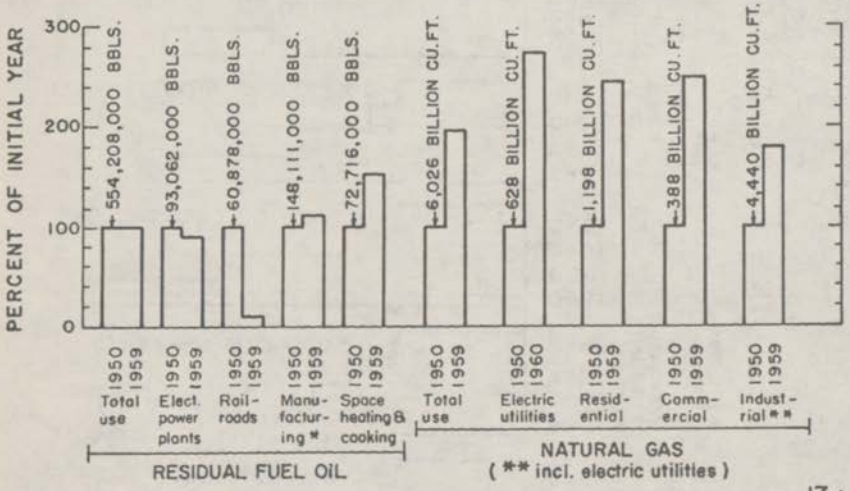
(a) Does not include urban places served by state agencies except Polk-Hillsborough County, Florida and the Boston Metropolitan Area. No consideration given to whether the agency is adequate to cope with the problem. Many are not.
(b) Larger than number of agencies because some areas serve many urban places, e.g. Los Angeles County Air Pollution Control District.
(c) All but three of these urban places of less than 25,000 population are served by county or district programs.
(d) Urban places with control agency and with major or moderate problem not necessarily the same. Percentages given in this column are too high by an unknown amount.



TRENDS AFFECTING AIR POLLUTION POTENTIAL
IN THE UNITED STATES

FIGURE 1





FUEL USE PATTERNS AFFECTING AIR POLLUTION PROBLEMS 17/

FIGURE 2.

TRENDS IN SELECTED INDUSTRIAL OPERATIONS
WHICH MAY CAUSE AIR POLLUTION 17/

FIGURE 3

Mr. ROGERS of Florida. Now I notice that this bill calls for somewhat of a matching fund, a grant of two-thirds for a single State or local agency; is that correct?

Mr. NESTINGEN. That is correct.

Mr. ROGERS of Florida. And in the case of an interstate agency or an agency of two or more municipalities a three-fourths grant?

Mr. NESTINGEN. That is correct.

Mr. ROGERS of Florida. Why is it that a 50-percent grant would not be sufficient if this is a stimulation program?

Mr. NESTINGEN. I think it is a matter of judgment, Mr. Rogers, but I do believe that the encouragement or the additional incentive furnished by a two-thirds grant or a three-fourths grant in other cases will encourage further stimulation at the local level.

Mr. ROGERS of Florida. Would you have objection if, say, we were to try this for a couple of years at a 50-percent grant and see how it would be stimulated? What would be your feelings on that?

Mr. NESTINGEN. I personally would prefer the two-thirds to three-quarters. Fifty percent, in my judgment, is certainly better than a lesser figure. I would hope that we can stay in the two-thirds to three-quarters range. I don't believe, however, it would be fatal to consider other figures.

Incidentally, I might say, Mr. Rogers, that we have recommended up to 75 percent or the two-thirds, not a fixed authorization.

Mr. ROGERS of Florida. I see.

Now, what authority does the secretary have in the interstate level on his own initiative? Can he call for the conference, and so forth?

Mr. NESTINGEN. Yes, he can.

Mr. ROGERS of Florida. He does not have to await a Governor of the State or an agency of the State?

Mr. NESTINGEN. He does not.

Mr. ROGERS of Florida. On the intrastate level it must have the initiation of the Governor or municipality; is that right?

Mr. NESTINGEN. The Governor or the State air pollution control agency, or a municipality with the concurrence of the State agency.

Mr. ROGERS of Florida. Now, is it necessary for a municipality to ask concurrence of the Governor or could the municipality come directly to the Secretary to ask that this be held?

Mr. NESTINGEN. The municipality could not come directly to the Secretary without concurrence of the State agency.

Dr. TERRY. I believe that the bill is so worded that the municipality would have to obtain the concurrence of the State agency.

Mr. ROGERS of Florida. Before they come here?

Dr. TERRY. Yes, I believe that is correct.

Mr. ROGERS of Florida. And this cannot be then initiated by the Secretary when it is strictly intrastate; is that correct?

Mr. NESTINGEN. When it is strictly intrastate it could not be initiated by the Secretary.

Mr. ROBERTS. Let me say this, if I may: I think the way the bill is written, actually the municipality would come straight to the Secretary, if I understand my own bill. But I would say this: That I think in the executive session we will certainly give consideration to whether or not the city must come through the Governor or through the State agency.

Mr. ROGERS of Florida. Now suppose a municipality or a State agency did initate a request and hearings were held and the procedure followed. Then what action does the Secretary have once it has been initiated?

Mr. NESTINGEN. I would like to have Dr. Terry or Mr. MacKenzie add to this.

As I recall the information is then made available to the local area of government. Any prosecutive action would be by the State attorney general. There would not be a prosecutive action under this bill by the Federal Government.

Mr. ROGERS of Florida. What about calling for reports? Would this bill not give you the permission, once that procedure had been initiated, to call for reports in an intrastate matter?

Mr. NESTINGEN. As I understand the bill it does call for that information to be furnished to the Secretary even though it is within the State.

Mr. ROGERS of Florida. Thank you very much.

Mr. ROBERTS. Thank you.

Mr. Schenck?

Mr. SCHENCK. Thank you, Mr. Chairman.

First, I want to express my regret at not being here at the beginning to hear all this fine testimony. Secondly, I want to express my appreciation to the chairman for his reference to the Schenck Act and to say that it was my privilege to visit the Taft Engineering Center in Cincinnati a few months ago. I was tremendously impressed with the quality and extent of the work being done there and I hope that it will be continued at that location and not transferred into some sort of a centralized environmental health center, here in the Washington area although, that may not be in line with the thinking of the department.

Dr. TERRY. May I remark in response to that? It is our intention to continue the type of development which is being carried out at the Taft Engineering Center and our plans would not involve moving this type of development into an environmental centralized health center.

Mr. SCHENCK. Do I understand from your statement, Mr. Surgeon General, that it would not change the present total personnel functions and facilities now being performed at the Taft Engineering Center?

Dr. TERRY. I was referring specifically to the air pollution activities that are going on there. I think very likely there would be some changes, Mr. Schenck. However, frankly, as we look forward to the development of our program over the years. I think that it is most likely that activities would be continued at the same or a higher level in terms of the amount of work and the number of people working there.

Mr. SCHENCK. Thank you.

I want also to express my appreciation of the comments on the report of Mr. MacKenzie under whose direction most of this work has been done. I think that the staff of the Air Pollution Division has been extremely able and has produced a valuable and helpful report.

Now I am going to ask you, Mr. MacKenzie, if you have any information as to the possible or probable cost of such devices that you mentioned, both for correcting the blowby—not correcting but assisting in the improving blowby situation and also the more serious

problems and dangers from the exhaust gases now coming out of the tailpipes?

Mr. MacKenzie. Well, Mr. Schenck, the cost of the blowby devices that have been applied by the manufacturers at the factory and are currently being installed on the 1963 model automobiles are in general of a nominal amount. By this I mean that the estimates that have been made by the companies and the figures that have been released would indicate a cost of less than $5 per automobile.

Mr. Schenck. May I interrupt you there, Mr. MacKenzie, to ask: Are all 1963 model automobiles equipped with such a blowby device?

Mr. MacKenzie. All 1963 automobiles manufactured by American manufacturers are now equipped with blowby devices.

Mr. Schenck. The foreign cars are not?

Mr. MacKenzie. There are a few of the foreign cars that are not. In the main, I would say that 50 percent or more of the foreign cars have also been equipped with this type of a device. A number of the others are making arrangements for their installation.

If I might comment with regard to the cost of exhaust devices——

Mr. Schenck. May I interrupt again? Would it not be a good plan to expand the requirements to install the blowby device on all automobiles sold in this country, not just those of American manufacturers?

Mr. MacKenzie. I would agree with you, sir. I think that this should, in all justice, be applicable to all automobiles whether or not they are manufactured in the United States.

Mr. Schenck. Thank you.

Mr. MacKenzie. We have, in this connection been in communication with the distributors of the principal makes of foreign automobiles, in fact, all of the distributors of foreign automobiles insofar as we have been able to locate them, and have solicited their views as to their intentions of installing devices of this kind since this action is being taken by the American manufacturers.

We have received replies from a number of these and, in general, their reactions, I would say, are favorable.

This is, of course, without regard to any legal requirement for installation of this kind but would involve a voluntary action on their part.

With respect to exhaust devices the current estimates of the cost of these, in general, would indicate a first cost for the devices varying perhaps from about $50 to as high as $150, depending on the type of device and its construction.

The Motor Vehicle Pollution Control Board of the State of California has set criteria that such devices much meet in that State, including cost criteria. In general, what the board has established as cost criteria would set a ceiling of approximately one-half cent a mile as the cost of such exhaust devices when prorated over the normal mileage that the average driver accumulates on his automobile. They have used this approach because for some types of devices the maintenance costs may be higher whereas on others the first cost may be higher and the maintenance cost less. In general, their cost criterion therefore has been on the basis of cost per mile accumulated on the vehicle.

Mr. Schenck. Now Mr. MacKenzie, in a recent issue of a popular type magazine devoted to science and automobiles and so on, it was

reported that the operational cost of a car equipped with a device to cut down air pollution would be quite high and that people nationwide would be paying the cost for the benefit of those in areas such as Los Angeles and other areas where pollution rates are relatively high.

Do you have any comment on that?

Mr. MacKenzie. Yes, sir. I saw the same article, I believe, that you are referring to. The article was written with reference to the blowby devices. Actually, the experience that has been accumulated with respect to the cost of maintenance of blowby devices is, of course, not great yet. The initial cost, as I have indicated, is relatively nominal. The cost of maintenance as recommended by the manufacturers of the vehicles should not be great. In general, they recommend that the valves which are incorporated in the majority of such devices should be inspected at intervals of about 4,000 miles of accumulated mileage. It is not expected that the devices will need to be replaced frequently as the result of such inspection. There will be some cost, without question, for the maintenance of devices of this type or of devices that may be incorporated in the exhaust.

I would like to comment on one other item, however, in the article to which you referred; namely, the statement that this primarily is a problem of California. This is not the case according to the evidence that has accumulated over the past 5 years or more. Effects from pollution arising in motor vehicles can be found in the vicinity of all major cities in the United States, and I am referring here to damages to vegetation which can be identified as coming from this type of pollution source. Increasingly there are measurements being made of pollutants in the atmosphere at various places around the country, including Washington, and we find that the pollutant levels that can be so measured and are being so measured do indicate concentrations of pollutants from vehicle sources which we know will cause damage to vegetation and eye irritation in people.

Mr. Schenck. Then I take it, Mr. MacKenzie, that you are indicating that drivers in areas other than the particular areas of heavy concentration of pollutants are not being unduly penalized just in order to provide better air in those certain areas?

Mr. MacKenzie. That is right. Actually, the effects of pollutants that come from automobiles can be discerned in many instances at quite large distances away from large urban centers.

I think the control of the pollutant emissions from automobiles is of interest not only to urban residents but, in many instances, also in the interest of farmers. We know, for example, that there are very extensive agricultural crop damages that can be identified specifically with the type of pollution that derives from motor vehicles.

Mr. Schenck. How many air sampling stations do you now have throughout the country?

Mr. MacKenzie. Totally, we have about 250 in operation cooperatively with local and State government agencies. Now, the majority of these are used to collect samples of particulate pollution from the atmosphere. These are solid and liquid particles which are removed by filtration in the sampling process.

We operate a smaller number of sampling stations, about 50, where 24-hour composites are collected for several gaseous pollutants. We have a small number of cities, about eight, where we are measuring the

concentrations of gaseous pollutants continuously at approximately 5-minute intervals.

Mr. SCHENCK. Twenty-four hours a day?

Mr. MACKENZIE. Twenty-four hours a day.

Mr. SCHENCK. And these are being transferred to—maybe the word "computer" is getting to be a dirty name, but they are being transferred to computers for comparison purposes?

Mr. MACKENZIE. Yes, sir. The operation of the sampling system that I have briefly outlined generates very large quantities of numbers in the way of results of the analyses and the recordings which are made. We find it most convenient and appropriate to make analysis of the data by use of computers.

Mr. SCHENCK. And you find there are certain times of the day when pollution is greater than other times due to increased traffic conditions?

Mr. MACKENZIE. Yes; this very definitely will show up in the analyses and the recordings that are made.

Mr. SCHENCK. Now just one other question here: What is your office or the Department of Health, Education, and Welfare doing in the matter of education of the public, both as to the habits of drivers and keeping their cars in good operational condition?

Mr. MACKENZIE. Well, from the inception of the air pollution activity in the Public Health Service we have felt it desirable to operate as a part of our activity a technical and public information service. We have a regular mailing list to which all technical publications are disseminated and the information staff in my office also disseminates such information to the popular media.

There has been a great deal of interest by the popular media, newspapers, magazines, radio and television, in this problem. We have made real effort to provide representatives of these media with the information which they would like to have and which they have been very active and helpful in disseminating.

Mr. SCHENCK. Mr. MacKenzie, have you found that the condition of the car itself, I mean the maintenance of the car, from an operational standpoint and the habits of the drivers have any relationship to increased or decreased amounts of pollution?

Mr. MACKENZIE. Very much so. On the average, an automobile will disseminate as pollutant emissions in the form of unburned hydrocarbons approximately 5 percent of the fuel which the driver purchases. Some automobiles that are poorly maintained will emit concentrations of pollutants severalfold higher than the average.

The quantity of pollutants emitted is also affected by the habits of the driver. The driver who goes along very steadily at a normal cruise rate will emit from his vehicle less than the driver of a comparable vehicle who has a tendency to step alternately on the accelerator and then on the brake.

The "jackrabbit" driver will contribute considerably more to pollution emission from his vehicle than will the steady driver.

Mr. SCHENCK. So the jackrabbit drivers are in many instances dangerous not only from the standpoint of whatever traffic hazards they may cause but also an increased amount of air pollution?

Mr. MACKENZIE. They are certainly contributing more to air pollution.

Mr. SCHENCK. Thank you very much.

Mr. ROBERTS. Mr. Nelsen.

Mr. NELSEN. There is a reference on page 6 to the patents. I wonder if you would explain that a bit, what this exactly will do. Page 6 of your statement.

Mr. NESTINGEN. I wonder if I might defer to Dr. Terry on that?

Mr. NELSEN. Yes.

Dr. TERRY. I think this reference to patents and the ownership and public utilization of patents is quite consistent with our general patent policy in the Department in that it represents no departure in terms of our policy with respect to grants and other sources of support using Federal funds.

Mr. NELSEN. Thank you. I noticed in your testimony, Mr. Secretary, that you referred to the President's message, about the need of activity in this field, and I also note your endorsement of this particular bill.

Now you also stated that the dollars were not in the budget to effect the accomplishment as stated in this bill; is that not true? I think you mentioned there was $13 million in the budget for your activity relevant to research and what-have-you, and this bill provides, as you have stated, an additional $5 million not in the budget?

Mr. NESTINGEN. That is correct.

Mr. NELSEN. Now if you felt this was a necessity and endorsed the bill, why was it not in the budget?

Mr. NESTINGEN. Primarily, it is because of the timing, Mr. Nelsen, of the submission of the budget and of the preparation of our position on the legislation. It would be included, however, as a contingency item in the President's budget. We endorse the bill, both from the standpoint of the budgetary requirement and in terms of the substantive provisions of the act.

Mr. NELSEN. Well, the reason I ask the question, last Thursday on the Defense budget on the floor there were those that felt a certain bomber ought to be in it, there were those that felt it should not be. It was not in the budget and the exercise on the floor indicated that any Member who supported its inclusion was exceeding the budget and spending unnecessary funds.

Now here we have the reverse situation where you tell me you endorse this bill and it is not in the budget. So those of us who vote for it again will be voting over the budget recommendations and yet you say you are for this bill.

I think it puts us in a rather peculiar position.

Mr. NESTINGEN. I only want to say one thing and defer to Mr. MacKenzie: We are only talking about millions, last week they were talking about $5 billion.

I defer to Mr. MacKenzie.

Mr. MACKENZIE. In submission of the 1964 fiscal year budget we are permitted to include in the appropriation request only items for which there is legislative authority. This is the reason that there is not anything formally presented except as a contingency item in the air pollution program budget now pending before the Congress for this particular item. The bill under consideration here today is an authorization bill and would provide the authority for requesting specific appropriation at a later time.

Mr. SCHENCK. Then I take it that the Appropriations Committee could at its discretion decide and designate that the $5 million for this work be used for this purpose and take it away from some other work

they thought was less important in the Department of Health Education, and Welfare?

Mr. MACKENZIE. I am sure that any action such as you refer to would be within the authority of the Appropriations Committee, Mr. Schenck.

Mr. NELSEN. I would like to make this observation: I do not think a single member of the committee would argue that air pollution is a problem. Our point is we are trying to find the best way to solve it. I think the Schenck bill demonstrated that great progress can be brought about by bringing to the attention of the people some of the things that need to be done. I think when people find out what the problem is, the danger they are flirting with, that is more important than dollars because people's initiative will do the job.

Those of us on the committee also have to try to not only watch the national budget but to do a job by leadership in pointing up the problem and at the same time offering suggestions for solution which has proven to be the most effective and productive.

I thank you gentlemen for your statement.

Mr. ROBERTS. I thank the gentleman from Minnesota.

This will conclude the morning part of the hearing. We have several important witnesses for the afternoon session. I will get permission to proceed this afternoon and we will meet in the same hearing room at 2 p.m.

(Whereupon, at 12 noon the subcommittee recessed, to reconvene at 2 p.m., of the same day.)

AFTERNOON SESSION

Mr. ROBERTS. Is David Buckson here, representing the Association of Attorneys General?

We can take Joseph M. Pollard, field deputy of county board of supervisors, representing Los Angeles County.

Mr. Pollard, I am delighted to have you. I know you are a transplanted Alabamian and we are very happy to have you appear before us and to represent Los Angeles County.

STATEMENT OF JOSEPH M. POLLARD, FIELD DEPUTY OF COUNTY BOARD OF SUPERVISORS (REPRESENTING LOS ANGELES COUNTY), LOS ANGELES, CALIF.

Mr. POLLARD. Thank you, Mr. Chairman. I would like to read a prepared statement, if I could. This statement of Mr. S. Smith Griswold.

My name is Joseph M. Pollard.

I am deputy to Supervisor M. Dorn, chairman of the Board of Supervisors of Los Angeles County, and chairman of the Board's committee on air pollution control.

I have been instructed to request that your committee permit me to read into the record the statements of Mr. S. Smith Griswold, air pollution control officer of Los Angeles County, which represent the opinion of the board of supervisrs on H.R. 3507 and H.R. 4415.

In preparing and submitting this statement, Mr. Griswold has provided his qualifying background of biographical facts which is substantially as follows.

He is a graduate of Stanford University with B.A. and M.A. in governmental administration; member of Phi Beta Kappa; air pollution control officer of Los Angeles County since March 1955; president of the Air Pollution Control Association; member of the National Advisory Committee on Community Air Pollution (to the Surgeon General); the California Advisory Committee on Air Sanitation; the Regional Air Pollution Coordinating Council of Southern California; and the Air Pollution Training Committee of the Public Health Service.

The provisions of H.R. 3507 have been carefully reviewed and considered by the Board of Supervisors of Los Angeles County and it is supported enthusiastically in its present form with the exception of section 4, "Grants for support of air pollution control programs."

Since the inception of the Los Angeles County Air Pollution Control District in 1947, it has been the unanimous opinion of the Los Angeles County Board of Supervisors that strong Federal support is vitally necessary in specific areas of air pollution control. This board, which also serves as the board of directors of the air pollution control district has consistently urged and supported the inauguration and expansion of the air pollution programs of the Federal Government.

Three separate factors suggest this need for a Federal program:

1. Los Angeles County and other urban areas cannot cope independently with the many technical and scientific factors associated with effective control efforts. To secure answers to the many questions confronting State and local agencies, there must be an effective division of effort between the several levels of government. Without that kind of cooperative approach, the solution to the air pollution problem will be slow—dangerously slow.

2. Much positive and constructive data and information regarding air pollution and its control already has been developed by local agencies, particularly in Los Angeles County where a very comprehensive program is being administered. This existing information should be correlated and made available to all control agencies through central coordination at the Federal level. There is little need to duplicate research or engineering development projects already completed or well on their way to completion, if the information can be retrieved readily through a central agency. Available time and money should be used to expand the knowledge of air pollution and its effect on environmental health wherever necessary.

3. Federal financial assistance through grants in aid or contract research projects should be made available to local agencies conducting work of national interest. Most local governmental budgets are already strained to the breaking point and they should not now be required to spend local tax funds on projects that are of benefit to the entire Nation

The aggressive program at the Federal level which could result from the enactment of H.R. 3507 would provide sorely needed support to State and local air pollution control programs. It would concentrate the great mass of technical data and information and provide for the uniform national effort which the Surgeon General of the United States has said is vitally necessary for the protection of the health and welfare of the citizens of this Nation.

The County of Los Angeles, therefore, wishes to be counted as a vigorous supporter of this bill.

There is one provision, however, which the Los Angeles County Board of Supervisors feels that it cannot support: the provision calling for Federal financial subsidies to the routine operations of local control agencies.

It is our opinion that those provisions of H.R. 3507, as set forth in section 4, are unnecessary and not in the best interests of State and local governmental agencies. In the administration of this portion of the bill, there are too many variables which must be taken into consideration.

Just as there are differences in water pollution throughout the several States, so too there are variations in the intensities, concentrations and biological effects of air pollution in the several States. In the absence of uniform national standards of ambient air quality, it would be most difficult for the Secretary to equitably analyze the needs of air pollution control agencies now existent or which may be brought into existence by reason of this section. Even with such standards, this seems a matter for local decision.

If, on the basis of an investigation by the Secretary, a determination is made that there is a local air pollution problem which is endangering the health or welfare of persons, this information should be sufficient to spur immediate local action to abate the problem. It should not be necessary that the Federal Government provide financial assistance toward the costs of establishing and maintaining programs for the prevention and control of air pollution. It is our opinion that wherever a local air pollution problem exists which is endangering the health and welfare of the population responsible local government should exercise the State's police power to abate it without Federal financial assistance.

With the exception of the objection to section 4, we fully support the remainder of the bill.

A careful analysis of H.R. 4415 indicates that in most areas it is quite similar to H.R. 3507. We believe that the specific reference in H.R. 4415 to vehicular exhaust problems and the Department's role in studying them is well advised and provides a clearer view of the intent of Congress on this important subject.

As an expression of policy, we believe that section 8 of H.R. 4415 should be included in any bill enacted by Congress. Certainly the widest possible distribution of information resulting from federally supported projects should be secured.

We object to section 4 programs of H.R. 4415. This is quite similar to the provisions of section 4 of H.R. 3507 which is also objectionable for the reasons set forth above. In all other respects, we fully support the remainder of the bill.

That, Mr. Chairman, is the end of the prepared statement.

I would like to say that Mr. Griswold regrets that he could not be here to testify before the committee at this time. He expressed his regrets.

Mr. ROBERTS. Thank you, Mr. Pollard. I, too, regret that Mr. Griswold is not present. I am certainly happy to have you here and for you to represent Mr. Griswold.

Now, I wanted you to discuss your objection to section 4 of 4415, which you say is quite similar to section 4 of H.R. 3507.

What part of the section are you directing your objections to?

Mr. POLLARD. I believe the section that we are talking about is section 4, paragraph (a), the money that is to be appropriated, $5 million for the fiscal year ending June 30, 1964, and so forth.

Mr. ROBERTS. Well, specifically, what does your objection go to?

Mr. POLLARD. I believe if my interpretation is correct that Mr. Griswold feels that this money could be better spent, perhaps, on programs that would be more in the nature as was explained here this morning by the Surgeon General in the laboratory research field instead of as indicated in the bill for the maintenance and operation of an air pollution program in the States or districts.

Mr. ROBERTS. Did you have in mind that the money for establishing and maintaining this program, all that money should be supplied by the States?

Mr. POLLARD. Should be supplied by the States or local contribution.

Mr. ROBERTS. I think I understand.

Mr. POLLARD. We realize, of course, there might be other reasons for this portion of the bill.

Mr. ROBERTS. Thank you very much, Mr. Pollard. I appreciate your testimony.

Mr. POLLARD. Thank you, Mr. Chairman.

Mr. ROBERTS. Is Mr. Buckson here?

Mr. BUCKSON. Yes, sir.

Mr. ROBERTS. We are happy to have you, Mr. Buckson. Mr. Buckson is the attorney general of Delaware and represents the Association of Attorneys General.

You may proceed with your statement, sir.

STATEMENT OF HON. DAVID P. BUCKSON, REPRESENTING ASSOCIATION OF ATTORNEYS GENERAL, ATTORNEY GENERAL OF DELAWARE, DOVER, DEL.; ACCOMPANIED BY DR. MITCHELL WENDELL, SECRETARY, NATIONAL ASSOCIATION OF ATTORNEYS GENERAL

Mr. BUCKSON. Thank you.

I have with me Dr. Mitchell Wendell, who is the secretary of the National Associtation of Attorneys General.

Mr. ROBERTS. We are glad to have you, Dr. Wendell.

Mr. BUCKSON. I am appearing on behalf of the National Association of Attorneys General which is composed of the chief State law officers of all 50 States and the Commonwealth of Puerto Rico. Pursuant to authorization by the executive committee of the association, the Federal-State relations committee is making this appearance.

It is clear that air pollution has become a major problem to which National, State, and local governments all will have to give more attention. The principal question is not whether the types of governmental action contemplated in the legislation before you are necessary now or in the near future. Rather the problem is to set forth the proper roles of each level of government and to fit these roles together into an effective and efficient pattern of research, educational and regulatory action.

Up to the present time, very little has been done about air pollution at any level of government. If it is said that the States have not coped with it to anywhere near the requisite degree, the observation probably is correct. But exactly the same observation can be made about the

Federal Government. Each has done something, but it is becoming apparent that it is not enough.

The leaders in the air pollution control field are not in the National or State Governments. They are in local governments where the problem was recognized earliest and where communities with more serious manifestations of the problem have already undertaken substantial programs.

The field of air pollution control is not one where it can justly be said that Federal action is needed because the States and localities have demonstrated a lack of capacity or will to deal with the problem. Instead we have a problem which is just emerging into public consciousness and in which governmental action, still largely at the pioneering stage, must begin to fix or reflect lines of responsibility.

We are a little further along in air pollution control than we were in the early days of the more elementary public sanitation programs. Germ-caused diseases may have been affecting the health of human beings for hundreds of years, but the date at which the character of governmental action in public health can fairly begin to be judged must be fixed at the time when medical knowledge established the existence of germ diseases and the relationship between them and poor sanitation.

The public inconvenience and harm caused by smoke pollution was the earliest damage to be recognized from pollution of the air. Most communities with sufficient concentrations of such pollution to make the problem significant acted long ago to regulate in this field. Smoke control ordinances and laws are better than half a century old. It was not necessary that there be a national law on the subject in order to secure control, nor would one be appropriate. The nature and extent of the problem, and even its existence, vary widely with local demographic and climatic conditions.

Pollution of the air in a multitude of ways from a wide variety of industrial and vehicular sources has only begun to be recognized as a problem in the years since World War II.

It may be unfortunate that people do not anticipate their problems further in advance of their becoming serious, but sufficient knowledge and awareness is only now beginning to develop so as to make truly major governmental action at any level possible.

We would urge the States and localities to do more to cope with air pollution than they have done in the past. We believe that increased Federal activity is also desirable. However, it is essential that the several levels of government avoid duplicating each other's efforts and that confusion in legal and administrative lines of authority not develop. Because of its experience with research and training programs, the Federal Government can make a vital contribution in these fields. Moreover, at the present stage our technology in air pollution control is relatively primitive.

On the other hand, the regulatory phases of air pollution control programs are much more akin to the normal public health activities of State and local governments. Equally important, the regulatory area is precisely the one where regional and local differences in the nature and severity of the problem appear, and where complex decisions based on a balancing of local needs and preferences must be made.

The legislation seeks to make a distinction between air pollution affecting the health or welfare of people in more than one State and air pollution affecting the health or welfare of people in only one State. This is for the purposes of determining the proper extent of Federal enforcement activities. This attempt to preserve local jurisdiction over local problems is most commendable. However, it does not appear to be a very realistic distinction. At the present stage of knowledge concerning the causes and effects of particular instances of air pollution, it is seldom possible to determine in any clear fashion just what the effect of the pollution may be. Moreover, it is not at all clear that the effect on "health and welfare" which brings the Federal enforcement jurisdiction into play is to be restricted to an effect produced by an interstate movement of an air mass, or if the jurisdictional test can be less direct and more speculative. All we know for certain is that air pollution is primarily local in origin and effect. This is why it would be better to leave enforcement measures in the hands of State and local authorities and to encourage action by interstate compact or other interstate cooperative arrangements in preference to Federal enforcement action.

While the bill quite rightly proposes to leave regulatory programs primarily to the localities and States, it then proceeds to provide machinery for ousting of local and State jurisdiction. Moreover, such an ouster would be on the basis of the administrative discretion of the Federal executive agency. Little is known about the technology. Yet it is clear that there is a legal and practical desirability of handling the problem on as local a level as possible. Consequently, to provide a self-generating Federal enforcement program seems premature, to say the very least. We believe, therefore, that sections 5 and 6 of the bill should be stricken and that consideration of any such provision should not be undertaken unless, over the course of a reasonable period of time, local and State action proves inadequate.

Another provision of the bill raises a problem of clarity in lines of responsibility. Section 3(a)(3) reads:

> * * * conduct investigations and research and make surveys concerning any specific problem of air pollution confronting any air pollution control agency with a view to recommending a solution of such problem, if he is requested to do so by such agency or if, in his judgment, such problem may affect or be of concern to communities in various parts of the Nation or may affect any community or communities in a State other than that in which the course of the matter causing or contributing to the pollution is located.

If the Department of Health, Education, and Welfare is requested by a State or local agency to study its operations, or a problem with which it is confronted, and to make recommendations with respect to it, it is highly desirable that HEW have authority to supply the benefit of its technical skills. However, to give the Department a roving commission to study and criticize the actions of particular agencies of a State or local government in its own discretion is to encourage friction and irresponsibility.

The Federal Government must assume that other responsible units within our governmental system are proceeding to do their jobs and that they will ask for help if needed, and if the help is made available.

Any legislation which, however inadvertently, permits a Federal agency to go on record as contradicting or diverging from the policies of the legally responsible State or local agency in a field over which

that agency has political and administrative responsibility is mischievous. It could do severe damage to, or even completely subvert State and local efforts to regulate polluters and could encourage them to play Federal, State, and local officials off against one another. Consequently, we suggest that this provision of the bill be dropped.

Finally we would call your attention to the fact that paragraph (c) of section 2 of the bill is described as a consent of Congress to interstate compacts in the field of air pollution control.

Certainly, interstate programs in this field offer great promise as a major means to deal with both the recommendatory and regulatory aspects of the situation. We are glad to see that earlier in this same section the Secretary is directed to encourage interstate compacts and other cooperative undertaking. However, paragraph (c) is actually a restriction on the powers of the States and would retard their cooperative efforts instead of advancing them.

Paragraph (c) consents only to the negotiation of compacts, but requires that each completed compact be brought back to Congress for specific consent before it may become operative. As a practical matter, no Federal action is necessary to authorize negotiation of air pollution compacts. The officials of the several States are free to meet with each other and to formulate proposals for compacts in any case. They do so frequently now in the absence of any Federal statutory reference to such an activity. Consequently, this part of the paragraph has no substantive effect.

On the other hand, the specific statement in the balance of the paragraph that compacts once negotiated must receive the specific consent of Congress before they become operative adds another step to the compact making process. Under the rule of *Virginia* v. *Tennessee*, 148 U.S. 503 (1893) which has been followed ever since its original statement, there are many types of compact which require no congressional action at all. These are the compacts which lie entirely wtihin the area of State police power and do not affect the "political balance" of the Federal system.

Because of this fact, the States have been able to place a number of highly useful compacts into operation without waiting for congressional action. In recent years, this has been notably true in the fields of mental health and juveniles. Whether particular air pollution control compacts would need congressional consent is a judgment to be made only after the compact in question has been drafted. It seems a virtual certainty that many, and perhaps most such compacts would belong to the legal class of the mental health and juvenile agreements rather than to those which disturb the "political balance" of the Federal system. Consequently, it would be much more helpful to the furtherance of interstate cooperation in air pollution control if section 2(c) were simply deleted. This would leave the existing law of interstate compacts in status quo. Any air pollution compacts of the type needing congressional consent would continue to need it. For such compacts, the section changes nothing. On the other hand, compacts which could come into operation on the basis of State action alone would not be impeded by an unnecessary extra step which, at the very least, would delay the projected interstate program.

Mr. Chairman, that concludes the reading of the statement of the National Association of Attorneys General.

If there are any questions, I would be glad to try to answer them and Dr. Wendell is present to do likewise.

Mr. ROBERTS. Thank you very much, General. I appreciate your statement and I also appreciate most of your suggestions.

I might say that while the time that we have in the hearing day is too limited to go into a complete discussion of this matter of interstate compacts because it is a different question, I feel that certainly it was my intent in drawing this bill that the law be construed as an encouragement to these compacts.

I am not too sure, I think as you pointed out practically every compact has to stand on its own feet and it is difficult to say. It depends on how the compact is drawn, what is involved, as to whether or not it would actually require either implied consent of the Congress or approval of the Congress after the compact was drafted.

It may be that you are correct in some area of this action, that the States that already have authority to do what we put in the act so far as it applies to consent.

I think, however, that the compact has congressional history in some other areas where we have given congressional consent and then the compact comes back to the Congress for approval. In some of those areas I might say I have seen it work quite well. Generally speaking, the reason I think Congress would want a second look at these compacts is because of the fact that we are supplying Federal funds certainly in the area of technical assistance and some other activities in the research field. That is one of the reasons why we would want these particular compacts to come back to Congress for final approval.

Mr. BUCKSON. With your permission, sir, Dr. Wendell would like to comment on the question of compacts.

Mr. ROBERTS. Yes.

Mr. WENDELL. Mr. Chairman, it is certainly true that Congress, if it wishes, may require compacts in this field where they would otherwise need consent or not to secure it before they go into effect. If in the considered judgment of Congress that is the policy which it wishes to pursue in this instance, why, that will be the congressional decision. The instance which you refer to in which compacts are required to come back to Congress for consent are really perhaps one and at most two in number.

When Congress has in the past undertaken to consent, as the lingo goes, to water allocation compacts in the West this has been required but the rationale there generally has been that there is lots of Federal land in the West and as part of the public domain, and otherwise whose water rights may be affected by something that is done under a particular compact. I don't believe that there is a parallel in the situation established under this bill to such a situation.

The other instance in which this is notably true is the instance from which I take it that the language of section 2(c) is probably directly taken since it reads in exactly the same way and that is the Federal Water Pollution Control Act, which has in one of its sections an identical provision to this one.

The point of the statement that General Buckson was making in this respect is not that it is impossible for Congress to decide that it wishes consent to go in this fashion but rather that it is an unnecessary step in the sense that Congress does not have to consent to such compacts and delay maybe on occasion.

Further, if there is to be any Federal grant-in-aid money given to activities carried on under interstate compacts in the air pollution control field, whatever legislation would then be applicable and the administration of that grant-in-aid legislation inevitably would have to make decisions as to whether what was being done under the interstate program conformed to the intentions of Congress and was a proper program to receive such grant-in-aid money. This is a safeguard that you build into all of your grant-in-aid legislation whether some of the money is available for interstate agencies or whether it is not. Yet on the other hand there are a number of other compacts, even in fields which quite clearly would seem to require the consent of Congress where no such condition of subsequent referral back to Congress has been required so that you have a choice here. Congress has a choice as to which of two patterns with which it is already familiar it may wish to follow in this particular instance.

I note particularly the entire field of crime control in which Congress has simply given blanket consent in advance of the compacts of whatever nature among the States provided that they are compacts that deal in the field of crime control without presenting any condition of subsequent referral back to Congress.

I think also of two recent ones in the sense of the last 2 or 3 years, one in which Congress gave consent in advance without requiring referral back of two compacts in the field of airport development. This is a field certainly in which there are Federal funds available under grant-in-aid programs and it was not though necessary to attach any further conditions on the ground that the conditions for the receipt of grant-in-aid moneys by whatever kind of agency are already circumscribed by whatever legislation applies to them.

Then one that is even more recent from that is in the field of housing development and metropolitan area planning. There was provision made, and there is now in the National Housing Act in its more recent amendments, provision for interstate compacts in the field of planning, metropolitan area planning development with no requirement that any such compact be referred back to Congress. So the Congress can follow the other route as well as the route that is required in a specific referral, and in our view this would probably be more expeditious and more encouraging to the States in development of certain types of air pollution control.

Mr. ROBERTS. I think this, that it has been done both ways. I am not speaking for the full subcommittee but I think this action would not cause us too much trouble. I certainly would consider it.

Of course we have another committee in the Congress which looks very carefully at all the interstate compacts, namely, the Judiciary Committee, and sometimes we simply put this clause in requiring approval by Congress so that we will not meet some objection from that committee.

Did you want to say something further?

Mr. WENDELL. No.

Mr. BUCKSON. Thank you very much, Mr. Chairman.

Mr. ROBERTS. Thank you, gentlemen. We appreciate your appearance very much.

Our next witness will be Mr. Edward A. Sargent, president, Mr. Richard Domenice, chairman of the standards committee; and Mr. Donald Reed, secretary-treasurer, Incinerator Institute of America.

I will call Mr. Fitzpatrick, who is appearing here today for the Honorable Richard Daley, mayor of Chicago, Ill.

STATEMENT OF JAMES V. FITZPATRICK FOR HON. RICHARD DALEY, MAYOR, CHICAGO, ILL.

Mr. FITZPATRICK. Mayor Daley regrets he could not be here this afternoon and asks me to deliver this message to you.

Mr. ROBERTS. Happy to have you, Mr. Fitzpatrick.

Mr. FITZPATRICK. Mr. Chairman and members of the committee, I appreciate the opportunity to appear before your committee today to testify on behalf of H.R. 4415. I will be speaking today not only as the mayor of Chicago, but also on behalf of the U.S. Conference of Mayors. I am past present of the conference of mayors and chairman of its advisory board. The conference of mayors has supported in the past such legislation as you are considering today.

The recent National Conference on Air Pollution in Washington, D.C., December 10–12, 1962, was attended by representatives of industry and government at the local, State, and Federal level. The participants who are experts in this field pointed out that air pollution is a growing urban problem and a national problem that needs intensified and concerted effort by all responsible and concerned.

Today before the House of Representatives Subcommittee on Public Health and Safety is bill H.R. 4415 introduced by your chairman, Kenneth Roberts. This bill recognizes the need for a Federal program as outlined at the National Conference on Air Pollution since it provides the tools and recognizes the urgency involved in coping with this very important problem.

As the mayor of the city of Chicago, I represent a city of 3,700,000 people located in a metropolitan area of 7 million people. The Chicago metropolitan area as defined by the Federal Bureau of the Budget, Office of Statistical Standards, is composed of eight counties, six of which are in the State of Illinois and two of which are in the State of Indiana. This eight-county area is composed of approximately 1,000 independent political jurisdictions and has a projected population increase of 15 percent every 10 years.

The Chicago metropolitan area is just one of many in this country being confronted with new and intensified urban problems and air pollution is a prominent one.

Metropolitan areas with a population of 500,000 or more have increased from 23 to 53 during the years 1940 to 1960. The Nation's population is also increasing, being approximately 180 million in 1960; it is expected to increase 45 percent in the next 20 years to approximately 260 million in 1980.

More than two-thirds of the Nation's people live in urban areas with 50 major metropolitan areas providing homes for more than 40 percent of our citizens. Growth during the period 1940–60 increased our urban population by 52 million people or 68 percent while our rural population decreased by 3 million or 5.5 percent.

As the number of people living in metropolitan areas increase, air pollution problems become more acute. It has been documented and substantiated that every metropolitan area with a population of a million or more is considered to have a major air pollution problem.

In 1960 the gross national product was at the $500 billion level. By 1970 it is expected to be about $800 billion. The 60-percent increase in commercial, industrial, and individual activities will result in a corresponding increase in potential air pollutants. Action must be taken to prevent these pollutants from being added to those already fouling our limited air supply. Industry can prevent this increase in air pollution by systematically controlling the sources of air pollution as its activities expand.

Coupled with an expanding national economy is our expanding technology which is creating a greater variety of potential air pollutants. Expenditures for rsearch and development are expected to increase from $13 billion in 1960 to about $30 billion in 1970. As a result industries and their many new products and processes will take their place in our now heavily industrialized economy. Industry will provide more jobs and a higher standard of living for our citizens but they will also be the potential source of new air pollutants which pose a threat to our air quality.

In addition to increased industrial activities in the future other potential sources of air pollution continue to be a menace to urban living.

The quantity of urban combustible refuse has doubled in tonnage in the past 20 years while about two-thirds of our cities still employ open dumps for disposal of refuse. Waste disposal methods that minimize emissions of air pollutants must be more widely used.

The number of road vehicles, the miles traveled per vehicle, the number of automobiles, and the use of motor vehicle fuel have all increased enormously. There were 32 million road vehicles in 1940 and 74 million in 1960 with 120 million expected in 1980. The combustion products of motor vehicle fuels are a significant factor in urban air pollution.

Our rising standard of living and increasing industrialization requires a corresponding increase in energy production generated from the consumption of coal, oil, and gas. The total per capita energy consumption is expected to double in the next 20 years. This vast increase in use of fuels will result in a corresponding increase in air pollutants generated.

It is justified in stating, based on the foregoing, the present national air pollution problem will intensify in years to come unless definite steps are taken immediately to prevent further pollution and to remove what now exists. Such steps are outlined in H.R. 4415, which represents progressive and needed legislation at the Federal level.

Although the key to air pollution control is effective action at the local level, only 34 local governmental air pollution agencies have a budget of $25,000 or more. Fewer than 1,000 people are employed by all local governments to control their air pollution problems with only 13 air pollution agencies employing more than 10 people.

State air pollution programs must be strengthened. About $2 million was spent in all 50 States for air pollution control in 1961. Of this amount more than $1 million was spent by only one State—California. Today most States have enabling air pollution legislation of some kind. Only 17 States, however, spend more than $5,000 each year for air pollution programs.

The States of Indiana and Illinois have recently enacted enabling legislation which has created the structure for air pollution control

programs. These laws are essentially ineffective to carry forward a full program in these States because of the lack of sufficient funds for full implementation of the laws through proper staffing. Less than 2 man-years is devoted to air pollution activties annually in each of these States on the State level. In addition, the Illinois Legislature created in 1961 a Northeastern Illinois Metropolitan Area Air Pollution Control Board. This board appointed by the Governor of Illinois, has authority given them by the State legislature to stimulate air pollution activities in six Illinois counties: Cook, Lake, McHenry, DuPage, Will, and Kane.

It is their responsibility to advise, consult, and cooperate with other agencies of the State of Illinois, incorporated towns, villages, cities, counties, industries, the State of Indiana, and the Federal Government. Heavy demands on the board have been many since its formation. They are attempting to satisfy the needs of this six-county area in supplying information to towns concerning the drafting of local air pollution ordinances and servicing specific complaints. To accomplish this the board has the services of a State department of public health, sanitary engineer half time. This is far from adequate. Only two communities to our knowledge outside of Chicago in our metropolitan area have full-time personnel engaged in air pollution control activties. Approximately 3 million people in this urban area do not have the benefit of any local air pollution control program.

The city of Chicago Department of Air Pollution Control has an active air pollution control program. It has a budget of $600,000 and a staff of 69 people. In 1881 the City Council of Chicago passed the first smoke ordinance in the United States. In 1959 the City Council of Chicago passed a comprehensive air pollution ordinance. This ordinance charged the old smoke abatement department with abating and controlling all types of air pollution in addition to smoke. This new responsibility requires a complete reorganization of the department to fully implement this new ordinance. This has been accomplished. It required additional technical talent in the department to methodically set up the new program for Chicago. This has been partially accomplished. In addition, the city of Chicago has entered into a 5-year technical aid and assistance program with the Division of Air Pollution Control, U.S. Public Health Service. This assistance was and is needed to accelerate Chicago's program and is doing it successfully. Chicago's smoke abatement program over the years has been successful. Dustfall in the city in 1930 was measured to be an average of 350 tons per square mile per month. Today dustfall measurements are averaging 43 tons per square mile per month. Chicago's goal in dustfall is 15 tons per square mile per month. This is being experienced now in residential areas of our city.

Much has been done in Chicago to reduce the air pollution problem in our city by government, industry, and community groups.

Our city has recently built three giant municipal incinerators with a capacity of 3,120 tons per day and at a cost of $16 million to dispose of our urban refuse.

A major component of Chicago's dustfall was once recirculated dust coming from Chicago's streets and alleys which is 12 percent of our city's 225 square miles. To reduce this type of pollution Chicago spends approximately $2 million per year in mechanical streetsweeping. In the past 8 years this program has been expanded by 50 per-

cent. This has had a significant effect on Chicago's dustfall which has been reduced by 20 percent in the past 8 years.

During the next 4 years Chicago's electric utility will spend $8 million in installing air pollution control equipment. This will bring their total expenditure to $30 million for such controls.

The metallurgical processing industry in Chicago is now developing an air pollution control program in cooperation with the department of air pollution control which will require an estimated expenditure of over $40 million.

Chicago's stockyards, once a major source of odors in our city, is now becoming odor free. Plants remaining at the stockyards are spending approximately a quarter of a million dollars to make their operations free of any air pollution. This will spur the stockyards redevelopment plan.

Chicago this year received a "Cleaner Air Week" award from the Air Pollution Control Association for its outstanding educational and community level activity during Cleaner Air Week, 1962. We consider it extremely important to inform the public in laymen's language of the sources and effects of air pollution in addition to the city's program for control and abatement.

The department of air pollution control has now on Chicago streets a mobile laboratory and radio-dispatched abatement patrol cars. These vehicles provide immediate complaint service to our citizens. Chicago is carrying forward a stringent smoke-abatement program as demonstrated by the fact that suits filed in the municipal court of Chicago in 1962 for smoke violations has increased by 1,000 percent over any previous year in the history of the program.

Five weeks ago we initiated in our city the world's largest city-operated air sampling network to measure suspended dust. This major step forward in monitoring Chicago's air was accomplished through advice from the U.S. Public Health Service, Division of Air Pollution, and with the cooperation of the Chicago public school system on whose roofs the measuring equipment is located. This new network coupled with our existing dustfall network and the Federal continuous air monitoring station for vehicular exhaust operated by the city will provide Chicago with the necessary ambient air information to move its program forward.

However, Chicago's program is no longer oriented toward smoke abatement as previously stated. Chicago's new approach necessitates an immediate and long-range program of broad development in the administrative, technical, and planning areas. To meet the current and future air pollution control problems it has become necessary to develop competencies which will insure that our vital air resource is conserved and protected. There is a need to define more carefully the myriad of air pollution problems, devise ways to solve these problems satisfactorily and develop criteria whereby Chicago can plan its future growth without jeopardizing the quality of the air to be breathed.

Much remains to be done in giving Chicago citizens and their neighbors in the metropolitan area the type of air quality they are requesting and deserve. The city of Chicago is developing a plan for a comprehensive emission inventory to catalog existing pollution and the pollution potential of its 10,000 industrial processes in addition to sources of pollution related to fuel consumption, domestic and com-

mercial activities. Federal aid will be required to fully implement this important and necessary program. Today I am asking your favorable consideration of H.R. 4415 so that the Federal assistance so necessary for the progress of our program will be forthcoming.

I would like to comment on the specific provisions of H.R. 4415 which are extremely beneficial to Chicago and to the Chicago metropolitan area. Further, it is felt that these provisions which are beneficial to us in the Midwest would also be beneficial to other metropolitan areas in this country, especially those interstate in nature.

Section 1 of the bill states that air pollution has become a serious and major problem in urban areas where the predominant part of the Nation's population live and that the primary responsibility for solving this problem rests with State and local governments.

This has been attempted in the Chicago metropolitan area as shown by the activities of Chicago's Department of Air Pollution Control and recent activities in Indiana and Illinois establishing the legislation for air pollution control programs in our area.

Section 2 provides that the Secretary of Health, Education, and Welfare encourage cooperative activities by State and local governments and further encourage the enactment of uniform laws where practicable. This is now being done in our area, especially in the county of Cook of which the city of Chicago is a part. However, explicit mandates in a Federal law would give further assurance that the approximately 1,000 independent political jurisdictions in our area would follow this principle of uniformity of laws so fundamental to air pollution control.

The explicit allowance of two States to enter into compacts with the consent of Congress would go far to develop a cooperative effort in the Chicago metropolitan area. Both Illinois and Indiana allow in their State legislation the agency administering their program to do this, but having it spelled out in this bill would accelerate the development of an interstate compact.

Section 3 of the bill requires the Secretary of Health, Education, and Welfare to establish a national research and development program and conduct investigations on specific air pollution problems if requested and recommend a solution.

The complexity of the solution to this national problem requires that research be done on a national level. Local programs find it difficult to justify expending local tax funds for specific research which has nationwide applicability. Allowing Federal technical pesonnel to advise on specific air pollution problems and recommend solutions would greatly assist local control programs. In many cases these problems are one of a kind in a community and solutions found elsewhere in the country would be extremely beneficial for a local control official in solving his local problem.

The requirement of studies being made on a Federal level pertaining specifically to motor-vehicle exhaust is again the proper approach to solving this national problem. Local government should not be required to use local tax funds to develop a solution to a problem interstate and national in nature.

Section 4 allowing for grants to support local air-pollution-control programs is extremely important to us in the Chicago metropolitan area. The Northeastern Illinois Air Pollution Control Board, Cook County, and the city of Chicago could and would accelerate the de-

velopment of their individual programs if additional funds were made available through Federal assistance. The city of Chicago is developing its own 5-year program for air-pollution control. It has become apparent in the drafting of this program that for Chicago to fully implement its new air-pollution ordinance, additional technical talent and equipment will be required.

Section 5 dealing with interstate pollution has serious implications in our area. The approach spelled out in this section wherein the Secretary of Health, Education, and Welfare may call a conference of the State control agencies involved with the purpose being to determine the extent of the problem and what is being done about it would be helpful in our area.

The subsequent mechanics for abatement of the Federal level spelled out in this section would go far to insure in years to come that all residents in our metropolitan area would share equally in the results of an effective program. Polluted air masses recognizing no jurisdictional boundaries and obeying meteorological whims of nature travel an aimless course over Metropolitan Chicago. These polluted air masses can, in their travels back and forth over the metropolitan area, pick up pollutants from one community and transport them to neighboring communities. In a Bistate study of the Chicago metropolitan area concluded in 1959 and conducted jointly by the Indiana State Board of Health and the Illinois Department of Public Health, it was estimated over 10,000 tons daily of solid matter and over 7,000 tons daily of gaseous matter was being emitted into our metropolitan area airspace.

As mayor of Chicago I formally requested last year that Congressman Roberts and your committee come to Chicago and conduct a public hearing on this problem. It may be assumed from Congressman Roberts' bill he has obtained the information to justify his legislative proposal and will not need to hold a congressional hearing. I compliment him for his insight.

The bill's approach to intrastate pollution wherein the recommendations which result from a Federal conference would be turned over to the Governor of the State for appropriate action is a sound and efficacious approach to the problem.

Section 8 providing that any information developed as a result of this Federal program be made available to the public is excellent. The rapid dissemination of this type of information to interested parties will help bring about a more rapid solution to air-pollution problems throughout the country.

It is noted that H.R. 3507, introduced by Congressman Fulton of Pennsylvania, and H.R. 4061, introducted by Congressman Rodino, of New Jersey, provide for the establishment of an "Air Pollution Control Advisory Board." This 10-man Board to be appointed by the President would include representatives of various State, interstate, and local governmental agencies in addition to private and public interests contributing to, affected by, or concerned with, air pollution. The Board would advise, consult with, and make recommendations to the Secretary of Health, Education, and Welfare on matters of policy related to the Federal program. Such a Board has met with success in the Federal water-pollution program and is recommended for your consideration in the new Federal air-pollution program.

In conclusion the city of Chicago supports the legislation embodied in H.R. 4415. This legislation will greatly assist the cities of the United States in making progressive inroads into the total solution of its air-pollution problem which is in no sense unique to Chicago alone.

Thank you for the opportunity of bringing this urgent message to you today.

Mr. ROBERTS. Thank you very much for a very fine statement, Mr. Fitzpatrick. I am particularly impressed with your statement because of the fact that you come from an area which has already done a great deal about it.

As a matter of fact, in one particular area I note that you point out that in the next 4 years Chicago's electric utility will be spending $8 million in installing air-pollution-control equipment and this will bring their total expenditure to $30 million for such controls, which is all that is encompassed in this 5-year program.

You make me wonder, really, if we are going as far as we should go, particularly in view of the tremendous expenditures that are evidenced here by your statement.

I have tried to keep in mind in drafting this legislation that we recognize that this is a problem that must be met by the combined effort of the municipalities, the counties, the States, and the Federal Government.

It is such a big problem that I seriously doubt if expenditures of great sums of money can accomplish it in a short time. I think that we have to develop the knowledge as we go along and try to use necessary funds, keeping in mind, of course, some great degree of concern for fiscal integrity.

I would again like to congratulate you on this statement and in some of the suggestions which you have and certainly recognizing the large group of whom you speak.

Your suggestions, I think, will go far in consideration of this and other legislation that is before the subcommittee.

I have no further questions.

The gentleman from Ohio.

Mr. SCHENCK. Mr. Chairman, I have no particular questions except, it seems to me, that all of us should recognize that the only source of money for the operation of the Federal Government is exactly the same as the operation of all other levels of government and that is the individual taxpayer.

So I think our friend, Mr. Fitzpatrick, would agree the work to be done by the Federal Government would be largely of a technical and advisory nature and not take over the functions which should be performed by local and State governments.

Mr. FITZPATRICK. Yes; we agree that any Federal aid or assistance should not be used in the enforcement program per se but advising us in a technical way.

Mr. SCHENCK. Thank you.

Mr. ROBERTS. Mr. Nelsen.

Mr. NELSEN. No questions.

Mr. ROBERTS. Thank you again and we appreciate your appearance here.

Mr. FITZPATRICK. Thank you very much.

Mr. ROBERTS. Since we are in the field of municipal officials, is Mr. Barr, mayor of Pittsburgh, present?

Mayor, we are certainly happy to have your statement on behalf of the American Municipal Association.

You come from a State which we all point to with pride, particularly in knowing that you have done a splendid job on the local level.

We are delighted to have you as a representative not only of your wonderful city but of the American Municipal Association, which represents 13,000 cities of the Nation.

Would you like to introduce the gentlemen with you for the record?

Mr. BARR. Yes, Donald Slater and Aldo Colautti, from the mayor's office.

Mr. ROBERTS. Thank you very much.

STATEMENT OF JOSEPH M. BARR, MAYOR OF PITTSBURGH, PA.; ACCOMPANIED BY ALDO COLAUTTI, EXECUTIVE SECRETARY TO THE MAYOR; AND DONALD A. SLATER, LEGISLATIVE REPRESENTATIVE, AMERICAN MUNICIPAL ASSOCIATION

Mr. BARR. Mr. Chairman, and members of the committee, I am Joseph M. Barr, mayor of Pittsburgh, Pa., and chairman of the American Municipal Association's Committee on Health, Education, and Welfare.

The American Municipal Association is a voluntary organization of municipal governments which represent 13,000 of the cities in the Nation.

I am here today to offer the firm support of my city and the American Municipal Association for H.R. 4415.

We have distributed to every member of the subcommittee a copy of our National Municipal Policy which was adopted last August in Philadelphia at the annual American Municipal Congress and which expresses our position on the subject of air pollution control.

These recommendations were adopted by the American Municipal Association Resolutions Committee and by the membership without dissent.

The legislation before you meets the basic objectives sought by our member cities. This bill recognizes the urgency of the problem, calls for national research, proposes a matching grant program, provides for reasonable enforcement measures, and makes information available to the public and others interested in the prevention and control of air pollution. It seems to us a modest but essential approach to a growing national problem.

The members of this committee are familiar with the extensiveness of air pollution. All of the Nation's 215 metropolitan areas are affected and it is estimated that 10,000 communities in the United States have air pollution problems.

Its adverse effects range from actual causation of death, chronic illness, and general depreciation of land and building values. We know that air pollution constitutes a threat to public health and safety. We know that air pollution results in severe economic losses through urban areas. We believe that the time for corrective action is now, while the problem is still soluble.

As our policy statements indicates, we recognize that air pollution control is a basic responsibility of State and local governments. I am mayor of a city, which by present standards has done an excellent job in the field of smoke control and air pollution.

But, at the same time, we recognize that many aspects of this problem require national attention and that Federal assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

It seems to me the clearly national character of this problem is pinpointed by pondering the question, How local is air?

How do you prevent polluted air from passing from one political jurisdiction into another, from one county to another, from one State into a neighboring State?

The answer, of course, is that pollution from one area does affect another and therefore national assistance is needed in meeting a problem which cannot be bottled up within a given region.

It is for this reason that our association is strongly supporting this bill. Consider the problem of enforcement, for example. It is meaningless to establish effective control programs in one locality, if another locality across a State line is unable for whatever reason to control pollution.

H.R. 4415 will still enable local communities to work out pollution problems on a reasonable basis at the local level. Failing a satisfactory solution, communities or States will then have the right to appeal to the Federal agency not limited by State or local boundaries. It seems to me the enforcement provisions in this bill get to the heart of the problem in a conciliatory but effective fashion.

The record will show that up to the present time, local governments and States, with a few notable exceptions, have not developed adequate programs for abatement and control of air pollution.

What we need now is Federal stimulus in the form of technical, financial, and research assistance to local and State governments. H.R. 4415 includes provision for each of these items—and the American Municipal Association is wholeheartedly in favor of them.

At this point, a brief history of what air pollution prevention and control has meant to the Pittsburgh area may be of interest to the members of this committee.

Pittsburgh, located in the heart of Allegheny County, is well known as one of the major steel centers in the world.

In years past, this also meant that Pittsburgh was equally well known for its mills enveloped in a haze of red and yellow dust and chimney stacks belching forth black smoke. It was not unusual, prior to 1947, to see street lights on at noon in downtown Pittsburgh. Before smoke control, frankly, Pittsburgh was not a pleasant place to live.

After World War II, Pittsburgh community leaders decided to do something about the layers of smoke and dust which had become identified with our skyline.

Smoke and pollution control has been a problem for a long time. In 1895, the city of Pittsburgh passed its first smoke control ordinance. Little was done to enforce it. In 1941 a new and stricter smoke control law was enacted, but World War II delayed its enforcement.

In 1946, smoke control enforcement began in earnest. The law was first applied to industry, railroads, and all solid fuel users except one-

and two-family dwellings. In 1947, private homes came under the law.

Enforcement was very difficult at first, and, of course, there were the skeptics and scoffers who said it couldn't be done.

However, cooperation from citizens, from industry, and the news media was excellent. The key to success was the enlistment of all segments of the community in a cooperative effort.

When smoke control started in 1946, 90 percent of Pittsburgh's dwellings were heated by coal. In 15 years a complete reversal took place as a result of smoke control, and to some extent, economic and technological changes, and today more than 90 percent of Pittsburgh homes are heated by gas.

From 1947 to 1959 the city of Pittsburgh and Allegheny County maintained separate control programs. In March 1959, responsibility for enforcement was placed in one agency, the Allegheny County Health Department.

Subsequently, the health department developed an ordinance for Allegheny County with the most strict limitations in the United States on smoke and dust from open-hearth furnaces, blast furnaces, other iron and steel making facilities, and from fuel-burning equipment such as that found in electric generating stations.

It provides for scheduling the installation of air cleaning equipment in iron and steel making facilities over a phased-out period. For example, the steel industry has adopted an air cleaning program that will bring its facilities into full compliance with the new rules and regulations by 1970. This air cleaning program will cost the steel industry in Allegheny County more than $30 million over the next 7 years.

In fact, without the interest and support of industry, the smoke control program would never have accomplished such success. Since the inauguration of smoke abatement in the mid-1940's industry alone has spent more than $250 million to advance the program in Allegheny County.

How successful has air pollution control been in Pittsburgh and Allegheny County? A few statistics provide the answer.

Pittsburgh and Allegheny County are recognized as the cleanest urban industrial center in the United States.

A survey just last year by the U.S. Public Health Service disclosed that Pittsburgh had less fine dust per square mile than 9 of the 11 cities tested. Only Salt Lake City registered a cleaner atmosphere.

More than $4 million was spent to scrub and polish large offices and commercial buildings for the first time in decades.

Today, 44 percent of the open-hearth capacity in Allegheny County is equipped with modern electrostatic cleaners compared to 12 percent elsewhere in the country.

It is estimated that individual annual savings amount to more than $40 per year in laundry and cleaning bills and other personal economies.

However, the gain of air pollution control in Pittsburgh cannot be measured solely in terms of clear skies and reduced laundry bills. Its striking results have affected every phase of life—in the immeasurable benefits that lift the spirit, the increase in sunshine, the brighter surroundings, and cleaner living.

It is no exaggeration to state that the smoke control program was the mainspring of the entire urban rebuilding program in the area

during the past 15 years. When it was proven that smoke could be removed from our skies, the other problems of urban blight and decay fell into manageable proportions.

In my judgment, without effective smoke control, there would have been no urban renewal, no mammoth rebuilding program in Pittsburgh.

As the keystone in the Pittsburgh-Allegheny County renaissance, air pollution control has contributed immeasurably more to Pittsburgh's progress as an attractive place to live and work than any other single project in the community development effort.

We in Pittsburgh and Allegheny County do not suggest that the battle against pollution has been completely won. For many air pollution control problems there are no easy solutions and much difficult and intensive research still lies ahead.

I am convinced the same benefits Pittsburgh now enjoys can be achieved nationally. We need a strong, firm, clear national program to develop a comprehensive plan for the prevention and control of air pollution. The Federal program before you brings us closer to that goal without in any way impinging upon the fundamental responsibilities of State and local governments. I respectfully urge its passage by Congress.

Mr. ROBERTS. Thank you, Mayor, for your very fine statement.

Without objection I would like to include in the record the appendage which the mayor mentioned, setting forth the national municipal policy on air pollution control.

(The appendage referred to follows:)

THE NATIONAL MUNICIPAL POLICY—1963

I. AIR POLLUTION CONTROL

1–1. Air pollution in our urban areas involves the emission of a broad variety of gases, fumes, and solids and is associated with many and diverse activities of our population. These pollutants resulting from our increasing industrialization and urbanization now pose a threat to the health of our people.

1–2. The full extent of the air pollution problem is unknown because enough measurements have not been made. It is estimated that 10,000 communities in the United States have air pollution problems. All of the Nation's 215 metropolitan areas are affected, and in all, three-fourths of our total population is subjected to continuous or intermittent air pollution.

1–3. The acute lethal potential of air pollution has been demonstrated in Donora, Pa., where 20 persons died and half the population were made ill. Other effects of air pollution range from irritation of the eyes, nose, and throat to more subtle and long-range physiological changes contributing to chronic illness or premature death.

1–4. Air pollution produces slums. Depreciation of land values alone due to air pollution has been estimated at over $200 million annually and depreciated values of buildings is several times this amount.

1–5. At the National Conference of Air Pollution in Washington in 1958, the cost of air pollution to every man, and woman, and child in the United States living in urban areas was estimated to be $65. On this basis, air pollution is costing the Nation $7.5 billion annually.

1–6. Brief studies made thus far show that the menace of air pollution is far more extensive than has been previously realized.

1–7. We recognize that control of air pollution is a basic responsibility of State and local governments but the Federal Government must play an important part in the solution of this problem because of its national significance. The Federal Government has research resources available to it which the State and communities lack. It would be uneconomical and wasteful if each jurisdiction were to attempt to undertake such research.

1–8. In addition, there is need for financial assistance from the Federal Government to stimulate the development of and to improve regulatory control programs on State and local governmental levels.

1–9. There are numerous metropolitan areas which involve two or more States, and air pollution does not repect political lines of jurisdiction. The exercise of Federal leadership to deal with such problems on a problem-area basis can provide the stimulation to recognize and solve the air pollution problem.

1–10. The American Municipal Association endorses the principle of the existing Federal air pollution legislation and the research and technical assistance activities conducted to date under its authority and urges the Congress to enact at an early date additional legislation for a long-term Federal air pollution control program which would authorize the U.S. Public Health Service to—

(*a*) Cooperate with other Federal agencies, State and local air pollution control agencies, and industries in the development of comprehensive air pollution control programs.

(*b*) Provide more vigorous leadership to secure needed attention, study, and correction of air pollution problems by all levels of government, by business and industry, and by the general public.

(*c*) Provide technical and financial assistance to State and local air pollution control agencies. Such Federal assistance is urgently needed to stimulate and aid pollution control.

(*d*) Collect, evaluate, and disseminate basic data and other information relating to the prevention and abatement of air pollution.

(*e*) Provide enforcement assistance to be used when requested by any State, interstate, intermunicipal, or local government air pollution control agency.

(*f*) Provide grants-in-aid to State and local government air pollution control agencies, and other public and private agencies and institutions, and to individuals, for surveys and studies and for research, training, and demonstration projects.

(*g*) Encourage cooperative activities between State and local governments, including the enactment of interstate and intermunicipal legislation where necessary.

(*h*) Realistic appropriations are necessary to the success of an effective long-range air pollution program and must be commensurate with the magnitude of the problems. To this end, the present limitations on annual appropriations for the air pollution program should be removed.

1–11. As the industry having primary responsibility for abatement of contaminants emitted by motor vehicles, the motor vehicle manufacturing industry of the United State is requested to report with all possible dispatch to the Nation, the States and its cities concerning: (1) its constructive accomplishments to date in meeting this potential threat to the public health; and (2) planned future efforts to meet and avoid or minimize it, and the time scheduling of such efforts.

1–12. The association lauds, as an important first step, the announcement by the automobile industry of its voluntary action in installing devices on all new cars beginning with the 1963 models to minimize pollutant emissions from crankcase vent gases.

1–13. The association urges the installation of such devices on all new foreign cars imported into the United States after January 1, 1963, and, if such action is not taken voluntarily, the adoption of Federal legislation to require it.

Mr. ROBERTS. I appreciate your support of this legislation.

I have no questions other than to ask you if you believe that the program set forth in H.R. 4415 can set up a cooperative program with the cities and counties and States that will be beneficial in this solution to this problem.

Mr. BARR. I certainly do, because as I said you cannot control the air winds. We live in three valleys, as you know, in Pittsburgh, Allegheny Valley, Monongahela Valley, and Ohio. I cannot tell you whether the smog is coming from Aliquippa, which is another county, or up the Monongahela, or away from us the Ohio line or the West Virginia line, which, as you know, along the rivers are the heavy industries.

I think this is a very modest approach, Mr. Chairman, and I think it is one that is needed.

I do not think, unless we have this, we can work State to State, that the problem will ever get to the point where it will be soluble.

Mr. ROBERTS. Thank you very much.

The gentleman from Ohio.

Mr. SCHENCK. Thank you, Mr. Chairman.

I would like to commend Mayor Barr of Pittsburgh on his very fine statement and I am sure that he speaks from great experience.

Now, industrial operations, Mayor Barr, contribute greatly at times to water pollution, do they not?

Mr. BARR. Correct.

Mr. SCHENCK. And there are State compacts which do work very satisfactorily between States which border on the same water stream.

Mr. BARR. Yes. We have a compact with our friends here from Delaware, New York, New Jersey on the Delaware River.

Mr. SCHENCK. Do they work rather satisfactorily?

Mr. BARR. Well, I used to be in the State government. I knew more about it then than I do now but I know they have had numerous meetings in the past year again on the problem. This is not really as much on pollution, this is of the watershed of the Delaware.

As you know, in Pennsylvania we have a rather strict Water Pollution Act and in our county alone—not every municipality belongs to it and we put it in and it has been working now for a period, I think, of about 3 years or 4, and at a cost of about $98 to $100 million to keep from polluting the streams. This is going to have effects other than cleaning the streams. I think we will have fishing and motorboating, et cetera, and sporting, because we are an inland city and we feel these things should be used for things they have not up to the present time been used for.

Mr. SCHENCK. The figure you suggested in your statement, Mayor Barr, is that the governmental cost, or does that include the industrial cost? You said something about $100 million.

Mr. BARR. It was done by an authority and bonds were sold.

As I say, these various municipalities have joined in it and then what happens is this, Congressman. They send the bills out and it is charged on flat water, how much water you use. They have a ratio worked out and if the bills are not paid, why, then, they are sent to municipality and they have to guarantee them, they have to collect them, but the industry itself in our streams did not have to put up money.

Mr. SCHENCK. As I recall, the steel industry requires a great deal of water per ton of finished steel; does it not?

Mr. BARR. That is correct.

Mr. SCHENCK. So I assume from what you say that they are assessed on some sort of a formula that has to do with the volume of water they use?

Mr. BARR. That is correct.

Mr. SCHENCK. Mayor Barr, may I ask, has this worked out satisfactorily?

Mr. BARR. Yes; very satisfactorily other than last year when business was a little bad around our way and we got stuck with quite a few bills of the city.

Mr. SCHENCK. I am assuming, too, that industry has invested a lot of money in their own efforts to avoid water pollution and control?

Mr. BARR. They have. The cooperation that is in Allegheny I think is second to none in the country.

Mr. SCHENCK. Are the local units of government equally careful about the pollution they cause in the streams from their own sewage-treatment plants or improper use of storm sewers?

Mr. BARR. Well, we have these interceptor sewers; I am not an engineer, so if I get off the track here you will have to let me know.

This all goes to one spot on the Ohio River and this is whatever the process is, I don't know, but they had engineers in from all over the country, from a Boston firm, et cetera.

When it was put in it was supposed to be one of the finest in the country. If you go down by it, it is almost a showplace, it is the cleanest thing I think I have ever seen. It is all underground, et cetera. The furnaces, I have forgotten what the temperature, et cetera, has to be.

Mr. COLAUTTI. Mr. Congressman, in answer to your question, 70 of the 129 municipalities in Allegheny County belong to the county sanitary authority that the mayor has mentioned. The other communities have separate sanitary systems. There are a few, I believe, that have none at all.

Mr. SCHENCK. Now, of course, water pollution is rather an easy situation to control because the water itself is in confined limitations of the stream channels; is it not?

Mr. BARR. Well, unfortunately in Pennsylvania with the seepage from the mines, we have probably a little more difficult problem than any other State.

As you know, the mine water contaminates and no fish or anything can live in it. We have continual battles in Harrisburg with legislation affecting coal mining and our board of water resources, et cetera.

Mr. SCHENCK. The point I want to make, Mayor Barr, is that air pollution is a more difficult problem because it can easily encompass a much wider area than is true of water pollution. Do you feel, Mayor Barr, that compacts between States could be helpful in the question of the matter of air-pollution control?

Mr. BARR. I think they can be worked out and I think very well. I heard Mr. Fitzpatrick, who was here before me. I could see their problem in Gary and this other part of Chicago, I see the problem of Philadelphia and Camden, N.J., and across the river, et cetera. When you border another State there is usually a great friendliness and not hard to work with one another on a statewide level.

Mr. SCHENCK. Now, it has been my impression, Mayor Barr, and correct me if you think this is wrong, that industrial, chemical, and other types of industries are now spending tremendous sums of money for air-pollution devices and programs. Do you agree with that?

Mr. BARR. They have done it. Speaking of our own county, they have spend $240 million already for devices in the various steel, et cetera.

Mr. SCHENCK. Now, assuming that all the efforts of such operations are being honestly and sincerely performed but that the end results are just not economically feasible, in other words, if the cost of scrubbing and removing pollutants either from the stacks of the chemical plants,

or what have you, is greater than the economic feasibility, what do you suggest should be the role of the various levels of government?

Mr. BARR. Our experience at home shows that they have been economically feasible, what the corporations, et cetera, have spent.

I might hasten to add that maybe our people are of a different species but the corporations were happy to join with us and push for the abatement acts of the city, county, and State.

I think air pollution is a fascinating problem. I think what you are attempting to do in H.R. 4415 is to set up a modest sum of money for a lot of research, et cetera, and where there are suburban towns, various places that can't get off the ground, that they need aid and information, this is the place where they can come.

Now, they should come because I do think that air pollution is a problem for the United States and not just for one locality looking at the picture as a whole.

Mr. SCHENCK. Now, Mayor Barr, you mean air pollution from the standpoint of technical knowledge and technical assistance and that sort of thing is a problem of properly nationwide research?

Mr. BARR. Yes; and I think that a program, I don't mean in any tremendous amounts, some of the smaller places, probably, will be the only way this will ever be solved.

Mr. SCHENCK. My point is, suppose there was a small plant which does contribute to air pollution, but because of their own economic resources in amount of business and amount of income they cannot afford to take the necessary steps to remove pollutants from the air, and it is a question of either permitting the plant to operate or close down the plant or have some source of money to do their air-pollution problem for them. What is your recommendation?

Mr. BARR. Congressman, that is not an overnight problem, it can't be cured overnight. No one would go in and say to XYZ corporation, "You either clean up or you are out of business." That has not been done. That is to say our program has been in effect since 1945, 1947 and still not finished.

As I said, in my prepared statement, I think there will be about $40 million spent over the next few years.

In other words, you have to be reasonable, any person, you just can't cure an evil overnight.

Mr. SCHENCK. There is no question about that. I was wondering, Mayor Barr, what do you do if the business itself just cannot afford to do it? Then do you feel that it is the job of government at some level to take care of this problem for them?

Mr. BARR. Well, Congressman, let me say it this way. There has been no one, and I would say that we have very diversified and heavy industries, that would pollute the air. There has been no going out of business. We have, I think, a rather stringent ordinance through the authorities trying to go in and make them do it for a time.

Now, let me say this to you. There is no company or no corporation that can't over a period of years correct an evil. It is an evil to all people. I don't think that you would want one company that would be obeying the ordinance and another would not. I think any public official who is not reasonable and does not give them time to correct their method of production or whatever it might be or manufacturing, does not deserve to be a public official. There are going to be evils, you and I know that, but I have not had any in our area.

Mr. SCHENCK. But you apparently do feel, Mayor Barr, that this abatement problem is a problem which is of vital importance to each and every person as an individual?

Mr. BARR. I certainly do.

Mr. SCHENCK. And therefore, every step that can be taken should be taken to abate air pollution?

Mr. BARR. You know, Congressman, not too far from my home I think there were 40-some died in one fell swoop in Donora, Pa., and 1,600 or 1,800 were made sick. I am afraid the same thing may happen in the hard coal region of Pennsylvania; with the heavy atmosphere there certain days the same thing might happen up there if something is not done about it.

Mr. SCHENECK. So perhaps, Mayor Barr, and I ask this question, perhaps if an industry is polluting the area and the abatement is beyond their economic ability to meet, that you would then feel justified in spending some tax money to assist them in view of the public interest?

Mr. BARR. I don't think it is socialistic to do that in order for people to keep this employment, et certera.

Mr. SCHENCK. Do you feel that should be done on a local or national level?

Mr. BARR. A small grant, I think we could pinpoint them, I think there would be very few of them where it cannot be done on the local and State level. Perhaps some help from the Federal Government if it is going to pollute the area. After everybody else is doing their part, I don't think it would be wrong or socialistic, or anything like that, in my opinion.

Mr. SCHENCK. It is a justifiable expenditure of a tax fund.

Mr. BARR. In my opinion, Congressman.

Mr. SCHENCK. Thank you very much.

Mr. ROBERTS. The gentleman from Minnesota.

Mr. NELSEN. No questions.

Mr. ROBERTS. Thank you again, Mayor. We appreciate your appearance and the gentlemen who accompanied you.

Mr. BARR. Thank you.

Mr. ROBERTS. Mr. John I. Taylor I believe wants to file his statement for the record.

Is Mr. Taylor here?

(The statement referred to follows:)

STATEMENT OF JOHN I. TAYLOR, ASSISTANT LEGISLATIVE DIRECTOR, THE AMERICAN FARM BUREAU FEDERATION

The American Farm Bureau Federation, with a farm family membership of over 1,607,000 organized in 2,674 county Farm Bureaus and in 49 State Farm Bureaus and the Puerto Rico Farm Bureau, is vitally interested in solving the problem of the pollution of our air—especially as it relates to crops and livestock.

At our latest annual meeting held in Atlanta, Ga., December 12–14, 1962, the voting delegates adopted the following policy concerning air pollution.

"We favor a continued and expanded research program on conversion of saline water, *air pollution*, water and soil conservation, drainage, forestry management, restoration of strip-mined areas, and other natural resource problems, *within the present framework of Federal, State, and private cooperation.*" [Italic added.]

During the late summer of 1960, our staff assembled and prepared a summary of the activities in the field of air pollution research and control in recent years

under Public Law 159 of the 84th Congress as amended by Public Law 365 of September 22, 1959.

The results of this summary were found to be generally favorable and in line with the principles of local, State, and Federal relationship. Some of these findings are as follows:

1. The functioning and operation of the present law in the field of research is sound and activated;

2. Effective work is being done in Florida, Idaho, California, Utah, New Jersey, Missouri, Kentucky, and Texas by various institutions and State colleges;

3. Twenty-eight States have enacted air pollution control laws; that Florida, Idaho, and California have established commissions and all States except North Dakota have designated some control agency. (These could have increased in the past 2 years.)

4. Air sampling stations have been established in every State and some States have many such stations.

5. Many books, pamphlets, and bulletins on research studies are in print and available; however, few directly deal with the air pollution on crops—a few more deal with the effect of poor air on livestock.

6. We found that nearly 40 States either reported no particular difficulty at that time or made no report.

7. The principal causes are specific: industrial, mechanical, physical, and in congested areas. Through both public and private endeavors, States and cities have done outstanding research work on air pollution.

Last December, here in Washington, was held the first National Conference on Air Pollution. It was well attended and the subject was thoroughly discussed. While the group was convinced that there is a problem; that it is worse in highly congested areas than in others; that certain physical characteristics of specific areas present special problems; that much more additional work is today being done than ever before—there still remains the answer to the question of what is the best way to move it along.

The bills currently before the Congress vary in many details. Some of them provide for control and enforcement as well as research.

The control and enforcement features also vary. Some providing for State cooperation and others almost complete Federal authority and in some cases the Federal Government could move irrespective of the attitude of the States.

We are aware that some of these bills violate some of the principles of government to which we adhere and that we are in a terrific struggle to keep our Federal budget in the black and in a sound condition. Actually, we would lose more than we would gain if we again yielded to the pressure of federalization and further debased our currency with unbalanced budgets in the process of finding the complete answer to air pollution.

As a matter of general principles—

(1) We favor the continuation of the present research effort.

(2) We believe that any control and enforcement of air pollution should be the responsibility of the States.

(3) We feel that a Federal procedure of air pollution control should only be provided if requested by the States involved.

(4) We do not favor increasing funds for this purpose except within the framework of a balanced Federal budget.

As an example only—in looking at one bill, H.R. 4415, the applied principles would mean—to strike section 3—supply funds in section 4(a) as can be provided within the framework of a balanced budget—delete section 5(c)(1)(C) and section 5(f).

May we further suggest that after this hearing the committee consolidate the bills now before it and permit us an opportunity to file a supplemental statement in order to be of the utmost assistance to the committee.

We are firmly convinced the promotion and execution and control of the air pollution problem should remain in the States—that it should not be made a federally dominated program. That the research portion should be assigned to State and local institutions—both public and private. That the research effort should be coordinated to prevent overlapping and duplication.

We would hope that more research may be done with respect to crops and livestock so we may be able to a better job of providing food and fiber for our people.

We appreciate this opportunity to appear before this committee and present our views.

Air Pollution Problems, Programs, and Needs

(Supplement to statement by Ivan A. Nestingen, Under Secretary of Health, Education, and Welfare)

THE SCOPE AND SIGNIFICANCE OF THE PROBLEM

Vast as the air resource available to the entire country may first appear, only a small part of the total supply is available for use in any single location. Over one-half of our population now lives on less than 10 percent of the land area of the country. For the most part, sources of air pollution are concentrated where people are concentrated. Furthermore, there is every indication that by 1970 two-thirds of our population will live in this same limited land area.

It is important to realize the multiple sources from which air pollutants derive in our society. These pollutants are byproducts of our economic well-being. They come from the fuels we burn at home, in our factories, and in the transportation of ourselves and our goods; from the production and processing of materials in mine and factory; from our use and consumption of products; and from our disposal of unwanted waste materials. The quantities of pollutants discharged to our atmosphere are basically related to two factors—population and the per capita use of energy and materials.

Growth in these important factors which cause air pollution is inevitable. Not only is our population increasing, it is also being concentrated more and more into large metropolitan areas. The research and developmental efforts and the growth of our economy which both increase our abundance and create a greater potential for air pollution are expanding. Furthermore, these factors reinforce each other in compounding the potential growth of the air pollution problem.

The effects of air pollution are already serious. Through injury to vegetation and livestock, corrosion and soiling of materials and structures, depression of property values, and so forth, air pollution costs our country in economic damage alone billions of dollars each year. Estimates of such losses have tended to increase as research has progressed. Thus, in the case of agricultural losses, estimates of damage to crops in southern California have risen from $500,000 in 1939 to over $8 million in 1958. It is reported that truck crop losses from air pollution in New Jersey totaled many millions of dollars annually. Summation of estimates of various types of economic damage from air pollution have lead a number of investigators to conclude that these may amount to $65 per capita, with resultant total national losses estimated as high as $7.5 billion per year or more.

Moreover, these adverse effects of air pollution are not confined to our cities. Vegetable and other agricultural crops are being severely damaged in many areas at considerable distances from large urban pollution sources. Even our forests, in both the eastern and western sections of this country, are suffering such damage.

Of even greater national concern and significance are the hazards to health. Our knowledge of the health effects of air pollution has been amplified considerably through three types of investigations: Statistical studies of past illness and death as correlated with geographic locations and other factors associated with air pollution; epidemiological studies of death and respiratory function as related to variations in air pollution; and laboratory studies of responses by animals and, in some cases by human beings, to exposure to various pollutants or combinations of pollutants. I would like to highlight briefly just a few of the investigations which have augmented our store of knowledge.

Studies have shown that death rates for cardiorespiratory causes correlate in general with air pollution levels; that asthmatic attacks among susceptible patients correlate with variations in sulfate air pollution in Nashville, and that asthma attacks in New Orleans may be associated with air pollution resulting from the incomplete combustion of refuse. Employee absenteeism due to respiratory illness has been correlated with levels of sulfate pollution. Another study demonstrates that people living in a town where pollution is high display significant differences in average airway resistance when compared with those living in a town where pollution is lower. More than 200 excess deaths occurred in New York City in 1953 during a period of air stagnation.

Laboratory studies involving exposure of animals, and in some cases human beings to controlled concentrations of gaseous pollutants, such as ozone and sulfur dioxide, agree generally with the results of epidemiological studies. One of the most significant investigations of this type resulted in the development of

lung cancer among laboratory animals infected with influenza virus and later exposed to the inhalation of an artificial smog consisting of ozonized gasoline. Mice exposed to either influenza or ozonized gasoline singly did not develop lung cancer.

These are but a few of the highlights of health investigations carried out in the past few years. There have been many others, and when combined with past studies on the subject, they make it unmistakably clear that air pollution is associated with important respiratory diseases, such as lung cancer, emphysema, chronic bronchitis, asthma, and the common cold.

In addition to the scientific and technical problems which air pollution poses, there are also problems of governmental organization and jurisdiction which must be solved if the control of air pollution is to be successful. The problem is particularly acute in metropolitan and regional areas in which many existing jurisdictions share in the use of a common air resource for human consumption, industrial uses, and for discharge of pollutional effluents. Thus, we must recognize a pressing need for coordinated regional efforts to cope with similarly regional air pollution problems. Without this kind of cooperation among States and communities and between them and the Federal Government, many millions of Americans will be denied the protection from polluted air that is now needed.

PROGRESS TO DATE

Although organized programs to deal with problems of air pollution are of comparatively recent origin, a significant beginning has been made. A brief review of what has been done, or at least begun, may be helpful as a preface to the establishment of a more effective national program of action.

Federal activities

Since its establishment in 1955, the air pollution program of the Public Health Service has conducted and supported research, provided training, rendered technical assistance upon request, and disseminated information on air pollution to official and other organizations and the general public. Main emphasis has been placed on research, which has developed a vital store of information on the health and economic effects of air pollution which has been made widely available for use by all levels of government, industry, and the public. In the course of these activities, new and valuable information on levels of air pollution throughout the Nation has been made available through the cooperative local, State, and Federal national air sampling network which now operates in every State, in 213 urban and 37 nonurban sampling sites. In addition, a continuous air monitoring program now provides what is virtually a minute-by-minute appraisal of the levels of gaseous pollutants in eight major cities.

A 2-year study on auto exhaust and health has been completed under the authority of Public Law 86–493, enacted in 1960. The report to Congress, "Motor Vehicles, Air Pollution, and Health", makes clear that research has shown that automobile emissions produce effects on human health and other biological systems. It points out that it is possible that none of our present approaches will, in the long run, provide adequate solutions to the problem. Entirely different concepts may be needed, such as the modification of basic engine design or employment of types of engines not now commonly in use.

Progress has also been made in assessing the quantities of individual pollutants present in the atmosphere. An example is the number of studies published on comparative levels of benzpyrene in cities throughout the country.

The Service has also accelerated its work on the investigations of techniques and basic design considerations, not only as they relate to the pollutants produced by automobiles, but for other ubiquitous pollutants, such as the oxides of sulphur, for which adequate means of control are not now available.

Technical assistance activities have been expanded. Thirteen cooperative statewide surveys have been completed, as well as 10 major local surveys and dozens of investigations of special air pollution problems.

Finally, the training programs of the Service have made a major contribution to the development of the technical manpower required for Federal, State, and local programs. Up to the present, training at the Sanitary Engineering Center in Cincinnati and in the field include courses in 18 different subject areas. Research and training grants to universities and other organizations have increased from 31 in 1958 to 85 at the present time.

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State and local programs

Because of their many variations in scope and emphasis, generalizations about State and local programs are hazardous. They include research, equipment development, surveys, and pollution abatement activities. But the primary emphasis is on control activities—the application of present scientific knowledge and techniques to reduce or control the emission of pollutants into the atmosphere. Indeed, the widespread application of control techniques is dependent in large measure on the availability of competently staffed and supported State and local air pollution control agencies. Unfortunately, our present structure of such agencies is far from adequate for dealing with the needs of the Nation for air pollution control.

With respect to our urban population, approximately 90 percent lives in localities having air pollution problems. It is estimated that all 232 communities in this country with a population greater than 50,000 have air pollution problems; approximately 40 percent of the communities in the 2,500–50,000 population range have problems. In total, about 6,000 communities in the United States have air pollution problems of varying degrees for which action programs should be initiated or strengthened as soon as practicable.

Today there are only 106 local control programs on record which have full-time staffs. These programs serve 342 local political jurisdictions, which comprise about 45 percent of the national urban population. Only 28 of these control programs have 5 or more full-time employees. There is an additional number of local programs with part-time staffs. The median annual expenditure is about 10 cents per capita, an amount highly inadequate to do the job which is necessary to attain effective control.

On the State level, during the past decade, there has been some improvement in the status of State air pollution legislation and the development of comprehensive programs dealing with problems in this area. Thus, about 15 States now have enactments which authorize the conduct of specific programs, whereas no State had such authorization as of 1950.

These relatively new State programs are quite varied with respect to the types of activities included. Of the 15 States having specifically identifiable air pollution programs, 12 have regulatory control authority at the State level, but only 4 of these exercise this authority statewide. All 15 of these States provide some technical assistance to local jurisdictions; 8 provide for encouragement of interlocal programs, and 4 have set up statewide air sampling and monitoring networks; 5 of these 15 States engage to varying degrees in training of personnel, nuisance abatement, laboratory assistance, research, pollutant emission studies, and dissemination of information. In general, those States with specific air pollution programs carry on activities in one or more of the following categories: (1) surveillance of problems, (2) technical assistance to local agencies, and (3) legal regulatory control at the State level.

Because the air respects no arbitrary boundaries and flows freely from community to community and State to State, the problem of interstate air pollution is a very real one. There are some 38 million Americans living in metropolitan areas that reach across State boundaries, and all these people live and work in polluted air. Yet there is in this country only one air pollution control agency that is interstate in its activities, and it has barely begun.

Needs for the immediate future

It is impossible in this brief summary to catalog in any detail what is needed to bridge the gap between what we have accomplished thus far and what is urgently needed to cope with a serious and rapidly growing national air pollution problem. But a few of our most urgent needs can be indicated.

Because there are still great deficiencies in our knowledge, we need more research. We particularly need to learn more about the pollutants which affect health—in what amounts and in which conditions. To fill this need, more intensive research is required to augment our knowledge not only of health effects, but of the causes, economic effects, and control of air pollution. We need better understanding of the meteorology of air pollution, both on the broad regional and more narrow local scale. We need better instrumentation and improvement in the technology of air quality measurement.

Training activities must be expanded substantially to assure the availability of the 4,000 additional air pollution control personnel which it has been estimated the Nation will need by 1970.

Above all, there is need for a more adequate national network of control agencies and programs—local, regional, State, interstate, and National—to apply

the knowledge and techniques already available and to provide the foundation of knowledge and competence upon which more effective programs can be developed in the very near future. Our success in meeting this particular need will, in very large measure, predetermine our success in dealing effectively with the problems of air pollution in this country.

Mr. ROBERTS. We will go back to the other witness I called.

Mr. Edward A. Sargent, president of Standards Committee of the Incinerator Institute of America and with him two gentlemen, Mr. Richard Domenice, who is chairman of the standards committee and Mr. Donald V. Reed, secretary-treasurer.

You may proceed.

STATEMENT OF EDWARD A. SARGENT, PRESIDENT; ACCOMPANIED BY RICHARD DOMENICE, CHAIRMAN, STANDARDS COMMITTEE, INCINERATOR INSTITUTE OF AMERICA

Mr. ROBERTS. Proceed.

Mr. SARGENT. Mr. Chairman, gentlemen, on behalf of the Incinerator Institute of America, I would like to thank you for inviting us here to express our views in regard to the clean air bills.

I wan to express our regret that Don Reed, executive secretary, has been unable to attend because of a sudden commitment. However, he has appointed us to express his views as well.

I believe the previous witness and all parties concerned at this meeting realized the gravity of the air pollution situation and we as a representative industry actually connected with this problem certainly want to approve and endorse any and all clean air bills such as the Roberts bill, H.R. 4415, or any other bills that are promoting the promotion of control of air pollution.

Our industry and our organization was thoroughly acquainted with the air pollution control problems on a national scope.

We install units on both coasts, the Gulf of Mexico, and the Great Lakes area.

We realize the problems confronting local and State agencies in regard to air pollution control and we realize more and more so, that Federal aid in bringing about a consistent standard for air pollution control is absolutely necessary.

As we go from State to State, from city to city, we run into a great many inconsistencies at local levels which make controls difficult. We realize that sometimes local agencies do not have the financial wherewithal to obtain the necessary research and findings in order to provide a conclusive and definite program.

It is our recommendation and hope that these bills will be passed by the House and the Senate and that Federal aid and research, based on definite and conclusive programs, can be worked out by people familiar with the problems.

I am sure that the oil, coal processing industries, powerplants as well as the incinerator industry are only too glad to cooperate on any board or angency that might be set up.

The Incinerator Institute at its own expense has performed research work of the Taft Sanitary Center in Cincinnati, with New York University, and is contemplating future programs with Stevens Institute.

Going around to various sections of the country you will find what applies in one section definitely varies in another.

We believe that if Federal aid would be given to a definite research program that the local directors and the local agencies would be given help so that a uniform program could be adopted so that interstate problems would be greatly relieved.

It is our recommendation that a board be established with not less than nine men composed of Federal Government, interstate agencies, local government, and industry.

I think that industry more definitely faced with these problems from day to day can give the Federal Government vital information and vital engineering knowledge.

I know our industry has worked now for approximately 11 years in establishing a standard for incinerators. Our standards have been adopted by some States and by some local agencies. Our standards are being revised constantly.

I would like to turn this section of our little presentation over to the chairman of our standards committee, Richard Domenice, who will briefly give you a background of what the institute has done on its standard program.

Mr. DOMENICE. Thank you, Mr. Sargent.

Mr. Chairman, gentlemen, approximately 11 years ago when the institute was first formed, we recognized in our own industry that there was a need for control criteria as it affected the incinerator industry.

At that time criteria was developed so that there was a minimum amount of air pollution from the incinerator station.

The need for developing this through research and development became acute, and having a nonprofit organization the task became a difficult one. It required that we, as a unit, go into a local agency or a testing laboratory and have these gentlemen test the criteria which we believed to be the proper criteria to control air pollution.

As we developed our criteria over the years it was sent out to all government agencies in numbers of 14,000 and up for their use to study the advancements that we are trying to make as an industry in the control of air pollution.

We found, however, that not having full nad factual control of what the criteria said that a great many agencies were reluctant to accept this as the criteria because it did not have the full facts of a complete research and development program.

At our last institute meeting we developed an associate membership. This membership now allows such manufacturers of burners, blowers, stacks, control equipment, water washing devices, to actively participate in our standards committee.

It would be their duty to assist us in writing into the criteria such controls that would minimize air pollution which could be tested and proven to be the best method available and then this criteria offered to local and State control officials as well as the Federal Government.

The modification of the incinerator code is a difficult one to nationalize and have it acceptable to all State and local officials. We therefore believe that as part of this bill or as part of the program it should first be developed what the equipment would be that would be nationally accepted to test the emission from an incinerator stack.

Once we had a low-cost, portable piece of equipment that could be used to properly test and prove the criteria it would then be that laws and criteria from the Federal level could be imposed.

Now, gentlemen, we feel that this approach, as Mr. Sargent said, is one which we have been seeking for years so that we as a combined unit of the Incinerator Institute of America can cooperate in any way possible to bring about the ridding of this serious condition of polluting the air.

I want to thank you for my presentation on this subject, sir.

Mr. ROBERTS. I wish to thank you gentlemen. I would like if one of you, I suppose Mr. Sargent, would give us a little background statement as to how many people you represent, I mean businesses, and a little of the history of the organization.

Mr. SARGENT. The institute was founded some 12 years ago by five basic companies in the incinerator business to promote good incineration and help control air pollution.

As you know, we had a previous speaker who called the backyard-trash air burners in Los Angeles an incinerator. This was becoming more and more common.

The industry itself, in order to combat some of this, I suppose you would call it bad press, got together and has slowly built up whereby today our membership consists of 17 of the leading incinerator manufacturers in the country.

We have meetings twice annually of the entire membership. We have a technical committee which helps local governments in adopting standards of bringing up criteria and aiding the air pollution program.

Our most recent renovation of the standards, which will be published in about 3 weeks, we feel is a tremendous improvement and a tremendous guide.

Now, we have had many local air-pollution officials that adopted this wholeheartedly as their code. We don't say that it is perfect but we think it is a step in the right direction, that it is uniform, it has been proven, and the people that have used it apparently seem quite pleased with it.

We have gone on developing it from year to year. We intend to reissue subsequent codes every 3 years as developments progress and as technical advances are made.

Essentially, the Incinerator Institute is an industry group, a group of manufacturers.

As Mr. Domenice said, we just recently adopted an associate membership to get other concerns interested in air pollution into our group.

Mr. ROBERTS. Now let me ask you this.

I believe originally your group was composed primarily of manufacturers but you have now expanded that to include people who provide burners and probably ash resisters and other control devices.

Mr. SARGENT. That is right. Just recently I was out at the American Gas Association. They are interested in becoming associate members, to give us their knowledge of their testing procedures in the Cleveland laboratory, where we could jointly gain in technical advances.

Mr. ROBERTS. Generally speaking, then, you feel that the provisions of H.R. 4415 are fair to industry. Do you think there will be cooperation certainly from your industry?

Mr. SARGENT. We certainly do and we are behind this 100 percent.

Mr. DOMENICE. Yes.

Mr. ROBERTS. I wish to thank you gentlemen.

Mr. SCHENCK. Mr. Sargent, just to clear up one thing. As I understood, the Incinerator Institute of America is exclusively one in which the membership are manufacturers or users of incinerators of various kinds and they are not public or municipal organizations?

Mr. SARGENT. No; this is strictly private industry.

Mr. SCHENCK. Thank you.

Mr. ROBERTS. The gentleman from Minnesota.

Mr. NELSEN. In your testimony I noted you were very concerned about the manufacturing standards in research and suggestions that might be helpful to proceeding in a very efficient way relative in this whole program. Now, that is your main concern, is it not, to get some good standards, good equipment, proper understanding of what is necessary to the various municipalities all over the country? Is that correct?

Mr. SARGENT. Yes.

Mr. DOMENICE. Yes.

Mr. SARGENT. We feel at the present time Federal aid is necessary so the small local communities can obtain grants or to gain knowledge from grants so that they can present an effective program.

Mr. NELSEN. Throughout the bill there are provisions for promoting coordination, encourage cooperation, investigation, and research, and to bring this technical information to the community. That is your concern?

Mr. DOMENICE. Yes, sir.

Mr. NELSEN. There is another phase, of course, and that comes into this business of loans and grants, and what have you, dealing with some of the physical properties involved. The thing I am concerned about is, how far does the Federal Government go in that direction? I think the research, the study, the information, the leadership is the important part and I look with some concern at the loan and grant provisions. It seems popular to assume that all we have to do to solve a problem is put out a few million dollars from the Federal Government, which we obviously do not have.

So I do feel encouraged that you are suggesting that research, the leadership, the information is the important thing, and that, of course, costs money but I do think there is a field there that the Government should pursue.

Mr. DOMENICE. We had in mind something; that if we built a prototype or a test pilot plant to prove out the design, and if adopted by a local agency was the best, that then this in itself would be an aid to the local government.

Mr. NELSEN. I thank you.

Mr. ROBERTS. Dr. Colosi, chairman of the interstate sanitation commission. Appearing with him, Mr. Thomas R. Glenn, Jr., director and chief engineer.

STATEMENT OF DR. NATALE COLOSI, CHAIRMAN, INTERSTATE SANITATION COMMISSION

Dr. COLOSI. Thank you, Mr. Chairman, and gentlemen of the committee. My name is Natale Colosi. I appear in my capacity as chair-

man of the interstate sanitation commission. With me here is Mr. Thomas Glenn, director and chief engineer of the interstate sanitation commission.

The commission is a joint agency of the States of New York, New Jersey, and Connecticut. We administer a water-pollution-control program on behalf of the three States for the waters of the Greater New York metropolitan area. Since the beginning of 1962 we have also been engaged in activities with respect to interstate air-pollution problems between the States of New York and New Jersey. At the present time, Connecticut does not participate in this interstate air-pollution program. Enforcement action is taken by the separate agencies of New York and New Jersey and by the municipalities concerned.

We are confident that others testifying before your committee will have presented information concerning the major characteristics of the air-pollution-control problems facing the various parts of the country. Little purpose would be served by our repeating much of this material. Suffice it to say that during the years to come, all levels of government will have to make major efforts to control air pollution in the interest of the health and comfort of our population. However, the overriding fact for all of us is that at the present time, we lack much of the most elementary information concerning air pollution.

Our information is inadequate both in respect to the actual effects of such pollution and satisfactory means of controlling it. Consequently, research and the training of personnel who will be competent to function in the field of air pollution control is the first necessity. The Interstate Sanitation Commission is doing some of this research, with special emphasis on identifying and tracing the problems of our particular geographic area. The States of New York and New Jersey are also doing applied research, as are some municipal agencies. We would especially wish to note the extensive work of the New York City Department of Air Pollution Control. Nevertheless, it is apparent that the Federal Government can perform an invaluable service in the conduct of research and training activities. While States and localities should continue to inaugurate and expand their own research and training activities, there is no doubt that the central resources of the Department of Health, Education, and Welfare could be used to great advantage in advancing the technological aspects of abatement and control knowledge. To this end, we endorse the provisions of the legislation now before you so far as they deal with research and training, and subject only to one qualification to be made later in this statement.

The features of the legislation for which we would urge reconsideration and change are those which would displace State or local enforcement programs on the virtually unfettered administrative determination of the Secretary of Health, Education, and Welfare. The present stage in public action to combat air pollution does not warrant such provisions in Federal statute. In fact, placing State and local authority under such a cloud of uncertainty can hardly have any result other than to weaken State and local efforts and to impair the ability of these units of government to deal effectively with polluters.

Public awareness of the need for regulation of air pollution on anything like the scale that will be necessary is only beginning to manifest itself. At any level of government in a democracy, action cannot be

taken until popular support has developed to a sufficient degree. This is the reason why control programs are only now getting started. It is also the reason why localities such as the Los Angeles, Detroit, and New York areas have done most in the field. The intensity of their problems has brought recognition of them at an earlier time. In this same connection, it is important to observe that most of the geographic locations in the country do not now have air pollution problems. The wide variation from locality to locality, both in technological, economic, and sociological aspects, makes it most appropriate to deal with air pollution on the local level of government. To attempt this uniformity of national regulation would not be consistent with the factual situation.

Moreover, it is not to be assumed that as public information and scientific knowledge concerning the effects of air pollution grow, State and local pressures for action will fail to produce effective control programs where they are needed. Whatever the impact of air pollution may be in communities other than the one where a discharge occurs, the pollution is inevitably most severe in the immediate vicinity of the emission. In this respect, the pollution of the air is totally unlike pollution of running streams. In that situation, it is often argued that control by larger units of government is imperative, because upstream communities are callous to the damage inflicted on downstream locations. Air pollution centers do not escape the consequences of their own pollution.

Where States and localities have air pollution control programs, or where they can be encouraged to develop them, the Federal Government should not displace them or create a threat that they may be displaced. Money and personnel are becoming scarce at all levels of government. This makes it even more imperative that Congress should not put the Federal establishment in competition with the States and localities. All the resources that the Federal Government can possibly devote to this field can be profitably put to work on research and training programs to improve our knowledge of air pollution and the technology of controlling it. To devote Federal resources to second guessing of State and local agencies is productive of waste and confusion. In this connection, we would call the committee's attention to section 3(a)(3) of H.R. 4415. To the extent that this provision would make advice from the Federal Government available to State and local agencies on request, it is desirable. However, that part of the provision which would give the Federal Government power to examine the operations of a specific State or local agency uninvited and make unsolicited criticisms of its policies should be dropped.

For the reasons already given, we strongly urge that enforcement powers remain with the State, interstate, and local air pollution control agencies. However, if any part of the Federal enforcement power is to remain in the bill, we would request that section 5 be amended so that the Secretary of Health, Education, and Welfare shall not call a conference unless requested by a State public health agency or by an interstate air pollution control agency.

Thank you very much.

Mr. ROBERTS. Thank you very much, Dr. Colosi. I want to say that any questions I may ask I do not want you to think that I may disagree with your statement, and I am not being critical of your position. At least I certainly feel that you have every right to your own feeling in

this field. I think though that on page 5 where you interpret 3(a) (3) of the bill, certainly the intent of the author of this bill was that the act of the Federal Government in these local situations would no be on an uninvited or unsolicited basis. I mean by that that a reading of page 4 of the bill, it is true that we say:

> conduct investigations and research and make surveys concerning any specific problem of air pollution confronting any air pollution control agency with a view to recommending a solution of such problem, if he is requested to do so by such agency or if, in his judgment, such problem may affect or be of concern to communities in various parts of the Nation or may affect any community or communities in a State other than that in which the source of the matter causing or contributing to the pollution is located.

I admit that when you use the words "recommending a solution of such problem" it could be construed that you have given complete discretionary power to the Secretary and it may be that the language may need some revision and made a little more flexible and spell out exactly what it means. The request must come from the Governor or from an air pollution control agency or possibly you may consider language that would allow the Governor to designate the State department of health as the agency which would initiate the action or some help on the part of the Federal Government. We tried to draw this bill in such a way tht we would recognize two situations, one purely local and one being on an interstate variety. We did think about the situation where you would have two communities that are on the State line so to speak, one in one State and one in another where if you had a community that wanted to do something about the problem, wanted some action on the part of the Federal Government, that if they were blocked by the city on the other side their hands would not be tied, and since it is and we do feel that the Federal Government is properly in the interstate field, that this community or State would have the right to do something about it.

Now, do you object to that arrangement?

Dr. COLOSI. It is very important, Mr. Chairman, that local agencies both at the State, interstate, and municipal levels get the cooperation of the Federal agencies and not the interference as it may happen sometimes where the enforcement divisions of the Federal agency may become active on its own intitiative.

Mr. ROBERTS. Of course, I share in your general philosophy but I think that over and above that philosophy is the question of the public interest. Certainly in an interstate situation where we do have some pretty strong evidence that this can be a dangerous situation as referred to in other testimony where it may become very dangerous to the health and welfare of the people in these communities who could not fall on their own part or it may come to that community through the activities of another community. So I do not know how far apart we are, but I would say that this bill was designed primarily to keep the Federal Government in its proper sphere of jurisdiction and would also allow local self-Government to take whatever action is necessary in the local situation.

Dr. COLOSI. Well, obviously the localities have already recognized the existence of a problem, so much so that appropriate agencies have been created at city, State, and interstate level and in the case of the Interstate Sanitation Commission this came about after much study and consideration in the field of public health and engineering

and the departments have been organized and the laws written for the purpose of achieving effective air pollution control. There is no question that the Federal agency can serve a very important function here in the way of providing skill and knowhow and guidance, sometimes funds. Our chief concern is that the functions of the local agencies may be interfered with rather than helped under certain circumstances by other agencies coming in uninvited by local group.

Mr. ROBERTS. Well, of course, I can understand your feeling that there is a danger in any type of Federal legislation. However, I think that this problem, as has been testified to here by representatives of the mayors of the cities and others, is one that is growing every day. I do not think it is a problem that the Federal Government can say, "Well, it is strictly a State matter," because I do not know how you are going to be able to confine the air to one locality. Since we have, I think, a good many precedents for interstate viewpoint of this matter, it is certainly my feeling, and I think the feeling of a good many others in the Congress, that the Federal Government should do more than simply supply technical assistance and do all the research in this field. I think it is a growing health problem and I think you can see what is happening in some areas in this country and in many other areas of the world.

As we become more urbanized, which is happening everyday, we do not pick up any more airspace, we simply move more people in to use the same airspace. Up until a few years ago we apparently had plenty of it, but we are unfortunately running out of clean airspace it seems to me.

Dr. COLOSI. May I ask Mr. Glenn if he has any comment?

Mr. ROBERTS. Mr. Glenn.

Mr. GLENN. I might cite just an example that has been mentioned quite a few times today, comparing this bill with water pollution legislation. I do not think there is any doubt in our statement, if you study it carefully, that it has not raised any objection to the need of Federal legislation as much as on enforcement provisions. It has not objected so much on the provision for enforcement as to starting enforcement procedures by calling a conference without being invited by one of the States. That is the main objection and I believe that when you do have a pollution problem in a particular area, and nothing is being done by the States or the interstate agency, one of the States being offended would normally be glad to call in the Federal Government.

To use an example, in water pollution we for 3 years as an interstate agency had received money from the Federal Government for program grants such as incorporated in this bill for air pollution control agencies. We had to have the Public Health Service approve this program each time, which they did. Also after the end of the fiscal year they came back in to evaluate the programing and for this number of years they not only said it was carried out but they had very complimentary things to say about it. Then in 1961 the enforcement branch then came in, called a conference without even discussing the situation with the States or the interstate agency prior to this. This conference was held and after the conference of 1 day's duration, which was scheduled for 2, it was agreed by all conferees, including public health service, there was an active program taking place. This could have been found out ahead of time if there had been a previous check

on their own reports. The problem is more than the conference, which was held more like a hearing, it is that the local agencies, interstate agency and the States were indicted as far as the public was concerned, and most of them never read that this was one of the final conclusions of this 1-day conference. Namely, there was an active program taking place. So this is the type of thing we are trying to avoid by having one of the State agencies request this enforcement, not to keep them out if there is no effort by local agencies to correct a pollution problem. I think the Federal Government should be asked to move in by the offended State to see that the work is carried on.

Mr. ROBERTS. Well, the Chair feels that you certainly make a very strong point. Certainly it is not the purpose of this legislation to discourage any action on the local or State level. I for one certainly would be willing to consider any steps that would make the situation for Federal help or interference, whatever you want to call it, dependent on request from local authorities I certainly feel they are familiar with the problem in the local jurisdiction. I think that we could certainly try to satisfy you on that point as to a purely local situation. I would not go that far on interstate because I do think that we have many places in the country as have been pointed out here in the hearing today where there is some need for Federal activity. I think it is a national problem. I think you see that the local jurisdiction in most instances are trying to do a good job. Some of them are succeeding. Even in those instances most of them feel that there should be Federal leadership, particularly in that part of its that we feel we have some jurisdiction.

The gentleman from Ohio.

Mr. SCHENCK. Mr. Chairman, I think you gentlemen have made a very good point which our committee can certainly well explore in the executive sessions as we draft the final language in this bill. I am not at all personally sure that we in the Federal Government have any jurisdiction in the field of intrastate situations where there may be some difficulty between communities of the same State. I do not know. I would like for you and our committee to explore this question.

Mr. ROBERTS. The gentleman from Minnesota.

Mr. NELSEN. Mr. Chairman, I want to thank the witness for his statement. I think it is very profound and certainly represents a very careful explanation of some very basic things. I like the endorsement to the research and the information that would be forthcoming to the municipalities. I like the idea of the Federal Government alerting the people to the dangers involved so that they become excited about the problem to do something about it and to make this information available to the various States. I think there is a major impetus that would be derived from any legislation and I am a little concerned about the enforcement procedures, yet I understand the interstate and intrastate problems have been served in our own legislature for many years. I do thing this statement a a valuable contribution to the testimony that has been presented and I want to say that I am very friendly to the philosophy that you have expressed in your testimony.

I thank you very much.

Mr. GLENN. Thank you.

Mr. ROBERTS. Thank you, gentlemen.

Mr. Robert E. O'Conner, executive vice president, American Paper & Pulp Association.

STATEMENT OF W. K. BREW, AMERICAN PAPER & PULP ASSOCIATION

Mr. BREW. Mr. Chairman, I am not Mr. O'Conner. We regret that we did not communicate with your good office. We are filing a statement for the record with your permission, but we will not testify this afternoon.

Thank you very much.

Mr. ROBERTS. Thank you very much.

Dr. Charles L. Wilbar, secretary of health for Pennsylvania and president of the Association of State and Territorial Health Officers.

Dr. Wilbar, you have been before our committee on many other occasions and we are happy to welcome you back. You always give us a good viewpoint. We are very happy that you can be with us.

STATEMENT OF CHARLES L. WILBAR, JR., M.D., SECRETARY OF HEALTH FOR PENNSYLVANIA AND PRESIDENT OF THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

Dr. WILBAR. Thank you, Mr. Roberts, and members of the committee. My name is Charles L. Wilbar, Jr., M.D. I am secretary of health for Pennsylvania and president of the Association of State and Territorial Health officers. For the past 2 years I have been chairman of the Pennsylvania Air Pollution Commission, which has been in existence for 2 years.

The Association of State and Territorial Health Officers has been concerned with this country's growing air pollution problem for a number of years. The association has considered State air pollution control laws, ambient air quality standards, the role of the Federal Government in air pollution control and Federal-State-local relationships.

I am here today to inform this committee on the views of the ASTHO, of Governor William W. Scranton, of Pennsylvania, and of the Pennsylvania Air Pollution Commission with respect to proposed Federal air pollution control legislation.

In many respects, H.R. 4415 provides for a realistic and needed strengthening of the Federal air pollution control program. This bill, unlike other proposed legislation, recognizes accepted Federal-State relationships with respect to the control of intrastate air pollution problems. Also, unlike other proposed legislation this bill does not provide for a legislatively created advisory board which often results in diffused responsibility and the development of involved administrative procedures. In comparison to other similar legislation introduced at this session of the 88th Congress, H.R. 4415 appears to provide for the most direct and reasonable approach to the development of an effective Federal air pollution control program. It is our recommendation though, that this bill be so revised that approval by the appropriate State air pollution control agency is required prior to the initiation by the Federal Government of negotiations for the awarding of program grants to local agencies.

Sixteen States, representing more than 50 percent of the Nation's population, have enacted statewide air pollution control laws. These laws have been "tailor made" to fit the needs, cover the problems and conform to existing legislation in the respective States. A cursory examination of State air pollution control laws (and I refer the committee to "A Digest of State Air Pollution Laws," 1962 edition, Publice Health Service Publication 711) indicates that they vary widely in character from State to State. A major reason for this nonuniformity in State air pollution laws is that each State must consider its existing and historical State-local relationships. These relationships have been developed over many years and are an important factor in the day-to-day operations of State government.

At its 1962 meeting the conference of the ASTHO recommended—

That the Public Health Service revise its policies on administration of grant programs to eliminate the practice of direct Federal-local negotiations, and that, instead, State health departments be authorized and urged to assume effective leadership in all matters concerning local applicants.

The interposition of Federal activities between State and local government not only is inconsistent with accepted principles of Federal-State relationships, but can adversely affect State-level programs and long-range planning.

The Pennsylvania Air Pollution Control Act provides for the adoption of air pollution control regulations by the State air pollution commission on an area-need basis. Regulations are adopted for specific areas of the State after studies have indicated the extent and nature of air pollution in these areas. These areas cross municipal and county lines.

In its present form, H.R. 4415 would permit the Federal Government to negotiate directly with local governments for the awarding of program grants. These negotiations can be conducted without the knowledge or concurrence of the appropriate State agencies. Such a procedure could adversely affect our State program and the implementation of the Pennsylvania Air Pollution Control Act. Our program calls for coordination between State and local programs. If the Federal Government were to interpose itself between the State agency and local air pollution control agencies in Pennsylvania, I believe that it would result in confusion, duplication of effort, inefficiency, and a reduction in the effectiveness of present programs.

It is recognized that the Federal Government has a legitimate concern in air pollution control. Air pollutants recognize neither municipal nor State boundaries. Intermunicipal air pollution problems are a prime mover for the development of State air pollution control programs, and interstate air pollution problems should be considered in Federal air pollution control legislation. Existing State air pollution control laws recognize the role of the Federal Government. For example, the Pennsylvania Air Pollution Control Act provides that the Pennsylvania Department of Health is to—

cooperate with the appropriate agencies of the United States or of other States or any interstate agencies with respect to the control, prevention, abatement, and reduction of air pollution, and where appropriate formulate interstate air pollution control compacts or agreements for the submission thereof to the general assembly.

The act also provides that the State health department is to—

serve as the agency of the Commonwealth for the receipt of moneys from the Federal Government or other public or private agencies, and expend such moneys for studies and research with respect to air contaminants, air pollution, and the control, prevention, abatement, and reduction of air pollution.

The present role of the Federal Government in air pollution control has permitted and assisted the development of effective and practical State air pollution control programs. The importance of the present Federal air pollution control program was recognized at the 1961 meeting of ASTHO, where it was recommended that:

That the Federal air pollution program be strengthened by: (*a*) providing for an expansion of research related to the causes, effects, and controls of air pollution: (*b*) providing Federal technical and financial assistance to States and localities in the development and support of programs to apply more effectively existing and future knowledge of the actual control of air pollution; and (*c*) providing through the Public Health Service of the U.S. Department of Health, Education, and Welfare vigorous leadership to obtain increased attention and devotion of greater resources to the problem of air pollution by all levels of government, industry, and the public.

Rapid increases in the rate of urbanization, industrialization and population growth make it imperative that greater efforts be made to obtain cleaner air. Now is the time to expand our efforts, before a wasteful "crash program" is needed. Economic and health considerations justify greater efforts for cleaner air.

Air pollution can exert biological effects on man, vegetation, and animals and produce physical effects such as reduction in visibility, corrosion of metals, and soiling.

Gases, vapors, and particulates that pollute the air exert many as yet poorly understood effects upon man. So far as has been discovered, they act both locally upon the mucuous membranes with which they have direct contact, and also generally upon many varied functions of the body through absorption into the bloodstream. The local effects apparently result from both chemical and physical irritation, whereas the systemic, general effects, are primarily chemical in nature.

Air pollutants occasionally are able to cause dramatic, sudden epidemics of illness, which first drew attention to the importance of the health effects of air pollution. During a 2-week period in 1952, for example, more than 4,000 deaths in London were attributed to very high concentrations of pollutants, of which sulfur dioxide and carbonaceous smoke seemed the most significant components. Measurements made during the 1962 London smog incident indicated the presence of high atmospheric concentrations of oxides of sulfur. Oxides of sulfur were most likely an important factor in the October 1948 Donora, Pa., smog disaster. It is unfortunate that often disasters provide impetus for governmental action. The Donora distaster was a major factor in bringing the growing problem of air pollution to the attention of State and local governments.

But even more dangerous that these dramatic epidemics are the long-term insidious effects of prolonged exposure to lower concentrations of pollutants. Such air pollution is probably playing an important role in such increasingly common and serious diseases as lung cancer, chronic bronchitis, emphysema, asthma, and certain other respiratory disorders.

Air pollution undoubtedly has other effects upon man as well, including annoying eye irritation and objectionable odors. The im-

portance of the changes air pollution causes in the kinds of solar radiation we receive and the possible physiological significance of such changes is yet to be determined.

Vegetation can be affected by gaseous and particulate pollution. Injury can range from reduced growth and yield to complete plant destruction. Transfer to man and animals of pollutants concentrated in edible vegetation is also possible. Among the pollutants known to have caused vegetation damage are gases such as sulfur dioxide, ammonia, ethylene, ozone, and photochemical smog reaction products, and particulate matter such as sulfuric acid mist, carbonaceous smoke, and metal dusts. Livestock may be indirectly injured through acute or chronic poisoning from eating contaminated forage.

Reduced visibility due to suspended particulates is an important physical effect and depends on the composition, size, and concentration of the suspended particles. Not only does suspended matter directly reduce visual range but it can also promote fog formation and increase its persistence. Carbonaceous smoke, sulfuric acid mist, aerosols from automotive exhausts, and perhaps photochemical smog are the main contributors to visibility reduction.

Metal corrosion due to both gaseous and particulate pollution, particulate damage to stone and masonry, and gaseous injury to textiles, leather, and rubber goods are among the most important physical effects. Soiling is the most obvious of all air pollution effects. Coarse particles can mar or damage buildings, automobiles, and scenic attractions. Fine particles can infiltrate homes and businesses soiling walls, furniture, and decorations, and can reduce the value of salable products, or interfere with fine products' manufacturing.

State and local governmental agencies are developing programs to effectively combat the effects of air pollution. A Federal air pollution control program, recognizing the effectiveness of State and local agencies, can be of considerable assistance. H.R. 4415, amended in accordance with our recommendations to provide for concurrence by the State with respect to the awarding of program grants to local agencies, can provide this assistance.

I sincerely appreciate being given the opportunity to appear before this committee and I hope that this statement of views will be of assistance in your review of proposed air pollution control legislation.

Mr. ROBERTS. Thank you, Dr. Wilbar.

I can assure you that your statement will be of considerable help to us speaking for the group as president of the Association of State and Territorial Health Officers, and also in your capacity as president of the Pennsylvania Air Pollution Commission and your distinguished Governor with whom I served. I certainly feel that your statement will have great weight with our subcommittee.

I have no further questions. Your statement is very clear and quite adequate, I think. I just want to thank you for your appearance.

Mr. NELSEN. No questions, thank you.

Dr. WILBAR. Thank you.

Mr. ROBERTS. Is Dr. Hendrickson here?

Doctor, may I ask you if you are going to be in the city tomorrow?

Dr. HENDRICKSON. No, sir; I am not.

Mr. ROBERTS. All right. We will take you now.

STATEMENT OF DR. E. R. HENDRICKSON, CHAIRMAN, FLORIDA AIR POLLUTION CONTROL COMMISSION

Dr. HENDRICKSON. Problems of polluted air are becoming of increasing concern to the people of the United States in many localities. The development of widespread public interest in air pollution has been fairly rapid and has occurred mostly within the past 10 to 15 years. Governmental control programs at all levels have not developed at the same rate as apparent public interest. We must bear in mind, however, that where the people have desired an active program of air pollution control, they have received it through the action of their elected public officials at the State or local level. Program developments in Pittsburgh, Los Angeles, Detroit, Chicago, New York, San Francisco, and, more recently, Miami serve as examples to confirm this.

In 1950 few of our States had specific air pollution laws, but now about one-third of them have laws of this type, and during the present legislative year more bills are being introduced. An anomaly exists here, however, in that control programs are being inaugurated and an attempt is being made to formulate rules, regulations, and laws without some of the basic technical knowledge which is essential to do the job. Another problem presents itself in that air pollution programs in government and industry are being developed and enlarged so rapidly that trained personnel are not always available to man them.

Most air pollution control personnel and most citizens who have given some thought to the matter will probably agree that air pollution control by government should be at the lowest level capable of doing the job. In practically all instances, this will be the county, city, or special district. This has the advantage of keeping the control program close to the people, maintaining air quality objectives acceptable to the local community, and permitting quick investigation of any accidental episodes. The appropriate concern of State government is the provision of leadership, technical assistance, and technical guidance to local jurisdictions. Where local personnel cannot handle a problem, the technical resources of the State should be brought into play. Many problems can be handled on this basis without burdening the Federal Government with local affairs and without weakening the position of the States by establishing a direct link between local and Federal Government. Where an air pollution problem is beyond the resources of the local people and the State, the Federal Government should be called upon for assistance. It is obvious that the task of solving complex air pollution problems requires a high measure of cooperation between all levels of government, industry, and private citizens.

What then should be the role of the Federal Government in air pollution control? We believe it should be one of adviser and technical assistant to State and local agencies and not one of judge of performance of these agencies. The Federal Government has a well-defined role to play in the field of air pollution control. They should act as a clearinghouse and evaluator for all types of technical information. They should provide technical assistance to State and local governments on problems which are beyond their resources.

The Federal Government is in the best position to stimulate the research which will provide some of the technical answers needed in air pollution control. The Federal activity can be most helpful in providing the support and, more important, stimulation necessary to insure an adequate supply of trained personnel. The Federal Government, furthermore, has a basic responsibility for nationwide evaluation of air pollution in order to provide a base line. We feel that the Federal Government effort in air pollution control would be diluted and the responsibility of States would be abridged by the uninvited participation of a U.S. Government agency in enforcement activities. It is recognized that some air pollution problems involve interstate matters and therefore may require limited intervention in local affairs by the Federal Government. This participation, however, should consist only of objective studies with the aim of assisting State and local air pollution control agencies. In such interstate problems, the results of the objective study should be turned over to the affected States for evaluation and action. Further Federal action should be only after the offending State has refused to act and only on request of the aggrieved State.

With regard to the specific air pollution control legislation presently before this committee, we feel the authors should be commended for their foresightedness. The pending legisaltion would succeed in helping to solve many of the problem areas cited above. These acts would stimulate the research and development program so necessary to the solution of air pollution problems. They would provide technical services and technical assistance to air pollution control agencies. Some provisions of the act would provide financial assistance to agencies and, furthermore, would provide the mechanism whereby additional trained personnel might be obtained. The investigation of criteria for air quality is a desirable feature of the bills. The very tenor of the legislation should stimulate active air pollution programs at the local and State level. We feel that the provision requiring the Federal Government to proceed on a program involving actual development of specific control devices is not appropriate Federal effort. As much as some of these devices are needed, this is not a function of government in our opinion. The responsibility for developments of this type should be placed in industry. Unfortunately, not all of the provisions of the proposed bills conform with the stated objectives. With regard to the finding that the prevention and control of air pollution at its source is the primary responsibility of States and local governments, the following observation are offered:

(1) There should be no interference in the enforcement functions of State and/or local agencies unless specifically requested; (2) the Federal Government should not abdicate from the traditional routing through the State agencies in going to local agencies; (3) grants to local agencies should be made with the advice and concurrence of the State agencies where such agencies exist; (4) the Federal Government has the responsibility to intercede in interstate problems where necessary, but only upon request of one or more of the States.

It is felt that State and local governments have the authority to control most of the air pollution problems in the United States. Where problems actually exist, there is usually the will to engage in an effective enforcement program. The rate at which these govern-

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ments assume their responsibilities in air pollution control can be speeded up by the guidance and assistance of Federal Government activities. It is felt that the participation of the Federal Government in an enforcement program will only dilute the effort which needs to be put on programs of information, research, assistance, and training in air pollution control.

Thank you.

Mr. ROBERTS. Thank you very much, Doctor. I certainly appreciate your appearance here. As you know, we have a very able and valuable member who serves on our subcommittee and has for some time, Mr. Rogers, and he has also served on other subcommittees. I am sorry he could not be here to hear your testimony this afternoon. I know, however, he appreciates your coming and your interest in this matter.

I wanted to ask you if you had in mind at the bottom of page 3 of your statement, the last paragraph, you say:

> We feel that the provision requiring the Federal Government to proceed on a program involving development of specific control devices is not appropriate Federal effort.

I was wondering if you had in mind the research that has been done on automotive smog devices. Do you have that specifically in mind?

Dr. HENDRICKSON. No, I had not. I had in mind the research and development of physical devices for the removal of certain types of pollutants from effluents. I believe that for the most part the basic principles of these devices are fairly well known and I believe that we need the application of these principles and these devices, but I believe that any further developmental activity on such things should be the responsibility of the industries that are going to sell them. A stimulation of that research is another matter, but I think that the actual research and development of devices of this type is more logically a function of private industry.

Mr. ROBERTS. You would not object to the type of research that has been carried on by the Public Health Service in the field of automotive services?

Dr. HENDRICKSON. No, sir.

Mr. ROBERTS. Now I also recall that in connection with the interstate problems you state in such interstate problems the result of the objective studies should be turned over to the affected States for evaluation and action. Further Federal action should be only after the offending State has refused to act and only on request of the aggrieved State.

Dr. HENDRICKSON. Yes, sir.

Mr. ROBERTS. In other words, you had a situation, let us say, for example, between Indiana and Illinois and one State felt that they were being polluted or their cities were being polluted by agencies in the other State, that this Federal action should come only on request of the State aggrieved.

Dr. HENDRICKSON. This would be the logical way, but is should come on the invitation of one or the other of those States or municipalties. This was just an example.

Mr. ROBERTS. That is all I have.

I appreciate very much your coming to the hearing with your presentation.

Mr. NELSEN. No questions.

Mr. ROBERTS. Thank you.

This will conclude the hearings for today.

We will have other witnesses appearing tomorrow.

The subcommittee will recess until tomorrow at 10 a.m. in this same hearing room.

(Whereupon, at 4:40 p.m., the subcommittee adjourned until 10 a.m., Tuesday, March 19, 1963.)

AIR POLLUTION

TUESDAY, MARCH 19, 1963

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON PUBLIC HEALTH AND SAFETY
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10 a.m., pursuant to call, in room 1301, Longworth Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

Mr. ROBERTS. The subcommittee will please be in order.

We have with us today Hon. Stanley Meholchick who is State representative of Ashley, Pa. With him is the esteemed gentleman from Pennsylvania, Hon. Daniel Flood.

We are glad to have Representative Flood introduce the witness to the committee.

STATEMENT OF HON. DANIEL J. FLOOD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. FLOOD. Thank you, Mr. Chairman. My name is Daniel J. Flood. I am a Representative of Congress from the 11th District of Pennsylvania. That is centered on Wilkes-Barre, Pa., which is the center of the anthracite coal fields, the hard coal fields of Pennsylvania.

Briefly, Mr. Chairman, I want to assure you of my wholehearted support of this legislation. It is not my purpose of testifying on behalf of the bill this morning other than to say that I come for the purpose of presenting to you a distinguished member of the General Assembly of the State of Pennsylvania who is a coal miner. The first job my friend had was in the coal mines, deep mining. Believe it or not he is still working in the mines. He is also as you know a member of the general assembly of the State, the house of representatives, and being a very versatile young man he is also the tax collector of his community. He wears several distinguished hats, not the least of which I repeat for the purpose of which he is an authentic, bona fide coal miner who every day that he is not in session in Harrisburg actually works in the mines with his own two little hands. He does not have any plush job, he is not a boss, he is just another miner, and mining in the hard coal fields of Pennsylvania in the deep mine is no game for boys.

In his legislative district there is one of the most serious problems of air pollution in the entire State resulting from the burning of refuse bank, we call them culm banks, the same thing in the steel fields they call slag heaps. These are great culm banks and either through spontaneous combustion or through other reasons they catch fire.

Hard coal as you know is high in carbonic content, high volatile fuel, there is great sulfur in our veins and you can imagine through years of continual burning, especially on a rainy day like this, the pall of sulfur and smoke that blankets the area where Mr. Meholchick lives and represents.

It is as you can imagine dangerous to life, health, and, of course, seriously damages property in the area.

Mr. Chairman, it is a real privilege for me to present to you this morning the Honorable Stanley Meholchick, representative of the General Assembly of the Commonwealth of Pennsylvania.

Mr. ROBERTS. Mr. Flood, we are delighted to have you and we certainly welcome your support of this legislation.

Mr. FLOOD. I would like the opportunity if there is no objection, Mr. Chairman, of presenting a statement or if you wish I would gladly appear later and support the legislation and be subjected to any questioning your committee might feel proper.

Mr. ROBERTS. We will be glad to have a statement. I think we will be able to finish the hearing today but we will leave the hearing open for at least 5 days so that you can file a statement.

Mr. FLOOD. Thank you very much.

Mr. ROBERTS. Again I thank you for coming.

I might say at the outset we are always happy to have representatives of States to appear, particularly a person of your experience both on a local and a State level. This legislation, of course, is of great concern to local jurisdictions. We welcome you and we appreciate your coming very much. You may proceed with your statement.

STATEMENT OF HON. STANLEY MEHOLCHICK, STATE REPRESENTATIVE, THE GENERAL ASSEMBLY OF THE COMMONWEALTH OF PENNSYLVANIA

Mr. MEHOLCHICK. Thank you, Senator.

On behalf of my constituents of the Second Legislative District in Luzerne County and the Honorable Congressman Flood's congressional district, my people are very pleased to have me appear before this committee today on air pollution. When I saw your article appear in the Philadelphia Inquirer last week I immediately got on the phone and talked to Dan and asked if I could testify.

I understand yesterday the secretary of health from the Commonwealth of Pennsylvania had appeared before your committee and also testified on behalf of the air pollution of the Commonwealth.

Now I don't know exactly what he had touched on as a reference to the Air Pollution Control Act that we have passed in 1959 but as far as I am concerned in my testimony here, which I will be very brief, I would want to say this. I mean our problem is getting serious; worse by the day. This culm bank that Dan told you about was started there in 1936, started to burn in 1955. There are roughly 7 million tons of culm in that area. It covers 87 acres, roughly affecting about 50,000 people in a 5- or 6-community area surrounding the Preston-Ashley culm bank. It extends into the city of Wilkes-Barre and

beyond those points of towns but I have some photographs here if the committee would want to see them I would be glad to have them passed up; also, pictures of some of the homes that have been affected on September 10, 1960, the morning when we awoke I would say about roughly 8:30 or 9 o'clock, we were wondering whether there was anybody alive in this community of Ashley Borough, population about 5,000. We have pictures taken by photographers who came into the area and do not believe there was nobody affected by this smog that had invaded this little village of ours on September 10.

I also have a picture here taken by a photographer from one of our morning papers at least three-quarters of a mile away at 10 o'clock in the morning. The photographer's car is shown in front of one of the streets approaching the little village of Ashley but you could not see 150 feet a big double block home, the smog still lay there at 10 o'clock that morning. We have people looking at the homes. Photographers and everybody else that day could not figure that this thing had happened within a period of 4 or 5 hours that morning.

The background for the Commonwealth of Pennsylvania as of today is that we would not like to have a reoccurrence of Donora in 1948 which had taken 22 lives and affected over 6,000, to a killer cloud that had come through that little town or community in 1948.

The reason why I say this, our tests that have been taken by an autometer from the department of health, in 1960, which I have here, the test that was taken, and appeared 59 days in front of my home roughly 150 yards away from the culm bank. The dates are here when the unit could not record the amount of sulfur that has passed in the month of June, from May to June. The dates are here. Of course Mr. Wilbar probably made that statement. I think they had 90 days roughly and they said Stanley, this is enough for us, we have whatever information we need now. Since 1960 when this test has been taken to the present date I would say roughly there was about 3 million ton on fire and at the present day the whole 7 million are burning. So you can see what we are expected to have or be confronted with in the next year or 2 years unless something is done or abated and this problem taken care of.

Now as far as the Commonwealth is concerned we have moved under the direction of the Administrative Code of 1929 which we have in the Commonwealth court today and they had a hearing on the first of March and the Honorable Judge Shelley has offered his services to become an arbitrator in this case and see whether he can work out a problem or solution with those two coal companies.

I say two coal companies, when this thing started to spread and get worse, roughly we figured it would cost the coal company a million and a half dollars to put this fire out and at that time only half of the pile was burning. Today with the 7 million ton burning it would run roughly over $2 million. They are using this poverty cry of theirs that they cannot afford to do it. Well, my fight is that if there is one life that we are going to lose, that $2 million will not replace that little youngster or a grown up.

We have medical testimony here taken by doctors on the air pollution commission that have traveled the area. Dr. O'Connell, God

rest his soul, was very instrumental to fight this problem because it is affecting the youngsters, new born babies and the people with silicosis. Of course, you know in the hard coal we have a lot of silicosis cases. The doctors' testimony stated within a period of 5 to 10 years the youngsters will show some effects of this sulfur that is hitting this area.

God only knows how long the Commonwealth and I are going to fight this thing until we come to an agreement of some kind. I have to appreciate your attitude, your interest in the Nation as a whole under air pollution. When I say this I asked Dan if I could get out here and testify on our behalf. He said, "Stanley, I would be just too glad to have you out here."

So these are the kind of problems we are confronted with. The operators, I say they, have sold this burning culm bank in January or February 1962 to another, as I call them, spin-off corporation. This was just to take the burden away from this one individual coal company and put it on to another. They sold it for $40,000, an area involving 87 acres. Now this coal company is registered in the Commonwealth of Pennsylvania with a bond of $5,000 that they could not even touch.

This is just one of their plans on prolonging the thing so we could not get into a position that it is going to be a drawn out situation. We have a civil suit, we have a criminal suit against them in Lucerne County and also in the Commonwealth court of Harrisburg, which I am keeping my fingers crossed that we will get some action but I know it is going to be drawn out and it will be a lengthy fight.

If there are any questions that you gentlemen would want to ask me, I would appreciate it very much.

In closing I would say thank you on behalf of my people and I shall relay the message that the Senator and his committee were just too grateful to have me here today.

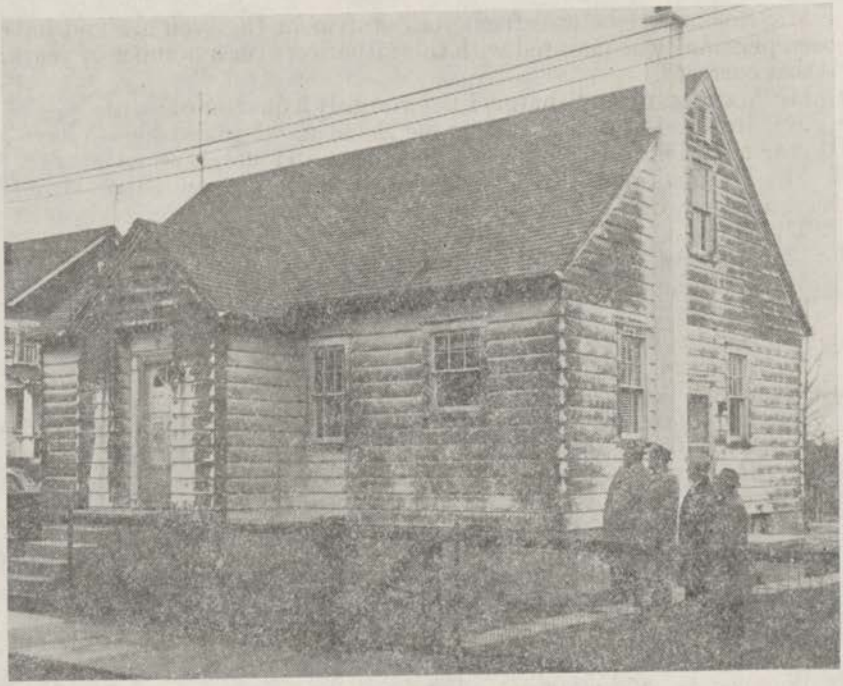
Mr. ROBERTS. We certainly appreciate your appearance and before any questions I would like without objection for the subcommittee to examine the photographs and with your permission ask to select some of these photographs that we might include in the record in this hearing, if the clerk will attend to that detail, if you will leave some of the photographs with us, without objection I would like for some of them to be included in the record. I think they paint a very good picture of the situation.

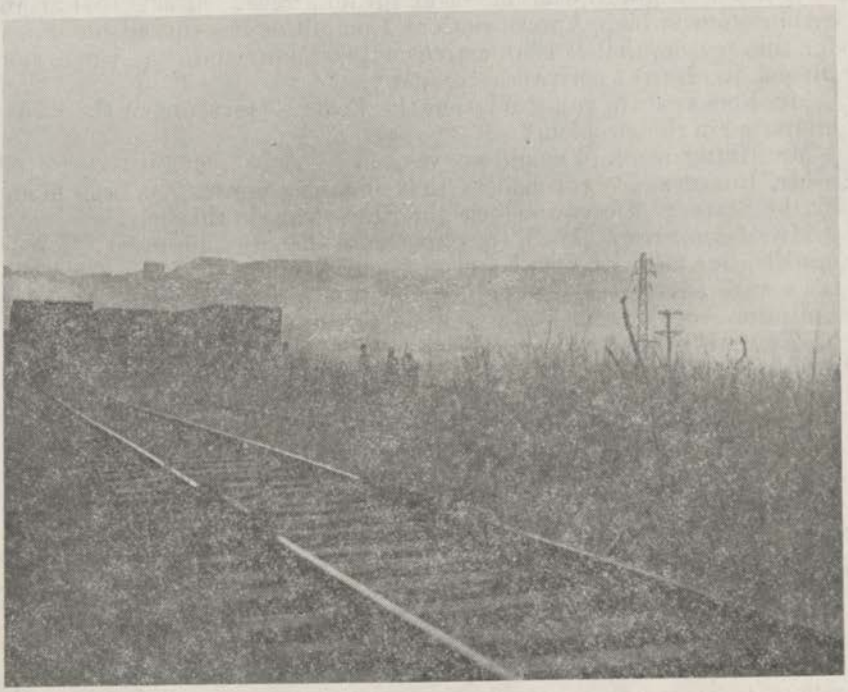
Mr. MEHOLCHICK. Senator, I would be just too glad to have whatever information you want left here with you but if I could have it returned within probably 2 or 3 weeks because I expect to testify before the Commonwealth board within the next 3 or 4 weeks.

Mr. ROBERTS. I think we can probably arrange to have some prints made and have them back to you in plenty of time.

Mr. MEHOLCHICK. Thank you very much, Senator.

(The photos mentioned follow:)





Mr. ROBERTS. I believe from your statement that you are and have been personally acquainted with this situation over a number of years; is that correct?

Mr. MEHOLCHICK. Senator, I live roughly a quarter of a mile——

Mr. ROBERTS. You are calling me Senator. I would like to have a 6-year term but I am just a Member of the House, 2-year term.

Mr. MEHOLCHICK. I also would love to have the same, too. I only have a 2-year term.

Thank you.

Mr. ROBERTS. When did you begin working in the mines?

Mr. MEHOLCHICK. I started working in the mines in 1936.

Mr. ROBERTS. At what age?

Mr. MEHOLCHICK. Twenty-one.

Mr. ROBERTS. I believe from what Mr. Flood said you still work in the mines?

Mr. MEHOLCHICK. Well, in 1945 I left the inside but I am in the preparation plant as a breaker repairman or maintenance.

Mr. ROBERTS. Do you believe that this bill is necessary as far as the health and welfare of your people are concerned?

Mr. MEHOLCHICK. It certainly is. When I say I saw this, just like I made a statement prior to this that I would love to come before the committee. I know what it means to me. Here are my files. I have traveled through three courts already with them and to me when I saw the Federal Government was taking action on behalf of air pollution, we appreciate it very much.

We need air of some kind. Let me go on and say this. In 1956 I introduced an appropriation for $2 million to combat this first at an earlier stage, which Appropriations Committee has turned me down for this reason, that it is an active coal company and they would not furnish funds to an active coal company.

Mr. ROBERTS. Do you think that the Federal Government should be interested in this problem?

Mr. MEHOLCHICK. I would say yes.

Mr. ROBERTS. Do you believe that enough progress has been made by the States? Do you believe the States can do this job?

Mr. MEHOLCHICK. Well, the experience that we had under the Administrative Code of 1929 I feel—of course this is my feeling, but the laws were never strict enough in the past years. We have the Air Pollution Act now that is operating. Of course we think that we will have action in that respect. With the Federal Government taking a position also for this reason, Dr. Wilbar may have made a statement we have 210 culm first in the State of Pennsylvania but ours in Luzerne, and Lackawanna County, as I say, are the two worst areas for air pollution problems in the State of Pennsylvania; Luzerne County first, second, Lackawanna County.

Mr. ROBERTS. Again I want to thank you very much for your statement.

Any questions, gentlemen?

Mr. NELSEN. No questions. I wish to thank the witness, however, for his statement. I am reminded that one of our senior senators in the Minnesota State Legislature said "Once a Senator, always a Senator." Now, Congressman Brotzman and myself served in the State senate, so if you wish to address us as Senator, we will feel complimented. I might add that Ken would make a very good Senator.

Mr. ROBERTS. Thank you very much. I might say I had the same title at one time but I have been on this 2-year term so long I forgot about it. I was State senator once.

Mr. BROTZMAN. Mr. Chairman, Mr. Meholchick, to be sure the record is complete and accurate, I have in my hand certain pictures that you have submitted to the committee. First of all, these are pictures of what particular community?

Mr. MEHOLCHICK. Ashley Borough.

Mr. BROTZMAN. Ashley Borough?

Mr. MEHOLCHICK. Yes.

Mr. BROTZMAN. And this represents the conditions of that particular community on or about what date?

Mr. MEHOLCHICK. September 10, 1962.

Mr. BROTZMAN. September 10, 1962?

Mr. MEHOLCHICK. Yes. I have newspaper clippings and pictures for the day after it happened.

Mr. BROTZMAN. All right. Now if we could, I would like to direct your attention to the law as I understand you have enacted in the Commonwealth of Pennsylvania and I think you said that it was enacted in 1959; is that correct?

Mr. MEHOLCHICK. That is right, the Air Pollution Act.

Mr. BROTZMAN. Now then, is this the first enactment of this type that you have had in your Commonwealth?

Mr. MEHOLCHICK. That is so.

Mr. BROTZMAN. You do not perchance have a copy of that law here, do you?

Mr. MEHOLCHICK. I have.

Mr. BROTZMAN. I think it might be helpful to me, Mr. Meholchick, if I could possibly borrow that and look at it to see what the provisions of the law are. Could you generalize or summarize somewhat your approach to the problem for the subcommittee.

Mr. MEHOLCHICK. In reference to the Air Pollution Act?

Mr. BROTZMAN. Yes.

Mr. MEHOLCHICK. This act, No. 787, is broken down into seven regional commissions. Those seven commissions operate in an area of four or five counties—Lackawanna, Luzerne, Susquehanna, and surrounding counties operate as a local subcommittee for the air pollution control. Then the air pollution commission in Harrisburg is an 11-member commission. The findings in our local areas are submitted to the air pollution commission for action or background of their problems and any of the communities surrounding the Commonwealth.

Mr. BROTZMAN. All right. Now let's assume that you find that the area is polluted in a certain area.

Mr. MEHOLCHICK. Yes.

Mr. BROTZMAN. I assume that it would be information of this type that would come in from one of your regional committees or boards, is that correct?

Mr. MEHOLCHICK. That is right.

Mr. BROTZMAN. All right. Then under the terms of the law what could the State commission do about this? What powers do they have?

Mr. MEHOLCHICK. Well, the powers that we have up until the present time of course as Governor Lawrence stated, we have opened

the door, got our foot into the door in reference to this act. It is not the best Air Pollution Act that we could pass because you know what our problems are. We had control of the house and the Governor. We have not had control of the senate. So when the original bill was written in 1959 it was a terrific bill. When it arrived in the senate they had taken the teeth out of the bill. So this is just a step in the right direction as far as we are concerned with an air pollution law.

Now there are findings here of course that are recommended to the air pollution commission and this commission notifies the individual or the manufacturer or industry, whatever it is that is polluted in the area, and asks him to abate the nuisance there in whatever way they can and if not the Commonwealth takes them to the Commonwealth court for action as far as the courts are concerned of the State of Pennsylvania.

Mr. BROTZMAN. In other words, upon a finding by the commission that a pollution situation critical enough exists, then if I understand your testimony, the commission is supposed to apply to the appropriate court to enforce civil action, is that right?

Mr. MEHOLCHICK. That is right.

Mr. BROTZMAN. Now I think you mentioned a moment ago that as regards the one corporation, I think you called it a spin-off corporation——

Mr. MEHOLCHICK. Yes.

Mr. BROTZMAN. That in that particular case there are presently lawsuits pending against that corporation. Is that correct?

Mr. MEHOLCHICK. We have two lawsuits—a civil, a criminal—and under the Administrative Code of Pennsylvania; the third one at Harrisburg.

Mr. BROTZMAN. Now my specific question is this: Are there any of those lawsuits brought under the provisions of your 1959 Air Pollution Act?

Mr. MEHOLCHICK. No, neither of them are. They are taken under the Administrative Code of 1929 as far as the Commonwealth is concerned. In Luzerne County courts we have them under the criminal and under the Administrative Code of 1929 also of maintaining a public nuisance which the county has taken upon their own and the individual lawsuit or civil suit. We have 154 families that had taken action against the coal companies. Of the damages resulting from that one particular day, I would say roughly $57,000 in damages to property.

Mr. BROTZMAN. Is that the amount that is sought in the lawsuit or has that been determined?

Mr. MEHOLCHICK. No, that is the amount in the lawsuit, the estimated figures taken by real estate people that have made the tour two or three times—2 or 3 months after this had occurred.

Mr. BROTZMAN. Are you in session now, Congressman?

Mr. MEHOLCHICK. Yes, I am.

Mr. BROTZMAN. You hope the amendments to your State law will make them more stringent as to penalties and to enforcement?

Mr. MEHOLCHICK. Well, we were waiting to see what the Commonwealth court was going to do in this behalf. We have roughly I would say 2 more weeks to find out what the coal companies are going to do. In other words we are planning to meet with the Governor to-

morrow morning and find out what stand he is going to take, and if not we are going to have a talk with some of the attorneys and draw up more amendments to make this a stronger piece of legislation for our Commonwealth.

Mr. BROTZMAN. Now you have been testifying basically about one particular part of your Commonwealth, is that correct?

Mr. MEHOLCHICK. That is correct.

Mr. BROTZMAN. What is the circumstance throughout the rest of your State or Commonwealth?

Mr. MEHOLCHICK. Well, I could not tell you that for this reason. I mean I have my own personal problem here and I am mostly interested in our area. Now that could be answered really by the department of health. They travel the Commonwealth on problems under the Air Pollution Control Act.

Mr. BROTZMAN. But it is your intention to confine your testimony basically to the limited geographical area that you represent, is that correct?

Mr. MEHOLCHICK. That is true.

Mr. BROTZMAN. I would like to thank you for coming down here, Congressman. We appreciate it.

I have no further questions.

Mr. ROBERTS. Thank you.

Thanks to you again for your appearance and your testimony in support of this legislation.

Next we have our friend and colleague from New Jersey, the Honorable Peter Rodino.

STATEMENT OF HON. PETER W. RODINO, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. RODINO. Thank you, Mr. Chairman. On February 21 of this year I introduced H.R. 4061, a bill to accelerate, extend, and strengthen the Federal air polution control program. I did so because I feel air pollution control is a vitally important problem and one which demands our immediate action.

Of course, the problem of air pollution is not a new one. Indeed, as early as the first century men had begun to complain about the murky air which they breathed and to suspect that it was the cause of some of their physical ailments. Seneca wrote of the "heavy air of Rome and the stench of its smoky chimneys which when stirred poured forth whatever pestilent vapors and soot they held enclosed." Centuries later both Shakespeare and Milton noted this matter, Shakespeare calling the London air "a foul and pestilent congregation of vapours." So we see that both imperial Rome and Elizabethan England were beset by the same problem which is confronting modern-day industrial America. It seems clear, however, that in our civilization air pollution is a greater menace to health than it has ever been before. Ancient Rome and Elizabethan England breathed air polluted by smoke and soot from fires used to heat homes. Today we in the United States breathe air that is polluted not only by the dirt and fumes from home furnaces but also by automobile exhaust, industrial chemicals, and the residues from burning wastes as well as from the fuels necessary for generating power.

Unless we adopt stringent measures to control air pollution, this health hazard will most certainly assume even more gigantic proportions in the years ahead. There are several reasons for this. One is that our country is growing and at the same time is becoming increasingly urbanized. By 1970 our population will have reached the 220 million mark. Two-thirds of these people will live in cities covering less than 10 percent of our total land area. More people will require more cars, more factories, and more power for domestic and industrial purposes. Into air already hazy with smoke, soot, and chemical vapors will go more of the same.

Another factor to be considered is that our national economy is expanding. Between 1960 and 1970 the gross national product is expected to climb by 60 percent. This means, of course, an increase in commercial and industrial activities which will require more and more energy. It has been estimated that demand for power will nearly double in the next 20 years. Although some energy will be generated by waterpower and some by nuclear reactors, most of it will have to be provided by combustion of fuels with a corresponding increase in potential air pollution.

Yet another very significant aspect of the air pollution picture is the rising number of motor vehicles and the enormously increased fuel consumption and mileage recorded each year. By 1980 experts predict we will have 120 million vehicles on our highways—50 million more than at present. Moreover, the number of vehicle miles traveled will nearly double. In other words, 120 million cars, trucks, and buses will crowd the roads, each averaging 9,400 miles per year and emitting thousands of tons of combustion products into the air we breathe.

Now why am I concerned and why should you be concerned about air pollution? Why should we try to do something about it? Why not accept it as one of the prices that much be paid for progress by an urban, industrial, and mobile society? One reason is that air pollution costs us as much as $11 billion per year in damaged or destroyed crops, reduced meat and milk production, and depressed property values. Another reason, and to me a much more important one, is that air pollution is a real threat to the health of all our citizens. We have all seen the dramatic and freightening results of a heavy smog which envelops a city for days or weeks such as the one which settled over Britain this winter, bringing with it illness and even death for the weak and the elderly. Such episodes, fortunately, are not numerous; however, it is just this fact that leads to our apathy in regard to air pollution control. Because we do not see constant and striking evidence of the effects of air pollution, we relegate the subject of its control to the list of things we plan to do something about later—always later. Growing evidence as to the deleterious effects of long-term exposure to air pollution, however, is forcing us at last to examine this problem and to take action to conquer it.

Evidence is beginning to accumulate which points to air pollution as the cause of several diseases and an accelerating factor in the progress of a number of others. Air pollution has been linked to emphysema, a chronic lung disease in which there is a breakdown of lung tissue capable of carrying out oxygen transfer. As a result the victim experiences shortness of breath and is unable to bear even slight exertion. Various other respiratory conditions such as asthma

and bronchitis are also aggravated by air pollution. Studies show that these conditions are more prevalent in urban areas than in rural areas where pollution is less severe and also that these conditions are alleviated when the patients are placed in an environment where chemical irritants are removed from the air by means of filters.

Lung cancer is significantly higher among urban dwellers than among rural groups, even when smoking habits are the same. Although the research is still incomplete, there is evidence linking lung cancer to air pollution, and it is known that a number of the pollutants found in community air supplies will produce cancer in experimental animals. Also under study is cancer of the stomach and esophagus since a considerable amount of the pollution in the air is swallowed.

Additional research is now in progress to establish the relationship between air pollution and heart disease. Although there are many contributing causes of heart disease, circumstantial evidence is strong that air pollution plays an important role.

Less tragic than heart disease or cancer but nevertheless inconvenient and uncomfortable is the common cold. And that too has now been linked to air pollution. Just this week the Public Health Service has issued a statement citing the studies of Dr. F. Curtis Dohan of the University of Pennsylvania School of Medicine as evidence that airborne sulfur compounds "trigger outbreaks of upper respiratory infections."

When we think of the tens of millions of workdays lost due to colds and chronic respiratory complaints as well as of the suffering and death that could be prevented, surely we must recognize the urgent necessity of finding and enforcing means of controlling air pollution.

I have long been deeply concerned about air pollution. I have voted for air pollution control bills when they have come before the House. I am proud to have been instrumental in the drawing up of a tristate compact by New York, Connecticut, and my home State, New Jersey, for air pollution study and control.

However, the time has come for more drastic action. The problem is of more than local significance; it affects every citizen. Moreover, the threat to our national health grows more ominous each month, each week, each day that we procrastinate. Therefore, I have introduced H.R. 4061, a bill which provides for a national research program into the causes, effects, and methods of control of air pollution. My bill also authorizes the appropriation of $74 million over a 10-year period for grants for support of air pollution control. It calls for the encouragement of interstate cooperative activites and the adoption of uniform laws. It creates an air pollution advisory board in the Department of Health, Education, and Welfare, and, most important of all, provides the authority and machinery for enforcing air pollution control measures.

My bill, H.R. 4061, meets the requirements outlined by the President in his recent health message for necessary legislation in the field of air pollution control. It also embodies many of the recommendations of the Committee on Environmental Health Problems which submitted its report to the Surgeon General in November 1961. It is a strong bill and, I believe, a sound one. I cannot emphasize too strongly the urgency of this matter. There is much to do, and we have already delayed too long. Let us now move with all possible

speed toward a solution of this problem. It is a difficult problem but one which must be solved—which can be solved by the passage of this bill.

Mr. ROBERTS. Thank you for an excellent statement, Mr. Rodino.

Next we have with us the gentleman from New York, the Honorable Seymour Halpern. We are happy to have your statement, Mr. Halpern.

STATEMENT OF HON. SEYMOUR HALPERN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. HALPERN. Thank you. Mr. Chairman, first I wish to commend the distinguished chairman of this committee, the gentleman from Alabama, Mr. Roberts, for his outstanding work in the effort to clear the air of pollution.

I have been particularly concerned with the subject, and in the effort to help formulate a meaningful program I have been privileged to work closely with the chairman and to observe firsthand his great ability and unique grasp of this complex problem that plagues so many of the areas and people of our Nation.

In my own city of New York, often when I have flown into the city, I have been struck by the fact that what seemed to be a perfectly glorious day from the air became dull and overcast when viewed from the ground. The vivid blue of the sky, the floating clouds, and the brilliance of the sun were all obscured by the gray haze that hung over the city. This haze is composed of smoke and soot, chemical vapors, and motor vehicle exhaust. It covers our buildings with grime and reduces property values. It destroys crops and gardens, and most important, it presents a serious threat to the health of our citizens, especially the aged. For these reasons I am vitally concerned about air pollution control, and I welcome the opportunity to appear before you today to urge the committee's support for my bill, H.R. 4750, and, of course, Mr. Chairman, your identical bill, H.R. 4415.

As you know, air pollution is principally an urban problem, and in my city, America's largest, it is a severe one. With more than 7¾ million people needing heat and electric power for their homes and their offices or factories, vast quantities of combustion products are emitted into the atmosphere daily. Nearly a million automobiles are on the streets each day, consuming 1½ million gallons of gasoline and pouring burned and unburned waste products into the air—waste products consisting of 4½ million pounds of deadly carbon monoxide and 2,500 pounds of hydrocarbons which are believed to be responsible for our steadily rising number of deaths due to chronic bronchitis, emphysema, and lung cancer. Lesser quantities of nitrogen oxides and sulfur dioxide are also given off, as well as particulate matter, all of which contributes to the $150 million lost each year in New York City because of corroded building materials, soiled merchandise, and blighted garden produce.

As you can see, automobile exhaust is already a problem of large dimensions in New York City and other metropolitan areas. Moreover, a steady increase in the number of motor vehicles, the miles traveled per vehicle, and total gasoline consumption is predicted for at least the next 2 decades. We know that the pollutants in motor vehicle exhaust will induce cancer in experimental animals and that

disability days for chronic respiratory conditions vary directly with the quantity of contaminants in the atmosphere. There is also evidence that such pollution contributes to the progress of various types of heart disease.

All of these subjects are deserving of further research, and for that reason my bill specifically requires the Secretary of Health, Education, and Welfare to conduct studies regarding the discharges from motor vehicles and their effect upon human health. I believe this is perhaps the most important aspect of the air-pollution problem, and I feel that research in this area is vital and should be conducted by the Department of Health, Education, and Welfare which can provide the coordination and focus necessary in order to achieve satisfactory results.

You may be wondering why the States cannot plan and implement their own air pollution control programs and why the Federal Government should become any further involved. First, let me say that in New York we have taken action leading to the abatement of air pollution from industrial sources and are operating monitoring stations and supporting research programs on the effects of air pollution and methods of pollution control. New York, along with New Jersey and Connecticut, is a member of the interstate sanitary commission which is also actively working for a solution to this problem.

We know there are other States such as California where an intensive effort is also being made in this area. However, a recent study by the Department of Health, Education, and Welfare reveals that only about half of our cities with populations over 50,000 have air pollution control programs, and many of those are seriously understaffed. Budgets are often too restricted to permit the development of adequate programs. In fact, only nine States are now spending more than $25,000 annually to combat this problem, and half of our States are spending less than $5,000 per year for air-pollution control.

However, even if all the States had the funds and facilities to monitor air-pollution levels, to enforce control measures, and to carry on urgently needed research, I do not believe it would be the most economical and efficient way in which to attack the problem. The Bureau of Environmental Health of the Public Health Service, on the other hand, is admirably equipped for the job with its research facilities at the Sanitary Engineering Center in Cincinnati, Ohio, and its many monitoring stations as well as its highly qualified staff. I am not advocating usurpation of the States rights nor the shouldering of their responsibilities, but I believe, however, that this is an instance in which the Federal Government can be of great help to the States and can provide the incentive and the assistance needed if we are to see any progress in this area.

One other point that should be made in the case for a strong Federal program of air-pollution control is that air pollution is no respecter of county or State boundaries. Countless incidents reveal that contaminants from one State may damage crops or cause illness in a neighboring State. The problem is really national in scope and requires a national effort if we are to deal with it successfully.

I believe a problem of such magnitude merits the expenditure of Federal funds. At the present time we are only spending 10 cents per capita annually from all sources in combating a situation which costs us approximately $65 per captia per year in economic losses plus incalculable losses from chronic respiratory illnesses and premature

deaths. My bill H.R. 4750, and yours, Mr. Chairman, would call for an additional sum of only 3 cents per capita annually for the next 5 years. I believe this is not an excessive amount for such an urgently needed program. Furthermore, these bills offer the advantage that after 5 years we would have the opportunity to review the progress that has been made under the program and to evaluate further needs.

I believe that is is imperative that we enact a Federal program this year to supplement the State and regional efforts already being made and to provide an incentive to those States which as yet have taken no action or only limited steps in this extremely important matter. Much legislation has been proposed in recent Congresses on the subject of air-pollution control, and it is heartening to me to note that two members of this committee, Chairman Roberts and Congressman Schenck, have been successful in advocating measures to extend the Air Pollution Control Act and to investigate the extent and effects of pollutants from motor-vehicle exhaust. I was privileged, even though I am not a member of the committee, to have cosponsored the legislation for this extension. Congressman Rodino has also been interested in this problem for some years and was instrumental in the adoption of a tri-state agreement by Connecticut, New York, and New Jersey to authorize the interstate sanitary commission to study means of air-pollution control and to establish air-quality standards and regulations. I trust I need not add that I, too, have long been deeply concerned about this menace and have previously introduced legislation providing for the abatement and control of air pollution.

We, then, have all recognized the dangers of air pollution. But in the past there seems to have been little public concern in this area, and Congress itself has failed to appreciate the gravity of the problem. I have noted in the past year, however, an upsurge of interest by the press and lately a marked increase in constituent mail on this subject. I hope, therefore, that this Congress will be aware of the urgency of the situation and will enact the necessary legislation at an early date. We cannot expect the contaminants in the air to disappear of their own accord; in fact, without some action on our part, they will continue to increase, becoming an ever-greater threat to our health and prosperity. However, we have it in our power to do something about this problem; your favorable action on H.R. 4415 and H.R. 4750 would be an important step in that direction.

Mr. ROBERTS. Thank you, Mr. Halpern, for your statement. It's nice to have you with us once again.

For our next witness, we have another gentleman from New York, the Honorable Leonard Farbstein.

STATEMENT OF HON. LEONARD FARBSTEIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. FARBSTEIN. Thank you for the opportunity to present my statement, Mr. Chairman.

Over the years Federal and State Governments have instituted programs to insure the conservation of our soil, our timberlands, and our wildlife when they where being wasted by erosion, greed, or wanton destruction. Now another of our important natural resources—the air we breathe—is being threatened, and once again it is necessary to take

action to protect a vital resource for our own welfare and that of the generations to come.

Air pollution in this country is becoming an increasingly severe problem and one which we cannot expect to disappear of its own volition. The pollutants come from many sources—from the furnaces which heat our homes, offices, and public buildings; from the burning of domestic and industrial wastes; from the exhaust of the 74 million vehicles on our highways; from the thousands of industrial processes which release chemical vapors; and, finally, from the combustion of fuels for the generation of power. The pollutants in the air over some of our cities are actually of such a density that they form a dark cloud which settles over the area for days at a time, casting a gloomy, gray pall over the entire scene. Moreover, such pollution contributes not only to dismal days with low visibility in our cities but also to extensive economic loss for the Nation and to impaired health and vitality for many of our citizens. I believe these are two very important reasons why we must immediately enact air-pollution-control measures, and they are matters which I would like to discuss more fully with you for the next few minutes.

In his recent health message, the President, while urging the adoption of control legislation, pointed out that economic losses from air pollution amount to as much as $11 billion every year in this country. In more than 6,000 communities smoke, soot, and fumes corrode and soil buildings, resulting in depressed property values. The durability of materials exposed to the atmosphere tends to be shortened by the constant action of acidic pollutants. Oxidation also takes place due to the presence of ozone in the air, manifesting itself in the cracking of rubber and other materials. Furthermore, surfaces suffer abrasions from windborne particles and are spotted by carbon, oil droplets, and fly ash.

In addition to damage to buildings, air pollution soils clothing and other personal property, thus necessitating constant and costly cleaning and laundering. Moreover, the marketability of merchandise is often adversely affected by air pollution.

While air pollution is principally an urban problem, agricultural regions are also affected. In fact, air pollution costs us approximately $500 million annually in damaged crops and reduced meat and milk production. Contaminants in the air are capable of stunting the growth of plants, spotting and pitting the leaves, and causing discoloration or even defoliation. Air pollution has been proved responsible for damage to leafy crops in California such as beets, spinach, oats, endive, romaine, and sugarbeets and under controlled test conditions has been shown capable of reducing such crops by at least 60 percent.

Now having considered the economic results of air pollution, let us look at its effects on human health. We have all heard of the great smogs of London, of Donora, Pa., and of the Meuse Valley in Belgium which left sickness and death in their wakes. What we may not be aware of, however, is that constant exposure to lower concentrations of pollution may be just as deadly, although in a less dramatic fashion. In our large cities today physiological reactions to air pollution often include eye irritation, headaches, and respiratory tract disorders. After months and years of exposure, however, much more serious damage may occur.

For example, air pollution has been linked to emphysema, a disease in which there is a breakdown of the lung tissue capable of carrying out oxygen transfer. As a result, the slightest exertion leaves the victim gasping for breath. Other incapacitating disorders of similar nature are asthma and chronic bronchitis, both of which are aggravated by pollutants in the air but which can be relieved by placing the patients in an environment where irritants can be filtered from the air.

In addition to the discomfort resulting from chronic respiratory conditions, the loss of breathing function places a strain on the heart. Although it is admitted that there are many contributing factors in the cause and progress of heart disease, air pollution is nevertheless a significant factor.

Studies are now in progress to establish the relationship between air pollution and cancer of the lungs, stomach, and esophagus. It has been suspected for a long time that such a relationship exists since there is a much greater incidence of lung cancer in urban areas where the level of pollution is higher than in rural sections. Now the link has been fairly well established with the discovery that a number of contaminants from the air will actually produce cancer in laboratory animals.

Another health aspect of the air pollution problem which has not received enough attention is the fact that due to the wonder drugs used in the treatment of bacterial pneumonia we have a large number of people alive today who have survived the initial illness but who are now particularly susceptible to respiratory complaints. In the Donora, Pa., disaster of 1948 more than 60 percent of the population aged 65 or older became ill as a result of the heavy smog. Twenty people died, nearly all of them having a previous history of bronchopulmonary disease. But the effects of the smog were still felt years after it had abated. Those who became ill during the smog but recovered had an unusually high rate of mortality and incidence of disease during later years. Furthermore, even the individuals who had no history of heart disease prior to 1948 had a higher incidence of illness after the 3-day exposure to the thick, sulfurous smog.

As you can see from this brief consideration of the economic losses resulting from air pollution as well as the health menace which it constitutes, the problem is a serious one. And it promises to become even more severe unless we adopt legislation to control the pollution. Our population is growing rapidly; in fact, we can expect a 45-percent increase in the next 20 years. Our metropolitan areas are also increasing in number and size. These two facts alone indicate that the air pollution problem will become increasingly grave as more and more people become concentrated in relatively small areas, requiring more homes to be heated, more cars to be driven, more waste to be burned, and more power to be generated. If we take only one of these potential sources of air pollution—motor vehicles—and look at the predictions for the next 20 years, we should be appalled at the prospect.

By 1980 there will be 50 million more cars on the road than today; these cars will travel 500 billion more road miles annually than are currently recorded; finally, nearly 61 percent of all fuel consumption (as compared to 47.6 percent in 1960) will take place in urban areas with the result that much larger quantities of combustion products will

be discharged into the air than at present. Obviously, without some remedial action on our part the situation will truly become intolerable.

President Kennedy has stated that it is—

> imperative that greater emphasis be given to the control of air pollution by communities, States, and the Federal Government.

We are here to consider legislation that would provide this necessary emphasis, and I feel it is most important that we delay no longer in an effort to find a way to solve this problem. We must adopt measures to control the pollution of our air—one of our vital resources.

Mr. ROBERTS. Thank you for your statement, Mr. Farbstein.

Our next witness is Mr. William Phillips, chairman of the National Air Pollution Committee, National Association of Counties, Washington, D.C.

Mr. Phillips, it is a pleasure to have you. You may proceed with your statement. I believe copies have been furnished to the subcommittee members.

Mr. BROTZMAN. Mr. Chairman, could I briefly make one statement for the record? I had a call late last night from one of our colleagues, Congressman Utt, of California, who asked me in his behalf to welcome Mr. Phillips to the subcommittee and to state that but for the unfortunate fact of our colleague, Mr. Doyle's death, which necessitated his going to California, he would have extended these regards to him in person.

Mr. PHILLIPS. Thank you very kindly, Congressman.

Mr. ROBERTS. Thank you, gentlemen.

You may proceed with your statement.

STATEMENT OF WILLIAM PHILLIPS, CHAIRMAN, THE NATIONAL AIR POLLUTION COMMITTEE OF THE NATIONAL ASSOCIATION OF COUNTIES, WASHINGTON, D.C.; ACCOMPANIED BY C. D. WARD

Mr. PHILLIPS. Mr. Chairman and members of the subcommittee, my name is William Phillips.

I have with me Mr. C. D. Ward.

I am a member of the Board of Supervisors of Orange County, Calif. I am a director of the Air Pollution Committee of the National Association of Counties. I am a director of the County Supervisors Association of California, and a member since 1957 of their Air Pollution Committee; and was chairman of the Air Pollution Committee for CSAC for 3 years. During this period our group was instrumental in the development of and successful passage of the California motor vehicle pollution laws. I am a member of the Southern California Air Pollution Coordinating Council; was chairman for 2 years of that group, and vice chairman for 3 years. During last year, 1962, I was appointed to the Surgeon General's ad hoc steering committee for the second National Air Pollution Conference held in December 1962. I also was appointed by Governor Brown to the Advisory Council on Atomic Energy Development and Radiation Protection for the State of California.

The National Association of Counties is representative of the thinking of the local areas of government for this Nation. We have proven this by our cooperation with all individuals and other governmental agencies throughout this Nation to accelerate and foster the research

and development of carefully planned, effective, and progressive action to harness and destroy this odious menace that is so costly and injurious. We will continue with all our might and effort to this long-desired accomplishment. We recognize that all levels of government have their part to play— that city, county, regional, State, interstate, and Federal organizations must be given the laws for enforcement of controls, budgets which will provide for research, development and training; and most of all that all agencies work together as a team.

We have carefully studied the bills presented before the House— H.R. 3507, H.R. 4061, and H.R. 4415. We most enthusiastically endorse these bills with some modifications and additions. The National Association of Counties has adopted in official session "The American County Platform," sections of which I would like to quote to emphasize our support.

SECTION 9. AIR POLLUTION

9.1. BASIC RESPONSIBILITY FOR CONTROL IN LOCAL GOVERNMENTS. The basic responsibility for formulating and carrying out air pollution abatement programs rests with the local governments. The abatement authority should be extended to State, interstate, or Federal jurisdiction, as appropriate, when the problem extends beyond local boundaries.

9.2. NATIONAL PROBLEM. Federal role in research air pollution is a national problem both in urban areas and agricultural areas.

The economic damage from air pollution, its threat of health impairment of our population, the rapid growth of the population and of the national economy with the attendant increases in the quantities of air pollution from all sources indicate the need for intensified action at National, State, and local levels.

On the Federal level, NACO recommends the broadening and strengthening of the existing air pollution program to provide:

A. Establishment of a permanent Federal air pollution research and assistance program, without legislative limitations on annual appropriations or program duration.

B. Expansion of the Federal research program related to the causes, effects, and control of air pollution.

C. Federal technical and financial assistance to States and localities in the development and administration of regulatory control of air pollution. Such Federal assistance is urgently needed to stimulate and aid in the conduct of more effective regulatory programs for air pollution control.

D. Guidance to all Federal agencies by definition of policies and standards to be observed in the construction and operation of facilities and equipment, operated or controlled by Federal jurisdiction, to the end that exemplary air pollution control practices are followed.

9.4 INTERGOVERNMENTAL COOPERATION. NACO believes that the solution of the national air pollution will depend upon, and we encourage, effective intergovernmental relationships between the agencies of the Federal, State, and local governments and the coordination of research, development, and control activities being conducted by private research or academic institutions.

The National Association of Counties pointed out in previous years that pollution emissions from motor vehicles are a significant national problem. We recommended nationwide installation, at the factory, of adequate blowby devices as required by California. The automobile industry is installing on 1963 automobiles the blowby device. However, many millions of older vehicles are operating on the highways of this country without any controls of this type. The motor vehicle pollution emissions will continue to be a major factor in the overall air pollution problem for years to come, until further research and development and possibly legislation will reduce these levels to a safe point.

NACO would like to emphasize one extremely important section of our economy that is being hard hit by air pollution—agriculture.

Many areas of these United States have been increasingly hard hit by the effects of pollutants. Some areas find it difficult to raise leafy vegetables. The research and monitoring developments in the last few years have clearly indicated the loss of hundreds of millions of dollars per year to the farmers of this country. And in many areas the year by year accumulation of particulate fallout and exposure to harmul elements will not be wholly realized until the trees and vegetation have wasted away. We feel that additional emphasis on the agricultural problem is clearly indicated and must be accelerated.

We would urge that section 5 of H.R. 3507 referring to Air Pollution Advisory Board be made part of any bill enacted by Congress. The Advisory Board as set forth in H.R. 3507 would have a very desirable effect upon the unity of thinking of industry, business, the public, and many areas affected and concerned with the problems inherent in the control of air pollutants.

We would also urge that the section 8 of H.R. 4415 be included in the considerations of any bill enacted by Congress. This will provide for a better dissemination of information for the public benefit.

NACO in its county platform stated clearly a major concern that requires consideration from this committee.

> Section 9–7 Tax Encouragements.—NACO urges Congress to recognize the benefits resulting to public health and welfare from costly and nonproductive industrial air pollution treatment works by permitting such works to be amortized at an accelerated rate for income tax purposes. Furthermore, we urge that State and counties take appropriate action to allow the exclusion of air pollution treatment works when assessing industrial plants for tax purposes.

That last statement is a quote from our "American County Platform."

It is felt by NACO that industry and business would, by installation of control equipment, be contributing to the public health and benefit and would be more equitably treated if the inclusion of the fast tax writeoff were made possible. Certainly, controls would not be resisted at tenactiously if industry would feel it was getting fair treatment.

We, NACO, would strongly urge that Congress adopt, "The Clean Air Act of 1963" and would consider that successful passage would be of tremendous benefit to the entire Nation. The estimates of losses due to air pollutants across this Nation range between $7 and $11 billion a year—in other words—a cost per person of somewhere near $60 to $65 per capita per year, and our total outlay to fight this problem is less than 10 cents per person.

Gentlemen, we commend you for your interest and perseverance in the solution of the air pollution problem, and pray that success will reward your endeavors. Successful passage by Congress of the "Clean Air Act of 1963" will redound to the greater glory of this Nation for generations to come.

Mr. ROBERTS. Thank you very much, Mr. Phillips. Coming from an area which has faced up to this problem and is in a position of authority in connection with that effort, your endorsement of this legislation is to have a great deal of weight.

Yesterday, I don't know if you were here at that time or not, we had some objection on the part of the Honorable David Buckson, I believe, who represented the Attorneys General National Association, with the thought that the bill which I introduced, H.R. 4415, permitted local units to bypass the air pollution control agency of the State,

or the State department of health as he so designated, by the Governor or the legislature in certain areas, and I was of the opinion at that time that that was true in the case of abatement. However, I think you will agree that that is only true in the case of initiating research and surveys. In other words, the county can't come through the secretary to ask that research be done, but when we get into the business of evading it at a State level, I think you have to follow the chain of command, and it cannot be done without the consent of the Governor or the agency that is designated in that State to handle this particular problem.

Mr. PHILLIPS. I would most heartily agree with your comment, Mr. Chairman. I do feel that this is adequate, and we are satisfied with the problems as they face us. Obviously from a national standpoint and the interstate problem that faces this Nation, the interstate problems were where certain areas are not as, shall we say, careful as they could be or are more concerned about the condition of industry to locate in a certain area and are so concerned about the procurement of this industry that well, they do not provide adequate controls. I would think this would be a very proper approach and something that we do need.

I think our NACO platform was designed with this idea in mind, that it would provide the actual approach through channels as you just stated and as the bill states.

Mr. ROBERTS. Do you think that the bill H.R. 4415 has the proper respect for jurisdiction of cities and counties and States?

Mr. PHILLIPS. Yes, I feel it does, very definitely.

Mr. ROBERTS. Do you believe that the Federal Government has a proper role in the problem of air pollution?

Mr. PHILLIPS. Yes, I would say that this has been the attitude of the committee all the way through the years that I have served on this air pollution committee; that we feel certain, as we stated in our platform very clearly, that although we obviously do believe in the concept of basic responsibility from control in local government that we state in there, as in my testimony, that the abatement authority should be extended to interstate or as appropriate where the problem extends beyond the local boundaries.

Then it goes on, as I stated in my prepared statement, to the county or multicounty and the national problem. I think that the bill does an excellent job of laying out the problem and coping with what we need in this Nation right now. We cannot delay any longer.

Mr. ROBERTS. How long has this been the position of the county organization?

Mr. PHILLIPS. This is my third year as chairman. For at least 4 or 5 years.

Mr. ROBERTS. And this matter has been regularly on the agenda of your national meetings?

Mr. PHILLIPS. Yes, sir.

Mr. ROBERTS. How many counties in your organization are participating members?

Mr. PHILLIPS. Forty-four States are represented.

Mr. ROBERTS. Forty-four States of the Union.

That is all I have.

The gentleman from Minnesota.

Mr. NELSEN. No questions.

Mr. ROBERTS. The gentleman from Pennsylvania.

Mr. RHODES. Mr. Phillips, when was the law passed in California?

Mr. PHILLIPS. In 1961 I believe it was. No, it would be in 1959. I do have a report here of the motor vehicle pollution control board which is the new report just out if you would like to have it for part of the testimony.

Mr. ROBERTS. Without objection we would like for you to present that for incorporation in the record at this time.

I would like to see it myself.

(The report referred to follows:)

REPORT TO GOVERNOR EDMUND G. BROWN AND THE STATE LEGISLATURE BY STATE OF CALIFORNIA MOTOR VEHICLE POLLUTION CONTROL BOARD, JANUARY 1963

MOTOR VEHICLE POLLUTION CONTROL BOARD,
January 7, 1963.

Hon. EDMUND G. BROWN,
Governor of California.

Hon. HUGH M. BURNS,
President Pro Tempore and Members, California State Senate.

Hon. JESSE M. UNRUH,
Speaker and Members, California State Assembly,
Sacramento, Calif.

GENTLEMEN: A report submitted by Surgeon General Luther L. Terry at the National Conference on Air Pollution in Washington, D.C., December 10 indicated that air pollution "may be costing the Nation more than $7 billion each year." At the same time, the report went on to commend California for its program to reduce motor-vehicle-created pollution.

The California Motor Vehicle Pollution Control Board is happy to be responsible for this pioneer program. The board has made steady and encouraging progress since its organization in July 1960. It wishes to acknowledge the dedication of individual members and the many private groups and individuals who have been associated with the board. They have given encouragement, sound advice, and much of their time to the mutual goal of returning clean air to California. We believe that with such leadership we have moved that goal closer.

In accordance with the directive contained in chapter 3, section 24386.5 of the health and safety code, submitted herewith is the second report of the motor vehicle pollution control board. This report covers the activities, problems, and accomplishments of the board during the period from January 1, 1961, to January 1, 1963.

Respectfully submitted.

Dr. J. B. ASKEW, *Chairman.*

REPORT TO THE GOVERNOR AND STATE LEGISLATURE, JANUARY 1963

I. INTRODUCTION—HISTORY AND BACKGROUND

California has been a leader in conservation legislation.

The State legislature has successfully enacted laws to save our water supply through constructive means instead of letting it drain into the sea or overrun the land. We have sought to protect our forests from natural dangers and human carelessness. We have sought to expand our State beach and park systems and preserve the beauty of the State.

This has all been part of a conscious effort to meet the burgeoning needs of California, the most populous State in the Nation. Therefore, it is no coincidence that California also is taking positive steps in preserving another vital natural resource—the air we breathe.

As President Kennedy said in his health message to the Congress, February 27, 1962, "Fresh air cannot be piped into the cities nor can it be stored for future use. Our only protection is to prevent pollution."

In 1947 and 1955, California passed legislation enabling counties and areas to set up air-pollution-control districts through which these districts would be able to regulate industrial, commercial, municipal, and individual sources of air pollution.

Thus far 7 air-pollution-control districts covering 12 counties have been established in the most populated areas, covering more than 80 percent of the State's population (Los Angeles, San Francisco Bay area, San Diego, Riverside, Orange, Sacramento, and San Bernardino).

In December 1959, California took further steps, at the direction of the legislature, in its struggle against air pollution when the State board of public health adopted the first scientific standards for the quality of air in this State. These indicated the levels at which effects are expected to occur from certain important contaminants found in the outdoor air.

As a first step toward reaching these standards, the board of public health also adopted standards setting limits to the amount of hydrocarbons and carbon monoxide which could be put into the air by motor vehicles. This was the first such action taken nationally or worldwide.

These standards were based on the realization that motor vehicles, which could not be controlled on any local basis, were major contributors to air pollution in California and that controls of stationary sources alone were not sufficient to maintain satisfactory air quality in the larger population centers of the State.

In 1960, at a special session of the State legislature called by Governor Brown to consider the State's air pollution problem, California lawmakers created the State motor vehicle pollution control board and gave it the responsibility for bringing under control pollutants emitted from motor vehicles.

The law was specific in that certain steps were to be followed. The motor vehicle control board was to test and certify motor vehicle emission control devices.

With the creation and implementation of the motor vehicle pollution control board, the State of California became an active partner with local governments as a control agency endeavoring to bring clean air back to California.

II. RESPONSIBILITIES AND POLICIES

The motor vehicle pollution control board is charged with the following responsibilities:

1. Determine and publish the criteria for approval of motor vehicle pollution control devices.
2. Issue certificates of approval for control devices that meet these criteria and State emission standards.
3. Specify the manner in which control devices shall be submitted for testing and certification.
4. Determine and describe test procedures to be used to ascertain compliance of control devises with State standards and criteria.
5. Designate and authorize laboratories qualified to conduct testing for the State.
6. Contract with laboratories within and outside of California capable of testing vehicles and control devices.
7. Exempt vehicles specifically stipulated in the legislation, those for which there are no devices, and those that meet requirements without devices.
8. Employ necessary staff for the performance of duties and responsibilities.
9. Adopt rules and regulations necessary for the execution of responsibilities imposed by the legislation, and.
10. Recommend legislation and actions required to implement and enforce the program.

From the outset it was recognized that the development of control devices was the task of private industrial enterprise, working in the expectation of profit from the sales to a large "captive" market. This potential market has been an effective incentive for the investment of millions of dollars in recent years for research and development programs by leading American chemical and manufacturing firms. A number of European firms are also working toward solutions to the motor vehicle emission problem.

The basic task of the board has been to develop and adopt the rules and specifications by which control devices are to be judged and to carry out the final testing of the products. Following approval, a continuing responsibility for surveillance and enforcement is shared by the board and other State agencies.

The stakes are high; decisions already made by the board will require California motorists to purchase $50 to $150 million worth of control equipment within

the next 3 years for crankcase emission reduction alone. Approval of exhaust control systems can extend this to additional hundreds of millions of dollars in the next few years.

It has been board policy to use advisory groups on important problems. These advisory groups include representatives from the automobile, auto parts, petroleum, and trucking industries, chambers of commerce, law enforcement, and others concerned with the program. The board also maintains excellent working relationships with automobile manufacturers, metal, chemical, and accessory companies throughout the world.

Through its members, staff, advisory committees and contracts, the board has utilized knowledge and know-how available in other State and Federal agencies, including the department of motor vehicles, California Highway Patrol, Department of Agriculture, Department of Public Health, U.S. Public Health Service, University of California, and the county of Los Angeles.

The board has obtained laboratory services by contract with existing public and private laboratories. A basic test facility has been operated through contract with the Los Angeles County Air Pollution Control District. It was in this laboratory that the current testing procedures were developed. More than 100 vehicles equipped with exhaust control devices are now being periodically tested during 12,000 miles of service.

The administration budget proposes that, as of July 1, 1963, the State department of public health and the motor vehicle pollution control board acquire the testing laboratory now operated by the Los Angeles County Air Pollution Control District under contract with the State. This will involve the orderly transfer of existing facilities from Los Angeles County to the State.

During the past 2 years many testing problems have been recognized and projects have been initiated toward their solution. A number of these problems have been studied under contracts with qualified private laboratories.

Examples are preliminary studies of the average and range of California vehicle emissions for choosing representative test fleets; driver and route variables as they affect emissions; instrument calibration techniques, and a project to develop valid methods of accelerated mileage accumulation to reduce the time required for service life testing of devices.

The board will need to continue to contract for the facilities of private laboratories in order that the board's program be executed as rapidly as possible. The board needs the best knowledge obtainable to balance cost to the motorist against the reduction in pollution.

The board has attempted at all times to provide a stable climate for device manufacturers through setting of criteria and testing procedures so that they have a uniform road to follow in researching and developing devices.

The board has been gratified and encouraged by the scale of the research and development efforts engendered by its programs. It wishes to commend these firms for their thoroughgoing efforts to develop satisfactory means of controlling emissions.

It is now becoming evident, however, that the board, taking into consideration what it is now learning about what can and cannot be done with devices, needs to develop both long- and short-range smog control programs.

It needs to devote efforts toward initiating and/or participating in the development of new standards, new procedures for testing and evaluation, and new measuring methods and systems which take greater account of the exhaust gas components actually causing smog. (See appendixes.)

III. PROGRESS

The board's program for vehicle emission control has been advancing on two fronts, relating to two distinct sources of vehicular contaminants. Progress toward control of one of these sources, crankcase losses, has reached the action stage.

The other source—exhaust loss—presents more difficulties and is still in the testing and developmental stage. Because of the very different nature of the two sources, the programs are discussed separately:

A. Crankcase controls

As of December 18, 1962, 16 crankcase control devices for new cars and 2 devices for used cars have been certified by the Board. (See appendixes.)

Recent research, not completely available at the time the original law was passed relating to motor vehicle emission control, points up that a large part

(approximately 30 percent) of the hydrocarbon loss from motor vehicles comes from the crankcase.

The board's program will require the installation of these certified crankcase devices on about 90 percent of California vehicles in urban areas by the end of 1965. This will eliminate at least 500 tons a day of smog-producing hydrocarbons from the air over the Los Angeles basin alone. This emphasizes the need for complete implementation of the board's program for installing crankcase controls.

Controls for the crankcase which will almost completely eliminate any hydrocarbon loss from this source are currently available. Since 1961, when crankcase controls were first placed on California cars, about 18 percent of the State's vehicle population has been equipped at the factory.

New 1963 models upon which these controls are now installed nationally have better systems than were utilized 2 years previously. Current developments by the automobile industry and by private manufacturers point up even further improvement in 1964 and subsequent years.

The board in its action in approving crankcase devices endeavored to protect the public from unpleasant side effects, such as carburetion upsets, crankcase explosions, oil pullover, increased engine wear, undue cost, and unpleasant odors.

The board has had to make a distinction in its methods of testing and approving devices for those that were to be installed at the automobile factory and those that were to be sold for used cars on the open market.

Since these devices are tied directly to engine operation, the automobile manufacturers were given a great deal of responsibility in determining their compatibility with their own individual make and model of motor vehicle.

On used cars the board has had to take a much greater responsibility for testing to insure that the public is protected.

In this particular type of control, the board established test procedures requiring the individual manufacturers to do practically all of the device testing. The State of California does some testing of prototypes to help verify the test results obtained from the manufacturer but, in general, the expense of the testing has been borne by private companies. Representatives of the board's engineering staff visit the laboratories of these companies to check test methods and assess their accuracy.

A technical advisory group on crankcase devices evaluates each of these control methods and makes recommendations to the board. This technical advisory group consists of engineers and other technical personnel from public institutions, universities, and elements of private industry which do not have a proprietary interest in approval of specific devices.

The motor vehicle pollution control board has established a limited program of continual surveillance to check crankcase devices after they have been installed on cars.

Maintenance practices and quality control have been checked and cooperation has been solicited from various organizations in the automotive service field to see whether the devices continue to function in the proper manner.

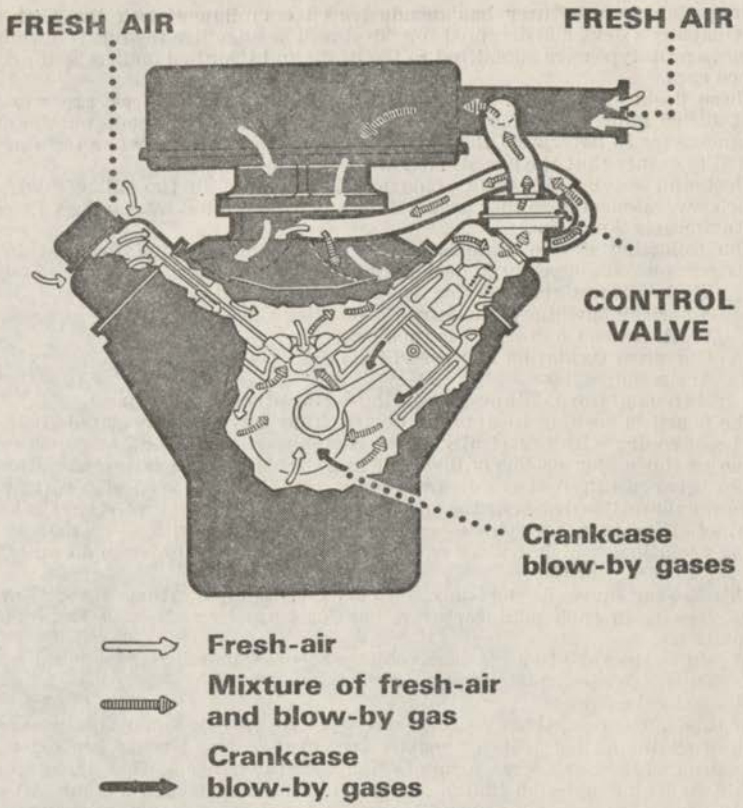
Most devices require regular maintenance. For this reason an enforcement program may need to include an annual check by an authorized, qualified establishment.

B. Exhaust controls

Present data indicates that the major portion (approximately 65 percent) of the hydrocarbon emissions and more than 90 percent of the carbon monoxide in most California metropolitan areas come from the tailpipes of motor vehicles.

At present, devices to control this source of pollution are in the prototype testing state. Fleet and service life testing now being conducted by the board has indicated that many mechanical defects are apparent in these prototypes. Additional developmental work must be done before these are ready for mass production and installation.

When the motor vehicle pollution control board was established, there was no prescribed method to test control systems. One of the board's main achievements has been in developing a test procedure which is now being used universally. The board also has established criteria relating to cost, durability, safety, odor, noise, and other important factors which acceptable devices must meet. (See appendixes.)



Typical installation of crankcase ventilation system is shown as it appears on a V-8 engine. Blowby gases and other crankcase vapors, which would otherwise enter the atmosphere from the crankcase vent pipe, are recirculated to the combustion chamber by this system. It is one of two approved for used cars.

Basically, the test procedures involve the simulating of road driving conditions by placing a car on a chassis dynamometer and running it through starts, accelerations, decelerations, idle, and cruise conditions.

The emissions from the tailpipe, under these conditions, are collected and analyzed to determine compliance with the motor vehicle emission standards set by the board of public health.

The procedure for obtaining approval of exhaust devices, as established by the board, includes submission of applications from manufacturers with test data to indicate the device has the capability of meeting State motor vehicle emission standards.

The next step is preliminary testing of these devices by the board to verify the findings which the manufacturer originally submitted. The individual private manufacturer must then run three devices on three cars with varying emission levels for 12,000 miles, and meet State standards at the conclusion of this test.

Once the manufacturer has demonstrated compliance with the first phase, the company's device is accepted for "fleet and service life testing." Twenty-five or more prototypes are submitted to the State and installed on fleet and privately owned cars.

These fleets of vehicles, equipped with prototypes of devices, are run for at least 12,000 miles in ordinary driving. Regular tests are made on the chassis dynamometer to determine the performance of the device. Other tests are conducted to ensure that the board criteria are met.

Fleet and service life tests of devices commenced in the fall of 1962. The vehicles were selected so that accumulation of 12,000 miles of driving will require approximately 9 months.

The following device manufacturers have been accepted for and in most cases are now participating in fleet and service life testing:

Walker Manufacturing Co., American Cyanamid Co.
American Machine & Foundry-Chromalloy Corp.
W. R. Grace Co.-Norris Thermador.
Universal Oxidation Processes, Inc.
Arvin Industries.
Maremont Corp.-Minnesota Mining & Manufacturing Corp.

The board is seeking to approve devices that have demonstrated their capabilities of coping with practically all the variables encountered in exhaust control.

One of the major problems involved in exhaust control is the variation that occurs between different cars. In order to establish the kind of a test fleet the State should utilize, the board measured exhaust emissions on 194 cars representing the California motor vehicle registration. A determination was thereby made of the variations which devices would have to control in order to do an effective job.

This 194-car survey is the basis, not only for the installation of the 25 or more prototypes from each manufacturer, but for adjusting the test results to the population.

Of course, the variation between vehicles becomes more extreme as the vehicles age. Thus a device which may be satisfactory when the car is new may be unworkable as the car ages.

In this connection, it may prove necessary to provide some (perhaps minor) form of engine adjustments or replacement of defective parts when exhaust devices are installed and some form of annual maintenance so that devices operate within workable emission limits. It is conceivable that such a combined attack would prove less expensive since less expensive devices would be required.

Aside from installation of devices on motor vehicles, some claims, based on limited data, indicate that compulsory smog control maintenance alone could reduce hydrocarbons and carbon monoxide from exhausts by approximately 50 percent. These studies are so limited that the validity of these claims are unconfirmed, and the cost of the maintenance program are as yet unknown.

In the interest of economical smog reduction, the board plans to explore this approach to the exhaust problem to find the cost of such maintenance, and just how effective it would be.

The major automobile companies and others are working on minor modifications of present engines to meet the State exhaust standards when new. Within the next few years this work may result in new cars that contribute less to smog.

It must be emphasized, however, that cars in their first year of operation contribute little to air pollution in any case. Thus, the long-run effectiveness of this approach depends on the economics of maintaining these cars in a substantially "new" condition. It is clear that little would be accomplished to reduce smog if the focus were merely on the first 12,000 miles of the vehicle's life.

The outlook for redesigned and improved engines completing combustion is promising over the long term. Indications are that the gas turbine has low smog potential. One auto manufacturer plans to market 75 of these during 1963.

However, no evidence from the automobile industry at this time indicates that radically new engines will be in mass production before a decade has passed. Minor improvements may be made on present deisgns, but is is a moot question whether these can eliminate the need for exhaust treatment devices.

IV. PROBLEM AREAS

At this point it might be well to relate some of the technical difficulties encountered by the board and the efforts that have gone into alleviating them. Little was known about the California car population, habits of drivers, trip conditions, and effective methods of emission measurement. Data on these items have been acquired as a basis for test procedures.

A. Crankcase devices

Although recirculation of crankcase fumes is not a new principle, its use for reduction of air pollution is new. Certain problems concerned with engine operation, oil carryover, crankcase explosion, and the possibility that the crankcase device might increase exhause emission had to be worked out satisfactorily before any devices could be approved.

One of the continuing problems facing the board is the need to establish an awareness for regular servicing of crankcase devices. With the cooperation of the Western Oil & Gas Association, the automobile clubs of California and others, the board has instituted a widespread information program to alert service station and garage operators to the necessity of servicing the crankcase device. Results still leave much to be desired.

There has also been the necessity for alerting foreign car manufacturers to California's regulations and progress in control. Many companies have responded quickly with either a crankcase device of their own or adaptation of an American-made device. Thus far, manufacturers from Britain, France, Germany, Japan, Sweden, Belgium, and Italy have visited the MVPCB offices to learn of regulations and criteria for devices.

B. Exhaust devices

Control of exhaust emissions presents one of the most difficult engineering challenges ever found in American car manufacture. Most of the manufacturers who have submitted applications to the board are approaching the problem with a catalytic device or direct-flame afterburner.

These devices reduce the concentration of pollutants in the exhaust by the addition of secondary combustion air and the attainment of sufficient temperature to complete the combustion of those products not burned completely in the engine.

Both types of devices require an auxiliary air pump or aspirator, adding to the cost and may pose installation space problems on the engine.

The devices do not warm up and become effective immediately, so that a percentage of the exhaust is discharged into the atmosphere untreated during a typical, urban 20-minute trip.

At the other end of the temperature scale, it is necessary to provide a "safety valve" of some sort to protect the device and the catalyst from destructively high temperatures which might be attained in severe mountain driving or with a car having unusually high emissions.

Lead compounds and other additives from the gasoline tend to deposit on catalysts and other active elements (spark plugs, etc.) and may decrease the device activity over extended mileages. This factor necessitated the board's adoption of a policy on the life for a device, and 12,000 miles was established as the minimum.

The devices are usually designed to replace the existing muffler. Space is at a premium on modern automobiles, and it has been difficult to combine the functions of a (relatively large) exhaust purifier and muffler in the available space.

It now appears that submissions of exhaust devices will, in general, go through several generations before they are finally installed on the bulk of the motor vehicles in California.

The effective service life of these devices is a crucial question. More effort should be devoted to determining how to arrive at a realistic evaluation of a particular model of an exhaust device. It is most desirable to be able to determine service lives of 1, 2, 3, or more years without having to wait for the applicant and then the State to accumulate such vehicle use in normal service.

C. Gasoline trucks and buses

Heavy trucks and buses (over 6,000 pounds gross weight) compromise 3.68 percent of the California vehicle population and contribute an estimated 10 percent of the total vehicle emissions. Therefore, a truck's emissions average about three times those of a passenger car.

The driving modes specified in the State exhaust standards are not applicable to heavy trucks and buses. Therefore, the board, in cooperation with the department of public health, has proposed to establish an appropriate exhaust-test procedure for these heavier vehicles. Studies will then be required to determine the range of truck emissions using this procedure.

D. Diesel trucks and buses

Although diesel-exhaust emissions are not an important constituent in the creation of photochemical smog as we know it in California, they are objectionable because of smoke and odor.

From a public relations standpoint it is evident that control of diesel smoke and odor is essential. The State department of public health is working on standards for diesel emissions. A report will be submitted to the State legislature on the subject this month.

E. Other pollutants

In recent months statements have been made that reduction of hydrocarbons by devices might lead to a corresponding increase in oxides of nitrogen in the atmosphere.

The State department of public health is studying this to see if there are enough data to set a standard for oxides of nitrogen. The State motor vehicle pollution control board is also planning to establish whether existing exhaust devices significantly increases oxides of nitrogen.

There is also some responsible opinion that substantial reduction in visibility, the most obvious manifestation of smog, may continue even after hydrocarbons are reduced.

Along with the many other facets of this complex problem, it is clear that there needs to be a continuing assessment of the California air-pollution problem and its potential solutions. Both long-range and interim approaches to standards, procedures, measurement methods, and to kinds of approvable devices, both in the interim and the future, need to be considered. Much basic data are still lacking. (See appendices.)

V. ENFORCEMENT AND COMPLIANCE

As the time approaches when most cars in California will be required to have crankcase and exhaust devices, the problem of compliance and enforcement of the law becomes of major concern.

Discussions with the highway patrol, department of motor vehicles, and the attorney general, have made it clear that new legislation must be adopted by the State legislature if the law on motor-vehicle pollution control is to be fully implemented.

In order to ease the burden of installation and maintenance it is suggested that the law be amended so that the installation of devices is spread over a year's period in an orderly, staggered plan.

The installation scheduling of these devices will become a problem. At present, the law reads that installation of the bulk of the devices shall be tied in with vehicle registration, falling on January 1 of each year.

If installations are required as of December 31 of a particular year, this inevitably would lead to a last-minute rush, putting heavy demands upon garages and service stations during a particular time, and possibly forcing prices upward.

Both crankcase- and exhaust-emission control devices will undoubtedly require annual maintenance. The board has seriously considered whether this should be on a mandatory basis. It is clear that when exhaust devices are approved it will be essential to require motorists to have them serviced and inspected once each year.

Crankcase control devices, which will be on the vast majority of California motor vehicles within 3 years, present an immediate problem in this regard. The board still has this matter under consideration. It will make a separate recommendation to the Governor and the legislature on the necessity of mandatory annual maintenance of crankcase control devices.

VI. PUBLIC REACTION

Motor vehicles remain the major uncontrolled pollution problem in many parts of California. The test of the entire State program will rest with the

public who must, in the long run, pay for installation and maintenance of smog control devices.

Two factors complicate the picture: Lack of public understanding that (1) control of at least two sources of emission will be required, and (2) installation of devices will take place over a 3- to 6-year period. No startling change will be evident in air quality overnight; the change will be gradual and transitional. In fact, there may be no noticeable improvement in some areas where growing stationary sources of air pollution are not controlled by local district action.

In the meantime, California's motor vehicle population is growing at the rate of 5 percent a year. At present, we have more than 9 million motor vehicles in the State, and by 1980 we will have approximately 18 million motor vehicles.

The public, for a long time, has looked for other scapegoats to blame in the smog problem, and it has turned its wrath both on private industry and public agencies.

Increased awareness is now required on the part of citizens to recognize that cars are polluting the air and that it will be necessary for motorists to install and maintain devices if a marked reduction in air pollution is to take place within a reasonable time.

VII. LEGISLATIVE RECOMMENDATIONS

The State motor vehicle pollution control program has reached a point where consideration must be given to clarifying the basic law in the light of expected practical findings made within the last 2 years and the impending need for compliance and enforcement.

The following recommendations for legislative change are the result of studies by the MVPCB's own committees, its technical advisory groups, outside agencies interested in the problem, law enforcement officials, and interested private citizens:

1. *Orderly installation timetable.*—A timetable for the installation and inspection of control devices should be set that would permit 10 percent of the vehicle population covered by the law to be serviced each month over a 10-month period.

2. *Separate certification years.*—Separate installation years for crankcase and exhaust devices should be permitted.

In order to expedite the installation of devices and achieve emission reduction as rapidly as possible, installation dates should correspond to approval of two or more devices for each major source of emission, without regard to a package arrangement for exhaust and crankcase systems. No separate authorization is included in the original law.

3. *Power to revoke.*—The board should be given the right to revoke approvals as well as grant them.

This would give the board control over those devices approved but which, at some later date, fail to meet State standards. It would provide additional protection for the ultimate consumer, the car owner.

4. *Broaden device definition.*—The wording of the law with regard to approval of devices should be enlarged to include certifying engine modifications, maintenance systems, or alternative methods which may have the capability of bringing motor vehicles within State standards.

At present, exemptions can be granted for such vehicles. However, exemption would remove these vehicles from any surveillance or other program and would permit changes or alterations of the system without safeguards to insure that the vehicles remain in compliance.

The enactment of the above-suggested legislation would strengthen the board's program and enable it to achieve the widest possible control for the largest number of vehicles. It is sincerely hoped that these recommendations will be given every consideration.

VIII. SUMMARY AND CONCLUSIONS

The achievements of the board during the past two and a half years can be listed as follows:

1. The setting up of test procedures and criteria for both exhaust and crankcase control devices.

2. The approval of 18 crankcase devices for new and used cars so that the mandatory phase of the law with regard to new cars will go into effect April 1963, and for used vehicles in January 1964.

3. The acceptance of six exhaust devices for fleet and life testing. More than 100 exhaust devices are presently being tested on California cars for over a million miles of driving.

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4. An improved knowledge of the present emissions from representative California vehicles, both as to crankcase and exhaust emissions, based on the test procedures adopted.

5. Arrangements by the State for laboratories and testing through approval of one public and two private laboratories as authorized facilities.

6. The development of an enforcement and compliance program. This calls for enabling legislation from the State legislature.

7. Establishment of a climate of cooperative effort with device manufacturers, the chemical firms and metal fabricators. It should be emphasized that economic solutions to the smog problem must come from industry efforts. In the board's program, no major step has been taken without the advice, opinions, and full cooperation of leading experts in the field.

8. The development of a public information program to make the motorist aware that his care is polluting the air, and to gain his support for the board's program of device installation and maintenance.

9. Encouragement of active cooperation and participation by the automobile industry. Manufacturers are now conducting their own tests (by the board's procedures) of exhaust devices undergoing fleet- and service-life testing by the State of California. They have spent millions of dollars in perfecting crankcase control devices and have voluntarily agreed to install crankcase control devices nationwide on all 1963 models.

This gives rise to the hope that exhaust devices will follow a similar pattern and become an integral part of new cars in California when the board certifies two or more for installation.

The motor vehicle pollution control board policy is to inspect and test devices as rapidly as it receives them. To protect the public it has carefully set operational standards for any exhaust device with regard to longevity, safety, effectiveness, operating conditions, and cost in order to protect the public to the fullest extent.

The board has stated it is not interested in getting any device on the market, but rather it is interested in getting those that will provide practical, effective control of vehicle emissions. No amount of legislation or "crash programs" by the board can put exhaust control devices on cars before satisfactory ones are developed.

The installation of controls on most vehicles in California will not entirely eliminate air pollution from the State. Local air pollution districts must continue to enforce reasonable controls on stationary sources.

However, even with both stationary and moving sources controlled it will not be economically or physically possible to obtain 100 percent clean air with the growth and industrial activity of our vast State.

Gov. Edmund G. Brown said in August 1962, at the dedication of the Los Angeles County Air Pollution Control District's research and testing facility, "The challenge is a stubborn one. There are no simple answers. Unlike the conservation of another of our natural resources—water—we cannot build an aqueduct that will carry fresh air from the High Sierras to our great urban areas. Instead, we must clean up the air we already have."

The board wishes to pay special acknowledgment to its technical advisory groups who have served long and faithfully whenever called upon, to county boards of supervisors, State legislators, and others who have lent their active support to our program, to the Los Angeles Chamber of Commerce, and other chambers of commerce throughout the State, to the Automobile Club of Southern California, and the California Automobile Association of California, the Automobile Manufacturer's Association, Western Oil & Gas Association, professional societies, and many public and private laboratories, who have been invaluable in providing needed research data, advice on motoring habits, and technical data.

California can justly be proud of the executive, legislative, and technical leadership it has shown in this field, the pioneering studies it has made, the regulations and resolutions that have put the program into action, and the results that have been achieved so far.

Worldwide attention has been, and is focused on California and will continue to be until the day that clean air returns to this State.

The board wishes to report to the Governor and the legislature that with the continued cooperation of the public, manufacturers, automobile industry, and its own staff, California can look ahead to a positive reduction in air pollution.

APPENDIXES

REPORT TO THE GOVERNOR AND STATE LEGISLATURE

TECHNICAL ADVISORY GROUP ON ENFORCEMENT AND COMPLIANCE

Chairman: Earl Campbell, California Traffic Safety Foundation.
Vice chairman: Harold Sullivan, Police Department, City of Los Angeles.
Alan G. Anderson, Private Truck Owners Bureau of California, 1625 Russ Building, San Francisco.
Charles J. Hunt, Automobile Club of Southern California, Terminal Annex, Box 2890, Los Angeles.
Howard Bush, Division of Retail Management, Shell Oil Co., 1008 West Sixth Street (Terminal Annex, Box 3397), Los Angeles.
Earl Campbell (chairman), California Traffic Safety Foundation, 660 Market Street, San Francisco.
Vern Cannon, California Teamsters' Legislative Council, Senator Hotel, Sacramento.
Richard Carpenter, League of California Cities, Claremont Hotel Building, Berkeley.
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Miss Pat Kanelos, Legislative Advocate, Independent Auto Dealers' Council of California, California Federation of Service Stations, 4826 J Parkway, Sacramento.
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Edwin Meese, III, Deputy District Attorney, County of Alameda—Court House, Oakland.
Kent Redwine, Los Angeles Motor Car Dealers Association, El Mirador Hotel, 13th and N Streets, Sacramento.
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Wade Sherrard, California Trucking Association, Inc., 3301 South Grand Avenue, Los Angeles.
Earl E. Sorenson, Division of Highways, 34th and Stockton Boulevard, Post Office Box 9067, Sacramento.
Capt. Palmer Stinson, Traffic Division, Oakland Police Department, Oakland.
Harold Sullivan, Deputy Chief, Los Angeles City Police Department, City Hall, Los Angeles.
Al Veglia, Department of Motor Vehicles, 2570 24th Street, Sacramento.

TECHNICAL ADVISORY GROUP FOR EXHAUST DEVICES

James R. Britt, Universal Oxidation Processes, Inc., 526 East 12th Street, Los Angeles.
J. M. Chandler, Ford Motor Co., Post Office Box 2053, Dearborn, Mich.
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J. P. Soltau, Joseph Lucas Limited, Great King Street, Birmingham, England.
Jac O. Ullman, Industrial Bio-Chemical Department, E. I. Du Pont de Nemours & Co., Wilmington, Del.
John D. Caplan, General Motors Research Laboratories, 12 Mile and Mound Roads, Warren, Mich.
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TECHNICAL ADVISORY GROUP FOR CRANKCASE DEVICES [1]

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J. A. Lucas, Lucas Transmission Co., 1623 Compton Boulevard, Los Angeles.
J. H. MacPherson, Supervisor, Engine & Fuels Section, California Research Corp., 576 Standard Avenue, Richmond.

[1] In addition to the three technical advisory groups named above a fourth one on public information is now being established. Temporary ad hoc technical advisory groups are also formed for specific problems for which specialized suggestions are required.

Dr. Ray W. Mattson, Senior Section Leader, Union Research Center, Union Oil Co., Post Office Box 76, Brea, Calif.
Dan Pastell, Technical Manager, Petrochemicals Division, E. I. Du Pont de Nemours & Co., 612 South Flower Street, Los Angeles.
Dr. L. M. Richards, Manager, Richfield Research Center, Richfield Oil Corp., Anaheim.
Ralph C. Stahman, Laboratory of Engineering & Physical Sciences Division of Air Pollution.
Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati, Ohio.

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June 11, 1961: The California Program for Motor Vehicle Created Air Pollution, by Diana Clarkson and Dr. John T. Middleton.
July 7, 1961: Report of Status of Certification of Crankcase Emission Control Devices, by J. R. Scanlin, special consultant.
August 10, 1961: A Study of Miles Driven by Passenger Cars in California, by Michal Zawadski, Ph. D., statistician, motor vehicle pollution control board.
August 11, 1961: Health Effects of Motor Vehicle Exhaust by John R. Goldsmith, M.D., head, medical research study unit, bureau of chronic diseases, State department of public health.
September 8, 1961: Report on AC Positive Crankcase Ventilation System, by D. A. Jensen, executive officer, MVPCB.
October 14, 1961: Report on AC Positive Crankcase Ventilation System in relation to Assembly Concurrent Resolution No. 74, 1961 California State Legislature.
November 8, 1961:
- Evaluation of County of Los Angeles' Application or Certification of a Crankcase Emission Control Device, by D. A. Jensen, executive officer, MVPCB.
- Report on Concept of "Undue Cost" of Devices, by D. A. Jensen, executive officer, MVPCB.

November 28, 1961: Crankcase Ventilation in English Automobiles, by J. R. Scanlin, special consultant.
January 29, 1962: A Report on Motor Vehicle Pollution Control, by Jack C. Spencer.
February 14, 1962:
- Effect of Crankcase Control Devices on Emissions from Motor Vehicle Exhaust, by G. C. Hass.
- Surveillance of Approved Crankcase Emission Control Devices, by J. R. Scanlin.
- Role of Trucks and Buses in the Motor Vehicle Pollution Problem, by Miles Brubacher.
- Preliminary Consideration of an Accelerated Conditional Alternate Fleet and Life Test Procedure for Exhaust Devices by M. Patrick Sweeney, Sc.D.
- Reports on Five Crankcase Emission Control Devices, by G. C. Hass, supervising engineer.
- An Estimate of Progress in Installation of Exhaust Devices in Los Angeles County, by Michal Zawadski, Ph. D., statistician, MVPCB.

June 19, 1962:
- Accelerated Testing of Exhaust Emission Control Devices, by D. A. Jensen, executive officer, MVPCB.
- Average California Motor Vehicles and Their Emissions, by G. C. Hass, supervising engineer.
- Control of Diesel Emissions, by Miles Brubacher, senior engineer.

July 11, 1962:
- Progress Report on Surveillance of Crankcase Emission Control Devices, by J. R. Scanlin, associate engineer.
- Comparison and Crankcase and Exhause Emissions From Motor Vehicles, by G. C. Hass, supervising engineer.
- Progress Report on Testing of Exhaust Emission Control Devices, by D. A. Jensen, executive officer.

September 19, 1962:

Progress Report on Air Pollution From Diesel-Powered Vehicles, by John A. Maga, chief bureau of air sanitation, department of public health.

Program for Development of Accelerated Controlled Testing of Exhaust Devices, by M. P. Sweeney, senior engineer.

Report on the Availability of Crankcase Devices for Used Cars, by G. C. Hass, supervising engineer.

Fleet and Life Testing Procedure, motor vehicle pollution control board.

November 14, 1962:

Chronological History of the California Motor Vehicle Pollution Control Board.

Surveillance Program, AC Positive Crankcase Ventilation System, by J. R. Scanlin and Michal Zawadski, Ph. D.

December 18, 1962:

Report and Supplemental Report on Walker "KY" Crankcase Ventilation System, by G. C. Hass.

Report on AC Closed-Positive Crankcase Ventilation System, by G. C. Hass, supervising engineer.

Costs and Marketing Factors for Crankcase Devices on Used Cars, by Miles C. Brubacher.

Crankcase devices approved for factory installation, Jan. 1, 1963

Name of applicant	Date certified	Approved for classes [1]
1. AC Spark Plug Division, General Motors Corp., Flint 2, Mich. (valve type).	Apr. 26, 1962	B, C, D, E, F.
2. Rochester Products Division, General Motors Corp., 1000 Lexington Ave., Rochester 3, N.Y.	do	B, C, D, E, F.
3. Carter Carburetor Division, ACF Industries, Inc., 2840 North Spring Ave., St. Louis 7, Mo.	do	B, C, D, E, F.
4. Walker Manufacturing Co., Jackson, Mich. ("K" system)	do	A, B, C, D, E, F.
5. Volkswagen of America, Inc., 2 Pine St., San Francisco 11, Calif.	do	G.
6. United Air Cleaner Division, Novo Industrial Corp., 9705 Cottage Grove Ave., Chicago, Ill.	June 27, 1962	B, C, D, E, F.
7. Ford Motor Co.,[2] Post Office Box 2053, Dearborn, Mich.	do	B, C.
8. American Motors Corp., 14250 Plymouth Rd., Detroit, 32, Mich. (valve type).	July 13, 1962	B, E.
9. Chrysler Corp., 341 Massachusetts Ave., Post Office Box 1919, Detroit 31, Mich.	do	B, C, E, F.
10. Rolls Royce Limited [2] (Motor Car Division), & Bentley Cars, Crewe, England.	Oct. 2, 1962	F.
11. American Motors Corp.[2] (Venturi), 1450 Plymouth Rd., Detroit 32, Mich.	do	B, C, D, E, F.
12. Act Spark Plug Division (dual action system), General Motors Corp., Flint 2, Mich.	do	B, C, D, E, F.
13. British Motor Corp., Longbridge, Birmingham, England	Nov. 14, 1962	B, C.
14. International Harvester Co., 2911 Meyer Rd., Fort Wayne, Ind. (Red Diamond series).	do	E, F.
15. Chevrolet Division, General Motors Corp., Detroit, Mich. (for Corvair Spyder (supercharged ventilation system).	Dec. 18, 1962	B.
16. Jaguar Cars, Ltd., Coventry, England	do	B, C.

[1] Class and engine size:
A—Less than 140 cubic inches.
B—140–200 cubic inches.
C—200–250 cubic inches.
D—250–300 cubic inches.
E—300–375 cubic inches.
F—Over 375 cubic inches.
G—Motor vehicles which because of unusual engine design require special control methods for crankcase emission regardless of engine displacement.

[2] Exempted under sec. 24386(5) of the California Health and Safety Code.

Crankcase devices approved for new and used motor vehicles

Name of applicant	Date certified	Approved for classes [1]
1. AC Spark Plug Division (closed-positive crankcase ventilation system), General Motors Corp., Flint 2, Mich.	Jan. 2, 1963	B, C, D, E, F,
2. Walker Manufacturing Corp. (KY crankcase ventilation system), Racine, Wis.	-----do-----	A, B, C, D, E, F, G.

[1] Class and engine size:
A—Less than 140 cubic inches
B—140-200 cubic inches
C—200-250 cubic inches
D—250-300 cubic inches
F—Over 375 cubic inches
G—Motor vehicles which because of unusual engine design require special control methods for crankcase emission regardless of engine displacement.

Status of applicants for exhaust control devices,[1] Jan. 1, 1963

Total applications received 33
Rejected after application evaluation 22

Name of applicant	Type of device	Present status
1. Universal Oxidation Processes, Inc., 526 East 12th St., Los Angeles 15, Calif.	Catalytic	Accepted for fleet and life testing.
2. Arvin Industries, Inc., 13th and Big Four, Columbus, Ind.	-----do-----	Do.
3. Wolverine Tube Division, Calumet & Hecla, Inc., 17200 Southfield Road, Allen Park, Mich.	-----do-----	Preliminary testing in progress.
4. Standard Products Co., 2130 West 110th St., Cleveland 2, Ohio.	Induction	Do.
5. Chromalloy Corp., American Machine & Foundry Co., Hawthorne, Calif.	Direct-flame	Accepted for fleet and life testing.
6. Oxy-Catalyst, Inc., 511 Old Lancaster Rd., Berwyn, Pa.	Catalytic	Application being held in abeyance.
7. W. R. Grace & Co., Norris-Thermador Corp., Los Angeles 58, Calif.	-----do-----	Accepted for fleet and life testing.
8. Walker Manufacturing Co., American Cyanamid Co., Jackson, Mich.	-----do-----	Do.
9. McAlester Aircraft Co., 16041 Ventura Blvd., Encino, Calif.	Direct-flame	Preliminary testing in progress.
10. Joseph Lucas, Ltd., Great King St., Birmingham 19, England.	-----do-----	Do.
11. Maremont Corp. and Minnesota Mining & Manufacturing Co., 168 North Michigan Ave., Chicago, Ill.	-----do-----	Accepted for fleet and life testing.

[1] Listed in chronological order, based on date MVPCE received application.

ADDITIONAL NEEDS FOR STATE MOTOR VEHICLE POLLUTION CONTROL PROGRAM

This is a summary statement of some of the additional future personnel and facility needs of the motor vehicle pollution control board and State department of public health.

In most cases their implementation would require increases in the current level of State expenditures for motor vehicle pollution control.

The following items are listed, not necessarily in their order of importance:

1. Surveillance of approved devices

An additional section of the engineering staff, perhaps 2 or 3 people, should have the responsibility of continuous surveillance, including field visits to service stations, spot sampling of devices, working with the department of motor vehicles, writing annual inspection procedures for each type of device, troubleshooting complaints, and making periodic detailed reports of device performance. These could lead to device improvement or to withdrawal of certification, if necessary. When exhaust devices are approved, this need will multiply. Forthcoming diesel standards may also create the need for surveillance of truck fleet maintenance operations.

2. Laboratory testing of crankcase control devices

The present policy of considerable dependence on applicant's data minimizes present expense to the board, but increases the risk of making mistakes on certification. Among other features, in effect, this policy presupposes a complete knowledge of all factors needing testing. Important or potentially hazardous

features have been discovered almost by accident by the board's testing. It would be prudent to extend the State's laboratory capability to do confirmatory testing, not only with respect to the standards but also with respect to the criteria. This would require perhaps 2 men and some equipment.

5. Data and research evaluation

The motor vehicle pollution control board staff is currently obtaining data from its contract laboratories at a rate considerably faster than its capacity to digest it. It would be of value to create an evaluation and planning section of the staff to analyze continuously fleet testing data, research project results, driver and route studies, design new critical experiments, and write reports and technical papers to provide guidance to device developers, the automobile industry, and the public at large. Two or three senior technical positions are contemplated. This need is shared by the department of public health.

4. Assigned inspectors to approved exhaust device manufacturers

As succeeding generations of devices are developed, it may be desirable to assign an engineer to work with each approved manufacturer to observe and participate in tests involving modifications and improvements. This could reduce the need for extensive and time-consuming confirmatory testing by the State's laboratories.

5. Mileage accumulator test facility

Hardware is available which would permit the continuous operation of up to eight device-equipped cars for the equivalent of 12,000 miles on a bank of tape-controlled chassis dynamometers. This is an expensive operation, but can be more economical than using paid drivers to accumulate mileage on an accelerated basis.

6. Basic data section

This section would be responsible for baseline emission studies, driver and route studies, continuous development of test procedures, including driving cycles and analytical methods. This section would be built around a test station similar to existing chassis dynamometer setup. Present baselines are woefully inadequate for certification by engine classes, as defined in the law. This is also a responsibility shared with the department of public health.

7. Refinement and extension of standards

The success of the board's program is inseparably dependent on the quality of the standards upon which it is judging devices. It is imperative that remaining questions relating to the levels of allowable emissions, the smog-forming reactivity of various exhaust components, and the need for standards for additional components be resolved at the earliest possible date, if the entire program results are not to be wasteful and ineffective.

While setting the standards, by law, is the responsibility of the State department of health, more guidance and participation are required from the board. The standards for motor vehicle emissions, by their level and specified methods of testing, presume some type of acceptable device which is a response to the standards at a reasonable cost. Clearly a balance must be struck between cost and pollution reduction. This balance will alter from time to time. This function of the board would be carried on in conjunction with items 3 and 6 above, by personnel cited there.

CALIFORNIA ADMINISTRATIVE CODE

Title 13. Motor vehicle pollution control board

Chapter 3. Motor Vehicle Pollution Control Board.
Subchapter 1. Approval of Motor Vehicle Pollution Control Devices.
Article 1. Certification of Crankcase Emission Control Devices.

2203 Every device controlling crankcase emissions from motor vehicles receiving a certificate of approval from the motor vehicle pollution control board shall meet the following criteria:

(*a*) Be so designed as to have no adverse effect on engine operation or vehicle performance.

(*b*) Operate in a safe manner.

(*c*) Have sufficient durability so as to operate efficiently for at least 12,000 miles with normal mantenance.

(*d*) Operate in such a manner so as not to create excessive heat, noise, or odor beyond the standard characteristic of the motor vehicle without such device.

(e) The purchase or cost of installation of such device shall not constitute an undue cost burden to the motorist.

(f) Installation of such device shall not create or contribute to a noxious or toxic effect in the ambient air.

Title 13. Motor vehicle pollution control board

Chapter 3. Motor Vehicle Pollution Control Board.

Subchapter 1. Approval of Motor Vehicle Pollution Control Devices.

Article 2. Certification of Exhaust Emission Control Devices.

2103 No device controlling exhaust emissions from motor vehicles shall receive a certificate of approval from the motor vehicle pollution control board unless it meets the following criteria:

(a) The purchase or cost of installation of such device shall not constitute an undue cost burden to the motorist.

(b) Such device shall operate on a designated classification of motor vehicle as specified in section 2104 without replacement of the device or any major component thereof so that for 12,000 miles its emissions are within the limits established by the State standards.

(c) Such device shall operate in a safe manner and so that the device will not result in any unsafe condition resulting from excessive heat applied to the floorboards, hydraulic brake cylinders, brake lines, gasoline tank, fuel pump, fuel lines, transmission or other components of the motor vehicle or otherwise result in an unsafe motor vehicle.

(d) Malfunction or failure of the device shall not endanger life or property.

(e) Such device shall not malfunction or fail under the stress of backfire in the exhaust system.

(f) Such device shall not allow exhaust products of the motor vehicle to enter the passenger compartment in a volume beyond the volume characteristic of the motor vehicle with a standard exhaust system.

(g) Heat emanating from an operating device shall not create a hazard to persons or property who are in close proximity to the motor vehicle.

(h) Such device shall not cause an increase in back pressure in the exhaust system greater than 25 percent beyond the back pressure characteristic of the motor vehicle equipped with a standard exhaust system.

(i) Such device shall not be permanently impaired by the variety of severe motor vehicle operating conditions frequently encountered in California, including heavy rains, mountain and desert driving, and other severe operating conditions.

(j) Such device shall operate in a manner so as not to create excessive noise or odor beyond the standard characteristics of the motor vehicle equipped with a standard exhaust system; nor should the installation of such device create a noxious or toxic effect in the ambient air.

Mr. RHODES. What has been the noticeable effect?

Mr. PHILLIPS. You mean on whether the control devices have been effective?

Mr. RHODES. Yes.

Mr. PHILLIPS. Well, actually, Congressman, it is a little too early to tell. We have a problem which has been greeted with glee in some quarters and with dismay in others.

The fact that we have an exodus of population moving into California and each one of them seems to bring along a car, I think the figures in southern California alone are that for each 1.9 persons there is one automobile.

Mr. RHODES. Is it too early then to really tell the effect of the program?

Mr. PHILLIPS. Well, the actual devices that have been installed so far in the way of blow-by devices have only been installed on a small fraction of the total automobile population of the State. As the laws go into effect and as the devices are perfected, and this report points out the number of devices under tests at the present time, the number of blow-by devices approved, the number of exhaust-control devices under tests and that have been submitted in the report, I believe, it

comments that there have been 33 exhaust devices and 26 of these have been rejected. So at the present time we are now working with Chrysler Corp. on the testing of automobiles that are especially tuned with special equipment in the way of ignitions, carburetor or controls and the rest of which have been presently under test for 20,000 miles. My understanding is that Chrysler will be building 10,000 of these cars across the Nation to test in the various areas to see how they do stand up and whether by treatment, shall we say, in the way of periodic servicing, 6,000 to 9,000 miles, complete tuneups, then if this will not meet the standards as set by California.

Mr. RHODES. Does the law have any effect on vehicles from other States?

Mr. PHILLIPS. It does not.

Mr. RHODES. Thank you.

Mr. PHILLIPS. It is not a complete loss, sir. It is one that we are building on to and we had to learn from it. So changes will definitely be made to it.

Mr. ROBERTS. Mr. Brotzman.

Mr. BROTZMAN. Mr. Phillips, the law in 1961 was not the first air pollution bill that you had passed in your State; is that correct?

Mr. PHILLIPS. No. We passed the right to form air pollution control districts years ago before along with the water pollution control districts. This law was passed before I came on the board of supervisors which was in 1956.

Mr. BROTZMAN. In other words, you have been dealing with the problem over a period of years?

Mr. PHILLIPS. Yes, we have.

Mr. BROTZMAN. Now once again without provisions of the specific law, could you just briefly state what laws you have and what powers the commission or agencies have out there to deal with the problem?

Mr. PHILLIPS. It varies in counties concerned. Each county has the right to form itself or a group of counties into an air pollution control district. The laws would have to be adopted by the people and would be effective in the entire district.

Mr. BROTZMAN. Is this by the vote of the people themselves?

Mr. PHILLIPS. Yes.

Mr. BROTZMAN. They set up the district, they draw up the lines themselves; is that right?

Mr. PHILLIPS. The lines are drawn on the presentation, that is correct. Now in our case it is for the county of Orange and most of the counties in southern California; or Orange, Riverside, San Bernardino, Los Angeles, San Diego, et cetera. They are air-pollution-control districts. This is effective for the entire area and takes in all of the cities.

The installation of new plants in the area are checked out by the country air pollution control district. The enforcement is by the county air pollution control district employees.

Mr. BROTZMAN. You said new plants, I think?

Mr. PHILLIPS. Yes, and the existing ones.

Mr. BROTZMAN. And existing plants, too?

Mr. PHILLIPS. The enforcement; yes.

Mr. BROTZMAN. All right.

Mr. PHILLIPS. We also have been going through, we have what we call the Southern California Air Pollution Council which is made

up of all the kinds I mentioned from California. We meet and share our information. Our work and research is coordinated with the health, education, and welfare people, with the State department of public health and our technical staffs. The head of our technical staff is Arnold Beckman, of Beckman Instruments.

Mr. BROTZMAN. Now when you check and find there is an amount of air pollution, let us say, or materials that could pollute the air coming from a particular new plant, what can you do about it?

Mr. PHILLIPS. We can shut them down if they don't comply.

Mr. BROTZMAN. You can shut them down. If they don't meet a sufficient standard, then there is a right to close them down?

Mr. PHILLIPS. That is correct.

Mr. BROTZMAN. And this is at the local level, is that correct?

Mr. PHILLIPS. That is right. Actually, the procedure used is to notify them they are in violation of the health and safety code, secondly the section, so and so, and then they are notified by the district attorney to cease and desist. If they do not cease and do not take action in the appropriate time, this is normally construed to be a reasonable time, obviously, then of course, we have the right to close them down. I am happy to say we have not had to close anyone down yet.

Mr. BROTZMAN. Let's take a hypothetical situation. Suppose we have four or five counties that realize clearly they have an air pollution problem. Now let's assume that those four or five counties will join together in one of these control districts. I would assume that this pollutant could be carried over into another series of counties, is that not correct?

Mr. PHILLIPS. This is correct.

Mr. BROTZMAN. Now what kind of State control do you have over this particular problem, if any, so that you can extend the check on this thing over into an adjacent group of counties?

Mr. PHILLIPS. There we run into the budget problem again. We had installed a statewide monitoring network for the monitoring of the air. In other words part of our act in 1959 was on the basis of the air standards for the State of California and we tried to write as many controls as we could into it. However, at that particular time mobile monitoring stations were not as available or as inexpensive as was contemplated. They ran somewhere around $50,000 to $60,000 per year. After the standards were set for carbon monoxide or nitrous oxide, et cetera, then the testing began in California. It has been a question frankly of opening Pandora's box. In effect each break through opens up a whole new field of research and thinking. As a result of this approach the University of California has now consolidated all of its branches in the field of air pollution under one head, Dr. John Middleton at Riverside, including the legal approach to air pollution control, by the way.

They have made some very significant breakthroughs in the field of plant pathology and other subjects along this line.

It is interesting to find out that in areas like in Fresno where you have a highly agricultural area with relatively little population that in the first 163 days of monitoring that they exceeded 52 days of that time, exceeded the minimum limits on oxidants at Sacramento which is not a very clouded county, it is now increasing in population but is not considered highly industrial, exceeded the levels on carbon monoxide, which are 30 parts per million, twice. In other

words, they exceeded it by this one time, as I recall, 89 parts per million for 8 consecutive hours. Three times is the minimum State level. So, obviously, the drift is coming from other areas and from other sources than just industry. The bay area has a nine-county air pollution control district.

Mr. BROTZMAN. You say nine counties?

Mr. PHILLIPS. Nine counties district in San Francisco; Marin, Alameda, et cetera. I can't recall the counties involved in it, but they do work as the overall regional land county air pollution team under one direct control system.

Mr. BROTZMAN. How many counties do you have in California?

Mr. PHILLIPS. Fifty-eight.

Mr. BROTZMAN. Fifty-eight. How many of the 58 are presently in air pollution control districts?

Mr. PHILLIPS. Offhand I can't say. It would be somewhere close to 20 probably. We have many mountain counties that have little population and are far removed.

Mr. BROTZMAN. I just have one more question. Do you know how much the State of California spent last year to combat this problem?

Mr. PHILLIPS. No, I do not offhand. I would hesitate to guess.

Mr. BROTZMAN. Is the money expended both from the State treasury and also at the local level?

Mr. PHILLIPS. The money for the local control is raised at the county level from the ad valorem tax. The money on the State level is statewide.

I might point out that all 58 counties of California voted for these; approved and helped carry the legislation for this approach.

Mr. BROTZMAN. Will you get that figure, Mr. Phillips, on the appropriations from the State of California and supply it for us?

Mr. PHILLIPS. Yes. I certainly will, sir.

Mr. BROTZMAN. Thank you, sir. I have no further questions.

Mr. ROBERTS. Thank you again, Mr. Phillips, for your appearance and your statement.

Mr. PHILLIPS. Thank you very much, gentlemen.

(The document referred to follows:)

Air pollution budgets in California for 4 years

District	Fiscal years			
	1959–60	1960–61	1961–62	1962–63
Total	$5,543,000	$5,324,000	$5,682,000	$6,104,000
California	778,000	831,000	1,331,000	1,910,000
Department of Public Health	778,000	831,000	831,000	1,483,000
Motor Vehicle Pollution Control Board			500,000	427,000
All districts	4,765,000	4,493,000	4,351,000	4,194,000
Los Angeles	3,640,000	3,402,000	3,253,000	[1] 3,006,000
Bay area	559,000	560,000	605,000	675,000
San Bernardino	259,000	231,000	223,000	226,000
Orange	153,000	117,000	117,000	123,000
San Diego	59,000	90,000	67,000	78,000
Riverside	45,000	67,000	59,000	59,000
Sacramento	50,000	26,000	27,000	27,000

[1] Not including contract funds from the State of California.

Mr. ROBERTS. Our next witness is Mr. Daniel W. Cannon, committee executive, Conservation and Management of Natural Resources Committee, National Association of Manufacturers, New York, N.Y.

STATEMENT OF DANIEL W. CANNON, COMMITTEE EXECUTIVE, CONSERVATION AND MANAGEMENT OF NATURAL RESOURCES COMMITTEE OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. CANNON. Mr. Chairman, I have a rather lengthy statement here so that if I might have permission to have it entered in the record in full I would just like to skim over it if that is permissible.

Mr. ROBERTS. Without objection, the statement will be placed in the record in full, sir.

(The statement referred to follows:)

STATEMENT OF DANIEL W. CANNON, ON BEHALF OF NATIONAL MANUFACTURERS

My name is Daniel W. Cannon. I am committee executive of the Conservation and Management of Natural Resources Committee of the National Association of Manufacturers. I am a member of the Air Pollution Control Association and also a member of the legal committee of that association.

This testimony is presented on behalf of the National Association of Manufacturers, a voluntary association of about 17,000 member companies, more than 80 percent of which are small business enterprises.

Since American industry has been spending hundreds of millions of dollars to install and operate air pollution control equipment to minimize air pollution from industrial sources, we appreciate the opportunity to comment upon various legislative proposals in the air pollution field.

Many people have the impression that not much attention is being paid to air pollution and that not much money is being spent to abate it, and that therefore, Federal financial aid must be provided to communities for establishing and maintaining air pollution control programs and that Federal enforcement activities must be authorized. Actually, there has been a great ferment of activity in regard to air pollution problems for a good number of years and a tremendous amount of money has been spent both by industrial enterprises and by individual citizens.

As one illustration of this, we refer to "Cinderella City," a publication of our association's conservation committee. "Cinderella City" tells the story of the highly successful air pollution control program of Pittsburgh and Allegheny County, Pa. The key to success was cooperative community action in which all segments of the community made contributions toward the reduction of atmospheric emissions. Homeowners switched to more efficient fuel and improved the efficiency of their space-heating equipment. Owners of apartment buildings and office buildings did likewise. Industry embarked on a program of installing costly control equipment. The formula which brought about such results included the formation of an advisory committee, widely representative of the community, and technical subcommittees. This insured that the drafting of an appropriate ordinance would be on a basis equitable to all community interests and unquestionably sound from an economic and technical standpoint.

Reasonable time schedules were formulated for the achievement of definite objectives. By 1955, there was a reduction of 96.6 percent in heavy smoke and of 88.5 percent in total smoke since 1946. There is no way to establish how much this achievement cost the owners of homes, apartment houses, and other buildings. Likewise, there is no exact figure for the total amount industry was required to expend, but it is known to have exceeded $250 million with an additional expenditure of at least $100 million to be spent by 1970. This is not surprising in view of the fact that a single electrostatic precipitator installation costs as much as $9 million, requires a crew to tend it, and is completely nonproductive. Visibility improvement was marked. In 1940, there were 1,000

hours when visibility in downtown Pittsburgh was less than three-fourths of a mile. By 1960, this was reduced to under 75 hours per year. We believe that the record of achievement in Pittsburgh and other cities amply demonstrates that communities are entirely capable of carrying out effective air pollution control programs without Federal financial aid and Federal enforcement activities. We respectfully request that the publication, "Cinderella City," which was prepared as a constructive contribution to efforts to attain cleaner air, be included in the record of these hearings.

As further evidence of the activities in this field, we have attached to this statement as an appendix a description of the purposes and some of the activities of the Air Pollution Control Association.

As evidence of the widespread interest in industry in controlling air pollution, 486 representatives of industry attended the National Conference on Air Pollution in December 1962. Mr. R. L. Ireland, chairman, executive committee, Consolidation Coal Co., and an industry member of the National Advisory Committee on Community Air Pollution summed up the national conference from the industry viewpoint as follows:

"As an industry member of the National Advisory Committee on Community Air Pollution, I have been asked by a great number of the members of the many diversified industries represented here to present their views as to a proper summarization of this conference.

"I believe the tone of the conference was set by Secretary Celebrezze's opening address and I would hope that this tone would be preserved throughout this Conference to its very end and on into the future. Secretary Celebrezze said that 'the primary tasks of providing adequate health, education, and welfare measures and facilities are a responsibility of the State and local governments'; and that:

" 'The cooperation of industry is just as essential as cooperation among our several levels of government. While short-term objectives may differ, the long-term interests of government, of industry, and of every member of the public are virtually identical. It could not be otherwise. All taken together, we are the public * * *.'

"Secretary Celebrezze told of a notable instance of the results a local program can achieve. A year ago, as mayor of Cleveland, he turned a switch at a steel company plant which put into operation a $2,500,000 precipitator for preventing air pollution. I happen to be from Cleveland myself and am well aware of the good results achieved by the local control program in that city. The Secretary recited this particular instance in support of his statement that:

" 'The establishment of responsible and equitable control programs at the local level is therefore of direct advantage to the farsighted who can see the basic interdependence of private and public interest.'

"He said of Cleveland's program:

" 'Not only was it able to advise industry and evaluate its control efforts, but also its existence provided a guarantee that those responsible for other sources of air pollution would be encouraged to face up to their civic obligations.'

"This clearly proves that control and enforcement programs have been successful at the local level and should be continued at that level so that all elements of the community—the enforcer and both industrial and nonindustrial air polluters can work together for the most desirable solution of their common problems. The corollary of this is that the Federal Government should not be authorized by the Congress to enter the regulatory or enforcement field. This is not to say that the Federal Government cannot appropriately provide leadership through research and advice. Industry certainly hopes that the Public Health Service and other Federal agencies will work harder that ever to develop knowledge that will lead to more effective and more economical air pollution control measures.

"Industry wants to cooperate; it has enough problems trying to make a living for all of us that it does not want to fight anyone. I think it would be unfortunate if industry's opposition to Federal Government enforcement authority were interpreted as a fight by industry against the U.S. Public Health Service. As I have already indicated, the Federal Government can help greatly in our efforts to handle our problems by providing us with greater knowledge and understanding of these problems.

"Industry has spent and is spending millions of dollars to install and operate equipment and devices to prevent air pollution. The new industrial plants being built incorporate adequate and effective air pollution control devices. We are succeeding in our efforts to improve conditions. Local control programs are operating successfully and visible improvement in conditions is apparent. I have already mentioned Clevland; I would also like to point to Pittsburgh and St. Louis and many other cities as outstanding examples. In Pittsburgh, industry has spent over $200 million in air pollution control. In another area, one electric utility company alone has spent over $100 million on air pollution control.

"On the basis of these comments, I would like to sum up as follows:

"1. Keep enforcement and control programs at the local level where the problems can best be solved by cooperative community action.

"2. Continue to have the Federal Government provide leadership through research and advice. In line with this, the Congress has extended the present Federal Air Pollution Act for another 2 years without change, and we endorse this action."

The fact that tremendous strides have been made in the control of air pollution was brought out during the course of testimony before this subcommittee in Birmingham, Ala., on November 27, 1961, in the following colloquy among Representative George M. Rhodes of Pennsylvania, Dr. Richard A. Prindle, and Mr. Jean J. Schueneman of the U.S. Public Health Service:

"Mr. RHODES. To what extent is air pollution control a factor in the differences between these cities?

"Dr. PRINDLE. At a time of this study I would say it was not a major factor in most of the situations. I believe Pittsburgh, of course, did have considerable control of its soft coal burning. This, of course, would be a main factor in the diminution. There is no qustion that the levels we are finding now are considerably lower than they were a few years ago.

"Mr. Scheuneman, I think you might add to this.

"Mr. SCHEUNEMAN. There is no doubt there has been a lot of progress made in the control of air pollution in most of these cities. Certainly, New York, Philadelphia, Pittsburgh, St. Louis, and Los Angeles. These towns have all made tremendous strides in the control of pollution, although it is still pretty high. It would have been a lot worse."

Also, on page 10 of the recent U.S. Public Health Service publication, "Air Pollution Measurements of the National Sampling Network," figure 1.9 shows a steady reduction between 1957 and 1961 in annual mean concentration of suspended particles at 213 urban sampling stations. Industry likes to think its half-billion-dollar annual expenditure for air pollution control has had something to do with this improvement.

Section 1 of the act of July 14, 1955, includes the statement that "* * * it is declared to be the policy of Congress to *preserve and protect* the primary responsibilities and rights of the States and local governments in controlling air pollution * * *." [Emphasis added.] We believe it would be an error to dilute this clear-cut declaration of intent by the Congress. But H.R. 3507, H.R. 4061, and H.R. 4415 would substitute the following language: "The Congress finds * * * (3) that the prevention and control of air pollution at its source is the primary responsibility of States and local governments; * * *" We believe that this is a much weaker statement than that contained in present law and its substitution for the existing language could lead to unfortunate and tangible differences in the administration of the act. It could readily be claimed that it was no longer "the policy of Congress to preserve and protect the * * * rights of the States and local governments * * *." This would be especially undesirable in the light of the history of Federal expansionism in the field of policing of water pollution. Self-restraint is the hallmark of statesmanship. The Federal Government must exercise self-restraint if our Federal system of government is to function smoothly without collisions, duplications, excessive costs, and onerous burdens. We believe that retention of the present strong declaration of policy by the Congress is essential to this objective in the air pollution field.

The grant-in-aid construction program contained in the Federal Water Pollution Control Act provides that no grant shall be made unless the project has

been approved by "the appropriate State water pollution control agency or agencies"; unless the project is "in conformity with the State water pollution control plan"; and unless the project "has been certified by the State water pollution control agency as entitled to priority over other eligible projects on the basis of financial as well as water pollution control needs." There are no analogous provisions in the bills before the subcommittees. It should be made clear that the inclusion of such provisions would not remove our objections to the proposed grant-in-aid program as a whole, for the reasons set forth hereinafter.

The Milwaukee Journal of August 5, 1962, reported that a review of the water pollution situation in Wisconsin had been made by the State water pollution committee and the board of health, as follows:

"It clearly shows that Wisconsin has lost ground in municipal pollution control since the midfifties. While industries reduced their waste discharges by 9.2 percent between 1954 and 1961, municipal discharges increased 2.6 percent. Thanks to industrial efforts, the overall reduction that has gained Wisconsin's pioneer program national attention continued, amounting to 7.2 percent in this period.

"The 2.6-percent increase in municipal pollution contrasts with a 7-percent reduction achieved between 1949 and 1954. This slowdown is blamed by Theodore F. Wisniewski, director of pollution control, on the Federal aid program. Federal grants have been available since 1956 for local sewage plan construction.

" 'The grants speeded things up for a while,' he said, 'and then we began to lose ground. Communities used to go ahead on their own. Now they wait for grants.

" 'And when the money runs out things come to a standstill. That's the way it is right now. Wisconsin's allotment has been used up and Congress has not yet made an appropriation for the new fiscal year (which began July 1).'

"The Federal program began with $50 million a year and had increased to $80 million last year, with $90 million in the pending appropriation bill, which has been passed by the House.

"Wisniewski said that Federal, as well as State, enforcement of pollution laws would be geared to the flow of money for grants, because municipalities cannot be forced to bear the whole cost, when they can get Federal aid by waiting.

" 'Another thing,' he said, 'is that too high a percentage of the money is being used for intercepting sewers and outfalls. The act includes these among treatment facilities. I think the definition should be changed.

" 'In 1960 we had about $4,200,000 of construction aided by grants, but only about $2,800,000 was actually for treatment. For the 5 years prior to 1956, Wisconsin averaged $2,500,000 for treatment without Federal grants. You can see how little we've gained.

" 'The Federal program should be expanded to take care of these problems or eliminated entirely.' "

We submit that the way to avoid such a dilemma in the air-pollution field is for the Congress to avoid getting started on the financing of local programs. The mushrooming size of such commitments and the concomitant stifling of local initiative are all too evident.

In particular, proposals to have the Secretary of Health, Education, and Welfare make grants equal to two-thirds of the cost of the local program are highly excessive in terms of cost, stifling of local initiative, and Federal domination of local government. As the distinguished chairman of this subcommittee, the Honorable Kenneth A. Roberts, of Alabama, stated in Birmingham on November 27, 1961: "I might say at this point in this statement that it is my conviction and I think it is the conviction of the subcommittee that there is not enough money in the Federal Treasury for us to go into every local situation and do the whole job."

The Secretary would have a world of discretion in making of program grants. Section 4(e) of the bills contains a reference to "approvable applications" but no criteria are set forth as to what applications are "approvable." Section 4(d) merely states that "such grants shall be made, in accordance with regulations, upon such terms and conditions as the Secretary may find necessary to carry out the purposes of this section." Certainly, there would be little point in the

Federal Government picking up two-thirds of the tab for well-established air-pollution control programs which have been functioning in highly successful fashion for a number of years, but there is nothing in section 4 which would prevent this. In fact, there is nothing in section 4 to indicate that such a result is not intended.

Under section 4, the Secretary would be authorized to make grants directly to local air-pollution control agencies without clearance through the State government. Since the localities are political subdivisions of the State governmens, such a practice would be in violation of the principles of our Federal system of government.

Consideration by the subcommittee of section 4 should be undertaken in light of the following comment of the Advisory Commission on Intergovernmental Relations on page 21 of its June 1961 report entitled "Periodic Congressional Reassessment of Federal grants-in-aid to State and local governments":

"With the initiation of a new grant, vested interests—both governmental and private—in its continuation come into being. Subject matter staffs are created or expanded at National, State and local levels of government for the purpose of administering the grant program. Aside from any instincts of organizational self-preservation which may exist, these staffs, if they are competent and conscientious, acquire a sense of mission with respect to their particular program. Being responsible for a specific program or function they are not especially concerned with general problems of intergovernmental fiscal relations across the board. Consequently, their recommendations for change in the grant program are typically in the direction of expansion rather than contraction."

Thus, it might be anticipated that a two-thirds Federal share and a few million dollars per year would only be the beginning.

The broad discretion granted the Secretary in administering the grant program also raises an issue which has been considered by the Governors of the States. The 1961 Governors' conference in Honolulu adopted a resolution in which a strong protest was made against "the tendency of Federal agencies to dictate the organizational form and structure through which the States carry out federally supported programs." The action of the Governors' conference, entitled "Resolution on Federal Interference in State Government Organization," called for an investigation of "the matter of Federal statutory and administrative requirements dealing with State organization under the various Federal grant-in-aid programs." It recited that "Federal control is exercised by the threat, express or implied, that if any State agency does not conform to the recommendations of the Federal agency, Federal aid shall be withdrawn and terminated * * *." There are no provisions in the instant bills to safeguard against such an invasion of States rights, and such phrases as "upon such terms and conditions as the Secretary may find necessary," "criteria established in regulations by the Secretary as necessary for the effective control of air pollution in the area," and "on such basis as he determines to be reasonable and equitable" definitely invite such invasions. The Congress should not enact legislation which could be used to coerce the States into a nationalized pattern of organization and policy.

Some of the proposals before the subcommittee are based on the enforcement provisions of the Federal Water Pollution Control Act. Therefore, it is pertinent to examine some of the instances in which those provisions have been invoked.

On September 13, 1962, Ralph E. Dwork, M.D., M.P.H., director of health, Ohio Department of Health, and a commissioner of the Ohio River Valley Water Sanitation Commission (which was formed under an interstate compact approved by the Congress), reported at a regular meeting of ORSANCO, as it is called, on a request from the Public Health Service for a conference on the Mahoning River, which flows from Ohio into Pennsylvania.

In his report, Dr. Dwork reported on the program of progress being carried out on the Mahoning. He said, "This, in large measure, can be attributed to ORSANCO's influence in developing team efforts of State agencies, industries, cities, and waterworks." Dr. Dwork continued:

"The team approach was in direct contrast to that advocated by the Public Health Service. The Public Health Service has fostered the adoption of

specific standards of quality, and judgment of water quality is based solely on compliance with its standards. This provides for ease of administration but not for protection of the water supplies nor even for an adequate evaluation of water quality. It does add an additional burden on cities and industries.

"The State and the industries have teamed up to develop means of measuring effects of waste discharges on the river rather than seek mere compliance with rigid effluent standards. The industries, with State knowledge and encouragement, have been actively developing new approaches to waste treatment that will accomplish controls on the measured effect of the wastes. This permits utilization of commercial equipment when it is adequate. It also points up the deficiencies of existing commercial equipment and means that the State is not in the position of approving a program that will at best be of short-term acceptability. The State recognizes that expenditure of money to construct treatment facilities can be wasted and can be a bone of contention later if the facilities are not adequate."

Dr. Dwork concluded that:

"I do not believe any enforcement action by the Federal Government is needed or justified.

* * * * * * *

"* * * I should like to point out again that Public Law 660 provides for Public Health Service intervention on interstate waters where health and welfare are endangered. This authority does not entitle the Public Health Service to ride roughshod over the authority of the States or such regional organizations as ORSANCO. If there is a condition endangering the health and safety of persons in Pennsylvania there is adequate jurisdictional authority to cope with it in the Ohio River Valley Water Sanitation Commission * * *.

* * * * * * *

"* * * I feel that a time has arrived for this commission to take a definite and positive position with respect to such proposed Federal intervention."

On the basis of Dr. Dwork's report, the commission adopted a resolution referring to the fact that "the Congress of the United States has declared that its policy is to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution and, to that end, has directed the Secretary of Health, Education, and Welfare to administer that act."

The resolution concluded as follows:

"Now, therefore, be it

"*Resolved*, That in the opinion of the Ohio River Valley Water Sanitation Commission the foregoing action on behalf of the Secretary of Health, Education, and Welfare is inconsistent with the declared policy of the Congress of the United States as set forth in the Federal Water Pollution Control Act and is not conducive to cooperation among Federal, State and interstate water-pollution control agencies; and be it

"*Resolved*, That this commission urges the Secretary of Health, Education, and Welfare, in administering the Federal Water Pollution Control Act, to adhere to the concept therein stated that the primary responsibility for water-pollution control rests with the State and interstate agencies, and whenever he considers that progress toward the solution of any particular water-pollution control problem is unsatisfactory, to give notice of such dissatisfaction to any State or States and to any interstate agency having jurisdiction of the problem before initiating any action under the Federal Water Pollution Control Act; and be it further

"*Resolved*, That, based upon the above-mentioned report submitted to this meeting by one of the commissioners from the State of Ohio, it appears to this commission that an effective program for the abatement of pollution on the Mahoning River is being satisfactorily prosecuted and that intervention in that situation by the Secretary of Health, Education, and Welfare is not warranted."

It has been reported, in regard to a conference called in the Pacific Northwest, that "there was violent and prolonged reaction in the press, much of it unfavorable to the Government."

It has also been reported, in regard to a conference called in New England, that the New Hampshire Legislature has adopted a resolution asserting that water pollution control "can be best achieved by local, State, and interstate authorities free from Federal intervention," and urging the Secretary of

Health, Education, and Welfare to adhere to the express intent of the Federal Water Pollution Control Act that the primary responsibilities and rights of the States should be recognized, preserved, and protected in preventing and controlling water pollution.

The multiplicity and local and individual nature of air pollution problems were brought out quite well in the paper presented at the recent National Conference on Air Pollution by Mr. Arthur J. Benline, commissioner of air pollution control of New York City, as shown in the following excerpt:

"* * * the methods for the correction of air pollution from boilers are pretty well known. The past half century of engineering progress has made available the knowledge and the wherewithal to solve practically any air pollution problems stemming from boilers. The control agency that has a legally effective permit and control system is prepared to prevent or to minimize new sources of air pollution from entering on their local scene. Taking steps to insure that boilers are of the right design and size for the job is the first important step. After the installation has been made, however, the job does not end. Steps must still be taken to insure that these boilers are properly maintained and that they are properly operated. It is routine for the careless or stupid fireman to upset all the good work that the engineer and the manufacturer have put into the construction of the boiler * * *.

"Solving a problem involves two steps. First, analyzing the problem and ascertaining the cause and second, getting the cause of the problem corrected. This sounds simple, doesn't it? But before anybody in the audience tells me that this is not simple, let me say for the record that I know it is not always a simple matter to find the cause in many cases. The control agency must have its own staff carefully survey the problem; in other cases the owner of the offending plant must be required to call in his own consulting engineer to study the problem and there are many cases where both steps take place simultaneously. No general rule can be laid down as to the method of approach since circumstances vary from one community and situation to another. Once the cause has been ascertained then several techniques or combination of techniques may be employed in getting the cause corrected, such as cooperation, persuasion, education or enforcement. It is not at all unusual to encounter a situation where the property owner has no knowledge of the fact that he is causing air pollution. Apprising him of the fact and appealing to his moral responsibility or civil pride should suffice, and often does, to gain correction. Where a little extra persuasion is needed, simple arithmatic showing him in dollars and cents how much he is wasting by the incomplete combustion of his fuel should get the necessary work done. Incidentally, it is rather difficult to convince the general public that every smoking stack is not really smoking out of malice, aforethought. From my own experiences I have found that on a great many occasions the offender is completely unaware of the fact until the control official brings it to his attention. It is for this reason that we in New York City are ordering the installation of smoke alarms, cutoffs, and recorders."

We believe that the very nature of these problems and the very nature of the most effective solutions—including the achievement of voluntary compliance through consultation, cooperation, persuasion, and education—make it extremely impractical and undesirable for the Federal Government to carry out an enforcement role.

We also regard provisions calling for the encouragement of uniform State and local air pollution laws as being undesirable. Air pollution problems vary greatly because of local variations in meterology, topography, type and degree of industrialization, and density of population. As Mr. Charles W. Gruber, air pollution control and heating engineer of the city of Cincinnati, said at the National Conference on Air Pollution in December, 1962:

"* * * for a Midwestern city to decide that the photochemical smog problem in their community needs the same type of legislative program as the urban areas of California without such need being based firmly upon fact would be a serious error."

We believe our views were best summarized by the chairman of the Health and Safety Subcommittee, the Honorable Kenneth A. Roberts of Alabama, at the National Conference on Air Pollution in December 1962, as follows:

"In the 1955 legislation setting up a Federal research and technical assistance program to combat air pollution, Congress outlined the role the Federal Government is expected to play in this problem.

"It was declared to be the policy of Congress to preserve and protect the primary responsibilities and rights of the States and local governments in controling air pollution * * *.

"* * * let me say that I do not think the Federal Government has any business telling the people of say Birmingham or Los Angeles how to proceed to meet their air pollution problems. This was made clear in the 1955 act. Even if Washington attempted to exercise such authority, we would have a hard time writing and enforcing regulations at long range. The effort would be not only difficult but expensive and without the cooperation of local citizens, very little could be accomplished * * *.

"The 1955 act not only contains no provision for Federal enforcement activity but specifically provides that the rights and responsibilities of the State and local governments are to be preserved.

"In summary, it would seem that abatement and enforcement programs to be effective must remain the responsibility of States and local governments, but there is a vast field in the area of research and the dissemination of information where the Federal Government must continue to take the lead."

In conclusion, we respectfully urge this distinguished subcommittee to delete the provisions for Federal program grants and for Federal enforcement authority from the legislative proposals being considered, in line with the views expressed above.

We appreciate the opportunity to make these comments.

APPENDIX TO TESTIMONY OF NATIONAL ASSOCIATION OF MANUFACTURERS, AN UNOFFICIAL BRIEF DESCRIPTION OF THE PURPOSES AND ACTIVITIES OF THE AIR POLLUTION CONTROL ASSOCIATION

The story of air pollution control activities in this country would not be complete without a recital of the activities of the Air Pollution Control Association. This 56-year-old organization embodies the accomplishments and aspirations of some 2,300 men and women who dedicate their working lives to safeguarding the air we breathe.

Formally speaking, the stated purposes of the Air Pollution Control Association are as follows:

"To faster the control of atmospheric pollution and improve sanitation of the air by promoting the following objectives:

"(*a*) The abatement and/or prevention of atmospheric pollution affecting health and/or causing damage to property, nuisance to the public, and wasting natural resources;

"(*b*) Encourage public acceptance of the necessity for atmospheric pollution prevention and assist governmental units toward a solution of this problem;

"(*c*) Encourage the development and adoption of apparatus, equipment, and operating procedures, that will economically prevent pollution of the atmosphere;

"(*d*) Encourage the participation, cooperation, assistance, and support of technical, civic, governmental, medical societies, health associations and other organizations in air pollution prevention activities;

"(*e*) Encourage industrial, manufacturing, producing, and distributing firms, transportation agencies and associations of such firms to contribute knowledge and effort to promote experimentation and application of methods toward the reduction of atmospheric pollution;

"(*f*) Encourage the development and adoption of engineering standards of performance on a national and international scale that are workable and reasonable;

"(*g*) Promote research in the solution of problems embracing all sources of atmospheric pollution;

"(*h*) Aid municipalities and public bodies in adopting regulations controlling the discharge into the atmosphere of harmful contaminants;

"(*i*) Prepare and distribute literature and publications pertaining to the problems involved in providing cleaner air; and

"(*j*) Maintain a library and information service of professional papers, technical articles and publications, and descriptive material pertaining to cause, effect, and remedy of processes involving atmospheric pollution."

However, the real story of APCA lies in the work carried on by its members. The association covers the entire range of control interest—individual, educational, institutional, industrial, governmental—and, basically, performs a support function behind the local official's control program.

The work of the local control official is never ending, because problems are ever changing. As fast as one emission is brought under control, others may demand his attention.

Each metropolitan area's control problems are as individual as a man's fingerprints and one of the control officer's responsibilities is formulation of a control program suited to his community's needs.

APCA plays an important part in these programs by making available to the control official the fruits of technical and administrative experience in other communities that may be adaptable to his own.

Not only do control problems vary from city to city, but so do the problems of attaining support from the community. The function of APCA in helping the local official enlist communitywide support is vividly shown in its sponsorship of the annual Cleaner Air Week.

A month and a half ago, a news release was issued by Charles Howison, chairman of APCA's Cleaner Air Week, concerning APCA Awards to 10 American cities as outstanding examples of the communitywide approach to air pollution control.

Pittsburgh was on the list and it was pointed out that Allegheny County put a place mat under every restaurant meal served during last October's Cleaner Air Week, alerting the diner to his individual stake in safeguarding the air. Mrs. Jean Nickerson, a Pittsburgh housewife typical of individual citizens who lend strength to their local control programs, promoted this activity with the backing of County Control Director Herbert Dunsmore. Scores of foreign delegations visit Pittsburgh each year, seeking the Steel City's cleanup secret.

In Chicago last year, 23 churches enlisted the editorial support of their Sunday bulletins in the campaign for clean air. This is just one phase of the all-out community support Control Director James V. Fitzpatrick has attracted under the banner of Sunny Dearborn, Chicago's cartoon personification of clean air leadership.

In San Francisco, Sir Kleenaire leads the community fight for clean air; housewives, management, and employees join in this all-out eight-county control program. Plant visits reveal new control installations and moniter stations keep the entire area posted on control progress.

Industrial cooperation helped Control Director Charles W. Gruber make Cincinnatians clean air conscious this year by posting "Clean Up" messages in city buses.

In New York City, last Cleaner Air Week, daily newspapers hailed "Project Air Lift," the balloon launching by Manhattan clubwomen to measure control progress and draw the individual New Yorker's attention to his air pollution control responsibilities. A single utility company in New York City has invested over $100 million in air pollution control equipment.

St. Paul citizens can see for themselves that some of their dirt has departed and they realize the great effort necessary for them to keep up the good work, thanks to Public Utilities Commissioner Bernard Holland's vigorous educational program which includes participation in Cleaner Air Week.

Detroit's air pollution control officer, Morton Sterling, has international and maritime problems but has removed mountains of dirt from the air of the motor metropolis. New marble-white towers testify to Detroit's control progress.

Providence is benefiting from Genero G. Costantino's alert, people-oriented control program covering Rhode Island's capital and five neighboring cities. Emission sources are quickly spotted by roving patrols checking out radio-relayed citizen complaints. Not long ago, Costantino's staff stood in respectful silence in front of the beautiful new Post Office Building in Providence to observe the taming of Rhode Island's heaviest smoker—the Post Office powerplant chimney. A belatedly installed incinerator cleared the skies—a signal victory for local control over Federal pollution. Leonard Mandell's Providence Cleaner Air Week Committee helps enlist citizen support, and Chief Costantino gives this group full credit for the gains Providence is making in the never-ending battle against air pollution.

Nearly every citizen of Philadelphia has felt the impact of the Quaker City's speaking and exhibit campaigns during Cleaner Air Week.

Newark newspapers need no urging to provide their readers with the information they need about progress being made in controlling their air pollution problems and prospects for further advances. Their support has had a lot to do with getting Newark citizenry aboard Charles J. McGuire's enlightened control program.

There are many other such stories in addition to those of the 10 cities currently being honored. To mention just a few:

Ralph W. Bourne is doing an outstanding job of coordinating Louisville's chemical, rubber, cement, and other local industries in a reasoned, workable control program covering Jefferson County.

Harmony is Albert W. Locuoco's forte in Cleveland, which is solving its heavy industry control problems on a basis mutually beneficial to the interests of all residents. He follows a good precedent set by former Mayor Anthony J. Celebrezze, now Secretary of Health, Education, and Welfare, who demonstrated a real knack for local control achievements.

St. Louis has shown what a great industrial city can do in cleaning its air without outside help. One utility company alone has spent well over $5 million for air pollution control. Scores of other industries have done equally good jobs.

APCA's President Smith Griswold has some of the toughest problems of all as head of the Los Angeles Air Pollution Control District. He will have problems for many years but his people know what they are and that they will be solved as fast as research and engineering provide the answers.

A great part of the success this local approach is enjoying is attributed by many people to the leadership of Arnold Arch, APCA's executive secretary and former air pollution control director in Niagara Falls. After 10 years of constant, day-in and day-out, year-in and year-out, door-to-door salesmanship, Arnold Arch left Niagara Falls immeasurably cleaner than when he found it and the entire population working for still cleaner air.

These illustrations unfold the true dimensions of the control problem, and the way it is being met from city to city across the country. Air pollution control is not just a few thousand words assembled in an ordnance or statute, but every member of a community working toward a common goal.

So, in spite of the hue and cry all around us, that "nothing is being done about air pollution control," a great deal is being done. How about results?

It is extremely difficult to measure results, but, thanks to persistent local education programs, people are beginning to understand their air pollution control problems and the progress being made toward their solution.

Thanks to this superb local leadership, people are learning which of our control problems are yielding to control. Many know, for example, that the answers to our industrial particulate emission problems have been largely attained and they accept the fact that the remaining cleanup in this area will proceed just as fast as corporate profits generate enough money to pay for the control equipment.

Mr. ROBERTS. All right, Mr. Cannon.

Mr. CANNON. Mr. Chairman, my name is Daniel W. Cannon and I am committee executive of the Conservation and Management of Natural Resources Committee of the National Association of Manufacturers. I am presenting this testimony on behalf of our association which is composed of about 17,000 member companies, more than 80 percent of which are small business enterprises.

Since American industry has been spending hundreds of millions of dollars to install and operate air pollution control equipment to minimize air pollution from industrial sources, we appreciate greatly this opportunity to comment upon various legislative proposals in the air pollution field.

We found something to agree with in the testimony of almost everyone's presentation yesterday. We agree with the Department of Health, Education, and Welfare, and the U.S. Public Health Service that we need to know more and that this knowledge needs to be disseminated more widely.

We agreed with the Los Angeles County Board of Supervisors speaking through Mr. Smith Griswold when they said that responsible local government should exercise the State's police power to abate air pollution without Federal financial assistance.

We agreed with the Association of Attorneys General when they said that it would be better to leave enforcement activities to the State and local governments and encourage action by interstate compacts by giving congressional consent in advance to such compacts rather than to authorize Federal enforcement activities.

We agreed with the Interstate Sanitation Commission of New York and New Jersey that enforcement power should be left to State, interstate, and local air pollution control agencies and that the Secretary should make investigations and recommendations in specific situations only when requested by local, State, or interstate agencies.

We agreed with the Florida State Board of Health that the functions of developing specific control devices should remain with private industry and should not be made a statutory function of the Secretary of Health, Education, and Welfare.

We agreed with Dr. Wilbar, secretary of health for Pennsylvania, and chairman of the Pennsylvania Air Pollution Control Board and also president of the Association of State and Territorial Health Officers, that it is undesirable for the Federal Government to bypass the States by direct relations with municipalities.

We agreed with Mayor Daly of Chicago that Chicago is doing a terrific job of air pollution control.

We agreed with Mayor Barr of Pittsburgh that Pittsburgh is doing a tremendous job of air pollution control.

We regret that, with all this area of agreement, we nevertheless find it necessary to express disagreement on a few points in regard to the proposals before this distinguished subcommittee.

We believe that a lot of people have the impression that not much attention is being paid to air pollution, that not much money is being spent to abate it, and that, therefore, Federal financial aid must be provided to communities for establishing and maintaining air pollution programs and that Federal enforcement activities must be authorized. Actually, there has been a great ferment of activity in regard to air pollution problems for a good number of years and a tremendous amount of money has been spent both by industrial enterprises and by individual citizens.

I would say, departing from our prepared testimony just at this moment, that, for example, our many industrial associations each have committees of highly qualified experts devoted to the subject of air and water conservation activities such as the American Iron & Steel Institute, the American Petroleum Institute, the American Paper & Pulp Association, and the National Coal Association. I have probably offended a great many industries by not naming them all, but I can assure the subcommittee that each of these many industries devote a lot of time and talent and effort in studying the air pollution problems of their particular industry and exchanging scientific knowledge, conducting research and making recommendations for expenditures to whip these problems.

As a specific case history of what we regard as an appropriate approach to achieving success in air pollution control, we would like to refere to "Cinderella City," which is a publication of our association's conservation committee. "Cinderella City" tells the story of the highly successful air pollution control program of Pittsburgh and Allegheny County, Pa. The key to success there was, we believe,

cooperative community action in which all segments of the community made contributions toward the reduction of atmospheric emissions. Homeowners switched to more efficient fuel and improved the efficiency of their space-heating equipment. Owners of apartment buildings and office buildings did likewise. Industry embarked on a program of installing costly control equipment.

The formula which brought about such results included the formation of an advisory committee, and we set forth the membership of this advisory committee in our publication "Cinderella City." I think you will notice therein that housewives were represented on the advisory group, labor unions, management, and a great many broad civic groups active in the community. Also, there were formed technical subcommittee operating as adjuncts of this advisory committee so that qualified technical experts in each of the various fields of air pollution problems were able to formulate practical programs that made sense from the economic and technical standpoint.

Also, reasonable timetables were formulated by which home owners and building owners had time to convert over to these other fuels and these other types of heating equipment and by which different industries were gradually able to switch over and install air pollution control equipment on a basis that would not hinder operation and that made possible the generation from profits of the money necessary to install these nonproductive facilities.

We believe that there have been tangible and concrete results shown from that program.

Beginning in 1946, a measurement taken in 1955 showed that there was a reduction of 96 percent in heavy smoke and of 88 percent in total smoke.

There is no way really to establish how much this cost the various citizens of Pittsburgh. Likewise, there is no exact figure for the total amount industry was required to expend, but it is known to have exceeded $250 million and the timetables call for an additional expenditure of another at least $100 million to be spent in the next 7 years by 1970.

These figures are not surprising in view of the fact that a single electrostatic precipitator installation can cost as much as $9 million to install.

The visibility improvement in Pittsburgh has been marked. In 1940, there were 1,000 hours when visibility in downtown Pittsburgh was less than three-fourth of a mile. By 1960, this was reduced to under 75 hours per year. We believe that the record of achievement in Pittsburgh and other cities amply demonstrates that communities are entirely capable of carrying out effective air pollution control programs without Federal program grants and without Federal enforcement activities.

Mr. Chairman, we respectfully request that the publication "Cinderella City," which we prepared as a constructive contribution to efforts to obtain cleaner air and which we believe offers a valuable guidebook to all communities in the country interested in achieving the same results as were achieved in Pittsburgh, be made a part of the record of these hearings.

Mr. ROBERTS. Mr. Clerk, would you bring the publication up here so the committee may examine it?

(The document mentioned may be examined in the files of the subcommittee.)

Mr. RHODES. May I ask Mr. Cannon to name some of the other cities? I think that should be made part of the record. You say Pittsburgh and other cities.

Mr. CANNON. Yes.

Mr. RHODES. Can you tell us how many other cities?

Mr. CANNON. I believe toward the end of "Cinderella City" we refer to the fact that the city of St. Louis was a real pioneer in the air pollution control programs, also the city of Cincinnati. A representative of the city of Chicago, the air pollution control director there, Mr. Fitzpatrick, told a very impressive story yesterday to the subcommittee about the efforts being carried out in the city of Chicago.

Los Angeles has some of the toughest problems in the whole country because of the peculiar situations there, but yet, they have achieved great strides in that city. There have been reports as to the reduction of dustfall in that city which are quite remarkable. At the National Conference on Air Pollution, Dr. Abel Wolman mentioned the figure of $66 million as having been spent by the petroleum refining industry in the Los Angeles area.

In other material that I have appended to our prepared statement, I review very briefly some of the activities in the 10 cities in the country which are receiving awards from the Air Pollution Control Association for their outstanding public education and information programs in connection with the control of air pollution.

Among cities which are mentioned are New York City, St. Paul, Minneapolis, Detroit, and Providence. San Francisco has had quite an extensive program which covers the entire bay area of, I believe, nine counties and was mentioned here just a short while ago. So we feel that there are a great many cities throughout the country that have made great progress under some very vigorous air pollution control programs. We certainly don't claim that all the problems have been solved. A lot more money is going to be spent to continue this progress and make sure that we don't rest on our laurels anywhere along the way.

But we do feel that the communities have shown the capability and the techniques of organization, of stimulating community interest and action, are available to these communities.

We certainly have been cooperating in a great many different ways at the Federal level, also. A number of our industries have conducted joint studies with the Public Health Service and we cooperate with the Public Health Service in a great many ways. One of the things which industry also supports along with local control officials and the Federal officials interested in air-pollution control is this National Air Pollution Control Association which I have mentioned. This association operates as a clearing house for technical abstracts on air-pollution problems. This is carried out in cooperation with the Public Health Service and with the Library of Congress. An annual meeting of the Air Pollution Control Association is held each year. This year it is going to be in Detroit in June. I am sure you gentlemen would find it of great interest. The attendance at this association's annual meeting has been increasing over the years. Technical papers are presented so that there is a valuable interchange of scientific in-

formation among Federal officials and State and local officials and the hundreds of people in private enterprise who are working on these problems, too.

Also, the Air Pollution Control Association, as part of its stimulating of community action, carries out a Cleaner Air Week in October of each year so that throughout the country a public awareness program is carried out on air-pollution problems. There is a great deal of cooperation among industry and State and local and Federal officials in Cleaner Air Week activities. Awards are made to communities and to individuals who have made outstanding contributions along these lines.

So, we by no means mean to imply that Pittsburgh is the only city in the whole United States that has been doing a good job in tackling these very difficult problems.

Turning to the recent National Conference on Air Pollution, we believe that the widespread interest of industry was shown by the fact that some 486 representatives of industry attended this national conference. Mr. R. L. Ireland who is chairman of the executive committee of Consolidation Coal Co. and an industry member of the National Advisory Committee on Community Air Pollution, summed up the national conference toward the end of the conference from the industry viewpoint as follows:

He said:

I believe the tone of the conference was set by Secretary Celebrezze's opening address and I would hope that this tone would be preserved throughout this conference to its very end and on into the future. Secretary Celebrezze said that "the primary tasks of providing adequate health, education, and welfare measures and facilities are a responsibility of the State and local governments." Secretary Celebrezze told of a notable instance of the results a local program can achieve. A year ago, as mayor of Cleveland, he turned a switch at a steel company plant which put in operation a $2,500,000 precipitator for preventing air pollution.

Secretary Celebrezze said of Cleveland's program: "Not only was it able to advise industry and evaluate its control efforts, but also its existence provided a guarantee that those responsible for other sources of air pollution would be encouraged to face up to their civic obligations."

Of course, this is definitely part of the problem, that industry is by far not the only source of air-pollution emissions. There are myriads of small air-pollution sources which add up to a big problem, thousands of them in every community.

Mr. Ireland concluded, by saying:

On the basis of these comments, I would like to sum up as follows:

First, keep enforcement and control programs at the local level where the problems can best be solved by cooperative community action, and second, continue to have the Federal Government provide leadership through research and advice.

We believe that there have been varying types of evidence to show progress in the control of air pollution at the State and local level and we have referred in our prepared statement to testimony before this subcommittee in Birmingham, Ala. Mr. Schueneman, of the Public Health Service, stated:

There is no doubt there has been a lot of progress made in the control of air pollution in most of these cities. Certainly, New York, Philadelphia, Pittsburgh, St. Louis, and Los Angeles. These towns have all made tremendous strides in the control of air pollution, although it is still pretty high. It would have been a lot worse.

Also, there have been evidences from sampling carried out that there has been some year-to-year progress in reducing the average concentration of various pollutants in various communities.

We would like to draw the attention of the subcommittee to the fact that under the present law the act of July 14, 1955, that section 1 includes the statement that—

> * * * it is declared to be the policy of Congress to preserve and protect the primary responsibilities and rights of the States and local governments in controlling air pollution * * *.

We believe it would be an error to dilute this clear-cut declaration of intent by the Congress. However, we find that the proposals before the subcommittee would substitute the following language:

> The Congress finds * * * (3) that the prevention and control of air pollution at its sources is the primary responsibility of States and local governments * * *.

We believe that this is a much weaker statement than that contained in present law and that its substitution for the existing language could possibly lead to unfortunate and tangible differences in the administration of the act.

It could be readily claimed that it was no longer "the policy of Congress to preserve and protect the rights of the States and local governments."

We believe this would be especially undesirable in the light of the fact that we believe there has been some tendency toward expansionism in the Federal program in enforcement activities in the water pollution control field. We feel that the difficulty in establishing a truly cooperative Federal, State, local, and private enterprise program is that the Federal Government has the means and the power and authority to completely dominate the whole show unless Congress clearly declares itself as to intent and by very specific provisions that carefully demarcate the actual role which the Congress intends the executive branch of the Federal Government to play.

Turning to the program grant provisions in the various bills before the subcommittee, we note for instance that the construction grant program in the Federal Water Pollution Control Act provides that no grant shall be made unless the project has been approved by "the appropriate State water pollution control agency or agencies." And it contains a number of provisions designed to insure that the Federal Government is not promoting activity which is out of line or not in conformity with the overall State policy within that particular State. We have noticed that there are no analogous provisions in the bills before the subcommittee. However, we do want to make it clear that the inclusion of such provisions would not remove our objection to the proposed grant-in-aid program as a whole for reasons that we set out in our prepared statement.

We have included a news story from the Milwaukee Journal in which the gentleman in charge of the program in that State has indicated his belief that a Federal grant program tends to make the State activity be geared to the Federal moneys available and that there is little initiative or incentive to go beyond that area. We feel that perhaps the best way to avoid getting into that dilemma is not to start out on a type of program where the Federal Government is taking over the financial responsibility of supporting local programs. In par-

ticular, we note that there are proposals to have these grants equal to two-thirds of the cost of the local program and we feel that this is quite excessive in terms of cost and stifling of local initiative and Federal domination of local government.

Mr. Chairman, as you stated in Birmingham on November 27, 1961:

> I might say at this point in this statement that it is my conviction and I think it is the conviction of the subcommittee that there is not enough money in the Federal Treasury for us to go into every local situation and do the whole job.

We also point out in our prepared statement that the Secretary would have a tremendous amount of discretion in the making of program grants. We noted in Secretary Nestingen's testimony yesterday, I believe, that he feels it would be desirable that the Secretary be given even more wide discretion in the administering of these program grant provisions, which we feel opens the door to perhaps Federal domination of these State and local programs.

We also note that the Advisory Commission on Intergovernmental Relations has pointed out that with the initiation of a new grant, vested interests—both governmental and private—in its continuation and in its expansion come into being, so that there is some history to support the belief that a two-thirds Federal share and a few million dollars per year might only be the beginning. We also point out that the 1961 Governors' conference registered an objection to broad discretion in Federal officials in administering the grant programs and attaching terms or conditions to them. They referred to it as—

> The tendency of Federal agencies to dictate the organizational form and structure through which the States carry out federally supported programs.

Turning to the enforcement provisions in the proposals we would like to point out some of the experience under the Federal Water Pollution Control Act. In September of last year, Dr. Dwork, who was director of health, Ohio Department of Health, and a commissioner of the Ohio River Valley Water Sanitation Commission, which was formed under an interstate compact approved by the Congress, reported at a regular meeting of ORSANCO, as it is called, on a request from the Public Health Service for a conference on the Mahoning River, which flows from Ohio into Pennsylvania, and in Dr. Dwork's report to the ORSANCO commission he pointed out that an orderly program of progress on the Mahoning River was being carried out by the efforts of the States and by the States acting through their interstate compact commission which has achieved tremendous results on the Ohio River Valley and its tributaries. As a result of Dr. Dwork's report, the interstate compact commission adopted a resolution that, in their opinion, the action on the part of the Secretary of Health, Education, and Welfare was inconsistent with the declared policy of the Congress of the United States and is not conducive to cooperation among Federal, State, and interstate water pollution control agencies and that the commission urges the Secretary to adhere to the concept that the primary responsibility for water pollution control rests with the State and interstate agencies.

Also, there have been some other instances. In regard to the conference called in the Pacific Northwest, there was reported violent and prolonged reaction in the press, and also an instance in New England of an intervention there which has been strongly protested by the States and by the New England Interstate Water Pollution

Control Commission. The New Hampshire Legislature has adopted a resolution urging the Secretary to adhere to the express intent of the Federal act that the primary responsibilities and rights of the States should be preserved and protected.

I believe also that the representatives of the interstate compact commission of New York and New Jersey, the interstate sanitation commission, yesterday referred to an intervention there where they already had a program going.

We believe that an illustration of the multiplicity and local and individual nature of air pollution problems was well brought out by a paper presented at the national conference by Mr. Benline, commissioner of air pollution control, New York City. He points out that improper operation and maintenance of a boiler, for instance, can upset all the good work that the engineer and the manufacturer have put into the construction of the boiler, and he sets out the steps which have to be gone through in an air pollution problem.

The control agency must have its own staff carefully survey the problem and the offending plant probably has to call in its consulting engineer, and also they invoke the techniques of cooperation and persuasion and education and, only ultimately, enforcement.

They find in a great many occasions the owner of the equipment is completely unaware of the violation. He says that:

> It is for this reason that we in New York City are ordering the installation of smoke alarms, cutoffs, and recorders.

So we believe that the very local and individual nature of these problems and the thousands of individual small sources involved make this type of a control program impracticable for a Federal enforcement program and we believe that far better results could be obtained if it is kept at the local level.

We also note for instance that some of these provisions call for encouragement of uniform State and local laws. We just hope that this concept of uniformity, which probably is very desirable in a great many other fields such as commercial practices and so on, will not be carried too far in this particular field where the problems vary so greatly from community to community. Some control officials have even reported that the characteristics of one neighborhood in a community as far as aeration and dispersion of air pollutants and so forth, may vary. We point out that, as Mr. Gruber, the air pollution control officer of Cincinnati said at the national conference—

> * * * for a midwestern city to decide that the photochemical smog problem in their community needs the same type of legislative program as the urban areas of California without such need being based firmly upon fact would be a serious error.

In conclusion, Mr. Chairman, we want to express ourselves as heartily in accord with the views which you expressed at the National Conference on Air Pollution and which we set forth at page 14 of our prepared testimony. I will just quote the final paragraph:

> In summary, it would seem that abatement and enforcement programs to be effective must remain the responsibility of States and local governments, but there is a vast field in the area of research and the dissemination of information where the Federal Government must continue to take the lead.

In conclusion, we respectfully urge this distinguished subcommittee to delete the provisions for Federal program grants and for Federal

enforcement authority from the legislative proposals being considered, in line with the views we have expressed. We appreciate greatly this privileged opportunity to make these comments before this subcommittee.

Mr. ROBERTS. Thank you, Mr. Cannon.

I want to congratulate you on your statement and say this evidently has been your homework for quite awhile. You certainly quoted me correctly. I would say, however, there are two views about consistency. It has been said the "consistencey, thou art a jewel." It has also been said the "consistency is a hobgoblin of little minds."

Finally, someone said, "The wise man changes his mind and the fool never does."

I might say that it is true that the statements I made with reference to the local aspect of the problem we tried to follow in the provisions of the bill. I do feel, however, that there have been some things that happened, particularly the recent London smog, which makes me feel that the Federal Government does have a responsibility in this field particularly when it involves the death and health of our people. Now I think there are some of these situations that we cannot reach other than by legislation of this type. It seems to me that we have here in H.R. 4415 what is a very modest approach to the problem. Some people in the Congress want us to go down the road we are going on the bill but I will certainly tell you that I think it would be my purpose to see that the subcommittee does everything it can to see that local situations, strictly local, are handled by local authorities.

We have had some legislation in the field. I have referred to the Food and Drug Act which has been in existence for over a half century which tries to guarantee the consumers that what they eat and the drugs they consume will be the most pure and efficient.

Now it seems to me that it is even more important, after all we can live for a few days without food but we would all have to have air or we would be out of the way in a few minutes. I am concerned with any legislation that would take away the responsibility of the local jurisdictions. I do feel that, well, for instance, in the motor vehicle picture for instance, we had testimony from the California people what they are up against because of cars crossing the State lines. It seems to me that all this bill does so far as Federal enforcement is concerned is to give a State or the municipality of the State that is suffering from pollutants coming from over the line some opportunity to get some help.

I don't know of any great number of technicians and researchers in this field other than at the Federal level. Now there may be some that are employed, I am sure, in industry, but I don't know how many of these are available to local and State jurisdictions.

Mr. Nelsen.

Mr. NELSEN. I noticed your reference to this air pollution control association. Is that set up on a voluntary basis with membership all over the country?

Mr. CANNON. Yes, sir. That is a voluntary association and it is set up on a national basis. The headquarters is in the Mellon Institute Building in Pittsburgh, Pa., where I might say incidentally probably the first research grant on air pollution control was made by the Mellons some 50 years ago.

I have here the 1962 membership list and the officers and I think you would find a great many technicians and experts from private industry included in the membership along with technicians and experts and the control officials from the State and local governments and also Federal officials interested in this field. I think that this organization serves as a great clearinghouse of scientific publications—scientific and technical publications and information by which these State and local officials can benefit. Each month the association puts out a journal which contains technical articles of great interest in this field and also included with that journal is an abstract of current, scientific articles appearing in all journals throughout the world, some of them translated, and this work is done in cooperation with the U.S. Public Health Service and with the Library of Congress.

Mr. NELSEN. How is the organization supported? Is there a membership dues?

Mr. CANNON. Yes.

Mr. NELSEN. In addition to the grants that have been made?

Mr. CANNON. Well, yes. It is essentially a membership organization. Actually it is a distinct organization from the Mellon Institute. The Mellon Institute carries on a great deal of research, both in water pollution and various other fields involving industrial problems and other difficult scientific and technical problems. The Air Pollution Control Association dues for an individual member are $50 for a company member on a local basis, and I might say incidentally that the national association has some regional sections also, so that it is possible to belong on both a local and a national basis. A company member on the local basis has dues of $50, a company member on the national basis has dues of $100. A Government agency has a $50 minimum dues, and an organization member, that could be some association or organization of various types, they have $100 a year dues. A sustaining member has a $250-a-year minimum. So it is definitely supported and organized on a voluntary basis and on a dues-paying basis.

Mr. NELSEN. Is there any technical assistance given? For example, should there be a request for information or assistance at some point in the country, are there any personnel who go out to assist with the planning?

Mr. CANNON. Well, I would not be completely familiar with all the activities that they carry on but I know that in general they try to perform a backup effort to the efforts of the local control officials. I might just read a pertinent short paragraph from one issue of the Journal of the Air Pollution Control Association for January 1962. It mentions that this year marked the 13th annual observance of Cleaner Air Week. Chairman Howison of Cincinnati says:

> The effectiveness of the 1961 Cleaner Air Week observance is evidenced by the increase in community awareness and community participation in the many practical public information programs focusing attention on the very real need for air pollution control for the present and for the future. To this end APCA hopes that every community, whatever its size, will first of all take inventory of its pollution problems and then decide what to do about them. APCA stands ready to assist in every way.

Mr. NELSEN. You mentioned something about the water pollution program and the Federal Government in some cases having sort of

moved into the State area in an arbitrary way, something to that effect. Have there been any instances in the case of water pollution where States rights have been tampered with in effect?

Mr. CANNON. I believe that there have been some major instances of this type. Apparently, there has been an inclination to invoke the conference and enforcement procedure without some preliminary informal contacts with the State and local and interstate officials who have the direct and primary responsibility in the particular area, and, as a result, the call for a conference sort of takes them by surprise. Of course, immediate reaction when you are taken by surprise is usually not as constructive as it might be, because I think for one thing the feeling is that, even though in the end it might turn out that the decisions of the Federal officials are that what you have shown us here is that you have a very satisfactory program going on and that you are making desirable progress, nevertheless, the fact that the Federal Government stepped in there certainly puts a cloud of uncertainty on this and casts doubts on the public confidence as to the effectiveness of the people on the ground who are charged with the responsibility of the program.

(The following material was submitted by Mr. Cannon in connection with the preceding:)

NATIONAL ASSOCIATION OF MANUFACTURERS,
New York, N.Y., April 2, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Health and Safety Subcommittee,
House Interstate and Foreign Commerce Committee,
House Office Building, Washington, D.C.

DEAR CHAIRMAN ROBERTS: In response to your request, made March 19, 1963, at the air pollution control hearings held by your subcommittee, for additional information as to Federal intervention in water pollution cases, I am enclosing copies of the following:

1. News item from Seattle Post-Intelligencer, January 16, 1962.
2. Summary of the conclusions of the Joint State-Federal Conference on Water Pollution Control held in Olympia, January 16–17, 1962, as announced at 4:26 p.m., January 17, 1962.
3. News item from the Seattle Times, January 18, 1962.
4. News item from Longview Daily News, January 19, 1962.
5. News item from Seattle Post-Intelligencer, January 20, 1962.
6. Editorial and letter from Seattle Post-Intelligencer, January 23, 1962.
7. News item from Seattle Post-Intelligencer, January 24, 1962.
8. News item from Longview Daily News, January 24, 1962.
9. Editorial from the Lewiston (Maine) Daily Sun, February 9, 1963.

We respectfully request that these items be included in the record of the hearing.

Thank you very much for your courtesy and consideration in this matter.

Very truly yours,

DANIEL W. CANNON,
Committee Executive, NAM Conservation Committee.

[From the Seattle Post-Intelligencer, Jan. 16, 1962]

U.S. AID FINDS POLLUTION IN AERIAL SURVEY

James M. Quigley, Assistant Secretary of Health, Education, and Welfare, flew over Puget Sound yesterday to get a firsthand look at the area's water pollution problem.

After his 90-minute flight he said he saw "clear cases of pollution" but was not prepared to say how dangerous the situation was. Today he will attend a meeting in Olympia to discuss the problems of pollution and how the Government can take part in combating it. Gov. Albert D. Rosellini has asked the Government to join hands in the fight against water pollution.

Under a recent Federal law the Government can crack down on firms and municipalities which pollute waters. The Government will step in where it has been asked to assist or will take action if the State is not enforcing antipollution laws, Quigley said. This means that the Government could take part in current case where the State has accused nine paper pulpmills of water pollution.

"We are glad to join the State in holding the hearing," he said. "This is one of the first States in the Nation to ask for our help."

Quigley said that the Government plans to work out pollution problems on the conference level with firms suspected of polluting streams. From there, he said, the Government will take the firm into court in a civil action to enforce the laws.

He said his organization is limited to problems of water pollution, not air pollution.

Other Federal officials to join in the conference today will include Murray Stein, Chief Enforcement Officer for the U.S. Public Health Service; Leonard Dwirsky, Portland, USPHS and Peter Kou, of the Health and Welfare Department, Washington, D.C.

The State will be represented by the five-member pollution control commission, Earl Coe, John Biggs, George Starlund, Dr. Bernard Bucove, and Joe Dwyer.

Coe said the meeting will begin at 10 a.m. in the General Administration Building and will be open to the public.

SUMMARY OF THE CONCLUSIONS OF THE JOINT STATE-FEDERAL CONFERENCE ON WATER POLLUTION CONTROL HELD IN OLYMPIA JANUARY 16–17, 1962, AS FURNISHED BY BILL'S RECORDING SERVICE, BILL CHUM, RECORDER

AFTER RECESS

(The Conference reconvened at 4:26 p.m., January 17, 1962.)

Chairman STEIN. The Conference is reconvened, and I am going to attempt to summarize the conclusions of the Conference for the conferees. If the conferees have any suggestions or modifications, of course, I would hope they would make that orally and we would make adjustments in the Conference in the summary as we go along.

Now, this summary will be formalized in the official summary of the Conference, which by statute we will make available to the Washington Commisison for distribution to interested parties.

First, I think the conferees are agreed that the waters of Puget Sound, Juan de Fuca, and the navigable tributaries—are waters subject to the jurisdiction of the Federal act.

Secondly, that there is pollution of these waters, which is subject to abatement under the Federal Water Pollution Control Act. These discharges come from various sources in the Puget Sound area, notably the pulp and paper industries which contribute to this pollution.

The conferees take cognizance of the excellent progress being made by many industries in the State of Washington and the State of Washington pollution control program in developing adequate pollution control measures for the State on a progressive basis.

The conferees also have determined that measures taken to date by the sources of pollution mentioned at this Conference have not been adequate, are not sufficient to control pollution of the waters of the Puget Sound area; that delays in correcting this pollution have been due to the fact that some of the sources of pollution have not taken action to install remedial measures.

The conferees have taken cognizance of the temporary permits and the permit system of the State of Washington and they have come to the conclusion that this is a reasonable method of handling pollution control. The conferees have taken cognizance of the fact that in some cases, temporary permits are out and in some cases there are expired permits.

In looking over the temporary permits, particularly of the seven pulp and paper mills, which were named here, the conferees determined that the date of January 1 of the alternate plan having passed, doesn't seem to be realistic any more and in the same sense, we would have to consider the second date of engineering plans of March 1, 1962, would not seem to be appropriate at this time. Therefore, it is suggested that—the conferees would suggest that the sources of pollution which are not in compliance with State requirements now, take action to abate pollution of the waters of Puget Sound and its tributaries and estuaries, this pollution causing deleterious conditions so as to interfere with fish-

eries resources, commercial and sports fishing, and recreation by doing the following:

To have an alternate plan, if such an alternate plan is to be submitted in before the Washington Commission by July 1, 1962; and to have engineering plans in any event approved and completed by March—or by January 1, 1963.

In addition, the conferees recommend that as to other sources of pollution, the Commission proceed forthwith to develop a commensurate plan for cleaning up the remaining sources—or the Washington Commission proceed forthwith with developing a plan for cleaning up the remaining sources of pollution, municipal and industrial, in the Puget Sound area so there will be no interference with public health or with other water uses. This session, of course, will be considered the session of this conference dealing with the Puget Sound area. A session for the upper Columbia River will be announced in the very near future at the call of the Chairman.

That the representatives of both the States and the Public Health Service will make themselves available to develop a joint program—and I think we might announce here that in our Department, we have two ways of approaching problems of this kind. In some situations, the problem is handled through the regular staff of the regional office, with a group coming from one of our scientific centers, such as the Sanitary Engineering Center at Cincinnati for a special study. This, as you recall, was done on the lower Columbia River. In other cases, such as in various places throughout the country, such as Raritan Bay, the Great Lakes, the Arkansas Red, and on the Colorado River Basins, where we have had fairly large problems, we have augmented our staff in the region. We intend to augment the staff in this area through our Portland office. This staff will be available and will proceed forthwith to make necessary evaluations and studies. The data that this staff of experts will assemble will be available to the State and any other parties and of course, our experts on the staff, assigned to this project, will be available to the State for any work that it might want to do with us on a cooperative basis in connection with the State's proceedings. This is in line with the statutory directive to encourage State action to abate pollution.

The Department of Health, Education, and Welfare will prepare progress reports concerning development of the action program to abate pollution at intervals not to exceed 3 months, but as often as required to record significant developments and reports of meetings which have been held. This information will be made available to any interested people through your State agency.

Are there any other comments, amendments, or modifications?

Mr. DWORSKY. I have two comments, Earl and Wally—the State schedule calls for a date for the completion of construction and in view of the adjustments in the first two items, alternate plans and engineering plans, I merely ask whether or not some statement might be appropriate, if not a date with respect to when construction is to be completed. It may be that you want to leave that open but I think that there ought to be at least constant surveillance and action in good faith in terms of the engineering plan development as we move to the completion of construction date.

Mr. BERGERSON. I would say there should be some statement included—either a definite date or something in the way of—if we have action in good faith, I don't think we will have any problem. I think there was approximately 18 months allowed for construction, which seems to be a fairly reasonable period of time. However, it is a relatively close construction schedule.

Mr. COE. May I make a comment on that?

Chairman STEIN. Yes.

Mr. COE. I would prefer that this matter be left open as to this final date.

Chairman STEIN. I think we can expect that the State would allow a reasonable construction time after the completion of the plans and specifications. I think we have an indication here and in other areas of the country what a reasonable construction time is. The construction time that appeared in the temporary permits certainly appear to be a reasonable construction time. Of course, I think this would call for some evaluation by both us, in conjunction with the State, if there was any notion that this construction time allowed was not reasonable.

Mr. DWORSKY. I would like to leave that open also, Earl, with you on this basis, that the State keep continuing supervision over the progress being made and that the State in its actions then establish at appropriate times, dates for its own progress, so that you can have some goals to shoot at.

Mr. COE. I think that can be supplied in these periodical reports as we go along.

Mr. DWORSKY. That will be good. And then there was this one other point with respect to the other sources of pollution, other than the seven mills named, and that the State also in their permits, have dates established for the same three points—alternate plan development, engineering plans and constructions to be completed—is there to be a time added perhaps to these dates as required, or are these dates under the present temporary permits to be maintained?

Mr. BERGERSON. I'm not sure just exactly what temporary permits you are referring to?

Mr. DWORSKY. Well, I was referring to the balance of other sources of pollution, municipal, other industrial—perhaps the Federal installations and other sources of pollution that you have under surveillance and have made requests for——

Mr. BERGERSON. We've been working on these other problems for some time. I think it will be a matter of developing a time schedule at some later date or very shortly, rather than setting it here today.

Mr. DWORSKY. Yes. This is what you would intend them to do?

Mr. BERGERSON. That's what we plan on doing.

Chairman STEIN. Mr. Dworsky, that was one of the conclusions of the conferees, that the State proceed forthwith to develop an action program to do that. I think the 3-month reports will cover all these sources of pollution as listed in the appendage to the State report and it will be pretty clear whether these sources are being covered. Are there any further questions or comments? (No response.)

Does anyone in the audience want to make a comment or do you have any question?

Mr. HUNTER. In any event——

Chairman STEIN. Would you identify yourself for the record?

Mr. HUNTER. Yes—Hunter, Simpson-Lee Paper Co. attorney. In the event member of your staff make studies, surveys—technical studies and reports, and so forth—am I correct in assuming that they will be made available to the State of Washington, and by the same token will likewise be made available to my client, for instance, the Simpson-Lee Paper upon request and on the same basis?

Chairman STEIN. Yes, that is correct. They're available on the same basis as the State of Washington. Now, as you would appreciate and while you're all here, let me bring this out so there will be no misunderstanding and I think some of your technical people can appreciate this; that when we have these data available, a good deal of the data very often is in the form of worksheets down at the laboratory or offices where the men are working on them. Some of this comes out in reports. Now, the data on our worksheets are public and that data are available for inspection at designated places. This is in accordance with the standard procedure. In other words, we will carefully budget, so as not to frivolously handle Federal funds, the preparation of collated reports to get out information on a periodic basis. We will not go into necessarily a crash report and a runoff for every request. We just can't do that; but the work sheets will be available for anyone who wants to see it during reasonable office hours.

Are there any further questions or comments? (No response.)

If not, thank you all for coming and we stand adjourned.

(Whereupon, at 4:40 o'clock p.m., the conference adjourned.)

[From the Seattle Times, Jan. 18, 1962]

U.S. OFFICIAL SETS SCHEDULE TO END WATER POLLUTION IN STATE

(By Wayne Jacobi, Times staff reporter)

OLYMPIA, January 18.—The U.S. Government has stepped into the State's water pollution dispute.

After a 2-day conference between State and Federal officials, Murray Stein, conference chairman, said yesterday that the Federal Government is assuming "concurrent jurisdiction" with the State in the pollution battle.

Stein, chief enforcement officer of the U.S. Department of Health, Education, and Welfare, yesterday laid down a new schedule for compliance to State cleanup orders by seven pulpmills.

"Failure to comply with the Federal timetable," Stein said, "could result in a Federal court action." However, Stein added:

"We hope this case does not go to a court action. We measure our success by the number of cases which are solved at the conference level."

The industry's presentation closed with a charge that Federal officials had shown bias in the conference and had prejudged the case.

Vinton W. Bacon, executive secretary of the Northwest Pulp & Paper Association, criticized a statement made last Monday by James M. Quigley, Assistant Secretary of Health, Education, and Welfare, that there is "clear evidence" of water pollution in the Puget Sound region.

Bacon said the industry originally had favored Federal participation in "solving our State's (pollution) dilemma."

"Quite frankly, however, from what we read in recent newspapers we question whether or not this can be so," Bacon said.

"When an official representative of the Federal Government states, after a 90-minute airplane flight, that 'we saw clear evidences of water pollution from the operation of several pulpmills' he apparently has an insight or degree of perception unavailable to most of us.

"Such prejudging of a highly complicated and technical subject * * * can render a real disservice to the people of Washington."

Bacon also charged that Federal conferees had shown antiindustry bias in the hearing.

Stein denied any bias and defended Quigley's earlier statement. He said Bacon was quoting Quigley out of context and that the full statement had gone on to say that the extent of the pollution problem was not discernible from the air.

Stein set January 1, 1963, as the deadline for seven pulpmills, ordered by the State to install pollution-abatement equipment, to submit engineering plans.

Under the State's schedule, the plans would have been required by next July 1.

No date was set for completion of installation of the antipollution equipment. The industry said the equipment would not solve the problem and would cost the industry too much money.

After the hearing one industry representative said:

"This makes very little difference in the situation. The pollution problem, if one exists, will only be solved in court. Now it appears it will be in Federal court instead of a State court."

[From the Longview Daily News, Jan. 19, 1962]

WATER POLLUTION HEARING TERMED "SHAM" BY TURCOTTE

BELLINGHAM, WASH.—The president of the Northwest Pulp & Paper Association says the joint Federal-State Water Pollution Conference this week was a "sham."

Lawson Turcotte, head of the organization, said Thursday:

"We were told that the Conference had been called to get information in order that the Federal Government might study the matter to determine whether or not pollution was occurring.

"The Conference coordinator announced that the Conference record would be open for an additional week so that more information could be submitted.

"Then, after a 5-minute huddle at the conclusion of the Conference the Federal officials read from a mimeographed statement a decision purportedly reflecting testimony given during the 2-day Conference.

"This was the most blatant example of prejudging we have ever witnessed. We had no hearing."

When the hearing ended Thursday, Murray Stein, chief enforcement officer for the U.S. Public Health Service, said the Federal Government would help the State pollution control commission get seven pulpmills and papermills to comply with new State antipollution directives.

The mills are in the Pudget Sound area.

Turcotte commented "We had hoped that the Federal Government would study this highly complex subject in a rational and scientific manner, considering all the evidence on an objective basis.

"On the basis of the decision handed down, we can only conclude that the Federal officials made their decision before the Conference convened."

[From the Seattle Post-Intelligencer, Jan. 20, 1962]

CONFERENCE ON POLLUTION CALLED "SHAM"

Lawson Turcotte, president of the Northwest Pulp & Paper Association, has called the recent joint State-Federal Water Pollution Conference a "sham."

Turcotte said, "We were told that the Conference had been called to get information in order that the Federal Government might study the matter to determine whether or not pollution was occurring.

"The Conference coordinator announced that the Conference record would be open for an additional week so that more information might be submitted. Then, after a 5-minute huddle, Federal officials read from a mimeographed statement a decision purportedly reflecting testimony given during the 2-day Conference.

"This was the most blatant example of prejudging we have ever witnessed," Turcotte said. "We had no hearing."

Turcotte said that the refusal of the Federal Government officials to study the evidence in an objective fashion was a clear indication that the Federal Government decision was made before the hearing started.

[From the Seattle Post-Intelligencer, Jan. 23, 1962]

LET'S BE FAIR

On this page today is a letter from a Port Angeles business leader who asks, "Why does the State pollution commission have to harass our Port Angeles pulpmills and papermills without which we would have a town of less than one-fourth the present population?"

The answer to the question, of course, is that ostensibly the commission wants more assistance from these and other pulpmills in the problem of stream and water pollution.

But "harass" is the right word in this connection and the so-called State-Federal "hearings" at Olympia last week made it abundantly clear that "harass" is the accurate word.

Leaving for later technical debate the questions involved, this conference was indeed a blatant, shameless use of bureaucratic power for political purposes.

In fact, the so-called hearing was so clearly stacked against a major Washington industry that a reporter was heard to mutter to another reporter, "Why are we here? Why don't they hang the millmen and call it a day?"

Figuratively, that is about what was attempted, and the State commission has never yet advised the pulpmills what it will consider a standard. This the industry should have before spending additional millions of dollars in efforts toward stream improvement.

That pollution of our streams and waters must be guarded against goes without saying. But the action toward the solution should be rational and scientific.

It should also be fair, not simply to the management of pulpmills and papermills, but to the thousands of western Washington families which depend upon this major economic fabric for a livelihood.

VOICE OF THE PEOPLE: NO STANDARDS ARE SET

To the Post-Intelligencer:

Why does the State pollution commission have to harass Port Angeles pulp and paper mills without which we would have a town of less than one-fourth its present population? No standards have been set by the commission as to the concentration of pulpmill waste which is safe for marine life.

Authorities differ as to whether or not this waste has any ill effects on the salmon and other food fish. I am no expert on this subject but after living here for 47 years I am convinced that the pulpmill liquor discharged into the bay or the Strait of Juan de Fuca has a negligible effect on fish.

In the winter blackmouth Chinook salmon are caught at the head of the bay adjacent to the discharge of effluent from one of our pulpmills. At that time of year the fishing is much better there than in the strait outside of the harbor.

It is apparent that we have had and can continue to have, both the important fisheries and our essential three pulpmills, which in the plants and in the woods give employment to 1,730 people and provide annual payrolls of $13,500,000.

BENJAMIN N. PHILLIPS,
Board Chairman, First National Bank, Port Angeles.

[From the Seattle Post-Intelligencer, Jan. 24, 1962]

TAX AID URGED TO HELP MILLS FIGHT POLLUTION

OLYMPIA, January 23.—Gov. Albert D. Rosellini today asked Congress to give paper pulp mills a fast tax writeoff if they agree to stop polluting water with sulfite wastes.

In a letter to Senators Warren G. Magnuson and Henry M. Jackson, both Democrats, of Washington, Rosellini pointed out that the Federal Government provides financial aid to help cities build sewage-treatment plants in an effort to stop water pollution.

"It would appear to me that this principle might, with equal logic, be utilized in the case of industry, through the medium of tax assistance," the Governor said.

Rosellini reminded the Senators that representatives of the U.S. Public Health Service ruled last week that pulpmills are a major source of pollution in Washington waters. The Federal agents said they would help the State force the mills to clean up their waste water.

In his letter, the Governor said he felt "that problems of water-pollution abatement must be squarely faced."

However, he added, "it is most certainly not my desire to unduly penalize the important pulp and paper industries in this State."

Representatives of the pulp industry have argued that the pollution control commission's cleanup plan was unreasonably expensive.

Rosellini said he recognized "a great need for keeping our public waters in as high a state of purity as is reasonably possible to achieve."

"On the other hand," he wrote, "representatives of the pulp and paper industries feel that the discharge of waste is not as deleterious as is contended and that the installation of the required recovery processes would involve an investment in excess of $50 million."

[From the Longview Daily News, Jan. 24, 1962]

SECOND POLLUTION CONFERENCE BILLED

OLYMPIA.—A second Federal-State Conference probably will be held within the next 3 months to look into water pollution in eastern Washington, a State official said Wednesday.

At the first Conference last week the Federal Government agreed to step in and help the State enforce cleanup orders issued last May to nine pulp and paper mills in the Puget Sound area.

The second Conference will shift its focus from Puget Sound to the upper Columbia River and such major tributaries as the Snake, Spokane, and Yakima Rivers.

It could lead to Federal assistance, backed up by enforcement action, if the Conference finds pollution and determines that steps to clean up eastern Washington waters are being delayed. The Federal-State conference in Washington, first of its kind in the country, was arranged under a new program permitting the Federal Government to help the States combat intrastate pollution.

Lewis R. Holcomb, special services officer for the State pollution control commission, said the second conference will examine the effects of water discharges from the Hanford atomic products operation, cities, industries and irrigation projects.

Two eastern Washington pulpmills—Boise Cascade Kraft Corp., Wallula, and Inland Empire Paper Co., Millwood—are among nine mills which have appealed cleanup orders from the pollution control commission.

Holcomb said the Conference also will consider the influence of major hydroelectric projects on temperature and quality of water in the major rivers.

The Hanford problem involves the discharge into the Columbia River of heat dissipating water used to cool nuclear reactors at the atomic project.

The Atomic Energy Commission reported last year that Pasco area residents were exposed to an estimated 40 percent of the maximum radioactivity considered safe in what they consume, including drinking water, fish, waterfowl and farm produce.

"While still well below applicable permissible limits," the AEC report said, "the accumulated exposure for 12 months to Pasco water drinkers was about 20 percent higher than 1 year ago because of increased reactor output * * * and less favorable river flow."

Alfred T. Neale, special projects engineer for the State pollution control commission, said public health officials agree Hanford water discharges do not pose a health problem at this time.

On the other hand, he said, Hanford has embarked on an aggressive program to reduce their effects on the Columbia River waters.

[From the Lewiston Daily Sun, Feb. 9, 1963]

POLLUTION MEETING FIZZLES

An attempt by Federal authorities to get their foot in the door of antipollution work on the Androscoggin River, through a conference with officials of Maine and New Hampshire, has fizzled for the second time. How well the new failure will set in Washington, and what will be tried next is anyone's guess at this time.

Last fall, when the Federal Health, Education, and Welfare Department sent a representative to Portland for a hearing with officials of the two States, the latter walked out after protesting that they had had insufficient notice of the meeting, little or no information on the agenda, and no time to prepare for a conference.

This week, when a new conference was attempted, neither Maine nor New Hampshire officials would join as conferees. The contention was that even though the Androscoggin River is an interstate watercourse, the HEW has no legal right to inject itself into the antipollution program. By taking the initiative in the matter, the HEW is in violation of the intent of the Federal Water Pollution Act, attorneys for the States insisted.

We agree with the contention of the State officials. If no program of pollution correction were underway, the HEW might have an excuse for stepping in. But both Maine and New Hampshire know the problem they face because of pollution in the Androscoggin, and both have been working on it. There has been a marked decrease in industrial pollution in the past 15 years, and the river is due for classification by the Maine Water Improvement Commission in about 2 years, so that municipal sewage pollution will be attacked.

Cleaning up the Androscoggin properly can and should be left to these two States. We hope that the HEW will take an objective viewpoint, despite the two rebuffs, and concentrate its efforts elsewhere.

Mr. NELSEN. Sometime back when the first activity started relative to Federal aid to education on a broad basis I recall receiving many letters from superintendents of schools stating to the effect that we have been planning on building a new school building but we are wondering will this bill pass, and if Federal aid is going to be made available in the future, we are going to delay our program with the hope of Federal assistance. My observation has been in many cases where the Federal Government gets into the picture to a greater degree than local, initiative tapers off with the hope that a Federal lift will come and there is normally a retardation of what normally would happen.

My observation about the hearing thus far has been this: A great impetus that is needed is information, and another thing that is needed is some techniques of procedure on a local level which I think the Government should supply. I think you will find in our subcommittee, as well as our whole committee, the tendency is to lean toward the

activating of local activities, and I believe that includes the chairman to a major degree. There are instances where there is a function for the Government, and I think in the research field, the assistance that might be given as to how to proceed and then to toss that to the local people because many times we find that what to do about a problem is the big problem. If we find out what the answer is, they will proceed on a local level.

Now then in your judgment the progress that is being made is quite substantial, nationwide, because of the recognition of the problem at this point; is that not true?

Mr. CANNON. We certainly believe that there has been a great deal more public awareness throughout the whole country as to these problems and a great deal more activity being carried out. Certainly we feel that the 1955 Federal act has assisted in crystallizing this attention. We hope that the concept of the 1955 act would continue to be the basis and the foundation on which the Federal program was carried out.

As you mentioned, I think very important is the distribution of how-to type of material and information to State and local officials at all levels. I think one of the best pieces of material I saw distributed at the National Conference on Air Pollution was a leaflet published by the U.S. Public Health Service which had been written by Mr. Smith Griswold of the Los Angeles Air Pollution Control District describing the activities and the functions, almost in a way the philosophy, of the local control official. We certainly feel that this type of activity is very desirable in educating and informing people on how to get these jobs accomplished, how to organize and how to proceed and how to stimulate the overall community cooperation that you must have if you are really going to achieve anything.

Mr. NELSEN. I certainly join with the chairman in realizing that there are areas where there is a great problem. Now those of us who live on the farm don't have so much of a problem with the pollutants. It is a little aromatic but it is not polluted.

I thank the witness for his testimony.

Mr. ROBERTS. While we are on this particular point, I would like, if I may, to ask you about the staffing of the Air Pollution Control Association.

Is it staffed to provide technical assistance to local communities?

Mr. CANNON. Well, without knowing anything about it, I would say that it certainly is not in a position to staff local activities throughout the country. I was going to mention, for instance, a program carried out by the National Coal Association that I think is very helpful. They do have regional representatives in various areas and communities throughout the country that go into specific areas—specific air pollution problems because they find in a great many instances that problems are being created by an improper operation or maintenance of equipment, not that there is anything wrong with the equipment or the fuel.

Now I notice that in the proposals here there are proposals to have the U.S. Public Health Service detail personnel to the local agencies. I don't know to what extent it is contemplated to do this, how many hundreds or thousands of personnel this would involve in any way. I don't know. Certainly, to staff a great many local agencies through-

out the country would take a lot of people. So I don't know just what dimension of program is contemplated in that provision. That is part, I believe, of section 3, and as I understand, Secretary Nestingen testified yesterday that there is no appropriations limitation on the program authorized in section 3. I am not clear in my own mind whether this is clear or not.

I was not able to find any appropriations limitations stated as to the section 3 programs so I think in a way I am kind of groping in the dark as to the dimensions of some of the programs proposed under that section, including the detailing of personnel to staff local control agencies.

Now on the other hand, I think some remarkable achievements have been made locally without hiring a great army of people and spending great masses of money for the governmental activities. For instance, in Pittsburgh, the expenditures and the costs that have been incurred by private enterprise run into the hundreds of millions of dollars. So it is very misleading, I believe, to count just the money that is being spent by the governmental agency. It is what results are they achieving for this expenditure that is really the important part. What actions are they getting other people to undertake in response to their programs is the real measurement, I believe.

I certainly would not want to hold out any claim that the Air Pollution Control Act—the Air Pollution Control Association could go out and staff all the agencies in the country.

Mr. ROBERTS. That is what I wanted to get. It is my information that they have to my knowledge only one technically qualified employee. I will try to find out for the record.

Mr. CANNON. Mr. Arnold Arch is the executive secretary of the Air Pollution Control Association. He was formerly the air pollution control officer at Niagara Falls, N.Y. I referred to him in our prepared statement. A great many people think that he is doing a very wonderful job in providing leadership through the Air Pollution Control Association. Of course, it takes a lot more than a general to have a successful army. You need to have unsung heroes in a local control role in all these communities throughout the country.

Mr. ROBERTS. I have no desire to cut anyone short but the House is meeting shortly and I have to serve as Chairman.

Mr. BROTZMAN. I have one question.

Mr. ROBERTS. Surely.

Mr. BROTZMAN. I think what you said really is that you don't think projects and this type of action might stifle local initiative to continue to solve this problem. Would that not be a fair summary?

Mr. CANNON. Yes, I would say that generally states our views; that, essentially, to get results in an air pollution control program, you have to do a local policing job of thousands of individuals and air pollution sources and you have also got to be part of the community and enlist all the segments of the community in formulating a program that that community will go out and support.

I just want to add one thing on the question of need. Of course, there are references to London in connection with this problem, but all that I have been able to glean from the material that I have read indicates that there have been readings on air pollution and air pollutants in London on a consistency and highness of level that are far

beyond anything that we are finding in this country on a consistent basis, thank God.

I believe that we are in a far better situation than they are in a lot of other parts of the world. In fact, maybe if London back in 1952 or earlier had undertaken the type of program that Pittsburgh undertook, these sad incidents could have been avoided.

Mr. ROBERTS. I hope to be able to go into that this afternoon, that particular phase of what happened in London.

We have several more witnesses this afternoon and the subcommittee will stand recessed until 2 p.m. this afternoon in this same hearing room.

(The following information was furnished by Mr. Cannon:)

NATIONAL ASSOCIATION OF MANUFACTURERS
OF THE UNITED STATES OF AMERICA,
New York, N.Y., April 5, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Health and Safety Subcommittee,
House Interstate and Foreign Commerce Committee,
House Office Building, Washington, D.C.

DEAR CHAIRMAN ROBERTS: In further response to your request for additional information as to Federal intervention in water pollution cases, on March 19, 1963, during the course of hearings on air pollution problems held by your subcommittee, I am enclosing the following:

1. Statement of the New England Interstate Water Pollution Commission, February 5, 1963.
2. Statement of the chief engineer of the Maine Water Improvement Commission, February 25, 1963.
3. Statement of the attorney general of New Hampshire, February 25, 1963.
4. Statement of the attorney general of Maine, February 25, 1963.
5. Resolution of the New Hampshire Legislature, February 25, 1963.

It is respectfully requested that these items be included in the record of the hearing.

Thank you in advance for your courtesy and consideration in this matter.

Very truly yours,

DANIEL W. CANNON,
Committee Executive, NAM Conservation Committee.

STATEMENT BY LACHLAN F. BLAIR, CHAIRMAN, NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, RE ANDROSCOGGIN RIVER CONFERENCE, FEBRUARY 5, 1963

The New England Interstate Water Pollution Control Commission is an agency of the New England States and New York State. Its purpose is to administer a compact for the control of pollution of the interstate waters of the area—this compact having been approved by an act of Congress in 1947 (Public Law 292 of the 80th Cong.) and ratified by the legislatures of the seven States. The commission is directed under the compact to establish a system of classification for interstate waters according to highest use based on physical, chemical, and bacteriological standards. The signatory States agree to prepare proposed classifications for their interstate waters and submit them to the commission for approval. Upon approval it is agreed that each State, through its pollution control agency, will establish the necessary programs of sewage and industrial waste treatment for compliance with the classifications.

Since the organization of the commission, New Hampshire and Maine have enacted pollution control laws providing for the classification of all their waters by their legislatures. These laws are based on the NEIWPCC water quality standards. The role of NEIWPCC is to coordinate the work of the States involved and to approve proposed classifications. Following classification by the legislatures, the State agencies issue orders to municipalities and industries to construct the necessary treatment works to meet the classification requirements. We thus have in the area effective State laws and a compact agency to coordinate the State's activities where interstate waters are involved.

Accomplishments in pollution control to date and plans for the future are matters of record and have received the praise of public and press. The long-range program of classification and pollution abatement, which provides for the various degrees of water quality necessary for the proper maintenance of social and economic well-being, includes each of the interstate basins in the area. The classification of the waters of the Piscataqua River in 1961 by the New Hampshire and Maine Legislatures, with its resulting pollution abatement program, is an excellent example. Classifications have been approved and adopted for nearly 90 percent of our waters, and studies with a view to classification are completed or underway in the remainder. The construction of sewage and waste treatment works at an estimated cost of over $250 million in the past decade has materially lessened the pollution of our waters—only 16 percent of the sewered population remains to be served by the construction of sewage treatment plants. These achievements can be attributed to the cooperative efforts of the States and their communities and industries over the years.

Regardless of this impressive record and without prior consultation with NEIWPCC or the States, the Secretary of Health, Education, and Welfare last September initiated enforcement proceedings on one of our interstate rivers, the industrial Androscoggin. The matter of the classification of the Androscoggin River was first discussed by the commission's technical advisory board in 1957 and at most subsequent meetings. The classification of the Androscoggin River was originally given, and continues to have a low priority for several reasons. Under a court decree of 1948, an Androscoggin River administrator was appointed and given the necessary regulatory authority to prevent a nuisance condition from occurring in the river; the Legislatures of New Hampshire and Maine have not requested classification recommendations for the Androscoggin because other river and coastal areas have more pressing pollution problems and should be classified before the Androscoggin, and without the pressure of classification orders several Androscoggin municipalities and industries have undertaken waste treatment studies and remedial works. Furthermore, grant funds for sewage treatment works construction have been allotted for the next decade to municipalities under orders to conform to classifications and are not available for Androscoggin communities. It is, therefore, clear that neither the States nor NEIWPCC have been remiss in their duties and responsibilities in connection with the Androscoggin River. The present status of the Androscoggin, according to NEIWPCC's schedule for 1963, is for studies by the New Hampshire and Maine agency in preparation for legislative classification of interstate tributaries in 1965 and the main stem in 1967.

The commission is truly disturbed by this enforcement action on the part of the Secretary of HEW. In view of our regional program for pollution abatement and the favorable climate which has been established in New Hampshire and Maine toward pollution control in recent years, his action is being interpreted as an unwarranted intervention with States rights and prerogatives. Moreover, the secrecy which enveloped the preparations for these proceedings was a violation of the cooperative spirit which NEIWPCC and the States assumed they had established with the Department of HEW. This cooperation was based on the congressional policy expressed in the Federal Water Pollution Control Act, viz: to recognize the primary responsibilities and rights of the States in controlling water pollution, to encourage the establishment of interstate agencies for coordination of the States' activities, to provide technical and financial assistance to State and interstate agencies, and to enter into enforcement procedures when the State and interstate pollution control agencies are unable or unwilling to cope with a situation. In this connection, the regional representatives of HEW have been the guests of the commission at all meetings and were cognizant of our plans including the status of the Androscoggin River in the program. Unfortunately it seems to have become necessary for HEW to instigate enforcement proceedings on some New England river in order to publicize the geographical coverage and importance of its activities.

Under the Federal Water Pollution Control Act the Androscoggin enforcement proceedings are directed only against New Hampshire industries and communities—not those of Maine. If these proceedings are carried to further stages they can only result in court action involving the New Hampshire sources of pollution. This certainly is a confusing and improper approach to a problem which involves Maine as much as it does New Hampshire. The problem must be solved on a basinwide basis and through interstate cooperation, for which the necessary technical and legislative means and machinery have been provided by State laws.

The commission concludes that the enforcement action now being initiated can only result in disruption of the well-planned programs of New Hampshire, Maine, and NEIWPCC, in a loss of public confidence in State and interstate agencies and their programs, and possibly an abandonment by communities and industries of their pollution control plans under State guidance while they await Federal action through the courts.

Federal-State cooperation in water pollution control is essential and to that end Federal enforcement procedures should not be invoked without full consultation with the State and interstate agencies to determine the nature and extent of their programs in the affected areas and without being given an opportunity to carry out their programs. Therefore, enforcement proceedings on the Androscoggin River should be terminated to permit the States and NEIWPCC to continue in an orderly fashion their programs to restore the waters to their best uses as determined by the legislatures with careful consideration of the economics and all other local factors involved.

STATEMENT OF RAEBURN MACDONALD, CHIEF ENGINEER, MAINE WATER IMPROVEMENT COMMISSION, HEW CONFERENCE, RE ANDROSCOGGIN RIVER, FEBRUARY 25, PORTLAND, MAINE

The statement which I will read sets forth, in addition to the statement of Mr. West, the position of the Maine Water Improvement Commission with respect to the legal action initiated against it by the Department of Health, Education, and Welfare. It is also intended to explain the place which the stream in question occupies in the pollution control program of the State of Maine.

The Maine pollution control program depends upon the classification system for the reclamation of waters, and this classification, which is in effect the determination of the usages to which a waterway can best be put for maximum benefit to the people of Maine, is made by the legislature. To date this program has embraced a great portion of the State's waterways. As a matter of fact, the only stream besides the Androscoggin left unclassified is the Penobscot on which the field work is nearly finished, and the classification submission planned for 1965. Tidal water classification will be completed in this legislature except for a small mileage in the Penobscot Bay area.

The commission does not feel that this accomplishment indicates an idle agency, since the provision for reclamation of waters did not appear in the law until 1953. The State government has, to further implement its program, provided monetary aid for preliminary planning of sewage works and for construction at the same contribution percentage as Federal aid is given.

The fact that the Androscoggin River has been in and is under control of the courts was the reason for its low priority in the intrastate and interstate program. Improvements in its status were continually being made and if the health or welfare of Maine people had been placed in jeopardy, the attorney general of Maine was provided with ample facilities under the court decree to bring about a review and if warranted, correction. At the time, in 1961, that the Kennebec River work was completed the commission, because of the involvement of the two streams, considered the advisability of launching a survey of the Androscoggin as the next step, but at the time changes which would radically effect the rivers pollutional load, were either underway or imminent and it was decided to proceed instead with the Penobscot River study.

The water improvement commission has been able to keep abreast of conditions on the Androscoggin situation through the offices of the court appointed river master. The agency also keeps in touch with events affecting the municipal situation by direct contact. For instance, preliminary planning on the part of municipalities in anticipation of classification and its inevitable requirements with respect to sewage treatment is proceeding at a very reasonable rate. Of the 12 municipalities having significant sewerage systems, 3 have already completed their first stage of planning, 1 such planning project is currently underway, and we anticipate the start of at least 4 more during the coming season.

As far as classification of the Androscoggin is concerned, a definite schedule exists, calling for completion of studies and submission for classification of Androscoggin tributaries of an interstate nature to the 1965 legislature, and for submission of the main stem for classification to the 1967 legislature. Tributaries wholly within Maine have generally been classified previously and necessary abatement projects have been undertaken.

In the entire State program and in the Androscoggin Basin as well the rate of availability of aid will be much in the picture in the coming decade. Under present conditions the construction of municipal plants necessitated by classifications already in effect consume the aid available over the next 10 years Any crash program on the Androscoggin or any program which forced the acceptance of projects here out of turn with the overall program would upset the abatement schedule as it is now developed.

A reasonable abatement schedule for the Androscoggin would probably win legislative approval with little trouble. The relationship of the legislature and the commission had shown steady improvement since the early days of classification; a statement borne out by the acceptance in 1961 of the commission's program for the Salmon Falls-Piscataqua River, which now appears to be nicely on schedule. This was a project conceived, studied, and carried out by the two States of Maine and New Hampshire within the framework of the New England Interstate Compact.

It is our considered opinion that the water improvement commission manpower and equipment resources available for studies of the Androscoggin are entirely adequate as they proved to be on other major streams. We will be in a position to commit one trailer laboratory in the spring as soon as sampling can be carried on, and plan to do so with the other trailer arriving on the scene later in the season. Both teams will be composed of personnel with considerable background in the pulp and paper industry.

I believe also that progress in lightening the pollutional load of the Androscoggin under the court decree should be cited and to do so I am going to review first of all the summary of accomplishments as set forth in the report to the Androscoggin River Technical Committee by Dr. Walter A. Lawrance. The complete text of this report will be submitted with this material. The summary insofar as it pertains to the program is as follows:

1. Review of the legal history and the control procedures.
2. The outstanding accomplishments have been—
   (*a*) Elimination of a serious odor nuisance;
   (*b*) Reduction of the sulfite waste liquor pollution discharge to the river to 15 percent of the 1941 load; and
   (*c*) Additional reduction in 1961 to lower the discharge percentage to about 5 percent of the 1941 tonnage.
3. Expenditures for nitrate, testing, and compliance with control requirements exceed $2 million. Over $20 million has been spent to provide inmill process changes to reduce the pollution discharge to the river.
4. No public money has been employed either for control or reduction of pollution. All costs have been borne by Brown Co., Oxford Paper Co., and International Paper Co.

Major inmill changes which have been put into effect are items of interest well worth noting in addition to the summary quoted above. These changes were all applicable to Maine installations only and changes made in the New Hampshire mills are not noted.

In July of 1959 the Oxford Paper Co. closed permanently a sulfite mill which had a capacity of 160 tons per day. The installation was dismantled entirely in order to make room for the sulfate mill scheduled to take its place. This was a signficant improvement because of the far lower polluting potential of the Kraft mill.

In 1960 Oxford's Island Division mill with a sulfite capacity of 125 tons per day was shut down permanently. The aggregate of these changes plus the use of lagoons at another location have reduced the sulfite load discharged under critical conditions, that is summer flows, to about 2 percent of that discharged during the summer of 1941.

Suspended solids loads have also been reduced by the installation of bark burners and disposal systems, improved screens, white-water treatment, groundwood recovery, and other items. More than $800,000 has been invested in this equipment alone and it removes annually about 18,000 tons of solid material.

This program is continuous, orderly, and progressive. It is not complete and further reductions in this area are anticipated in 1963 both in the field of solids removal and other reductions. It is interesting to note the rate at which expenditures have been made over the years.

1946	$38,000	1957	$9,000
1948–50	87,000	1960	11,000
1949	72,000	1961–62	260,000
1956–57	27,000	1962	223,000

In closing, the water improvement commission wishes to reiterate its stand that machinery at State and at interstate level exists to produce an orderly interstate program for control of pollution in the Androscoggin. The uses of waterways in each of the States involved is a matter which can best be determined by the respective State legislatures as now provided by statute. It is not necessary to infringe their right to do so, and therefore, it should not be done.

STATEMENT OF MR. KALINSKI, ASSISTANT ATTORNEY GENERAL, NEW HAMPSHIRE, HEW CONFERENCE RE ANDROSCOGGIN RIVER, FEBRUARY 25, PORTLAND, MAINE

STATEMENT CONCERNING FEDERAL ENFORCEMENT ACTION ON THE ANDROSCOGGIN RIVER

I appear here today as a legal representative of the State of New Hampshire and of the New Hampshire Water Pollution Commission, the State agency charged with the responsibility of administering our water pollution law.

My purpose in appearing here today is to set forth in the record of of the proceeding in some detail the position of the State of New Hampshire with respect to the initiation of enforcement proceedings with reference to the Androscoggin River by the Secretary of the U.S. Department of Health, Education, and Welfare, Mr. Anthony J. Celebrezze. Our position is basically a legal one in which we challenge the jurisdiction of the Secretary of the Department of Health and Welfare to initiate these so-called "enforcement" proceedings under the Federal Water Pollution Control Act, in the light of the factual background and circumstances existing in this situation.

At the outset, I would point out that I do not appear here in the capacity of a "conferee" participating in a conference. It should be noted as a matter of record that the New Hampshire Water Pollution Commission has not designated a "conferee" to participate in these proceedings. Nor do we concede that these proceedings constitute a "conference" as that term is used in section 8 (c) of the Federal Water Pollution Control Act. I would reiterate that I appear here only as a legal representative of the New Hampshire Water Pollution Commission from the office of the attorney general of the State of New Hampshire.

In order to make our legal position clear, I will review briefly, first of all, some of the pertinent provisions of the Federal Water Pollution Control Act, which is the law under which the Secretary of the Department of Health, Education, and Welfare purports to be acting in this case. Any action of the Secretary in this case must be in conformity with the provisions of this act, and his actions in this case are proper only if they comply with its provisions. We seriously question not only the propriety but also the legal validity of the Secretary's action with respect to the initiation of enforcement proceedings against New Hampshire with reference to the Androscoggin in the fact of the clear and explicit provisions of the Federal Water Pollution Control Act. In our judgment, the Secretary's actions in this case constitute an attempt on his part to usurp and preempt the rights, powers, and responsibilities in this instance of both the States of New Hampshire and Maine, and such actions, we maintain are specifically prohibited by the Federal Water Pollution Control Act.

The Federal Water Pollution Control Act was originally enacted by the Congress in 1948. It was amended in 1956 and then again in 1961. The basic purpose of the act is the prevention and control of water pollution in the waterways of the Nation. On the Federal level, the act is administered by the Secretary of the Department of Health, Education, and Welfare. Within that Department, the Public Health Service is charged by the Secretary with the responsibility of administering the act.

Basically, the Federal Water Pollution Control Act seeks to accomplish its purpose by stressing cooperation between State, inerstate and Federal agencies. The act directs the Secretary, in cooperation with State and interstate water pollution control agencies, and with municipalities and industries involved, to develop comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries thereof and improving the sanitary condition of surface and underground waters. To this end the act provides for cooperative research, investigation and training in this field. The act also provides for grants to States and municipalities for purposes of water pollution control programs. The act directs the Secretary to encourage cooperative activities by the States for the prevention and control of water pollution. By way of

summary, then, the whole thrust of the act is one of cooperation among State, interstate and Federal agencies involved in the area of water pollution control.

Let us examine several provisions of the act in more detail which have a direct bearing upon the legal position which the State of New Hampshire is taking in this case. First of all, section 1(a), which appears under the heading "Declaration of Policy", states as follows:

"SECTION 1. (a) In connection with the exercise of jurisdiction over the waterways of the Nation and in consequence of the benefits resulting to the public health and welfare by the prevention and control of water pollution, it is hereby declared to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in prevening and controlling water pollution, to support and aid technical research relating to the prevention and control of water pollution, and to provide Federal technical services and financial aid to State and interstate agencies and to municipalities in connection with the prevention and control of water pollution. To this end, the Secretary of Health, Education, and Welfare (hereinafter in this act called the "Secretary") shall administer this act."

This certainly is a clear expression on the part of Congress of its legislative intent in enacting this legislation. The key phrase in this declaration of policy is the part which states as follows:

"* * * it is hereby declared to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution * * *."

It is clear that Congress did not intend to take away any of the rights and responsibilities of the individual States in the field of preventing and controlling water pollution. The Federal Water Pollution Control Act was clearly intended to supplement and assist State action in this field, not to usurp or preempt it. To make this even more manifestly clear, the Congress stated in section 1(b), under the Declaration of Policy, as follows:

"(b) Nothing in this act shall be construed as impairing or in any manner affecting the right or jurisdiction of the States with respect to the waters (including boundary waters) of such States."

This is the background and the frame of reference within which the remaining provisions of the Federal Water Pollution Control Act must be interpreted, particularly the provisions of section 8 which is entitled, "Enforcement Measures Against Pollution of Interstate or Navigable Waters." This is also the background and the frame of reference within which the Secretary of the Department of Health, Education, and Welfare must administer the provisions of this act, particularly the enforcement provisions to which I will now refer.

Section 8 of the Federal Water Pollution Control Act contains the so-called enforcement provisions of the act. This section of the act gives the Secretary the authority to commence enforcement proceedings against States under certain circumstances, which can end in court action to compel a State to abate pollution in interstate or navigable waters.

Consistent with the Declaration of Policy contained in section 1 of the act to which I have previously referred, section 8(b) states as follows:

"(b) Consistent with the policy declaration of this act, State and interstate action to abate pollution of interstate or navigable waters shall be encouraged and shall not except as otherwise provided by or pursuant to court order under subsection (g) be displaced by Federal enforcement action."

Again Congress clearly sets forth its intent that the primary jurisdiction over controlling and preventing of water pollution is to rest with the individual States, and that Federal enforcement proceedings are to be used only as a last resort in a most serious case.

Sections 1(a) and 1(b) and 8(b) of the Federal Water Pollution Act contains the key to the legal position which the State of New Hampshire is taking here today. I will amplify this position in some detail later in this statement.

Let us examine the remaining provisions of section 8 which refers to enforcement measures by the Secretary under the act. Section 8(a) makes the pollution of interstate or navigable waters in or adjacent to any State which endangers the health or welfare of any persons, subject to abatement. Section 8(c) defines the initial steps to be taken by the Secretary in starting the enforcement proceedings to abate pollution of interstate or navigable waters which can end in court action against the State concerned.

Section 9(c)(1) provides first of all, as follows:

"(c)(1) Whenever requested by the Governor of any State or a State water pollution control agency, or (with the concurrence of the Governor and of the

State water pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to pollution of waters which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originates, give formal notification thereof to the water pollution control agency and interstate agency if any of the State or States where such discharge or discharges originate and shall call promptly a conference of such agency or agencies and of the State water pollution control agency and interstate agency, if any, of the State or States, if any, which may be adversely affected by such pollution. Whenever requested by the Governor of any State, the Secretary shall, if such request refers to pollution of interstate or navigable waters which is endangering the health or welfare of persons only in the requesting State in which the discharge or discharges (causing or contributing to such pollution) originate, give formal notification thereof to the water pollution control agency and interstate agency, if any, of such State and shall promptly call a conference of such agency or agencies, unless, in the judgment of the Secretary, the effect of such pollution on the legitimate uses of the waters is not of sufficient significance to warrant exercise of Federal jurisdiction under this section."

Section 8(c)(1) then goes on to provide as follows:

"* * * The Secretary shall also call such a conference whenever, on the basis of reports, surveys, or studies, he has reason to believe that any pollution referred to in subsection (a) and endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate is occurring."

This last part of section 8(c)(1) is the provision under which the Secretary purports to be acting in this case since it is a fact that neither the Governor of the State of Maine nor the Governor of the State of New Hampshire, nor the water pollution control agencies of either State, nor the governing body of any municipality in either State has requested these Federal enforcement proceedings.

Section 8(c)(2) and (3) of the act refer to the "conference" to be called as the initial step in the enforcement proceeding.

Section 8(d) of the act gives the Secretary authority to recommend remedial action to the appropriate State water pollution control agency if he believes, at the conclusion of the conference, that effective progress toward abatement of such pollution is not being made and that the health or welfare of any persons is being endangered. Sections 8(e) and 8(f) outline a formal hearing procedure and court action to be taken if the Secretary's recommendations are not followed.

In order that the intent of the Congress in enacting the Federal Water Pollution Control Act be made perfectly clear, I will quote certain excerpts from committee reports of the U.S. House of Representatives. House Report No. 1446 deals with the Water Pollution Control Act Amendments of 1956. Under the heading of "Purpose" this House report states in part as follows:

"The bill would amend the Water Pollution Control Act by replacing it with new provisions designed to extend and strengthen the act.

"The bill as reported reemphasizes the policy of the Congress to recognize, preserve, and protect the primary rights and responsibilities of the States in controlling water pollution.

"S. 890 as passed by the Senate would provide a legislative base for the cooperative program which the Public Health Service is carrying on with the State and interstate pollution-control agencies. The objective of these Federal activities is to support and assist State and interstate agencies.

"The committee is impressed with the seriousness of the increasing water-pollution problem and the need to control pollution as a significant measure for conserving the Nation's water resources. There are extensive public expenditures for construction of large-scale projects to develop national water resources. The abatement and prevention of water pollution is essential to the full realization of these developments. The committee is convinced that primary responsibility for regulatory control of water pollution should remain with duly constituted State and interstate authorities. Regulatory authority at the Federal level should be limited to interstate pollution problems and used on a standby basis only for serious pollution situations which are not resolved through State and interstate collaboration. Considering our industrial and metropolitan expansions, water pollution is an involved and complex problem from both the administrative and technical points of view. The committee believes there is a real need for Federal assistance designed to support, stimulate, and complement State efforts."

Under the heading "Changes in Existing Law," and the subheading thereunder entitled "State-Interstate Federal Collaboration on Interstate Pollution Problems," this House report states as follows:

"With respect to interstate pollution—where pollution from one State affects the health and well-being of the people of another State—the bill authorizes a clear procedure designed to assist in the solution of such problems through cooperative State action. The Federal program would be available to aid in this work. Should a situation develop where a serious interstate pollution problem is not solved through joint State or interstate action, the bill authorizes Federal court action if requested by the affected State or with the consent of the State wherein the pollution originates. The bill modifies the present law by clarifying the procedures short of court action and adds the provision by which Federal court action can be taken if requested by the affected State.

"It is the intent of the committee that the Surgeon General will work with State water pollution control authorities, and, where they exist, with interstate authorities, before proceeding with enforcement provisions of section 7. Further, where State or interstate actions are taken which demonstrates reasonable progress toward solution of pollution problems, the Surgeon General shall not initiate interstate Federal enforcement measures.

"The committee believes the procedures authorized in the bill constitute a reasonable balance between the primary rights of the States to control water pollution within their boundaries, and the rights of States seriously affected by pollution from another State to have available to them a practical remedy.

"The committee has restored the provision in the existing act that the courts, before entering a judgment, are to give consideration to the practicability and to the physical and economic feasibility of securing abatement of any pollution proved."

House Report No. 306 deals with the Water Pollution Control Act Amendments of 1961. Under the heading of "Major Provisions of the Bill" and the subheading thereunder entitled "States Rights and Responsibilities," this House report states as follows:

"The bill reaffirms and clarifies congressional policy to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution.

"Nothing in the bill is intended to impair or in any manner affect any right or jurisdiction of the States with respect to the waters of the States, including but not limited to the power, authority, and jurisdiction of the States to enforce State water pollution control laws and regulations.

"The committee has exercised extreme care to assure that the language of the bill will allow continued comprehensive action by the States in the field of water pollution control. There certainly can be no assumption that the Federal interest in the field of water pollution abatement authorized by this bill is so dominant as to preclude State action. The proposition is well established that the protection of the health and welfare of the citizens of a State is a proper subject for the exercise of the State police power. The bill provides specifically for cooperation with the States and its aim is to encourage and assist States and local communities in their efforts to control water pollution, not to usurp or preempt their rights, powers, or responsibilities in this field."

With that review of the provisions of the Federal Water Pollution Control Act and the intent of the Congress in enacting it, I will now discuss the facts of this situation.

On September 4, 1962, the New Hampshire Water Pollution Commission received a notice signed by the Secretary of the Department of Health, Education, and Welfare notifying it that he was calling a conference under the provisions of the latter part of section (8)(c)(1) of the Federal Water Pollution Control Act which I have quoted previously. This notice stated that the conference would take place on September 24, 1962, at Portland, Maine. As I have stated previously the conference is the first step in an enforcement proceeding under section 8 of the Federal Water Pollution Control Act.

Section 8(c)(2) of the Federal Water Pollution Control Act provides in part as follows:

"(2) * * * Not less than three weeks' prior notice of the conference date shall be given to such agencies."

This notice was therefore legally defective in that it gave the New Hampshire Water Pollution Commission only 20 days' prior notice of the proposed conference instead of the 21 days specifically set down as a minimum by Congress. More important, however, was the fact that this written notice was the first knowledge

our water pollution commission had that the Public Health Service officials were concerned with pollution in the Androscoggin River affecting the health and welfare of any persons in the State of Maine. In spite of all the provisions in the Federal Water Pollution Control Act directing the Secretary to cooperate with State and interstate agencies, and to develop mutual comprehensive programs for waer pollution control, no prior discussion was had with the appropriate State officials in the States of Maine and New Hampshire, nor was any prior indication given that the Public Health Service considered pollution in the Androscoggin River a serious problem warranting Federal intervention. No preliminary discussions of any kind were held with our water pollution commission by any Public Health Service officials prior to calling this conference. In view of all the provisions in the Federal Water Pollution Control Act stressing cooperation among State, interstate, and Federal agencies in this field, this fact alone makes us seriously question the motives of the Public Health Service officials in calling this so-called conference.

The notice calling the conference was defective also in that it did not delineate what the purpose of the conference was and what would be discussed at such conference.

When our commission received this notice, they held a meeting as soon as they could, on September 12, 1962, and thereafter wrote to the Public Health Service requesting a postponement of the conference in order to give them time to explore the basis of such as conference and also in order to properly prepare for it. Under the circumstances such a request was certainly reasonable. In this letter our commission pointed out the vagueness of the notice, its failure to state the matters which would be discussed at the conference and the reason for calling it, its failure to delineate the manner in which the conference would be conducted and also our commission requested that it be given the benefit of whatever reports, surveys, and studies which had been accumulated by the Public Health Service officials on the basis of which they had determined to call a conference.

On September 17, 1962, 1 week before the scheduled conference, our commission received a copy of a "Report On Androscoggin River," dated August 1962, from the Public Health Service. With the conference only a week away, this left them with insufficient time to review the document properly. Subsequent review of this document established to our commission that the factual data contained therein was outdated.

On Thursday, September 20, 1962, our commission received a letter from Mr. Murray Stein, Chief Enforcement Officer of the Public Health Service, indicating that their request for a postponement was denied. On Friday morning, September 21, 1962, our commission requested me, as their legal representative, to telephone Secretary Anthony J. Celebrezze and verbally request a postponement of the conference called for the following Monday, September 24, 1962. I tried all day to reach Mr. Celebrezze by telephone but he was unavailable. In the late afternoon of that day, I finally reached Assistant Secretary James M. Quigley. Mr. Quigley assured me as a brother attorney that my request was a reasonable one and indicated to me that he would attempt to call off the conference under the circumstances, but that he wanted to check on it first and call me back. Instead of Mr. Quigley calling me back, Mr. Stein called me back and said that the conference would go on as scheduled and that he had no authority to do anything further in the matter.

Under the circumstances, I advised our commission not to attend or participate in any way in the conference. Assistant Attorney General William J. O'Neil went to the conference as the legal representative of our commission for the sole purpose of reviewing our request, and after the request was denied by Mr. Stein, he, along with representatives of Maine and of the New England Interstate Water Pollution Control Commission left the conference room and did not participate further. Although there were no representatives of the only two States directly interested and concerned, Mr. Stein, proceeded to hold an alleged conference. By any stretch of the imagination, this was not a conference either as a practical matter or as a matter of legal contemplation as the term conference is used in the Federal Water Pollution Control Act.

Our objections to the indefiniteness of the notice, to the fact that it was not given in time, and to the proceedings held on September 24, 1962, at Portland, Maine, without designated conferees of the States of Maine and New Hampshire being present are neither technical nor merely frivolous. Our objections are serious legal ones because the end result of such proceedings would have serious economic, social, and financial consequences upon the State of New Hampshire as

a whole and upon certain communities and industries along the Androscoggin River in the State of New Hampshire in particular. Since this is true, we are entitled to preserve our legal rights in every step of an enforcement proceeding such as the present one.

The Federal Water Pollution Control Act dos not define the word "conference." In the ordinary meaning of the word, it may be defined as a meeting of several persons for deliberation, for the interchange of opinion, or for the removal of differences or disputes. As used in the Federal Water Pollution Control Act it obviously means something more. Such a conference provides the Secretary with conclusions, on the basis of which he can recommend remedial action to the State concerned. If the recommended remedial action is not taken, the Secretary may enforce his recommendations by a hearing procedure and then by court action.

The rights of parties in both civil and criminal proceedings in all of our courts, both State and Federal, are safeguarded by definite procedural rules. In criminal cases the accused is entitled to know what the charges are against him and he is protected by definite procedural and substantive safeguards. In civil cases, both parties are entitled to know the issues raised, and an orderly method is provided for determining these issues. There are definite ground rules set forth which govern these proceedings.

This is not true, however, with respect to the conference proceedings provided for in section 8(c) of the Federal Water Pollution Control Act. There evidently are no ground rules in such proceedings except those that the conference chairman makes up as he goes along. A review of title 42 of the Code of Federal Regulations indicates that the Secretary of the Department of Health, Education, and Welfare has failed to promulgate any rules or regulations which would apply to conference proceedings, although he has promulgated regulations which apply to the hearings under section 8(3) of the Federal Water Pollution Control Act. This, then, is a serious defect in the manner in which the Federal Water Pollution Control Act is being administered by the Secretary.

Section 10(a) of the Federal Water Pollution Control Act states as follows:

"SEC. 10(a). The Secretary is authorized to prescribe such regulations as are necessary to carry out his functions under this Act."

In order to prescribe such regulations, the Secretary is required by law to promulgate them in the Federal Register, a daily publication of all regulations issued by Federal agencies, which are then incorporated into the Code of Federal Regulations. Only when they have been so promulgated do these regulations have the force and effect of law.

As I have stated previously, the Secretary has not seen fit to prescribe any regulations to cover the conference procedure. There are no ground rules which the State of New Hampshire can use as a guide in determining what position to take now that it has been informed that the Secretary has called a conference under the enforcement sections of the Federal Water Pollution Control Act. We have the curious situation then where the Secretary has promulgated extensive regulations to govern the second step of the enforcement proceedings, but has promulgated no regulation governing the first part of the enforcement proceedings wherein the Secretary obtains his conclusions on the basis of which he can recommend remedial action and then start the second part of the enforcement proceedings, the so-called hearing procedure which can end up in court action.

To say that such a situation is unfair to the State of New Hampshire would be to grossly understate the situation. As we see it, it is akin to a situation where a lower court would say to a defendant in a criminal case, or a civil case for that matter, as follows: There are no rules that govern the proceedings in this court. We will discuss your case, and as we go along we will make up the ground rules. Then we will decide the merits of the case. But you need not have any fear, if you do not agree with our decision, because you can appeal our decision to a higher court where there are specific ground rules and where your rights will be protected. In effect, then, to state it another way, the Public Health Service officials have determined that the State of New Hampshire is guilty of polluting the waters of the Androscoggin River, and it remains guilty until it proves itself innocent.

To demonstrate that our concern is neither a fanciful nor an imaginary one, I will quote a portion of Mr. Stein's remarks at the proceedings held on September 24, 1962 here at Portland, Maine. As I indicated previously Mr. Stein proceeded to hold a so-called conference with his own Federal representatives although no conferees of the States of Maine and New Hampshire were present

and participating. At page 103 of the transcript of those proceedings furnished to us, Mr. Stein states as follows:

"* * * Again I might say we would like to hear from the States before we come to any conclusion, but it is pretty obvious from the report that Mr. Sidio gave that pollution in New Hampshire is in the amounts he said it was here, or indicated it was, and that it got into Maine, and that there was endangering of the health and welfare of people in Maine from sources in New Hampshire."

This would be akin to a statement of a judge in a criminal case to a defendant at the conclusion of the prosecution's case to the following effect: "Now that I have heard the prosecution's case I have pretty much made up my mind that you are guilty but you can tell me your side of the case if you wish to do so, even though it probably will not change my mind."

Preceding this statement by Mr. Stein, also on page 103 of the transcript of these proceedings, is the following statement by Mr. Stein:

"* * * The conclusions of the Federal report were that, first the pollution interfered with the river so as to preclude its development as a public water supply; interfered with the river so as to preclude its development as a public water supply; interfered with general recreation and its development for industrial supplies requiring higher quality than that available; with the propagation of fish and the passage of anadromous fish; with the harvesting of shellfish from the Merrymeeting Bay area; and with the livestock water situation."

This is indeed a very interesting statement in the background of the way these proceedings have developed thus far. Although I am not here to comment upon the merits of the technical matters involved here, at least one portion of this statement deserves comment at this point. I refer to Mr. Stein's statement that pollution in the Androscoggin River in the State of New Hampshire in some way interfered with the harvesting of shellfish from the Merrymeeting Bay area. According to the technical people with whom I discussed this statement, I am informed that such a statement, is just short of being astounding. Such a statement is technically incompatible with the facts. If that be so, then this clearly illustrates the tenuousness of the position taken here by the Secretary of the Department of Health, Education, and Welfare and by the Public Health Service officials. I will refer to the other conclusions stated by Mr. Stein further along with my statement.

Another fact deserves mention at this point with reference to conference procedures or the lack of them. After the proceedings held here on September 24, 1962, representatives of the New Hampshire Water Pollution Commission, the Maine Water Improvement Commission, and the New England Interstate Water Pollution Control Commission met with a regional representative of the Public Health Service, Mr. Herbert H. Rogers. One of the questions asked of Mr. Rogers at this informal meeting was what conference procedures were there, or stated otherwise, what are the ground rules that apply to a conference, as to how it is held, what is discussed and so on. Mr. Rogers could not answer this question, for actually there were no rules then in existence to govern the conference procedure. After this meeting, however, Mr. Rogers did furnish to our water pollution commission a 7-page document entitled "Conference Procedures." Obviously, someone in the Public Health Service drafted this document after the question was raised subsequent to September 24, 1962. I will not read this document into the record, but a photostatic copy of it is attached to my statement and I will incorporate it here by reference.

The significance of this is simply this: Under the terms of the Federal Water Pollution Control Act only the Secretary of the Department of Health, Education, and Welfare can call a conference, and only the Secretary can prescribe regulations to govern conference procedures. What we have here is a situation where Public Health Service officials have attempted to promulgate regulations, a function reserved only to the Secretary under section 10(a) of the Federal Water Pollution Control Act. This certainly demonstrates the basic misunderstanding of the Public Health officials of their functions under this act, and it illustrates an unwarranted attempt by Public Health Service officials to arrogate to themselves authority which no statute has conferred upon them.

Another informal meeting was held on December 10, 1962, at Portsmouth, N.H. Mr. Stein and Mr. Peter Kuh, from the Washington office of the Public Health Service, and Mr. Herbert H. Rogers, a regional program director of the Public Health Service attended this meeting. I was also present at this meeting along with the same representatives of Maine, New Hampshire, and the New England Interstate Water Pollution Commission who attended the previous meeting.

At this meeting, all parties present requested that the Public Health Service stop any further formal conference procedures and instead discuss the Androscoggin River situation on an informal basis with representatives of the two States concerned. Mr. Stein informed us that only the Secretary would call off the enforcement proceeding.

On January 3, 1963, I wrote to the Secretary of the Department of Health, Education, and Welfare, and after outlining the entire situation in some detail, requested that he call off the conference procedure at this time. In the meantime, the Secretary had called a conference for today, February 5, 1963. On January 25, 1963, I received a letter from Assistant Secretary James M. Quigley informing me merely that the conference would go on as scheduled. None of the legal points I raised in my letter were answered.

This, then, is the entire factual background leading up to the proceedings here today. I have outlined them in some detail in order to highlight and make clear the legal position which we take here today and which I will now discuss.

Our legal position may be stated briefly as follows: The Secretary has no jurisdiction to start enforcement proceedings against the State of New Hampshire under section 8 of the Federal Water Pollution Control Act with reference to the Androscoggin River because of the provisions of New Hampshire Revised Statutes Annotated, chapter 149, entitled "Water Pollution and Disposal of Wastes," the provisions of chapter 79 of the 1954 Revised Statutes of Maine dealing with water pollution, and the provisions of the New England interstate water pollution control compact, enacted by the Legislatures of both Maine and New Hampshire and approved by Congress, in the light of the specific provisions of sections 1(a), 1(b), and 8(b) of the Federal Water Pollution Control Act, and the legislative intent of Congress expressed in the House reports which I have previously quoted.

Stated more simply perhaps, our legal position is this: The Legislatures of the States of Maine and New Hampshire have reserved to themselves by statute the right to classify according to use all surface waters in their respective States and have set forth a definite procedure for determining such classification.

There exists a New England Interstate Water Pollution Control Compact, to which both Maine and New Hampshire belong, and which is dedicated to abate existing pollution. The Federal Water Pollution Control Act specifically states it to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution. It also specifically states that nothing in the act shall be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters of such States. By this enforcement proceeding, the Secretary is attempting to determine what classification according to use the Androscoggin River is to be put in. This the States of Maine and New Hampshire have reserved by statute to themselves. The Secretary is therefore, without jurisdiction to act in this matter, and his actions in calling this conference are without sanction of law.

The issue is not whether or not pollution exists in the Androscoggin River. The Federal Water Pollution Control Act does not even define the term "pollution." Indeed, it is a term that defies exact definition. Its defintion depends upon the frame of reference within which it is used. In some ways all water is polluted. It depends on what criteria are being used since there is no universal definition of the word.

The issue here is whether the Secretary, under the guise of an enforcement proceeding under the Federal Water Pollution Control Act, can come in and tell the New Hampshire Legislature how it must classify the Androscoggin River, and to what use such waters may be put by the State of New Hampshire. Such action by the Secretary amounts to a contravention of the clear intent and purpose of the Federal Water Pollution Control Act as specifically expressed therein, and represents an attempt to usurp and preempt rights the New Hampshire Legislature has reserved to itself.

I will not go into the provisions of chapter 149 of the New Hampshire Revised Statutes in great detail, but I will refer briefly to a few of its provisions. Section 3 of our law sets forth the standards for Classification of Surface Waters of the State of New Hampshire. It provides that there shall be four classes or grades of surface waters: Class A, class P, class C and class O, according to the uses determined for these waters. Section 6 of our law sets forth the procedure to be followed by our Water Pollution Commission in determining the proper classification. After they determine the classification in this way, the law requires them to recommend the classification to the legislaure. In

the final analysis, it is our State legislature that makes the classification. Maine has a similar statute.

When finally classified under our law and that of Maine, the classification of the Androscoggin River might not include its use as a public water supply. Yet the conclusion stated by Mr. Stein on September 24, 1962, to which I have previously referred, include one which states that pollution in the Androscoggin River in New Hampshire interfered with the river so as to preclude its development as a public water supply in Maine. Under the present circumstances this cannot be a valid conclusion.

I would again emphasize and make clear our disagreement with the Federal position in this matter, namely, that pollution subject to abatement under the provisions of section 8 of the Federal Water Pollution Control Act, as amended in 1961 (33 U.S.C. 466g), is occurring. Accordingly, it is to be noted in the record that the State of New Hampshire hereby preserves whatever rights and privileges as are available to this State under said statute, and our appearance here today should in no wise be considered as prejudicing our firm intention to retain jurisdiction over the matter of establishing an adequate pollution control program for the Androscoggin River and, for that matter, all other surface waters of the State as defined in RSA 149:1, V.

Our sole purpose is to place certain pertinent information before you which, in our judgment, adequately demonstrates the soundness of the State of New Hampshire's position in opposing the Federal Government's precipitous action in this matter regarding the Androscoggin River. Furthermore, we are strongly convinced that a complete statement such as I am presenting, incorporated in the record, is essential to and will result in a proper understanding on the part of the public, the press, and other interested individuals as concerns the reasonableness of the State of New Hampshire's attitude relative to this Federal enforcement proceeding.

At this time I would again call to the attention of the chairman that the declaration of policy contained in the Federal Act (sec. 1, (a), Public Law 660, 84th Cong.) specifically provides that it is "* * * the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution * * *." Paragraph (b) of the same section stipulates that "Nothing in this act shall be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters of such States." It is difficult, indeed, in the light of such explicit language, to understand or accept the decision on the part of Federal authorities to insist upon a conference proceeding in the light of the expressed desire by the State and interstate agencies involved, that the subject of pollution control in the Androscoggin River watershed be investigated and resolved at lower levels of government in accordance with appropriately enacted State legislation.

I am sure, Mr. Chairman, you are aware that the laws dealing with pollution control in the States of New Hampshire and Maine to which I have previously referred both require that the respective State legislatures shall adopt appropriate stream classifications before any enforcement activity may be undertaken by the State pollution control agencies. As yet, such classifications have not taken place, although the machinery for so doing has been placed in operation under sponsorship of the New England Interstate Water Pollution Control Commission which, incidentally, provides the proper forum for consideration of interstate water pollution problems in the New England area. It is also apparent from the statutes governing in the two States that decisions with regard to legitimate stream uses flow from whatever systems of stream classifications as are adopted by the respective State legislatures.

In addition, article VI of the New England Interstate Water Pollution Control Compact, to which I have previously referred, and in which all of the New England States are signatory, provides as follows:

"Each of the signatory States pledges to provide for the abatement of existing pollution and for the control of future pollution of interstate inland and tidal water as described in article I, and to put and maintain the waters thereof in a satisfactory condition, *consistent with the highest classified use of each body of water.*" [Italic supplied.]

It is evident therefore, Mr. Chairman, the compact having had congressional approval, that the States in the New England area have been empowered to undertake enforcement proceedings relative to interstate pollution problems on a classification-use basis rather than upon some such arbitrary method as is out-

lined in your report whereby enforcement action is suggested whenever there is damage to any water use, whether or not that particular use is reasonably necessary or economically feasible.

In view of the legislature's interest and responsibilities in regard to the subject of pollution control, it is not surprising, therefore, that as one of its first actions in the current session the general court adopted a resolution setting forth its position in distinct and direct language whereby the Secretary of Health, Education, and Welfare is respectfully requested to honor the intent of the Federal Water Pollution Control Act by giving the State of New Hampshire a reasonable opportunity to perform its role and function in the control of pollution in the Androscoggin River Watershed. At this time I would like to read the resolution into the record inasmuch as it summarizes the New Hampshire position in very specific terms.

(Resolution read for the record.)

Whether intended or not, the calling of a conference by Federal authority without benefit of a request from or consultation with either of the affected States, inevitably results in a loss of confidence on the part of the general public in the integrity of pollution control efforts at the State level. That this is so cannot be disputed, as witness the wake of unfavorable publicity which was generated both prior and subsequent to the September 24, 1962, session scheduled by Secretary Celebrezze for Portland, Maine. The damage thus produced will take months and even years to repair, which it can hardly be held constitutes progress or cooperation in the common objective of establishing adequate programs for pollution control in interstate waters. In this respect, it is heartening to us in New England to observe that States in other areas of the Nation are also beginning to voice their distress at this problem of Federal intervention which, hopefully, may have the result of bringing about a more discriminating application of Federal enforcement provisions by the Secretary of the Department of Health, Education, and Welfare.

In any event, the State of New Hampshire does not need to apologize for its water pollution control program. (The same holds true for the State of Maine, but its officials are fully capable of stating their own case without benefit of any support from me.) Since 1947, when the control statue was enacted—a short time indeed in measuring progress in a field where concepts and practices long since established and publicly accepted must be completely reversed—somewhat better than 65 percent of the surface waters of the State have been classified and control programs thereby instituted. Some 23 pollution control projects have been built and placed in operation or renovated during this period and there are 17 others in the process of construction. As of the present time we have 37 other communities actively planning similar projects which will be placed under construction in the immediate future. In the course of these operations, all funds avilable to the State under the construction grants section of the Federal act have been fully utilized. As a matter of fact, the water pollution commission has found it necessary to exercise discretion and judgment in the allocation of such moneys in order that they might be expended in those areas and in those communities of the State where the greatest good, in terms of critical pollution problems solved, would be obtained. Another way of saying the same thing is that there is not sufficient money for all communities to act at the one given time and the commission, therefore, has to schedule its control efforts in accordance with the amounts of funds available. Thus, it can be fairly stated that the Federal Government has established the place of the cleanup program, for experience conclusively demonstrates that communities will not proceed without the benefit of financial assistance, nor do we believe that they can be reasonably expected to do otherwise.

Accordingly, it would not be any exaggeration to state, in view of the financial resources avilable, that the scheduling of an emergency pollution control program for the Androscoggin River within the immediate future could only result in an extremely serious dislocation and disruption of the plan for pollution control within the State of New Hampshire.

Returning to the matter of assistance, I would point out that New Hampshire has not been unmindful of its obligations in the area of financial help to communities and industries faced with the burden of installing pollution control facilities. At the present time we have a 20-percent grant system in effect as a form of encouragement to local governments engaged in this essential activity. As a further inducement, a State guarantee of municipal bonds issued for pollution control projects is available to municipalities affected by the program—and industries by legislative act are allowed tax exemptions for a period of 25 years

on facilities designed to control air or water pollution. As recently as 1961 the legislature approved statutory changes whereby municipalities may finance the construction of treatment works for industry which, of course, has the important effect of freeing industry from making heavy capital investments in such nonproductive facilities.

At this juncture we would call to your attention that the matter of overall program scheduling by the pollution control agencies of the two States has been agreed upon insofar as the Androscoggin River watershed is concerned. In so doing, it was understood that this watershed should receive a "lower-action" priority for the simple but very compelling reason that suitable controls have existed here since 1947 when the supreme court of equity for Androscoggin County in the State of Maine established jurisdiction over the stream. To us, it was and still is apparent that the court examined the question of damages and concluded that elimination of nuisance effects resulting from pollution in the river, offered a reasonable solution to the problem then existing.

Under the guidance of the court-appointed river master, notable improvement in river conditions has been achieved, and further progress is being made, all of which has been accomplished as a result of substantial investments in pollution control facilities by industry.

With specific reference to the reduction of industrial wastes being discharged to the Androscoggin River in the Berlin area, we can point to several important changes which have taken place since 1947. In that year the Brown Co. in cooperation with the International and Oxford paper companies installed a lagoon in Jay, Maine, at a cost of $150,000. In 1951 and 1953 the Brown Co. installed two lagoons at Berlin which have operated successfully and these involved a total cost of $328,000. In 1958 the company planned its new magnesium base sulfite recovery plant in operation which resulted in a very substantial reduction in sulfite waste liquor being discharged to the stream. This installation was designed to evaporate and burn approximately 90 percent of the waste liquors and as such constituted a pioneer process involving the disposal of wastes from hardwoods. The investment required for these facilities amounted to $5,445,007.

We are not proposing that the task of pollution control in the Androscoggin River is complete. As a matter of fact, communities in New Hampshire within this watershed are now preparing to sponsor engineering investigations as to their pollution control needs. This coupled with similar plans by industries for future work (such as the additional Kraft evaporators to be installed by Brown Co. at a cost in excess of $300,000, the same to be placed in operation on or about March 1, 1963) should be allowed to take place under State and interstate jurisdiction.

The State of New Hampshire through its water pollution commission, has all of the necessary competence in terms of professional personnel and the other resources required, to complete any and all investigations essential to the development of appropriate stream classification recommendations for the legislature. In our conversations with counterpart authorities in the State of Maine, it is evident that the same degree of skills and competence is available to do the job for that State.

As stated before, this entire matter is on the agenda of the New England Interstate Water Pollution Control Commission and we much prefer to proceed in an orderly fashion at these local levels of government. We are not of the opinion that any discussion of technicalities is desirable or indicated but rather the decision to be made here concerns the vital issue as to whether the State and interstate agencies operating under adequate statutory authority are to be allowed an opportunity to resolve the problem in an orderly manner without Federal encroachment. Accordingly, at this time we would ask that the Department of Health, Education, and Welfare recognize the primary jurisdiction of the States by withdrawing its enforcement action, and meanwhile, we would assure you of our sincere interest to cooperate by keeping the Federal agency informed at all times as to progress being made.

Finally, in order that there may be no misunderstanding whatever concerning our plans with reagrd to the Androscoggin River Basin and to eliminate any uncertainty as to the correctness of the position being maintained by the State and interstate agencies involved here today, I will state that the commissions of New Hampshire and Maine have agreed under the cooperative provisions of the New England interstate water pollution control compact to submit classification recommendations to the 1967 biennial session of their respective State legislatures.

STATEMENT OF GEORGE WEST, ASSISTANT ATTORNEY GENERAL, MAINE, HEW CONFERENCE RE ANDROSCOGGIN RIVER, FEBRUARY 25, PORTLAND, MAINE

The State of Maine regrets that the Department of Health, Education, and Welfare has felt impelled to invoke the enforcement provisions of the Federal Water Pollution Act without any attempt to hold prior consultations with the State water improvement commission.

The Federal Department having invoked the enforcement provisions of the act, the State can do nothing else but question the jurisdiction of the Department to consider at this time pollution of the Androscoggin River. The Department having started first with a legal weapon, the State must counter with a legal weapon. The Department has left us no other alternative.

There are two bases on which this challenge of jurisdiction is made: (1) The State of Maine questions the right of the Department to initiate the type of action it has undertaken concerning the Androscoggin River. (2) The State of Maine questions the validity of the conferences called by the Secretary on September 24, 1962, and February 5, 1963.

(1) The right of the Department to initiate the type of action undertaken concerning the Androscoggin River:

We first call attention to section 1, which reads:

"SECTION 1. (a) In connection with the exercise of jurisdiction over the waterways of the Nation and in consequence of the benefits resulting to the public health and welfare by the prevention and control of water pollution, *it is* hereby *declared to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the* States in preventing and controlling water pollution, *to support* and *aid technical research* relating to the prevention and control of water pollution, and to provide Federal technical services and financial aid to State and interstate agencies and to municipalities in connection with the prevention and control of water pollution. To this end, the Secretary of Health, Education, and Welfare (hereinafter in this Act called the "Secretary") shall administer this Act. (B) *Nothing* in this Act *shall be construed* as impairing or *in any manner affecting any right or jurisdiction of the States* with respect to the waters (including boundary water) of such States." [Italic supplied.]

This section very clearly spells out the policy of Congress that the primary responsibility and right to control and prevent pollution is in the individual States. Further, that the role of the Federal Government is "to support and aid technical research * * * and to provide Federal technical services and financial aid to State and interstate agencies * * *." Thus is spelled out the limits within which the Department may act. In section 1(b) it is definitely stated that this act shall not "be construed as impairing or in any manner affecting any right or jurisdiction of the States * * *."

Section 2 also bears out this policy of Congress by its wording. It speaks of "in cooperation * * * with State water pollution control agencies and interstate agencies * * * prepare(ing) or develop(ing) comprehensive programs." Further, "The Secretary is authorized to make joint investigations with such agencies * * *."

All of which when read with section 1 indicates a very clear intent of Congress that the States will continue to have the primary responsibility for preventing and controlling pollution. The role of the Department is to provide suport, both financial and technical, on a joint cooperative basis with the State and interstate agency.

The sovereign States of Maine and New Hampshire have the responsibility with the New England Interstate Commission to control water pollution of interstate waters. Congress has relegated the Department to a cooperative role in pollution matters. The Department is not the dominant and motivating force which will lead the States. Rather the Department shall follow the lead of the States and when needed lend the type of assistance requested. Such is the decree of Congress and we only ask the Department to recognize it.

(2) The validity of the conference held at Portland, Maine, on September 24, 1962, and this conference now held at Portland on February 5, 1963:

The only basis of law for the holding of conferences is contained in section 8(c)(1) of the Federal Water Pollution Control Act. This provision of law calls for such a conference "when requested by the Governor of any State or a State water pollution control agency, or (with the concurrence of the Governor and of the State water pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, * * * call promptly a conference * * *." To the knowledge of the State

of Maine neither the Governor of Maine or of New Hampshire nor either State water pollution agency has requested such a conference. Neither Governor nor State water pollution agency has concurred in such a request from any municipality in either State.

Another provision of this same section provides:

"The Secretary shall also call such a conference whenever, on the basis of reports, surveys, or studies, he has reason to believe that any pollution referred to in subsection (a) endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate is occurring."

The pollution referred to in subsection (a) is that of interstate or navigable waters "which endangers the health or welfare of any persons."

In order for such a conference to be called by the Secretary, certain conditions precedent must have occurred:

1. Reports, surveys, or studies must have been made;
2. The Secretary must have "reason to believe" that certain pollution is occurring;
3. This pollution must endanger the health and welfare of persons; and
4. In a State other than that in which the discharge or discharges are occurring.

As applied to the present situation the Secretary must have "reason to believe" that discharges into the Androscoggin River in New Hampshire are endangering the health and welfare of persons in Maine. This reason to believe must be substantiated by reports, surveys, and studies.

Any pollution occasioned by discharges, in Maine, into the Androscoggin River is not an element to be considered in determining whether to call a conference, unless such pollution endangers the health and welfare of persons in New Hampshire. We most seriously question such a conclusion.

We also seriously question any conclusion reached by the Secretary that pollution in the Androscoggin River originating in New Hampshire is "endangering the health or welfare of persons" in the State of Maine.

The State of Maine, however, without waiving its challenge to the jurisdiction of the Department of Health, Education, and Welfare is willing to advise this Department of its plans toward the Androscoggin River. This will be presented in the form of a statement to be read into the record by Raeburn Macdonald, chief engineer, Water Improvement Commission of Maine.

RESOLUTION PASSED BY THE NEW HAMPSHIRE LEGISLATURE AND FORWARDED TO THE NEW HAMPSHIRE CONGRESSIONAL DELEGATION, HEW CONFERENCE RE ANDROSCOGGIN RIVER, PORTLAND, MAINE, FEBRUARY 25, 1963

Whereas the Department of Health, Education, and Welfare has announced its intention to proceed with enforcement action under the Federal Water Pollution Control Act in the Androscogging River watershed, an interstate stream between the States of New Hampshire and Maine; and

Whereas the paper industry in particular has invested heavily for pollution control measures in this watershed under a series of court decrees by the supreme judicial court of equity for Androscoggin County which has resulted in substantial improvement in stream quality and the industry is continuing to expend money for said purposes as rapidly as financial capacity allows; and

Whereas the legislatures of the two adjoining States by statute have reserved the right to adopt systems of stream classifications which provide the legal framework for enforcement action as well as the basis for determining the lawful uses for said waters; and

Whereas the respective water pollution control agencies of the two affected States are fully competent, prepared, and have a coordinated plan for the conduct of such additional investigations, studies, and surveys as are required in order that both State legislatures may simultaneously adopt appropriate stream classifications for the Androscoggin River watershed; and

Whereas the States of New Hampshire and Maine, along with other New England States and the State of New York, are joined in the New England interstate water pollution control compact (approved by Congress in 1947), under which all of the States are pledged to abate pollution of interstate waters within the compact area; and

Whereas the declared policy of the Federal Water Pollution Control Act is to recognize, preserve, and protect the primary responsibilities and rights for State and interstate agencies to prevent and control water pollution: Now, therefore, be it

Resolved by the Senate (the House of Representatives concurring), That the General Court of the State of New Hampshire having due regard for the protection of the present and future economic welfare of the area, is convinced that the objective of an overall comprehensive pollution control program for the Androscoggin River Valley can be best achieved by local and interstate authorities free from Federal intervention; and be it further

Resolved, That the General Court of the State of New Hampshire strongly urges that the Secretary of Health, Education, and Welfare in the operation of the Federal program adhere to the express intent of the Federal Water Pollution Control Act; namely, that the primary responsibility for the establishment of adequate water pollution control programs remain with the duly authorized State and interstate agencies; and further, whenever in his judgment satisfactory progress toward pollution control is not being made, to give notice thereof to the State and interstate agencies involved before undertaking any action whatever under the Federal Water Pollution Control Act; and be it further

Resolved, That the members of the New Hampshire delegation in the Congress of the United States, be requested to assist in every way possible in the State of New Hampshire's effort to retain jurisdiction over the pollution control program for its portion of the Androscoggin River watershed; and be it further

Resolved, That the Secretary of State be instructed to transmit a copy of this resolution to the Secretary of Health, Education, and Welfare and to each member of the New Hampshire delegation in the Congress of the United States.

(Whereupon, at 12 noon a recess was taken until 2 p.m. of the same day.)

AFTERNOON SESSION

Mr. ROBERTS. I am going to take the next witness out of order because he has a plane schedule to make.

Mr. J. O. Julson, branch manager of Weyerhaeuser Co., Springfield, Oreg.

STATEMENT OF J. O. JULSON, BRANCH MANAGER, WEYERHAEUSER CO., SPRINGFIELD, OREG.

Mr. JULSON. Thank you, Mr. Chairman, for arranging this order. I want to thank Mr. Penfield for this permission. My name is J. O. Julson. I reside at 55 West 24th Street, Eugene, Oreg.

My occupation is managing the kraft pulp and paperboard mill for Weyerhaeuser Co. in its mill located in Springfield, Oreg. My own interest in abating air and water pollution stems from my job in running a chemical process plant where both could be rather difficult problems.

By means of careful operating procedures and plant improvements our mill in Springfield, Oreg., has become a model plant among the Nation's pulp and paper mills. The State sanitary authority has noted this in its last two annual reports.

We were given the first award ever given an industrial plant by the Northwest Polution Control Association. KGW–TV of Portland, Oreg., in its documentary "Pollution in Paradise" singled this plant out for special commendation.

Weyerhaeuser Co. is a large grower of timber and producer of lumber. In 1931 it entered the pulp field and since has enlarged its activ-

ities to a considerable extent in the fields of market pulp, paper, and paperboard manufacture.

Our principal office is located in Tacoma, Wash. Our employees number 30,275 in their various activities across the Nation.

We in Weyerhaeuser appreciate the courtesy of this opportunity to present to you today our views on this very important subject of air pollution.

Our philosophies on this subject can be expressed briefly:

First, it is timely that the people become concerned about the atmosphere around them so that orderly and proper procedures can be followed to prevent atmospheric contamination beyond acceptable levels.

Second, it is timely and advisable to determine what constitutes atmospheric pollution and to determine levels of atmospheric dispersal that will not cause contamination and injury.

Third, it is not advisable to permit emotions to replace good judgment in the provisions adopted for correction of undesirable conditions and in the provisions for maintenance of desirable levels of air purity.

I shall discuss these as briefly as I can, practically speaking, and conclude with four specific recommendations for your consideration.

As Chet Huntley said the other evening on his TV documentary on water: "The trouble with water is people," so may it also be said about air: "The trouble with air is people." People cause much of the atmospheric pollution as a result of their daily living and yet it is people who become affected by that same pollution. Nature also contaminates as a result of her actions; for example:

Winds stir up dust clouds.

Plants generate pollens which become airborne, frequently causing human discomfort.

Forest fires set by lighting send up dense clouds of smoke.

Volcanoes erupt.

Bacteria carried through the air cause illnesses.

Man creates atmospheric pollution:

Nuclear bomb explosions release radiation.

Automobiles emit exhaust gases.

Factories and powerplants emit gases, dusts, and vapors.

Smoke and noxious gases originate in the home furnace, the fireplace, the outdoor grill, the trash burner, and even leaf burning.

Cigarette, cigar, and pipe smoke, bothers nonsmokers.

Exhalation each time a person breathes carries with it a degree of atmospheric pollution.

The examples cited are but a few of pollutant sources—natural and man-caused.

It is obvious from these few examples that control of atmospheric pollution cuts across all lines of activity on earth. For this reason alone, if for no other, this is a vast and complex subject. Its very vastness and complexity becomes one of the compelling reasons for believing that it is timely to ponder ways and means to prevent and control atmospheric pollution beyond reasonable and safe levels.

We should not wait until crash programs are required. Crash programs cause waste of money and time and invariably end up with results that are less than satisfactory and not feasible economically.

The first step must be to determine what constitutes air pollution beyond safe and reasonable limits. The U.S. Public Health Service can and should play an important role in this determination. Progress is being made. States health services are spending large sums of money in their efforts to determine safe limits of air pollution. Industry spends large sums of money in its research to develop better ways to reduce air pollution to low practical levels, and spends vast sums in capital investment to accomplish these reductions. There is no certain way to know just what is the sum total of all of the expenditures in this work. It is safe to state that it is many millions of dollars per year.

Scientific articles published on the subject reveal the groping going on for acceptable answers to this question: "What does constitute a safe level in atmospheric contamination?"

One of the more frequenly mentioned pollutants is sulfur dioxide. This gas received great notice in the London smog of December last. At that time London's atmosphere was heavily charged with sulfur dioxide originating from the combustion of sulfur bearing coals. There is no question that the large portion of this came from poorly operated furnaces and fireplaces in the homes and apartments.

Sulfur dioxide is currently blammed for causing more common colds than we should experience. Yet, how can one explain the frequent occurrence of colds among people in western Oregon who breathe the clean air coming off the Pacific Ocean? Surely that air has very little sulfur dioxide loading.

I am not implying that sulfur dioxide, when present, does not create the possibility of more common colds. I mention it with reference to western Oregon to point out that there certainly is more to cause that affliction than the presence of sulfur dioxide, and to illustrate one of the many, many complexities in trying to answer the question: "What does cause atmospheric pollution?"

Some metropolitan areas have quite serious air pollution problems. Philadelphia and Los Angeles are two with that problem. The people engaged in air pollution reduction in those two cities are doing a magnificient job in their attacks on their problems. They are certainly pointing out the same types of conditions that lead to such fine corrections taken as were taken by Pittsburgh, Cleveland, and St. Louis.

Standards of air purity in those localities must be more comprehensive than standards, say, for Cody, Wyo., or Denver, Colo. The situations are so entirely different that totally different approaches must be taken for measurement and control.

Few people realize the large difficulty inherent in sampling air for measurement of pollution levels. The atmosphere has one great distinction from water when considering measurements of levels of pollution. Varying winds, even hour to hour, cause great changes in the levels of pollution present. This is not the case in water pollution measurements since water direction flow is fixed by the banks which contain the water. Yet, measurements of pollution levels in water are difficult; in air it is infinitely more subject to variation. I mention this also to illustrate the complexity of setting standards and then complying with standards once set.

Those dealing in the biological sciences have indeed made great progress in their work on determining the effects of contaminants on

the human being. When the scientist working in the field of measurements of atmospheric pollution reaches a similar stage of accomplishment, then and only then will we be in a position to set standards which can be reliably accepted.

We believe the best agency to make progress in this determinative field is the U.S. Public Health Service. The facilities they have and the facilities they are obtaining, together with their highly trained technical personnel, are without doubt the means to answer the questions needing answering. We of Weyerhaeuser believe they should have the tools they need to proceed toward this goal in proper fashion. The findings developed can then be made available to all in the Nation who have need of the information. Such information can be adapted to any community's particular need.

The third point deals with the program for correction of atmospheric pollution where it exists beyond safe and reasonable levels, and for maintenance of safe and reasonable levels.

If we permit emotions rather than considered judgment to prevail, we are going to lose time in reaching the goals sought and could conceivably not even reach those goals. When emotions are aroused we human beings tend to "bow our necks" so to speak and tend to reduce the possibilities of being able to reach a good decision on how best to proceed.

There are those who believe that only the Federal Government can handle this problem; there are those who believe that the Federal Government has a decided role to play but not the solo role; there are those because of environmental conditions who take no interest at all in the matter.

Weyerhaeuser Co. believes the proper course to follow is stated in the following points, and recommends them to you for adoption in this legislation you are now studying:

(*a*) The Federal Government through research and technical assistance should establish guidelines on how to determine when pollution exists beyond safe and reasonable levels and to determine what would be acceptable levels of air pollution for a given community.

(*b*) Each State should be responsible for and carry out enforcement of its own laws against violators of that State's air pollution laws.

In explanation, the role of the Federal Government then becomes one of research and advice; the role of each State is determination and enforcement.

Enforcement of safe and reasonable standards of air pollution is the key to this whole problem. When we deal with air we do not become so involved in the debate between States as we can become when we are dealing in water matters. Winds and air currents create a varying situation not found in water.

We must be frank in stating that there is a great deal of concern about the possibility of Federal enforcement legislation in this matter. We have had some experience in that just recently in the State of Washington where a question in water pollution arose between the oyster growers, the pulp and paper industry, and the State's pollution commission. The U.S. Department of Health, Education, and Welfare held a conference as provided for in the Water Act. We were amazed that the Department issued its findings and directives within 10 minutes following the conclusion of a day and a half of the presentation of prepared statements. The findings were issued absent any

consideration of the transcript of such testimony and without giving those in attendance any reasonable opportunity to rebut statements made by opposition parties. These proceedings were distasteful also because they overrode an orderly prosecution of the State's laws being carried on by the State pollution commission. Had the State been permitted to carry on its proper work, any firm accused of violating the State's laws on water pollution could have had two courses of action open to it:

(*a*) The firm could ignore the State's directive but would immediately then become subject to the penalty provisions; or,

(*b*) Each firm so accused could take its case to court for determination, a right which has been always open to one so accused.

The U.S. Department of Health, Education, and Welfare chose to deprive these firms of their normal legal rights.

As matters turned out finally, the State pollution commission took the matter back into its own control, and going on the sensible basis of fact determination granted temporary permits to the nine mills in question, tied in with certain provisions:

1. Certain improvements had to be made for pollution correction and in a certain time.

2. During the course of time under the temporary permit status, technical studies are being carried out to determine if there is, in fact, pollution in the waters in violation of the State's laws.

3. There would be a step-up in the program of developing products that might possibly be made from pulp-and-paper mill effluents.

This case is a good example to show that lawyers and policemen do not abate pollution. Abatement is accomplished by those who are technically qualified to effect the elimination of pollution to the levels required, when it exists in excess.

It has been my good fortune recently to help in the formulation of proposed legislation in Oregon in both air and water pollution fields. Here again, Weyerhaeuser believed the State's program would be best helped if we pushed for two points:

1. That the State sanitary authority should have a more specific directive to take immediate action when a real emergency developed because of pollution; and

2. That the State sanitary authority should have more funds to do an effective job in determining contamination and enforcing abatement thereof, both in air and water. To do this, we would recommend to the State's ways and means committee that it provide the additional funds required.

These proposals are now being considered.

Just as we believe the U.S. Public Health Service should have proper tools, we also believe the State sanitary authority should have the tools so it can enforce its laws.

Weyerhaeuser Co. has always strongly believed in and carried out the practice of sustained-yield forestry management and of living in a community as a good neighbor. We believe this simply to be just good business practice.

On behalf of Weyerhaeuser Co., I then urge you to consider and adopt the following four recommendations with respect to House Resolution 4415 on the control of air pollution:

1. That an orderly program be adopted for the abatement and control of air pollution to safe and reasonable levels.

2. That the U.S. Public Health Service do the research work required to determine what constitutes air pollution and how to measure it. These findings should be available to all who request them.

3. That the U.S. Public Health Service carry out its research advisory and assistance programs through appropriate State agencies.

4. That determination and enforcement be at the State level so emotional conflict can be avoided and more effective results obtained.

I wish to thank you on behalf of Weyerhaeuser Co. for your patience in hearing me out in this statement. Its very length bears testimony to the real vastness and complexity of this subject.

Mr. JULSON. The first item I would like to mention is an article taken out of the San Francisco Examiner, dated March 9, 1963, under the heading, "Trees the Answer to Smog." The speaker was a Dr. Chauncey D. Leake, a world-famed pharmacologist at the University of California.

He was speaking in front of the Sierra Club, a club active on the west coast in wilderness and recreational efforts. He said that:

> In order to maintain the balance between carbon dioxide and oxygen, I have suggested that we be sure that we plant at least 10 trees for every automobile that is produced and used in our areas, 100 trees for every prop airplane, and 10,000 trees for every jet airplane.
>
> This may seem to be a big order. It may not be enough, however, to compensate for the number of trees and shrubs that we remove every day in the expansion of our subdivisions and industrial developments.
>
> The major lumber companies realize the importance of reforestation, simply from the standpoint of keeping in business.
>
> The rest of us had better realize the importance of tree planting if only to maintain a reasonable balance of nature in the communities in which we live.

I mention that here, Mr. Chairman, because it is of interest to us in our problem under discussion which is air pollution and there's also another question on this, as there is other congressional action being considered with respect to removal of capital gains tax provisions which in the opinion of the industry would seriously hamper the tree-planting program.

Going back to our subject at hand on air pollution: As a result of listening to the discussions yesterday and this morning, and thinking about what has been said, I decided to depart from my prepared script and to insert into the record at this point Weyerhaeuser's opinion on some principles on air pollution.

(The material mentioned follows:)

AIR POLLUTION PRINCIPLES

1. Relationships between Federal, State, and local governments

(*a*) State and local governments should have the responsibilities for the active prevention and control of air pollution.

(*b*) Enforcement of their own laws for abatement should be at the State and local levels.

(*c*) The Federal Government should always deal with the appropriate State agency, and not come between that agency and any of that State's local agencies.

(*d*) The Federal Government should act as the technical consultant and adviser to any State requesting that service and should encourage every State to strengthen its work in this field of endeavor.

(*e*) The Federal Government should make surveys in a State when requested by that State.

It should make a study of the problem when one State is being polluted from a source in a different State. The findings should be reported to each State involved so corrective action can be taken by the offending State.

(*f*) The Federal Government should encourage States to enter into compacts for handling regional air pollution problems.

(*g*) The Federal Government should recognize that what are proper standards for clean air in one State can differ from proper standards in other States. Each State should set its own standards for clean air.

2. Federal Government role

The U.S. Public Health Service has for years been very effective in its work on problems in the national health. Its stature as the leading research group in all areas concerning people's health should be maintained as the leader.

Its effectiveness in dealing with State agencies creates least friction when it maintains that posture. Its effectiveness is lessened when it superimposes its will over a State's desires.

The role of the Federal Government then becomes:

(*a*) The leader in research and in technical studies.

(*b*) The repository of all technical knowledge in the work, and the disseminator to those who request it.

(*c*) The agency to make nationwide studies and to report its findings.

(*d*) The agency to make local studies when any State requests them.

(*e*) The catalyst to encourage stronger State level programs.

(*f*) The leader in training personnel for this technical work.

(*g*) The agency to provide scholarship grants to encourage young people to enter the field.

(*h*) The agency to render technical assistance when requested.

(*i*) The "conference" procedure as followed in the water programs has not been well received in several instances. This technique is not recommended procedure—it is a potential source of friction.

(*j*) Problems such as studies on automotive exhausts are proper Federal problems in research.

(*k*) The agency to educate State and local governments and the public on what they recommend for adoption, as a result of their studies and research, for standards as to reasonable and safe limits in air contamination.

Mr. JULSON. That concludes my statement, Mr. Chairman.

Mr. ROBERTS. Thank you very much, Mr. Julson.

I come from a State where probably the No. 1 income producer at the present time is pulp and paperboard, and we feel, of course, that this industry has some unique and acute problems, particularly in this field.

I appreciate your approach to this problem. I do feel, however, that there are certain areas, for instance, where you have two States and one State wants to have a program and the other State does not, that there must be some way to get things started.

I have tried, as I said, in talking with other witnesses, in drafting this bill to provide for the two situations. I certainly respect your problem and your feeling that there may be some dangers as far as local control is concerned.

As far as I am concerned I feel that the problem is big enough and there is room for both local control and some Federal action.

As I say, I certainly appreciate your statement and I appreciate your appearance before the committee.

Mr. Nelsen?

Mr. NELSEN. Thank you, Mr. Chairman.

I recall some conferences that were held out in your part of the country, sometime back, relative to this problem. Would you give us a little background about it and what was done and what the objectives were?

Mr. JULSON. Yes, Congressman, I will try to do that.

I should point out that the problem occurred in the State of Washington, which is not in my area of responsibility but as one of the pulpmill managers in Weyerhaeuser I have been very close to the situation.

The transcripts taken at that conference were quite voluminous in size and I have read them and studied them quite carefully.

The conference was called in January of 1962 to review alleged pollution of the waters of the State by seven or nine pulpmills in the State of Washington.

The conference carried on its usual procedure of taking testimony from witnesses and after a day and a half of hearing the conference recessed for some 10 minutes following which the conference was reconvened and a mimeographed writing of the findings were issued at that time—after 10 minutes.

We can only conclude, Congressman, that those findings must have been prepared prior to the recess and could have been prepared sometime prior to the recess and were issued as findings.

What is rather distasteful, of course, to opposing parties is that we do not have a chance to make any rebuttals back and forth as we would like to have. That is one of the things.

That is where we find ourselves in conflict with the conference procedures and techniques and I have heard several statements made in this hearing of several instances elsewhere which confirms my opinion, at least, that this technique is not good and is a point of friction that could well be removed for cooperative action if so desired.

Mr. NELSEN. Your statement that you just read, I noted you had written down, do you have copies of those statements?

Mr. JULSON. I'm sorry, Congressman, I don't, but I'll be home at 9 o'clock tonight and they will be in the mail to you tomorrow.

Mr. NELSEN. Thank you very much, I am quite in agreement with many of the points you brought out and it could well be that we might find some middle ground on this whole issue that we could get some ideas from.

Of course, your statement will appear in the transcript but I would like to have it before it is printed in the transcript, it might be valuable to us. I might mention, of course, the Weyerhaeuser Lumber Co. is well known in our part of the country and one of your directors is a very personal friend of mine, George Crosby.

Mr. JULSON. Glad to hear that.

Mr. NELSEN. Thank you, Mr. Chairman.

Mr. JULSON. Thank you, Mr. Chairman.

Mr. ROBERTS. I have had a gentleman here for 2 days now, who is with the Public Health Service and who has quite a bit of knowledge in this field.

I know that he is in some pain having a badly sprained ankle and I'm going to ask Dr. Prindle if he will make a statement at this time.

I would like, Doctor, if you would confine your statement to the trip you took to London after the recent smog disaster there?

STATEMENT OF DR. RICHARD A. PRINDLE, DEPUTY CHIEF, DIVISION OF AIR POLLUTION, U.S. PUBLIC HEALTH SERVICE, WASHINGTON, D.C.

Dr. PRINDLE. Thank you, Mr. Chairman.

It is a pleasure to be here before the group again. I regret that my infirmity has prevented me from attending the entire session; I appreciate this opportunity.

This trip about which you spoke was a rush affair. As a result of hearing on the new reports, in the morning on the way to work, that smog was occurring in London, several of us got together in the headquarters' office and discussed the desirability of an American witnessing one of these smog episodes firsthand. The last time it occurred, in 1952, was before our program's inception.

The other episodes we had heard about much too late, and no American actually working in the field had had the opportunity of seeing what we had read about; we felt that it would be very desirable.

On this basis, then, the decision was made that morning and I departed in the afternoon. Unfortunately the very smog which I wished to see also resulted in my not being able to see as much, since the visibility was so markedly reduced at the London Airport and our plane to proceed to Frankfort.

We did return to an alternate airport in London that evening and I did get to see the end of the episode on Thursday night, December 6th.

The smog, as we landed, was quite evident, even at the airport some 30 miles south of London. Visibility was markedly reduced. I think one of the most striking things was, as the door of the plane was opened, one immediately smelled the very pungent odors of oxides of sulfur, the slighten rotten egg smell, and immediately began to experience a slight irritation of the throat and upper respiratory tract.

We proceeded into London by train, and that night I had the opportunity of walking around, I might add not very far because I knew I would be lost very quickly, in the neighborhood of the Marble Arch in London.

At that time visibility was down to about 15 feet, on occasion you could see something like a streetlight or a stoplight maybe 20 or 25 feet away. Some 50 feet away you could make out that a neon sign existed across the street by the glow, but you could not make out what the sign was.

Traffic had become completely stopped for all intents and purposes, and the transit authority had withdrawn all their buses. It was really quite a dramatic occasion.

Without going into all the details of the impressions, within the next few days I had the opportunity of visiting most of the major research installations, both governmental and nongovernmental, in the area, and some of the hospitals, where I was able to see many of the patients who had been affected by this episode.

The striking thing, as far as the patients were concerned, was the severity of their illnesses, many of them requiring hospitalization, being very short of breath, and bringing up great quantities of sputum.

Many of them gave stories that this had occurred to them even back in 1952. Quite a few gave stories that that was the first time they had been so affected, but with each minor episode since they had had such illnesses.

The deaths that were reported during that immediate episode were some 100 in excess during the week, or during the 3½ days of the episode, but this only counts those that had died, more or less literally, in the streets during the time period.

I will come back to the number of deaths in a few minutes.

I did have the opportunity of visiting the laboratories and comparing notes on the materials that they collected and have some data which show the levels of sulfur nioxide, sulfuric acid and smoke that occurred.

I have a report of this trip and I would be glad to submit it for the record.

I think it's too lengthy to go over here, but I might point out that some of the findings in relation to the levels of smoke and sulfur oxides were very interesting.

In 1952, during the previous episode, the smoke levels and SO_2, or sulfur dioxide, levels were quite high.

In 1962, the smoke level was considerably lower than in 1952. The sulfur dioxide level was approximately the same.

Now, we feel that there are certain reasons for this which should be emphasized and I will come back to those in just a moment.

As for the deaths and illness—we do not have as yet final, complete reports. As you gentlemen recognize it takes several months to collect all these and to verify them appropriately. We estimate, however, that in 1962 there were approximately 340 excess deaths during this 3½-day period. I might recall that in 1952, during the very severe episode of 5 days, there were some 3,000 or 4,000 deaths.

We believe that the reduction of smoke played a significant part in reducing the number of deaths, although the sulfur dioxide, which in some situations may be more toxic than smoke, remained the same; the reduction in the amount of particulate matter was probably a very great contributor to the reduction in illness and in death.

I had forgotten to mention that the actual number of illnesses that occurred this 3½-day period was also much less than the number of illnesses that occurred in 1952.

There are several things that were of interest here that probably led to the reduction in the smoke and also to the reduction in deaths. These include the fact that this was of shorter duration, 3½ instead of 5 days; that there was early recognition of the situation. They, like us, have established a meteorological network, the Air Ministry of Great Britain is concerned with this, which attempts to warn that such an episode may occur and that a period of inversion is on its way and a condition exists in which air pollution might increase.

As soon as they were warned, the word was sent out to all the news media—the radio and television services of BBC—calling upon people who particularly had infirmities to stay indoors, calling upon everyone not to bank their fires which would produce more smoke, calling upon industry to attempt to reduce its production of smoke and pollutants, and warning in general, to avoid the situation, if possible.

I am sure these warnings played a role, too, as did the physicians in the area who were warned to follow their patients who had preexisting diseases, chronic bronchitis, heart disease, et cetera.

I am sure another factor that reduced the deaths and illness was the operation of the emergency bed service, which is a federal program in the London area which provides a clearinghouse for physicians whereby they can locate hospital beds as rapidly as possible and get their patients into the hospitals for care.

The use of masks, by patients and by other people, probably helped somewhat; certainly it should reduce the amount of particulate mat-

ter that was breathed. Masks were very much in evidence throughout the area.

Finally, I think one of the biggest contributing factors was the effect of the Clean Air Act which had been established in 1956 following that episode in 1952.

This Clean Air Act enables areas to set up so-called smokeless zones, requiring persons in these areas or industries to utilize fuels which produce less smoke.

In many situations this is utilization of coke or fuel oil in the London area, and this reduction in smoke, again, as I say, we feel contributed greatly in the reduction in illness and injury.

There were other factors that contributed also. Technological improvement has occurred in the area and there are fewer of the many thousands of domestic home heating units which utilize soft coal and the open grate, which have been so popular in London. Nowadays, with more modern apartment buildings, larger buildings that have more efficient central heating, this has reduced the smoke problem.

It is interesting that the sulfur dioxide problem exists, because this is still in the fuel regardless of the other changes. We are therefore very much concerned with this problem in our own country and in many of our cities where the levels, I might point out to correct mistaken impressions, the levels of sulfur dioxide which occurred during this and previous episodes were quite consistent with those found in many American cities here today.

As a matter of fact, the levels of sulfur dioxide in London during the entire episode did not go as high as these that Mr. Fitzpatrick has reported in Chicago, and were about consistent with the levels that occurred in New York City during an episode that occurred this year, just prior to the London episode.

A few days before London had its episode, we here sent out the same kind of notice. Our Weather Bureau research unit had established that an inversion was centering around New York City: we alerted the area of New York; they did an excellent job.

Commissioner Hilleboe sent out warnings very similar to the ones that I have just mentioned in London.

I have here a report of the New York State group which outlines the actions taken, and during that episode the sulfur dioxide levels went extremely high and quite similar to those found in London, so that London's problem is one that could occur here in the United States.

I think there is a lesson we could learn with what has happened there, and that is, the action of such an act as the 1956 Clean Air Act helped reduce smoke. Even though there wasn't necessarily specific evidence that it was a causative agent of disease, the reduction of this has materially affected a betterment both for health and general air pollution abatement in London.

Do you have any questions, sir?

Mr. ROBERTS. Had you concluded?

Dr. PRINDLE. Yes, sir.

Mr. ROBERTS. How long have you been in this field with the Public Health Service, Doctor?

Dr. PRINDLE. In the specific field of air pollution I have been just over 6 years, I joined the program in January of 1957.

Mr. ROBERTS. And what was your academic training before you joined the Service?

Dr. PRINDLE. I am an epidemiologist. I had received my medical degree from Harvard in 1948 and my master's degree in public health in 1954.

I joined the Public Health Service in 1951 as an epidemiologist, doing research in poliomyeltis work; subsequent to that, in tropical disease, and served overseas in the point 4 mission in Haiti.

Mr. ROBERTS. From what you saw in the London area, did I understand you to say that it is your opinion that this could happen in this country?

Dr. PRINDLE. Yes, sir; I think there is no question but what it could happen in this country. I think in general it is fortunate that we don't quite have the weather that London has, certainly in some of the areas where our major cities and problems are.

The kinds of inversion with the intense fog and, quite frankly the cold that accompanies it during such an episode in London, all of this adds to the air pollution effects on people.

I think we are very fortunate in not having this, but it is quite possible, for example, the New York episode that had occurred a few days before. We have yet to obtain the data on what illness or death may or may not have occurred there, so I cannot speak on that.

Dr. Leonard Greenberg, who used to be commissioner of air pollution control in New York, and is now a professor at Albert Einstein College, has said that there was one in New York in 1953.

There were deaths during that period; it is quite likely they can reoccur. The Weather Bureau assures us that these periods do occur and can be expected, to occur again.

Mr. ROBERTS. And in your opinion, what age group or what particular group seems to be most vulnerable to this type of situation?

Dr. PRINDLE. I think my answer would be very much similar to that of the Surgeon General's yesterday; I believe this occures and affects people across the board, irrespective of age. It is more readily noticeable in those people over 45 or 50 who have chronic respiratory diseases for one reason or another, or heart diseases for one reason or another; being already ill they become much more intensely ill during the period, requiring hospitalization.

These we see and know about. The ones that we are perhaps equally or more concerned with are the 20-, 30-, and even 10- and 5-year-old individuals who may, through these exposures, become the 45- and 50-year-old people of which I have spoken, who now have these chronic respiratory diseases.

To illustrate, in Great Britain they have done studies with their military personnel. They have been able to show in these comparatively young individuals who are serving in the Armed Forces, that those who come from areas where high pollution exists have many more respiratory diseases, even when stationed in some other country where air pollution is not a problem, than those who come from relatively clean rural areas of England.

In other words, their lives have already been affected by their childhood in these areas. This is quite likely an occurence that takes place here.

If cancer is one of the things that has resulted or partially resulted from air-polution exposure, our knowledge of cancer causation would

lead us to believe that it is the result of 20 or 30 years of exposure. Thus the man of 55 who gets his lung cancer must realize that the cause has been during his younger life and his exposure during that time. Coming back to this question: It is more obvious in the elderly or those who are already affected, but it is probably anyone at any age who may be harmed.

Mr. ROBERTS. Did you notice there was any considerable reduction of manufacturing processes or production during that time?

Dr. PRINDLE. This is not too easy to answer for London in particular, because manufacture is not an important problem there as far as air pollution is concerned.

There is one of the prime examples, I believe, of the home and home heating being a major air-pollution cause. Manufacture is not great in the immediate area of London.

In the outlying areas and up in the northern parts this is definitely a problem. I frankly cannot answer as to the extent of reduction that was done during this period.

Mr. ROBERTS. Do we have any evaluations or answers to a situation such as, well let us take, for example, the Washington, D.C., metropolitan area.

I certainly do not consider this an area of heavy industry. Do we know why it is true that we have this problem here?

Dr. PRINDLE. Yes, sir; I think we have pretty good evidence that the prime problem here is the motor vehicular problem, not dissimilar at all from that found in Los Angeles, and you are quite right that industry here is very small as far as the manufacturing type of industry is concerned, the industry here is government.

The other sources of pollution, the domestic one which I mentioned, as far as London is concerned, seems to be much less of a problem here.

We have here working with the District Health Department one of our air-pollution sampling stations that samples continuously for seven or eight different constituents. We have been able to demonstrate that amongst these constituents are the oxidants and hydrocarbons that are of the type found from automobile or vehicular air pollution.

We find that damage to vegetation that occurs out at Beltsville Agricultural Station is identical to that caused by motor vehicles and found in California and similar places, so we are quite certain that much of the pollution in this area is the result of the large volume of vehicles, large volume of the vehicles passing through, both from those who are residents and from tourists.

Mr. ROBERTS. I know you have had quite a bit of experience and visited, I assume, practically all of the major cities of this country at one time or another in connection with your official duties.

What, to your mind, under the terms of H.R. 4415, would be some of the interstate situations?

Dr. PRINDLE. Well, there are some 23, I think, major metropolitan areas that are involved in interstate problems; there are many smaller ones, too, that are real problems. I think, first, of the biggest one of all—the New York-New Jersey area.

The area is a typical interstate problem, with no question that air-pollution sources, as well as effects, results on both sides of the State lines.

It is a problem that involves numerous jurisdictions—as I recall, the New York metropolitan area has something like 1,500 different jurisdictions.

Mr. ROBERTS. Is there a great deal of agricultural damage in that section?

Dr. PRINDLE. Not in that immediate area, because there is very little agriculture, but in south Jersey there has been considerable damage to vegetation, particularly to the green leafy crops, the truck-farm crop.

It has been pointed out by the group at Rutgers University Experiment Station that this kind of damage again appears to be motor vehicular, and that is seems to be nearest metropolitan areas: they specifically mention New York, the New Jersey cities, and the Philadelphia area.

There is also damage up in the Connecticut River Valley. How much of this is traceable to New York or to its immediate area would be awfully difficult to say at this stage.

But I think in areas like New York City, the immediate areas there, perhaps the damage to vegetation is of less concern. Here we are to be concerned with the damage to building structures, corrosion that results, the soiling, the problems of visibility, particularly around the three major airports that exist in the area—and the airline pilots inform us that this is a considerable problem; and finally, the damage to health that must occur in such a situation.

The bill, H.R. 4415, to go back for a moment to your question, I think would provide the incentive and the opportunity for these various jurisdictions to get together and to work on a unified plan that would be worth while overall.

Mr. ROBERTS. Have any studies been made, so far as you know, as to prevailing winds and how far these materials can be carried, what distances?

Dr. PRINDLE. There have been some studies. There have not been enough, unfortunately, and this is an area in which we would like to do substantial research. There have been studies out on the west coast in conjunction with the Los Angeles problem. We have been conducting studies and are doing some now.

For example, a study of St. Louis, which, incidentally, is another interstate problem, St. Louis-East St. Louis, in which we are attempting to study the trajectories of the wind, with the help of the Weather Bureau. We have been doing limited studies in the Cincinnati area around our laboratories.

It has been extremely difficult to trace pollutants, particularly in the areas where they are heavy, because as we go through the megalopolis that this east coast is, we are hardly out of one person's place until we are in another, and it is difficult to tell which is which.

We are hoping and have plans for a rather large, intensive study which would attempt—a little oversimplified—to find out how much of New York City's pollution belongs to Philadelphia, and vice versa.

I think this kind of study is absolutely necessary. The President's Committee on the Atmospheric Science has pointed out what a need there is in this area, not only for air pollution, but for all the other important aspects of atmospheric sciences.

We believe that such studies could elucidate much of our problem here.

We do have evidence that some of these pollutants travel for hundreds of miles.

Mr. ROBERTS. What about the situation with reference to the radioactive fallout? Is it playing a part in this problem, as far as you know?

Dr. PRINDLE. It seems unlikely that it would. We work very cooperatively with our own Division of Radiological Health in the Service; as a matter of fact, some of our air samples are turned over to them for radioactivity determinations.

At the present time there would seem to be very little evidence that it is a factor in causing the kinds of chemical pollution with which our program is concerned, or in affecting meteorological conditions that are affecting the transport of pollution.

However, because we have been able to work so closely with them, and because both of us turn to the Weather Bureau for the technological backup there, I am sure that we would keep an eye on what problems might arise that would be of mutual interest.

Mr. ROBERTS. Thank you very much, Dr. Prindle.

Mr. Nelsen?

Mr. NELSEN. I noted in your statement, Doctor, that you mentioned that in London the sulfur dioxide problem is to a great degree attributed to the burning of soft coal in the homes. I have here a report, National Conference of Air Pollution, U.S. Department of Health, Education, and Welfare, pointing this same thing out and bringing it to our attention.

Dr. PRINDLE. Yes.

Mr. NELSEN. You then mentioned that Chicago also has a dioxide problem. What seems to be the contributing cause of the sulfur dioxide problem in Chicago?

Dr. PRINDLE. I am not certain exactly, at this stage of the program; we are working now on a joint program with Mr. Fitzpatrick in Chicago, assessing and evaluating the problem and attempting to find the sources.

However, I want to point out that soft coal is perhaps becoming overemphasized here; it is not the sole source of the sulfur dioxide.

As a matter of fact, most of the fuels contain varying amounts of sulfur. Sometimes hard coal, sometimes fuel oil, coke, or any of these others may contain actually more than the soft coal that was mentioned, so that the burning of many of these, either in industry or homes, can produce a sulfur dioxide problem. It is one in which we are quite concerned because it is practically an ubiquitous pollutant throughout this country, and throughout many other countries.

Mr. NELSEN. You mentioned you were working with the authorities in Chicago now under authority granted to you in the present law.

Dr. PRINDLE. That is correct; yes, sir. There was a request for technical assistance.

Mr. NELSEN. Throughout the hearings it seems to become more and more evident that the greatest help that the Government can give is some leadership and research and assistance to the various cities where a problem does exist. Isn't that one of the major contributions, not the only one but a major one?

Dr. PRINDLE. This is quite correct. I think we feel, as we have pointed out, that this is one of the major things we can do. Although

we have done much research, and will have to continue to do much, there is much to be applied now. One of the ways of helping and getting this application in is to assist directly in the cities and localities.

Mr. NELSEN. The thing that comes to my mind—we mention New York City—you stated that most of the problem there comes from motor vehicles.

Dr. PRINDLE. I'm sorry, that was Washington in which the motor vehicle was a great problem.

Mr. NELSEN. All right—in Washington. Then the thought occurs to me, just what will the Government be doing about somebody's bent exhaust pipe in the District of Columbia?

Dr. PRINDLE. I think one of the things we could do in an area such as this is, first, to assist the local jurisdictions here, which have been doing a good job of trying to get together through the Washington Metropolitan Regional Council. Our assisting them in carrying out such a program, providing them with some funds from the Federal side, and assisting them in trying to draw up a reasonable and workable plan in this area, might get to your gentlemen with the bent exhaust pipe.

In other words, one of the problems, I think, that needs to be looked into, not only here but in many other areas, that local jurisdictions or regions and districts may want to get into, is automobile inspection. There are problems in maintenance of some of these devices about which were spoken yesterday.

Mr. NELSEN. I find no opposition to the suggestion that you make throughout the hearing, and I think the great contribution that our own Government can provide will be suggestions and research and planning. Many of the communities do not have the budget to carry on this type of work. This is an overall problem that we can assist in and also to alert the people to the dangers that they are flirting with if nothing is done.

Now, in this particular piece of legislation it seems to me that we can certainly find a meeting ground and I think there is a great need for attention to it. I want to thank the gentleman. I remember his appearing in Birmingham in the hearings down there and making a great contribution to the hearings at that time. I thank the gentleman for his assistance.

Dr. PRINDLE. Thank you.

Mr. NELSEN. And we hope you will soon be out of your trouble.

Dr. PRINDLE. Thank you, sir.

Mr. NELSEN. Off the record.

(Discussion off the record.)

Mr. ROBERTS. The next is Mr. Walker Penfield, on behalf of the Air Pollution Abatement Committee, Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue NW., Washington, D.C.

Mr. Penfield.

STATEMENT OF WALKER PENFIELD, ON BEHALF OF MANUFACTURING CHEMISTS' ASSOCIATION, INC.

Mr. PENFIELD. Mr. Chairman and members of the subcommittee, my name is Walker Penfield, appearing today for the Manufacturing Chemists' Association, Inc. On behalf of the association, I wish to

thank you for the opportunity to present its views on the air pollution bills now pending before you.

The Manufacturing Chemists' Association, Inc., was established in 1872 and is the oldest chemical trade association in the United States.

Its membership includes 199 companies, large and small, representing more than 90 percent of the productive capacity of the chemical industry in the United States.

I am a charter member of the association's air pollution abatement committee and have served as its chairman. Currently I am chairman of its subcommittee charged specifically with reviewing legislative developments and initiating recommendations about them.

I am accompanied by William J. Conner.

Our association has had a formal air pollution abatement committee since 1949 and has followed what we believe to be a constructive program, having been constantly alert to the research technical and administrative problems which must be solved if our public air pollution control programs are to have a sound basis.

For instance, as early as 1951, 4 years before the first Federal legislation on air pollution, the Manufacturing Chemists' Association issued a comprehensive educational manual on air pollution and its control.

Over 85,000 copies of the various sections of this manual have been distributed in the ensuing years. Our association has contributed to and supported well-considered legislation on air pollution. Since the inception of the Federal Air Pollution Act in 1955, our association has maintained close liaison with the Public Health Service.

Representatives of our committee meet frequently with the scientists of the Robert A. Taft Sanitary Engineering Center in Cincinnati to exchange views and information. In addition, we are now engaged in a joint project with the Public Health Service to study atmospheric emissions from selected chemical manufacturing processes and the means whereby these emissions may be satisfactorily controlled.

To begin with, we would like to emphasize that we endorse the recognition of primary responsibility of State and local agencies for the prevention and control of air pollution as embodied in H.R. 4415.

In the main, my presentation today deals more with principle and philosophy than with language of the pending legislation. There will, therefore, be very few references to specific sections or provisions of the four bills—H.R. 3507, H.R. 4061, H.R. 4415, and H.R. 4750.

We do not argue for 1 minute that air pollution is not a serious problem. We do believe, however, that such instances of acute pollution as Donora and Los Angeles but emphasize the local nature of the needs for increased air pollution abatement.

Despite these examples, however, it is important to bear in mind that actually only a minor fraction of the land area of the United States has an air pollution problem of any great consequence.

It is our firm belief that these problems are being aggressively atacked by local, State, and regional authorities.

We are seriously concerned that to much stress on Federal enforcement will discourage State and local enforcement people.

This superimposition of Federal enforcement authority would, we believe, be a serious and ill-advised step backward in the concerted efforts being made today by all interested parties to abate air pollution.

The Public Health Service has recently published compilations of State and municipal laws and ordinances on air pollution.

These show that 26 States have statutes setting up controls, and the municipal compilation which is not intended to cover all cases, includes ordinances from over a hundred cities exceeding 50,000 in population.

We feel strongly that the Federal effort should support and encourage this commendable effort being made by States and cities, the extent and effectiveness of which seems all too often to be overlooked and minimized.

Our primary point is that too much stress on Federal enforcement power will discourage State and local level enforcement people and impair their programs.

Last year, we prepared a statement endorsing the principles of Chairman Roberts' bill (H.R. 10519) introduced into the last Congress. It is our view that the emphasis on research, training and technical assistance to State pollution control agencies embodied in that bill are much to be preferred to the heavy emphasis on the broader Federal role in the bills being considered today.

Our fundamental approach is that the Federal Government can play the most effective role in air pollution abatement if it enters upon local situations in the attitude of the impartial expert rather than of the enforcement officer.

Clearly we need to know more about what pollutants and what concentrations are harmful, how they react with each other, how to measure them, and what procedures and devices will effectively control them.

We need criteria of air quality necessary to protect public health. We need trained personnel which Federal funds can help provide. We need laboratory apparatus and facilities and personnel which could be made available at the call of local or State control officials to help them determine the facts on which to operate.

We are in full agreement with those sections of the pending bills which provide for Federal participation in each of the areas just enumerated.

There is a grave question, however, whether we need direct intervention in the enforcement process by the Secretary. The bills before the committee adopt the approach used under the Federal Water Pollution Control Act, where Federal funds for treatment plants were badly needed and Federal intervention in interstate pollution situations appeared to be required for some aggravated situations.

We submit that the status of our air pollution problems is different from those of water pollution for several reasons:

1. There is no occasion for massive infusions of Federal matching funds to encourage the huge expenditures by local governments which were involved in the construction of sewage treatment facilities.

2. In the case of water pollution, the municipalities themselves were frequently the offenders, and a strong central authority was required to force action on pollution control projects in some cases. Air pollution is usually created by large numbers of individual and corporate contributors, who can be dealt with most effectively by local authorities applying enforcement plans closely tailored to local conditions.

3. Those who pollute a stream may injure only others downstream,

perhaps in another State. In the case of air pollution, continual changes in wind direction, inversions and stationary fronts insure that those causing the pollution will be themselves subjected to its effects. Local communities have, therefore, a very real interest in abating air pollution originating within the community.

For all these reasons, we suggest that it is undesirable to bring the Secretary into the picture in the role of policeman through the use of the conference and hearing procedures. We urge concentration on the objectives of sections 3 and 4 of H.R. 4415.

We would add to section 4 some standards and formulas similar to those used in the Water Pollution Control Act to control the discretion of the Secretary in making grants available to State control agencies.

We would also advocate that the States' share of these comparatively modest sums should be greater than the one-third or one-fourth contemplated in the bill, in order that a larger degree of State autonomy may be maintained. States will have a greater feeling of responsibility if they pay a larger proportion and hence will show more initiative.

With respect to section 5, we would prefer to see the conference and hearing procedures eliminated entirely in favor of a provision paralleling that of section 6 of Mr. Roberts' previous bill, which might read:

> The Secretary may conduct investigations and research and make surveys concerning any specific problem of air pollution confronting any air pollution control agency with a view to recommending a solution of such problem if he is requested to do so by the Governor or the State air pollution control agency, or (with the concurrence of either) the governing body of any municipality of the State in which the pollution arises or of any State adversely affected by air pollution crossing State lines.
>
> The Secretary may also initiate investigations and research and make surveys in local communities for the purpose of developing information on problems of general concern to communities in various parts of the Nation. In so doing he shall inform and cooperate with State and local air pollution control agencies and shall make recommendations only at their request.

If you feel that this type of advisory approach is not sufficient, then a conference procedure depending on the consent of the local agencies involved could be included, as follows:

> Whenever requested by the Governor, a State air pollution control agency, or (with the concurrence of either) the governing body of any municipality of any State, the Secretary may call a public conference on any problem of air pollution confronting any community, or communities within that State. Whenever requested by the Governor of any State, a State air pollution control agency, or (with the concurrence of either) the governing body of any municipality of a State in which air pollution originates or a State which is affected by air pollution originating in another State, the Secretary may call a public conference on any problem of air pollution which may affect any community or communities in any State other than the State in which the air pollution originates.

We intend, of course, that the conference would make a recommendation to the State or local authorities rather than issuing an order. If the conference is to be conducted by a representative board as provided in the earlier Roberts bill then we feel that the representative of the interested air pollution control agency should be someone designated by the Governor of the State or at least someone acceptable to him.

We further urge that the procedures for holding conferences be spelled out and submit the following suggestions for inclusion in the bill.

1. Full and adequate notice of each conference shall be given to representatives of affected industry groups, to local public officials and to such persons as educators who are concerned with the problem, in order that interested persons may prepare proper presentations.

2. Safeguards should be provided to allow every person, industry or agency with a legitimate interest to be heard, and to file comments on the findings, and recommendations resulting from the hearing. Provisions shall be made for those persons accused of causing or contributing to air pollution to be represented by counsel.

In summary, the Manufacturing Chemists' Association, Inc., endorses and urges a continuation and expansion of the activity of the Secretary and his staff in the areas of research, development, and training of personnel.

We believe Federal leadership in these areas should be the principal mission of the Secretary and his Department with respect to air pollution.

We endorse the bill's recognition of the primary responsibility of State and local agencies for the prevention and control of air pollution, as well as its encouragement of interstate activity in this area.

We urge that the Secretary not intervene in air pollution problems except at the request of State or local authorities.

If there are to be conferences called, they should stop with recommendations, leaving enforcement to local authorities.

Grants to local control agencies should be on a formula which provides guidance to the Secretary, and which requires the States to provide a reasonable portion of the needed funds.

We strongly feel that such a partnership between State and Federal efforts will provide the best solutions to the widely varied problems of air pollution.

As expressed here, our attitude corresponds with that communicated to the National Conference on Air Pollution, held last year under Federal auspices to assess the capabilities of meeting the Nation's needs in this important area.

We believe our views are consistent with the overwhelming balance of opinion and evidence reported to the national conference.

Mr. Chairman, if we can assist you or the subcommittee members further in any way, particularly with reference to these comments just now offered, we would consider it a privilege to do so.

Thank you for your courtesy in permitting us to appear on this very important matter.

Mr. ROBERTS. Thank you, Mr. Penfield.

Did you, Mr. Conner, wish to make any additional statement? Do you want to answer some questions?

Mr. CONNER. I will be glad to answer any questions, sir.

Mr. NELSEN. Mr. Chairman, may I interrupt here? You have heard of the Paul Bunyon and the blue ox, I presume. Mr. Connor is a Minnesotan and comes from the Bemidji area. If you come up there you will see the blue ox standing there.

I am happy to have Mr. Conner here. I think he moved but we are glad he is here.

Mr. ROBERTS. If this pollution gets worse in the Washington area he will come back.

Mr. CONNER. Paul's head is still in the clear blue sky, Mr. Nelsen.

Mr. ROBERTS. We are glad to have you, Mr. Conner.

I want to thank you, Mr. Penfield, for your statement.

There seems to be in some of the statements—and I notice you touched on it—the conference situation.

It seems to be, at least inferred, and I believe Mr. Julson referred to one incident that he seems to be unhappy with.

How many of these conferences, Mr. Penfield, do you know have been held on Water Pollution Control Act that you are familiar with?

Mr. PENFIELD. I attended the conference held in Detroit something over a year ago. I have heard of other conferences; I don't happen to have a listing of them, but that could be made available very easily if needed.

Mr. ROBERTS. Could you supply for the record a list of the conferences that have been held, that are within the knowledge of your association?

Mr. PENFIELD. Yes, I would be very happy to.

Mr. ROBERTS. Do you know offhand in a general way how many of these conferences have been successful, in your opinion, sir?

Mr. PENFIELD. Well, I'm not attempting to evade your question, Mr. Roberts, but it is hard to say yet how successful they will be because I do not think enough time has elapsed.

The usual procedure, as you must be well aware, is that a conference usually comes up with recommendations and that recommendation is usually for a survey.

In the case of the Detroit River, which I am more familiar with than anything else because we happen to have a plant in Wyandotte, I know they have three boats there; they are starting to take samples and starting to do things.

As I understand it their survey will not be completed for maybe another year or year and a half. When the survey is completed, the report is made, then and only then can you tell conclusively what has been uncovered as a result of the recommendations of the conference.

Mr. CONNER. Mr. Chairman, might I add something to that?

Mr. ROBERTS. Yes.

Mr. CONNER. One of my associates has been following closely two conferences, one held at Clinton, Iowa, and the other held up in Maine; I think our concern arising out of those conferences was not that no good could come of them but rather because the Federal people felt that they had a responsibility to move forward rapidly they did not take proper opportunity to consult with the local people, to get their cooperation in advance of the conference, and to give proper emphasis to their accomplishments already made.

Mr. ROBERTS. That's what I am trying to get at. I want to try to find out if there have been any instances that we can get the facts where unfair advantage has been taken either in giving too short notice or not including all of the interested parties, or any unfairness—that's a matter of opinion, of course—but any of these things I would like to have in the record, because we recognize that in all of the Federal legislation, and I might say that this committee handles a great

deal of it in the Federal-State field, we try to set it up so that we will get the ultimate in cooperation from local sources.

We set up some of these programs to serve as a catalyst and we have had quite, we think, a successful operation in the Hill-Burton Act. There will be a difference of opinion, I am sure, but we think that we worked out a pretty good law last year, we think that was fairly well supported, both in and outside of Government.

If these instances are happening the committee would like to know about it because we certainly do not want to take advantage of or set up any legislation that will allow Federal agencies to impose on people, citizens, local authorities, or anyone in the picture.

Mr. CONNER. It is my understanding, Mr. Chairman, that specifically in the proceeding in Portland, Maine, that on two occasions, two successive convenings of this hearing the representatives of the State attorney general and the spokesman for the Governors of the States involved, indicated quite forcefully that they felt they had not been properly consulted and that these hearings were going forward, indeed, over their objection.

I think this is one specific one you might want to check into.

Mr. ROBERTS. We would certainly consider that you were doing the committee a favor if you would supply us with any of those details that you know of.

If you have any other sources of information. We are not responsible for the Water Control Pollution Act but we would like to avoid any areas that might lead to similar situations and we would be very grateful to you if you could supply us with those.

Mr. CONNER. We will undertake to do that.

Mr. ROBERTS. In one statement, Mr. Penfield, I notice you point out that in the pollution picture, this is at the bottom of page 5, paragraph 3, one of the difficulties which you are constructing you say those who pollute a stream may injure only others downstream, perhaps in another State.

In the case of air pollution continual changes in wind directions, inversions and stationary fronts insure that those causing the pollution will be themselves subject to its effects.

Local communities have therefore a very real interest in abating the air pollution originating within the community. I was wondering if you would agree that that argument could be used both ways?

Mr. PENFIELD. I don't know that I quite understand you, sir.

Mr. ROBERTS. I mean this, that since we do have these continual changes in wind direction and as you say, stationary fronts, you see a lot of it coming back on the local community, but those same fronts and inversion situations could also take that into a neighboring State. That's what I'm trying to say.

Mr. PENFIELD. Of course, you could get some from the neighboring State but I think what was in our minds when we wrote these words was this: When pollution comes out, whatever the sources—take particular matter, that's a very good illustration—the heavy particles, the larger particles fall within a relatively short distance from the source and those people who are living right around that source get a much heavier load than those living at some greater distance.

Does that help you?

Mr. ROBERTS. Yes, sir. Of course, that might not apply to gases and gaseous fumes.

Mr. PENFIELD. You are right, there are cases where gases, if they were emitted from a very, very high stack naturally wouldn't reach ground level as close as they would if it was a lower stack.

Those cases are relatively few. You have odors and smells coming out of a fertilizer factory, something of that sort, they get pretty well dissipated and the people living right near like it the least.

Mr. ROBERTS. I notice, too, that in one area, I don't want to argue with you about your expression but I notice on that same page you say:

> There is no occasion for massive infusions with Federal matching funds to encourage the huge expenditures by local governments.

I was just wondering if you will agree that in light of the tremendous expenditures that some of the witnesses have testified to, particularly in the California area and in Chicago, if you consider this bill a type of massive infusion?

Mr. PENFIELD. I——

Mr. ROBERTS. That is section 4, is what I had reference to.

Mr. PENFIELD. I understand, sir.

I would like to say this, that the situation in Los Angeles, the complication of the topography there, the inversion picture, and the great number of motor vehicles, and whatever else is causing the pollution, I would say it is a unique situation and it probably will not be duplicated, certainly not to the extent that it is there, elsewhere. I look upon it as the exception rather than the rule.

What I was trying to point out there is that the biggest single source probably of stream pollution is sanitary sewage, and it is necessary to build these large and expensive plants.

In the case of air pollution there is quite a bit of research necessary in some instances where you don't know; as in Los Angeles you don't know what the things are.

But there is not the large capital investment for public works inherent in the water pollution problem.

Mr. CONNER. Might I add something to that, Mr. Chairman?

Mr. ROBERTS. I certainly would agree with you, the difference you point out, that in many areas of water pollution the citizens themselves are the offenders in that they use a convenient body of water to dispose of sewage.

Mr. PENFIELD. I would say in addition to that the cities are the offenders. This is quite different in the air pollution picture.

Mr. ROBERTS. Mr. Conner.

Mr. CONNER. The point we are trying to make and perhaps did not express as well as we might, was not that we considered the sums of money suggested in your bill and the other bills to be of themselves massive infusions.

Our point was you did not need hundreds of millions of dollars for public works and therefore the comparatively modest sums of money mentioned in your bill can be matched by local expenditure, thus the Federal role need not be as prominent as in the case of water.

Mr. ROBERTS. I think I understand your statement.

Mr. Nelsen?

Mr. NELSEN. No questions.

Mr. ROBERTS. Thank you, gentlemen.

Our next witness is Mr. Clinton Miller.

There is one gentleman who raised his hand and said he had a train schedule. What time, sir, 5 o'clock?

A Voice: The train leaves at 5, yes.

Mr. ROBERTS. I will certainly make an effort to try to take you next.

Mr. Miller, of the National Health Federation, 1012 14th Street Northwest, accompanied by Mr. Francis Silver, Martinsburg, W. Va.

STATEMENT OF CLINTON R. MILLER, OF THE NATIONAL HEALTH FEDERATION OF WASHINGTON, D.C.

Mr. MILLER. Mr. Chairman and members of the committee, the National Health Federation is a national organization composed of thousands of members who believe in freedom of choice in matters of health where the exercise of that freedom does not endanger the health or safety of another and thereby deny them equal freedom.

I should like, today, to confine my oral statement to a few brief remarks and submit a written statement for the record, if that's permissible.

Mr. ROBERTS. Without objection.

Mr. MILLER. History can teach us an important lesson here, if we will but learn it. People who will not learn from history are bound to repeat its errors.

There is a parallel in our present attempt to get unpolluted air, and our frustrated attempts to get pure, unpoisoned foods. I draw the attention of this committee to the prophetic warning of Dr. Harvey Wiley, father of the Pure Food and Drug Administration who warned that if we do not take steps to prevent it that agencies will always end up being regulated by those they were set up to regulate.

He wrote a book just before his death, entitled "History of a Crime," which was the history of the crime against the Food and Drug Administration, in which he documented the takeover of the Food and Drug Administration by those very industries they were meant to regulate. This crime against the food and drug law persists today.

I have several copies of this book which I would like to present to each member of this important committee so that we may profit from mistakes of the past. I encourage you to use this as a textbook.

In my written statement, I draw attention to Dr. Frederick B. Exner's charge that evidently a similar takeover of the Public Health Service, who will be responsible for enforcement of any air pollution laws you might make, has already been engineered by the offending industries.

He points out that industry and the Public Health Service have apparently attempted to deemphasize or suppress publication of any studies which would reveal the hazards from environmental pollution by fluorine.

In his view of his allegations, we feel that one of the most important considerations of the pending legislation is section 8, entitled "Information Available to the Public." We encourage the committee to resist any attempts to weaken this section.

To attempt to understand the real problem of air pollution without emphasizing fluorine as a contributing factor, is like trying to understand the hazard of fallout without emphasizing strontium 90.

Like the iceberg, the biggest part of the air pollution problem is that which we cannot see. I might parenthetically add that which we cannot smell, in view of the stress today on the sulfur compounds.

We encourage this committee to adopt the amendment which will be submitted by Mr. Francis Silver who is appearing with us today.

We sincerely applaud the sponsors of this legislation and pledge them our support. Thank you.

Mr. ROBERTS. Thank you, Mr. Miller.

(The prepared statement of Mr. Miller follows:)

PREPARED STATEMENT OF THE NATIONAL HEALTH FEDERATION, WASHINGTON, D.C., BY CLINTON R. MILLER

Mr. Chairman and members of the committee, the National Health Federation has made a careful review of all testimony that has been previously presented to this Committee on Air Pollution. We have deliberately refrained from repeating any information that is already available to you in the record.

It becomes painfully obvious, however, that previous industry and Public Health Service witnesses have skirted one of the most serious health aspects of the air pollution problem, which is airborne fluorine. They endeavored instead to divert your attention to something you can see and smell, like the sulfur compounds.

Dr. F. B. Exner, whose paper on the "Economic Motives Behind Fluoridation," is included as the major part of this written statement, claims that the PHS has made every effort to suppress knowledge of the hazards associated with environmental pollution by fluorine. He insists that fluorine plays a leading role in the dirty drama of air pollution. We are deeply concerned over his observation that the PHS promotes the fluoridation of public water supplies at the same time they suppress studies, research and reporting of fluorine as a dangerous air pollutant.

FLUORINE—PUBLIC AIR ENEMY NO. 1—IGNORED

The National Health Federation can best help the members of this committee understand the more serious health aspects of the air pollution problem by focusing their attention momentarily on a single element, fluorine. For reasons best known to themselves, the PHS has accommodated certain industries by pretending fluorine does not any longer exist as a general, serious air pollutant. The evidence not only shows that they have ignored a vital aspect of the total problem, but that a deliberate and obvious attempt has been made to suppress a reporting of damage by, or even the presence of, airborne fluorine.

FLUORINE HAS A CRIMINAL RECORD

Not too long ago, millions of dollars were paid to farmers by the Geneva Steel Co. at Provo, Utah, for poisoning caused by this single air pollutant, fluorine. This was for injury to plants and animals. The National Institute of Health gave three grants totaling $70,000 to measure the effect of atmospheric fluorides on man. The study was done at the Utah Valley Hospital in Provo, Utah, by Dr. R. A. Call. It is, to my knowledge, the only study done by the PHS to see if the same cumulative poison, that deformed and destroyed millions of dollars worth of plants and animals around a single steel plant, accumulates in humans too. The study not only proved that it does, but at an alarmingly different rate in different individuals. The study indicated that in some persons there was over 100 times as much fluorine accumulated in the soft tissue of certain vital organs as there was in the corresponding tissues of others.

SEE NO FLUORINE, TEST NO FLUORINE, REPORT NO FLUORINE

The results were so startling that the report had to be suppressed. When I made a recent attempt to secure a copy of this report from the NIH, or the PHS I was informed that these reports were, as a matter of policy, "confidential in nature." When I mentioned that the study was done with Federal funds, under Grant S–83, I was informed that I was laboring under a "common misconception that because this study is paid for by Federal funds, that the results are

open to anybody." When I asked for an explanation, I was given the incredible answer that it was to "protect the researcher."

SEE FOR YOURSELF

For a real shocker, try to get a copy of this report "Effect of Atmospheric Fluorides on Man," R. A. Call, D. A. Greenwood, and J. L. Shupe, September 1, 1957 to August 31, 1960, U.S. National Institutes of Health, 1960. You will be informed that if you want a copy you must write to Dr. Call and that "he can release it if he wants."

Dr. Exner criticizes the PHS for not reporting fluorine at any of the 250 stations in the National Air Sampling Network. Compare the following charts.

Pollutants reported in 1953–57 by the National Air Sampling Network:

(1) Suspended particulates
(2) Acetone solubles
(3) Benzene solubles
(4) Radioactivity
(5) Chlorides
(6) Fluorides
(7) Nitrates
(8) Sulfates
(9) Antimony
(10) Arsenic
(11) Barium
(12) Beryllium
(13) Bismuth
(14) Cadmium
(15) Chromium
(16) Cobalt
(17) Copper
(18) Iron
(19) Lead
(20) Magnesium
(21) Manganese
(22) Molybdenum
(23) Nickel
(24) Potassium
(25) Silver
(26) Sodium
(27) Strontium
(28) Tin
(29) Titanium
(30) Vanadium
(31) Zinc

Pollutants reported in 1957–61 by the National Air Sampling Network:

(1) Suspended particulates
(2) Benzene-soluble organics
(3) Nitrates
(4) Sulfates
(5) Antimony
(6) Bismuth
(7) Cadmium
(8) Chromium
(9) Cobalt
(10) Copper
(11) Iron
(12) Lead
(13) Manganese
(14) Molybdenum
(15) Nickel
(16) Tin
(17) Titanium
(18) Vanadium
(19) Zinc
(20) Radioactivity

Pollutants not reported in 1957–61 that were reported in 1953–57:

(1) Fluorides
(2) Chlorides
(3) Acetone solubles
(4) Arsenic
(5) Barium
(6) Beryllium
(7) Magnesium
(8) Potassium
(9) Silver
(10) Sodium
(11) Strontium

THE SOLUTION IS NOT ALWAYS TO SPEND MORE MONEY

No matter how much tax money is given to the PHS to control air pollution, if they do not even check for fluorine, then we cannot expect to get cleaner and safer air in proportion to the amount of tax money we spend. Fluorine is responsible for more damage claims against industry, and for more payments for damage than all the other 20 air pollutants that they do report put together. If a policeman refuses to even look for or report a certain criminal, raising his salary or buying him a new patrol car will not in any way hasten the criminals arrest. Indeed, it seems to have the opposite effect. From 1953 to 1957, the PHS reported 31 air pollutants. From 1957 to 1961, they received more money, and cut down their reporting to 20 air pollutants. It is more than significant that they left out those very ones that offending industries want unmentioned. The

only protection that the taxpayer has now is that a guilty industry will make the test and report themselves.

FLORIDA DISCOVERS FLUORINE DESPITE PHS SUPPRESSION

The Florida Air Polluion Control Commission has published a progress report covering the period from January 1958–January 1961.

The following excerpts are significant:

"More than 200 sampling stations were established. After sampling had determined the extent of an alleged air pollution problem, certain rules and regulations were promulgated by the commission. *In this instance, fluorides were established as the pollutants responsible for the problem.* [Emphasis supplied.]

"* * * It is estimated that more than $8 million has been spent by the phosphate industry alone in air pollution control activities since the beginning of this program. * * * The results are notable but foliage samples indicate that emissions of fluorides are still *far above* the maximum limit set by the commission." [Emphasis supplied.]

The National Health Federation is indebted to Dr. F. B. Exner for the following research paper which carefully documents the efforts by American "big industry" and the PHS to suppress, deny, and disprove any damage to humans by air pollution with fluorine.

Economic Motives Behind Fluoridation

(By F. B. Exner, M.D., Seattle, Wash.)

An address by F. B. Exner, M.D., to the Western Conference of Natural Food Associates, Salt Lake City, Utah, October 27, 1961

INTRODUCTION

In 1955, when I wrote the article which is now chapter 4 of "The American Fluoridation Experiment," (1) I knew in a general way that industrial pollution of air and water with fluorine provided a strong motive for promoting fluoridation of water supplies. But I knew few of the details, and had no idea how strong the motive was.

I knew far more when I testified to the Councils of the American Medical Association, in August 1957 (2); but the picture still was far from complete. It is now clear that the one utterly relentless force behind fluoridation is American "big industry," and that the motive is not profit, as such, but fear.

Around 1900, the very existence of the smelter industry, both in Germany and Great Britain, was threatened by successful suits for fluorine damage and by burdensome laws and regulations (3). Today that same threat hangs over the bulk of American big industry; and fluoridation offers both camouflage and a scapegoat. Hence the relentless and uncompromising drive for universal fluoridation.

THE OPPORTUNISTS

Other promoters are more prominently involved, while industry stays discreetly in the background. But the others are opportunists who have climbed on the bandwagon. It isn't their bandwagon, and it never was.[1]

The motives of the opportunists are not always clear; but we know that basic motives usually hinge on money, power, fear, or sex. Here we can rule out sex; but we can't rule out bribery, blackmail, intimidation, greed, or lust for power. With literally billions of dollars at stake, we can know that all these play a part; but we can't know when or where. We can rarely be sure of our own motives, much less those of others.

PHS AND ADA

A good cross-section of the forces behind fluoridation can be found in a booklet called "Our Children's Teeth" (4) put out by a group calling itself the Committee To Protect Our Children's Teeth. In it we find promotional statements by seven officers of the U.S. Public Health Service; and three by men from the New York State Health Department which is, of course, heavily subsidized

[1] Self-interest makes strange bedfellows. Even the Communists climbed aboard; but it never was their wagon.

by PHS. For these people, fluoridation means money, jobs, and power—such power as they had only dreamed. When you can drug people against their wills, and when the public safety is not involved, there is no limit to what you can do, or to whom.

Other statements are by men from the National Academy of Sciences (also heavily subsidized by PHS), Harvard (which, in 1960, received over $7 million in research grants from PHS), and the American Dental Association.

It is well known that the ADA is one of the most active promoters of fluoridation. It is not so well known that the promotion comes from a small clique which has engineered the "endorsements" and pretends to speak for all dentists. Neither is it known that ADA received $78,000 from PHS in 1958, and $109,000 in 1960 (5).

THE KETTERING LABORATORY

The other statement is by a man who needs special mention. He is Dr. Robert Kehoe, director of the Kettering Laboratory, of the University of Cincinnati Department of Preventive Medicine and Industrial Health. He is also medical director of the Ethyl Corp.; and a consultant to the Tennessee Valley Authority, the Atomic Energy Commission, the U.S. Air Force, and the Division of Occupational Medicine of PHS (6).

The Kettering Laboratory originated in 1925, from gifts by three industrial concerns. Its present organization dates from 1930; and, as of 1955, was the largest organization of its kind outside government circles in the world. Its specific purpose is to investigate chemical hazards that develop in American industrial operations (7).

In 1955, its staff numbered about 130. Its budget was $643,000, about 90 percent of which was from private industries and most of the rest from Government agencies (8).

Its contracts with the employing firms stipulated that no "confidential" information obtained could be released without the consent of the firm that sponsored the particular project (9). Also, policy has been to avoid situations wherein the laboratory might find itself "on both sides of a controversy in a court of law" (10).

KETTERING LABORATORY AND FLUORINE

The Kettering interest in fluorine began in 1931, in connection with the refrigerant gas, Freon 12. It has expanded to cover fluorine hazards in the manufacture of aluminum and steel, the petroleum industry, and casting of magnesium (11).

The character of its approach to such problems is exemplified by statements of Dr. Kehoe and of Dr. Francis Heyroth who, until he died, was the laboratory's toxicologist and its assistant director. He was also on the ad hoc committee of the National Research Council that endorsed fluoridation.

In 1955, Dr. Heyroth testified under oath that: (*a*) How soluble sodium fluoride is, is not a question of how much will dissolve, but of how much will dissolve and go into the urine; (*b*) that the fluorine concentration in the water is always equal to the concentration in the urine; (*c*) That we (at the laboratory) know exactly by our experience what the usual consumption of water is and that it is about a quart a day; (*d*) that any man who drank a gallon of water a day would not live long because he would soon die of water intoxication; and (*e*) that six parts per million would be a safe level of fluorine in a water supply. (The maximum tolerance set by PHS at the time was 1.5 parts per million (12).)

And in the aforementioned booklet, "Our Children's Teeth," Dr. Kehoe says:

"The question of the public safety of fluoridation is nonexistent from the viewpoint of medical science. There is a wide margin of safety in connection with the use of water * * * which contains fluoride in concentrations of the order of 1 part per million. * * *

"The concept of toxicity as a function of *concentration* * * * is a fairly recent one. Because interest in physiology is highly specialized, rather than general, we find this scientific truth only partially understood" (4). [Emphasis in the original.]

This, of course, is nonsense, but nonsense with a purpose.

THE LISTS OF NAMES

The same publication contains three interesting lists of names. One names some 300 members of the committee. Here we find the dupes, the pretenders,

the do-gooders and the me-tooers, plus a scattering of those with axes to grind.

The other two lists are more interesting. They list, respectively, 229 people described as "leading American authorities on nutrition"; and 131 described as "the Nation's foremost chemists."

How some rated such listing, and why others didn't, is a good question; but that is not the point. The real question is why anyone with any self-respect would permit his name on either list.

The names are appended to two statements neither of which could be honestly signed by any intelligent layman, much less by any scientist who valued his scientific reputation. I have told why elsewhere, and won't repeat (13).

Of course we don't know how many actually signed. In the case of the chemists, I wrote each one and asked whether he had signed and whether he believed the statement true. Some denied signing. Some had signed without reading. Some had signed knowing the statement to be false but because they thought fluoridation so desirable that any means were justified.

In any case, not one of those on either list has, to my knowledge, repudiated the statement or demanded that his name be withdrawn.

THE SUBSIDIES

In 1958, the Director of the National Institutes of Health, a part of PHS, was quoted as telling a news conference:

"Inevitably, the influence NIH and the Public Health Service exert on the Nation's health problems has grown tremendously. Thousands of doctors now depend on NIH grants for most of their support. The training of many researchers is financed by the Government. A majority of medical schools admit that they would be in difficult straits without Government grants."

This simple statement of fact can also be read as a thinly veiled threat or proffer of bribe. In any case, it is interesting that 201 of the 360 "chemists" and "authorities on nutrition" worked for 87 institutions, mostly colleges and universities, that received a total of more than $151 million as "research grants" in 1960. What is more, 61 on the lists received personal grants totaling almost $2 million (5).

NAMES FROM INDUSTRY

The connections for many of the lists are not self-evident and I haven't traced them. However, 22 signers are from leading drug manufacturers. This is not too surprising since PHS has complete and arbitrary power of life or death over every drug manufacturer. They would not dare oppose fluoridation; but I wonder if they are forced to promote it. In any case, some didn't.

Next we have 34 names from leading chemical companies, including 8 from Du Pont, 7 from Merck, 5 from American Cyanimid, 2 each from Armour, and Carbide & Carbon Chemicals, with 1 each from Allied Chemical, Harshaw Chemical, International Minerals & Metals, Minnesota Mining & Manufacturing, and others. Each I have named is deeply involved in the manufacture or use of fluorine chemicals. To these, for reasons that will appear later, we must add three names from the atomic energy installation at Oak Ridge.

Next we have three names from the petroleum industry; and one of the men from Du Pont was from its petroleum lab.

And finally we have 11 names from the food industry.

Beyond any doubt, many signed in all innocence. People have signed petitions asking that every signer be hanged. Moreover, it is easy to believe what you want to believe, however fantastic, and in each case we have mentioned either the man or his employer had compelling reasons for wanting people to believe:

(*a*) That water is the chief source of fluorine;

(*b*) That fluorine from other sources is unimportant;

(*c*) That the body needs more fluorine than it can get without fluoridation; and

(*d*) That the effects are governed by the concentration of fluorine in the air or water rather than concentration in the tissues.

To understand that motive, we must review some history.

HISTORICAL BACKGROUND

There has been fluorine poisoning as long as there have been plants, animals, and people—unrecognized as such, of course, and mostly associated with volcanic phenomena or fluorine-bearing waters. Came the industrial revolution,

and things were different. There came a wholesale pollution of air and countryside with fluorine fumes and fallout; and fluorine poisoning became an important industrial hazard.

There were many sources, including glass, brick, enamel, and ceramic tile; but the worst offenders were the iron and copper smelters. The first recognized effects were on vegetation.

According to Ost (3), the Freiburg smelters, in Germany, first paid damages to injured neighbors in 1855; and by 1893 had paid out DM880,000 for current injuries, and DM644,000 for permanent relief. Around the turn of the century, as I said before, the situation became acute, and the very existence of the smelter industry, both in Germany and Great Britain, was threatened.

Meanwhile, the cattle around Anaconda, Mont., developed what were known as "copper teeth," remarkably similar to the human disease which became famous as "Texas teeth," "Colorado brown-stain," or "mottled enamel" and was later identified as fluorine poisoning (14). I find no description of the other effects on the cattle; but we know that a cow with mottled teeth is a poisoned cow, just as a child with mottled teeth is a poisoned child. Neither will ever be as well as if it hadn't happened.

In any case, it wasn't to preserve the beauty of the teeth of cows that the enormous stacks were built at Anaconda, Great Falls, and Tacoma. It was to carry fluorine and arsenic high into the upper air.

Then, in 1907, a disease of cattle that had been endemic around Freiburg for some 20 years was identified as fluorine poisoning from the smelters (3).

SUPERPHOSPHATE AND ALUMINUM

Then came two new industries which were in immediate trouble. During the 1890's there had been numerous complaints of damage to vegetation around superphosphate fertilizer plants. In 1912, Bartolucci reported fluorine poisoning of cattle near a superphosphate plant in Italy (15).

Between 1911 and 1918, the cattle around a Swiss aluminum plant became poisoned. The disease was identified as fluorine poisoning by Christiani and Gautier; but the court was not convinced and damages were awarded for injury to the land but not the livestock (16).

During the 1920's, there was growing concern abroad and in our own Department of Agriculture and Bureau of Mines over fluorine as a public health hazard—but not in the Public Health Service. PHS was under the Treasury Department; and Andrew Mellon was Secretary of the Treasury. During all those years I can find no mention of fluorine in Public Health Reports, the official publication of PHS.

WATERBORNE FLUORINE

Meanwhile there had been a parallel development with respect to teeth. There had been fluorine-mottled teeth as long as there had been people but, again, the cases were scattered and rare except in volcanic regions. With our westward migration, however, arid and volcanic regions were settled. Deep wells in the former, and even surface sources in the latter, often contained fluorine; and mottled enamel in such places was endemic.

Then eastern communities, seeking sources of pure water, turned to deep wells, many of which contained fluorine. As a result, mottled enamel which had been endemic chiefly in Colorado, Texas, and Arizona, became a problem in the East as well.

When it was discovered, in 1931, that mottled enamel was due to fluorine poisoining of the tooth buds while the teeth were forming, PHS had to recognize that fluorine had public health importance. Dr. H. Trendley Dean was delegated to determine how much fluoride might safely be permitted in water supplies. But PHS showed no slightest interest in fluorine except in water.

AGRICULTURE, 1933

In 1933, Dr. Floyd DeEds, Senior Toxicologist with the Department of Agriculture and lecturer on pharmacology at Stanford, published a 60 page review on chronic fluorine poisoning. He wrote (17):

"Only recently, that is within the last 10 years, has the serious nature of fluorine toxicity been realized, particularly with regard to chronic intoxication. It is from the viewpoint of chronic intoxication that fluorine is of importance to the public health. A review of the literature shows that the public health aspect

of fluorine is manifested in industrial hygiene, in agriculture, and in foods. The latter aspect of the problem is particularly important because of the recommendation and increasing utilization of fluorine compounds in agriculture."

In this connection, we should note that, as of 1957, the FDA tolerances for insect spray residues allowed 7 parts per million of fluorine in some 60 fruits and vegetables (18).

DeEds also wrote:

"It is a well established fact that chronic intoxication may manifest itself in man as recognized abnormalities only after constant, or at least frequent, exposure over many years."

And he quoted a paper by Sollmann, Schetter, and Wetzel (19), saying:

"According to information obtained from the U.S. Bureau of Chemistry, "phosphate rock" is used to some extent in the production of phosphates used in the manufacture of baking powders. Ordinarily, such rock contains from 0.5 to 15 percent of fluorine. The finished baking powders are made from acid calcium phosphate containing in the neighborhood of 0.04 percent of fluorine; but if carelessly manufactured, i.e., if calcium acid phosphate is used, they may contain as much as 0.5 percent.

"Dr. E. W. Schwartz calculates * * * that the daily intake of fluorine through the use of baking powders would approximate 0.35 to 2.84 milligrams if the powders contain 0.04 percent of fluorine; or 4.45 to 35.55 milligrams if the powders contain 0.5 percent of fluorine."

These amounts, 0.35 to 35 milligrams per day, should be compared with the figure of 0.3 milligrams per day that the fluoridators tell us is in the average total diet, and with the 20 milligrams per day that they tell us is needed to produce systemic poisoning.

Rock phosphate is also the source of calcium or phosphorus used in many drugs and mineral supplements. In 1957, Feltman and Kosel (20) found from 1 to 286 micrograms of fluorine per tablet or capsule in 34 of 38 leading vitamin and mineral supplements. This accounted for the suprisingly high levels of blood fluorine among patients on fluorine-free water.

DeEds also wrote:

"The possibility of fluorine hazard should * * * be recognized in industry where this element is dealt with or where it is discharged into the air as an apparently worthless byproduct."

He discussed poisoning of vegetation and livestock near aluminum plants; and pointed out that superphosphate plants were pouring 25,000 tons of fluorine into the air and adding 90,000 tons to the topsoil each year. He added:

"This sizable quantity gives pause for thought of the potential toxicities connected therewith."

SYSTEMIC POISONING IN MAN

Such was concern over fluorine in 1933, and DeEds did not yet know that Moller and Gudjonsson had already found, and described, chronic fluorine poisoning among Danish cryolite workers. In 1937, Kaj Roholm published his monumental study of chronic fluorine poisoning, which is still regarded as a classic (21, 22).

Also in 1937, Shortt and coworkers, in India, reported poisoning like that described by Roholm and by Moller and Gudjonsson but caused by waterborne fluorine (23).

COX TO THE RESCUE

Concern over fluorine as a public health hazard was definitely getting out of hand. For one thing, industry was dumping its fluorine wastes in rivers—rivers that were used downstream for water supply.

This was the situation when Dr. Gerald Cox, from Mellon Institute, suggested (24), in 1939, that (and I quote): "* * * the present trend toward complete removal of fluoride from water and food may need some reversal * * *" and suggested that fluoride be added to water supplies as a means of reducing tooth decay.

THE PHS "TOLERANCE"

The result was that in 1942, instead of forbidding the dumping of fluorine in water supplies, the Public Health Service set 1 part per million of fluorine as the maximum tolerance in a public water supply. Then, in 1946, and with no new evidence of safety, it was raised to 1.5 parts per million.

Again, in 1961, it has been raised to 2.4 parts per million, in spite of the fact one Public Health Service investigator (25) had said that, at 1.5 parts per mil-

tion, the factor of safety was zero; and another (26) had said that above 2 parts per million the permanent disfigurement of many of the users far outweighs any hypothetical benefit.

However, the situation was desperate, because far higher levels of contamination were taking place. For example, the Peace River, from which Arcadia, Fla., takes its water, often has up to 17 parts per million of fluorine caused by the triple-superphosphate plants in the river basin (27).

A lawyer for a leading copper company told a friend of mine that Salt Lake City would be fluoridated whether the people like it or not. "How else," he said, "can we get rid of our fluorides?"

THE BLACKOUT

Since 1937 the foreign medical literature has contained hundreds of articles on the wide variety of troubles that can be caused by fluorine. The same is true of the veterinary literature in this country. But none of this appears in our medical literature.

The things that fluorine can do to people are seen every day everywhere. The trouble is to know which cases are actually caused by fluorine.

There has been constant danger that someone would analyze tissues in both high and low-fluoride areas and find that fluorine poisoning is common. But if every community can be fluoridated there will be no fluorine-free areas for comparison.

Meanwhile such information (or rather misinformation) as has been disseminated in this country has come from the Kettering Laboratory, the Public Health Service, and sources they control.

All reports based on Public Health Service research grants are subject to censorship before publication (28). Whatever is found is so reported as to conceal any possible hazards from fluorine. A good example is the report of the Public Health Service sponsored study at Provo, Utah, where valuable data and findings were grossly misrepresented in reporting (29).

The result is that the physicians and dentists of America know almost nothing about fluorosis (chronic fluorine poisoning); and most of what they think they know isn't true. Most, in fact, don't even know there is such a thing; and because they don't, it never occurs to them to look for it, or even consider it.

WORLD WAR II

In 1942, with the Second World War, there was an enormous increase in fluorine pollution. Steel production expanded; and aluminum, which had been used for pots, pans, and a few airplanes, was needed for an air fleet. Moreover these industries invaded parts of the country that were not used to fluorine-polluted air—for example, the steel plants in California and Utah, and aluminum factories in Washington and Oregon. Crops and livestock suffered; and people didn't like it. Even the deer in the hills around Provo, Utah, had mottled teeth.

At Provo, after the war, some $30 million in damage suits were filed (30); and some $4.5 million were awarded in settlements out of court (31). Then, about 1950, the company spent $9 million on air-cleaning equipment which requires, among other things, the use of 40 tons of lime dust a day. They say this removes 90 percent of the pollution (31); and a lawyer for United States Steel bragged to me that the Geneva plant is now the cleanest steel mill in the world. (In Pittsburgh they don't have cattle. They only have people.)

The situation regarding aluminum was much worse. Aluminum is made by electrolysis of bauxite (aluminum oxide) in a bath of molten cryolite (sodium aluminum fluoride), either artificial or the natural mineral.

In a typical plant, with four "pot lines" of 128 "pots" each, 5 tons of fluorine (as cryolite, aluminum fluoride, and calcium fluoride) were added each day to replenish losses. Of this the company estimated that 7,000 pounds a day escaped into the atmosphere (32).

This plant, at Troutdale, Oreg., was built and operated for the Government by Alcoa during the war. In 1946 it was rented from the Government by Reynolds Metals who demanded that air-cleaning equipment first be installed. This was done at a cost of more than $270,000. This cut the emission to less than 4,000 pounds per day.

Aditional controls were installed in 1950, at a cost of more than $2 million, and cut the emission to less than a half ton per day.

Meanwhile some millions in damage suits were filed; and many hundreds of thousands paid in settlements or judgments. One suit, for damage to the

members of the Paul Martin family, is the only successful suit for damage to humans by fluorine pollution in the United States to date. Alcoa, Kaiser, Harvey Aluminum, Olin-Mathieson, Victor Chemical, and Food Machinery & Chemical, all joined in the suit as "friends of the court" (32, 33).

Practically all the medical testimony for the company came from four men from Kettering and one formerly from Kettering.

The story elsewhere is similar—at Sauvie Island, Longview, Tacoma, Spokane—with extensive damage to crops, land, and livestock.

At The Dalles, Oreg., vegetation was analyzed both before and after the plant was built. The plant was opened July 26, 1958. On June 30, the average fluorine content of seven crops grown within a mile of the factory was 3 parts per million. After 73 days of factory operation it had jumped to 140 parts per million. The following year, peaches contained up to 22 parts per million of fluorine; and many suffered from the condition called "soft suture" (34).

At Longview, the people voted down fluoridation in 1952. A few years later, children started to show mottled teeth (35); whereupon the council put in fluoridation without a vote. Now the mottling can be blamed on the water rather than the aluminum plant.

PETROLEUM INDUSTRY

World War II also brought new sources of fluorine pollution. The Kettering Laboratory has compiled and published abstracts of some 8,600 articles on inorganic fluorides up to 1958. It contains 639 articles on uses of fluorine compounds in industry. Of these, 76 were published before 1942, and 563 since. Most of the latter deal with new uses of fluorine compounds, and new sources of pollution.

One major change was the substitution of hydrogen fluoride for sulphuric acid as catalyst in the production of high-test gasoline. According to Callaham (36), one such plant required 500 to 750 tons of hydrogen fluoride yearly. How much of this goes directly into the atmosphere, and how much remains in the gasoline to appear in car exhausts, has never been told.

In any case, the first such plant was put in operation in Los Angeles in 1942; and by a strange coincidence, that was the year of the first complaints of eye-irritating smog. Eye irritation is also the first noticeable effect of hydrogen fluoride for most people.

For several years the Los Angeles papers told about the hydrogen fluoride in the smog; but by the time the reports reached Seattle, fluorine wasn't mentioned. Now it isn't mentioned even in Los Angeles, and we are told there is no fluoride in the Los Angeles smog. This is strange since there is fluoride in the air of every major city, with or without smog.

Now we are told that the eye irritation is caused by hydrocarbons, ozone, or oxides of sulphur or nitrogen, all of which could be smelled strongly if in eye-irritating concentration.

Since 1942, numerous other uses of fluorides in petroleum refining have been added; and both hydrogen fluoride and the highly toxic boron trifluoride are used.

ELEMENTAL FLUORINE

Fluorine itself, the chemical element, is the most reactive of substances; and does not occur in nature. It combines rapidly and violently with whatever it touches except its own compounds.

Prior to 1942, it was made with great difficulty, in gram quantities; and could not be bought at any price. The problem of containing it was solved by treating materials to form a tight surface coating of fluoride. This protects the underlying material from further attack (37).

It is now shipped in tank trucks of 4,000-pound capacity. The consequences of a wreck are not pleasant to contemplate. There would be no exlosion; but it would consume everything it touched, including water, steel, concrete, and people. The heat would be terrific. The products of combustion would all be poisonous, and most of them corrosive. Enough poison to kill a million people would result; and decontamination would be a major undertaking.

Fluorine is also being tried as a rocket propellant. With hydrogen or hydrazine as fuel, it makes the most effective chemical propellant that is possible. We are told (37) that it creates no toxic hazard, but this is hard to believe.

ATOMIC ENERGY

Enormous quantities of fluorides are also emitted in the refining of uranium. Uranium 238 is separated from its lighter isotopes as uranium hexafluoride.

To make this, pure uranium oxide is treated first with hydrogen, then dry hydrogen fluoride, and finally with elemental fluorine.

Uranium hexafluoride is an extremely poisonous and corrosive gas and very hard to handle. On contact with moist air, it forms hydrogen fluoride and a dense cloud of uranium oxyfluoride, both poisonous.

"UF6 was almost constantly evolved, forming clouds of smoke which frequently were so severe as to obscure vision in the plant. * * * The only fatalaties * * * read in the early days of production. * * * The persons concerned exhibited symptoms of HF poisoning" (38).

COAL

Finally, we must not forget coal as a source of atmospheric fluorine. According to Churchill(39), coal from western Pennsylvania contained 85 parts per million of fluorine, from Illinois 167 parts per million, and from Utah up to 293 parts per million.

The amounts may seem small as compared with rock phosphate; but if we assume a conservative average of 120 pounds per million, the coal mined in 1959(40) contained over 50,000 tons of fluorine. Nearly all of this is given off in burning (41).

THE DEATH FOGS: THE MEUSE VALLEY, 1930

During the first week of December 1930, all of Belgium was blanketed by dense fog. In addition, there was a temperature inversion in the Meuse Valley, which served as a lid to prevent the upward escape of gases.

In a 15-mile stretch of the valley, with hills of 250 to 350 feet on each side, some 6,000 people became violently ill and, on the third and fourth days 60 died. Many cattle were also killed.

An official investigating committee declared(42) that the symptoms were those of fluorine poisoning; but that only one plant was emitting fluorine and the amounts produced could not have caused the trouble. They said it must have been sulphur dioxide and sulphuric acid.

However, van Leeuwen(43), Fenner(44), Flury(45), Teleky(46), and Schwartz(47) all disagreed. For one thing, windows and light bulbs showed etching by fluoride. Flury gave figures to show that toxic amounts of fluorine were present, and Schwart, pointed out that soluble gases such as HF and SO_2 can become enriched in fog particles and produce acute poisoning even if the initial concentration is very small.

The evidence was carefully investigated by Roholm who was, at the time, the world's greatest authority on fluorine poisoning. He said (48) that he was convinced by the symptoms and the details of the disaster that the malady was acute fluorine intoxication. Of the 27 factories in the region, 15 either used raw products containing fluorine (superphosphate works, zinc works) or add fluorine compounds to the raw materials (steelworks, ironworks, glassworks), involving the possibility of passing gaseous fluorine compounds (SiF_4, HF) into the chimney smoke.

Moreover, 20 years later the vegetation in the region contained enough fluorine to indicate that fluorine pollution was high, and had probably been high in 1930(49).

THE DEATH-FOGS: DONORA, 1948

The next dramatic fog disaster was in Pennsylvania, in 1948. The towns of Donora and Webster lie in a deep, narrow valley of the Monongahela River, shaped like a reverse letter "C" and tightly enclosed on all sides by hills rising 400 to 500 feet above the river.

Within these narrow confines were a zinc works, a steelplant with blast and open-hearth furnaces, a wire mill, and two nail-galvanizing mills. For years the neighbors had complained, chiefly of the most obvious pollutant which was sulfur fumes from the zinc plant. There were several successful damage suits for damage to health and property.

From October 27–31, a temperature inversion confined the pollution in an estimated 500 million cubic meters of trapped atmosphere; 6,000 of the 13,000 residents became ill, and on the fourth day 17 died. No one knows what would have happened if the fog hadn't cleared the next day. Two more died that day, and another 8 days later, making 20 in all.

Moreover, recent investigations show (50) that those made ill have since had poorer health and a higher death rate than those who were unaffected.

THE INVESTIGATIONS

The Steelworkers of America promptly donated $10,000 for an investigation and it was suggested that Dr. Kehoe be employed. However, Kettering Laboratories had already been retained by United States Steel to investigate.

Philip Stadtler then investigated and reported that both direct and circumstantial evidence of acute fluorine poisoning to people already suffering from chronic fluorine poisoning. The symptoms were those of fluorine poisoning; and blood-fluorine concentrations were 12 to 25 times normal (51).

His investigation was followed by two others: one by Kettering Laboratory, and one by the Public Health Service.

The obvious ways to determine fluorine emission would be (*a*) by analyzing surrounding vegetation; and (*b*) to analyze all materials going into the processes—ores, coal, coke, gas, and limestone, fluorspar, etc.—and all the products and recovered wastes. From the analyses the amounts could be calculated, and simple subtraction should be a fair measure of total fluorine emission.

This was done by Kehoe and his team (52) but his findings have never been published; and cannot be without the consent of United States Steel. It is fair to assume, however, that they would have been if they exonerated fluorine, since the zinc plant was the chief source of the other likely causes. Moreover, Kehoe has testified (53) that the principal hazard from steel manufacture is fluorine.

THE PHS APPROACH

The PHS approach was entirely different, and seems purposely designed to discover as little as possible. And that was the result. A 173-page report tells us (54) that there had been no unusual kind or amount of pollution, and that no pollutant present could have caused the trouble.

How the report can be taken seriously is past belief; but it is, and is generally accepted as the final word on the subject. It is an elaborate piece of hocus-pocus, wholly incompetent, irrevelant and immaterial to prove anything except how easily people—and I mean those who call themselves scientists—can be duped.

Sampling methods of doubtful reliability were applied at arbitrarily selected times and places, and the results averaged with no attempt at proper weighting. Calculations therefrom, replete with arithmetical errors and discrepancies, were combined with outright guesses to arrive at estimates of emission.

They guess that 210 tons of coal burned in homes emit 30 pounds of fluorine, but that 213 tons burned in the blooming-mill boilers emit only 4 pounds. No possible reason for the difference is offered.

On page 104, waste gas from the blast furnace contains 4.6 milligrams of fluorine per cubic meter. On page 108 it contains one-tenth as much.

Calculations for open-hearth emission show a discrepancy of several thousandfold, with no way to know where the error lies.

The "biological studies" and general air sampling are similarly inappropriate and meaningless. Air samples at 12 arbitrarily selected points between February 16 and April 27, 1959, can tell us nothing about concentrations during the episode.

PHS tells us that 10 dogs, 3 cats, 7 fowl, 2 rabbits, and 2 canaries died; but elsewhere we learn (55) that 14 of 22 sheep, 2 pigs, 740 chickens, 12 colts, and 6 cows died in the surrounding area.

Mills tells us that (55):

"There were few animal deaths near the smelter because farmers learned years ago the impossibility of healthful survival among the destructive fumes."

He believes the deaths were from sulfuric acid; and perhaps they were. The point here is that the sole purpose of the PHS study was to whitewash fluorine as the cause.

THE DEATH FOGS: LONDON, 1952

The next major fog episode was in England in 1952. From December 5 to 9, the Thames Valley, and particularly London, were blanketed with fog confined by a temperature inversion. During the 5 days there were 2,000 excess deaths in London and some 10,000 more in the surrounding area. This is rated as the greatest fog disaster of all time, although 2,000 deaths among 8 million people are not nearly as many, proportionately, as 20 among 13,000 at Donora.

Again, it has been generally assumed that sulfur compounds, easily smelled, and known to have been present, were responsible. And, again, there is little

supporting evidence, and fluorine as a cause, or contributing cause, must be considered.

In an area the size of Michigan, England burns half as much coal as the entire United States. Moreover, it is densely populated with industries that pour out fluorine.

Bellingham, Wash., noted like London for its fogs, with heavy sulfur pollution from the pulpmills but with almost no fluorine, has never experienced fog-induced illness that could be noted.

On the other hand, the 1952 episode in London does not stand alone. A fog in 1947 brought 600 excess deaths; in 1956, 500; and in 1957, 400 (56). Since then there were two in rapid succession in 1959 (57); although one of these was probably complicated by a flu epidemic.

Prior to 1948, there had been fog episodes with illness in England in 1873, 1880, 1882, 1891, and 1892. But six in less than 11 years since 1948 would indicate a much greater awareness or an actual increase in the number. We might well wonder whether fluorine in the new fluoride-catalyzed gasolines may not be a factor.

But I am not here to prove that any of the three major death fogs were due to fluorine. My interest is in the efforts to prove that they were not.

THE AIR-POLLUTION STUDIES

After the London fog of 1952, there was much concern over air pollution in general, and everyone got into the act. The Public Health Service saw a new field to exploit, and started clamoring for appropriations. It still is.

Moreover, a rash of air-studies began by people who could not be trusted—people like air-pollution control boards. So PHS and the Kettering Laboratory put on a fluorine study to end all fluorine studies.

In 1954 and early 1955, in cooperation with local or State health departments, it did fluorine sampling in 27 major cities. They took 24-hour samples once a week at from one to five points in each city—two in New York. In Anchorage, Pasadena, Washington, and Cincinnati they ran about a year. Some places they ran only a week. The average was 23 weeks (58, 59).

The collections were made on filter paper, which collects only particles and not the gases like HF or SiF_4. Philadelphia was sampled, but not Pittsburgh or Donora. Salt Lake City was studied, but not Provo; Tampa, but not Fort Mead; Portland, but not Troutdale. And there was no study at all in Tennessee.

A few mavericks have persisted, and there have been independent studies since in Florida, Texas, Oregon, and the bay area of California. But the worst offender has been Washington State University. It has conducted studies not just in Washington but also in Oregon and Utah. Something must be done (58, 59).

Meanwhile, the much publicized national air pollution network often samples for 17 different metals, for chlorides, sulphates, and nitrates—but never for fluorine (58, 59).

THE CONFERENCES

There has also been a rash of conferences, national, international, and what have you, on both air and water pollution. I shall concern myself with two: the one in 1950, and the one in 1958.

Just a year after the Donora episode, President Truman asked the Secretary of Interior to organize an interdepartmental committee, which would sponsor a U.S. Technical Conference on Air Pollution. The Conference was held in January, with Louis C. McCabe of the Bureau of Mines as Chairman, and its proceedings have been published (60). There were seven panels: on agriculture, analytical methods and properties, equipment, health, instrumentation, legislation, and meteorology. J. G. Townsend, of PHS, and Robert Kehoe were cochairmen of the Health Panel.

William Ashe, from Kettering, talked on the Donora incident. He offered nothing concrete, concurred with the PHS report that there had been nothing there to cause what happened, and he even questioned if anything had really happened. The rest of the papers were of similar caliber.

The Agriculture Panel, on the other hand, was much concerned about fluorine, and some very valuable information was presented.

No such mistake was to be made at the National Conference on Air Pollution, called by the Public Health Service in 1958. There, Dr. McCabe said: "The

Agriculture Panel in 1950 was top heavy with fluorine studies because fluorides were in the news." And when Charles Butler, of the American Farm Bureau Federation twice brought up the farmers' interest in fluorine pollution, the subject was quickly changed (61).

When the Conference was reported in Public Health Reports, the only mention of fluorine was in connection with Polk County, Fla. It tells briefly of damage suits against the fertilizer industry, and of millions spent to control pollution (62). One man was then suing eight fertilizer and chemical companies for more than a million in damages (63).

PHS NOW WANTS TO HELP US

The latest thing is that PHS wants to be still more helpful; and Seattle has been chosen as the testing ground. A team of three has been sent, by invitation from our local health department, of course, to help with health problems that arise from suburban expansion. We are told that environmental health problems now transcend existing political boundaries, and will soon be of interstate and even international scope.

We are told (64) that the present mission is in support of the community effort: but that the principles and criteria arrived at will be applicable elsewhere. We will be helped to solve our problems as to water supply (we have beyond doubt the purest and most plentiful in the country) sewerage, air pollution, radiological health, food sanitation, and solid refuse collection and disposal.

"We are looking for gaps and areas that need deemphasis." The latter applies to fluorine of course. And we are told (and I quote): "We will try out some of our thinking on you folks."

One of the three is Herbert Dunsmore, air pollution engineer of Allegheny County, which includes Pittsburgh, and former environmental health director of that county.

I asked him why they had never analyzed Pittsburgh air for fluorine. He said they have no fluorine problem in Pittsburgh.

I asked him how he knew if he never looked; and I showed him the PHS registers of air pollution analyses, which list no fluorine analyses ever done in Pittsburgh (58, 59).

And we know without any air analyses that Pittsburgh has a major fluorine problem. And the biggest problem is to keep people from knowing about it.

In 1948, Churchill (39) reported fluorine up to 269 parts per million in vegetation grown within 10 to 30 miles of Pittsburgh. It could only have come from the air. Both he, and Largent of the Kettering Laboratory (65) blamed it on coal smoke. They may be largely right; but why not also on the steel industry?

CONCLUSIONS

There are the people that PHS wants to have help us with our pollution problem. Perhaps, like the Trojans, we ought to "beware of the Greeks bringing gifts." The Trojans failed to heed the warning; and the "gift" was the famous Trojan horse.

Perhaps I can best conclude by quoting a statement by Dr. James P. Dixon, health commissioner of Philadelphia. At the 1958 Air Pollution Conference, he said (66):

"If gas masks are not to become as common in a hundred years as shoes are today in the civilized world, we should do well to heed our somewhat submerged instincts of self-preservation and remember that—whatever other uses man may devise for it—air is essentially for breathing."

And I would add that water is essentially for drinking.

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SEATTLE, WASH.

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97855—63——17

The following 14-word letter was just received by Dr. Richard A. Call. It brings the blackout up to date. This letter reveals a shameful, shocking, and deliberate suppression of the $70,000 tax-supported Utah study which revealed an alarming variation of accumulated fluorides in humans from airborne fluorine.

Following Dr. Call's study, an all-out attempt was made to fluoridate the water supplies of all the cities and towns surrounding the Geneva Steel Plant in the Utah Valley. The citizens were outraged, and voted overwhelmingly against the proposal in Springville, Provo, and American Fork.

UTAH VALLEY L.D.S. HOSPITAL,
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS,
Provo, Utah, March 28, 1963.

CLINTON R. MILLER,
National Health Foundation,
Washington, D.C.

DEAR MR. MILLER: Reprints of the article "Effect of Atmospheric Fluorides on Man" are no longer available.

Sincerely,

RICHARD A. CALL, M.D.

UNIVERSITY OF CALIFORNIA,
DIVISION OF AGRICULTURAL SCIENCES,
COLLEGE OF AGRICULTURE,
Riverside, Calif., April 18, 1963.

Mr. CLINTON R. MILLER,
Washington, D.C.

DEAR MR. MILLER: Dr. Middleton has asked me to reply to your letter of April 2 concerning fluoride injury to citrus. The lowest concentration of fluoride to which we have exposed citrus for prolonged periods is 1 part of fluorine as HF is 1 billion parts of air by weight. This concentration caused a 20-percent reduction in tree size after 2 years' continuous exposure. We are currently exposing young lemon trees to 0.5 parts per billion fluoride but the results of this experiment will not be available for a year or more.

I am enclosing several reprints dealing with fluoride injury to citrus.

Very truly yours,

R. F. BREWER, *Associate Chemist.*

Mr. ROBERTS. Mr. Silver, would you commence your statement?

STATEMENT OF FRANCIS SILVER, CHEMICAL ENGINEER, WEST VIRGINIA

Mr. SILVER. I have been a chemical engineer in my State, West Virginia, since 1942.

This problem of air pollution, both the health effects and the engineering effects, lie rather squarely within my area of competence and there is a responsibility that goes with knowledge which I have been trying to live up to.

In line with that I testified on the Schenck Act in 1958 and my testimony appears in there, and since then I testified twice for the District of Columbia and I have copies of that testimony which the committee may have if they desire it.

To go on with the presentation of this act.

I have studied with a great deal of interest and admiration this thoughtful and carefully phrased measure, H.R. 4415. The framers of this legislative proposal deserve the appreciation of the country for their effort in trying to bring this diverse and increasing problem under control, but, without undue intrusion into our freedom.

There is only one real suggestion that I have to make. On page 5, line 11, the word "safe" troubles me. Although there may be a "safe"

level, that is one that all individuals can throw off without difficulty for many of the contaminants which will have to be considered, as a practical matter, levels may have to be set much higher than this at first. Most of these contaminants do not have a sharp breaking point in loss of toxic effect, but exert a long-term effect on a gradient scale down to very low limits.

I do not feel that it is desirable to force our administrators to set up legal fictions, which their agency must then defend before the public. To do so invites unscientific and unprofessional behavior.

I would suggest deleting the last clause, "* * * it is safe for motor vehicles to discharge into the atomosphere."—and substituting in lieu thereof the following: "* * * which, from the standpoint of human health, should not be discharged into the atmosphere by motor vehicles. The basis, in fact and assumption, used in arriving at any standard shall be published and readily available.

In order to save the time of this committee, I have a paper here which I would like to request may be included in the record which will illustrate the point.

Mr. ROBERTS. Without objection, I have been looking at this: "A Scale of Effects of and Standards Proposed for Carbon Monoxide."

Without objection it will be included with your statement.

Thank you, and we appreciate your appearance and your statements to the committee.

(The material mentioned follows:)

STATEMENT OF FRANCIS SILVER, MARTINSBURG, W. VA., AUGUST 29, 1960

In making this statement I consider myself to be an informed private citizen, deeply concerned for the welfare of my fellow man, and not obligated by any economic interest, commitment, group loyalty, or official position to evade the simple truths of the present situation. I was working as an aircraft design engineer until about 3 years ago when a dawning recognition of the growing seriousness of air contamination led me to change to this work.

I was invited to testify as an expert on the Schenck bill, H.R. 9368, on March 17, 1958, concerning the limiting of unburned hydrocarbon emission from commercial vehicles. These hearings have been published under the title "Unburned Hydrocarbons," a copy of which is enclosed and can be regarded as supplemental to this statement. Some of my qualifications to speak on this matter are detailed on page 90. Additional qualifications not listed there are participation in the operation of several heavy chemical plants as plant engineer or production manager, Army automotive training and experience as shop officer and company commander in light and heavy automotive maintenance companies, experience with diving as a hobby, and some training and experience with hydrogen cyanide fumigation. My testimony on pages 85 through 104 contains many details from the toxicological literature to support my position that we are being extremely careless about air contamination in this country. This testimony stresses the health aspects as this seemed to be the weakest point in the present approach. With a few important exceptions medical people have been extremely timid in speaking out about the long-term health effects to be expected from present exposures. I presume this timidity stems from a desire not to alarm people about a condition for fear that the alarm will be more damaging than the condition. Also gas toxicology is an unusual speciality about which not many medical people are well informed. In addition this literature is conflicting and confusing because the economic issues in the so-called medico-legal problem intrude here heavily and often obscure the simple physiological truth.

Unfortunately the silence or mild public utterances of the majority of the medical profession have lacked sufficient "starch" to form a basis for modifying our laws to obtain adequate control action. As a consequence the situation has been allowed to grow steadily worse despite the fact that much of it was preventable with present knowledge. A stronger stand in favor of pure air could have saved us the foolishness of excessive numbers of huge cars and the

destruction of electrified mass transportation systems and their replacement with busses with the accompanying serious air contamination problems both inside and outside. It is shocking to think that Los Angeles only a few years ago in the midst of their grave smog problems replaced electrified transportation with fuel-burning buses, and this backward step is also being taken in Washington today and called progress. All change is not progress.

I do not wish to imply that air contamination is entirely a modern problem. A study made by the Smithsonian Institution in England in 1895 revealed that in Manchester conditions were so bad that only 46 percent as many of the inhabitants of that city reached 65 as for England and Wales as a whole (1). This well illustrates how severe a condition can become unless effective leadership in the direction of pure air is exerted. Generally with chronic conditions of this sort people do not panic. I have been assured that so far there have been no air pollution panics in Los Angeles despite some very severe exposures. Apparently after a certain level of exposure is reached some factors, possibly addiction, or weakness or a combination set in to diminish complaints. This has been commented on in recent studies of winter smog in England. In areas of the city where sickness and deaths were highest complaints were fewer than in sections where the smog was less severe. This characteristic of gas poisoning was stressed in our gas engineering courses as demanding early intelligent action. Reliance cannot be placed on complaints to build up in relation to toxicity past a certain point.

Technical knowledge is just a tool. Like any other tool it lends itself equally well to constructive, progressive action or to destructive action. The same hammer than can be used by a carpenter to build a house can be used equally well to smash in store windows or to bash in the skulls of the innocent. I do not wish to identify any of the present engineering, sales, public relations, and business practices with the behavior of skull bashers. Automotive people wish to retain their freedom of action and are simply using the hard adversary approach that is expected of them in American courts. Their opposition has been either soft-spoken or tried to be patient, fair, or impartial which is another American way. The Commission can easily judge what has been the outcome of this unbalanced struggle by comparing what they know of present conditions with the following old quotation—vintage 1923:

"For these reasons it is essential that now, before worse conditions develop, steps should be taken to ameliorate the hazards to health and life arising from the inhalation of automobile exhaust gas. The enactment of certain requirements either in State law or city ordinances, and also provisions for the supervision of automobile fuels and engine construction, are necessary to this end. The matter cannot be left to the voluntary action of the automobile industry. It is well known to this industry that, as the investigations already referred to in relation to the New York-New Jersey vehicular tunnel have shown, the carburetors on most passenger cars are extremely wasteful of gasoline, and they are correspondingly productive of an exhaust gas rich in carbon monoxide and of high toxicity. But, as the secretary of one of the largest automobile manufacturers recently remarked to one of us: 'We are in the business to make and sell cars. We will conform to any requirement regarding health hazards only when the public demands it and the laws enforce it.' It must be said in extenuation of this attitude, however, that the perfect carburetor is yet to be invented; and also that drivers of cars are usually negligent or ignorant in the adjustment of the present carburetors to the greatest efficiency and least toxicity in the exhaust gas. Ignorance and neglect of the laws of nature, however, excuse or protect no one from asphyxia." Henderson and Haggard in the Journal of American Medical Association, volume 81, No. 5, August 4, 1923, page 388 (pp. 385–391).

The more powerful tools that are available, the greater care that must be exercised to prevent misapplication. I find many thoughtful workers in technical fields today who are thoroughly frightened because this principle is being ignored. Instead of the greater care that is indicated with the more powerful technology now available, less care is being exercised. Since World War II the old and well-established science of chronic poisoning has been systematically attacked and destroyed in both public and professional minds. Scientific leaders of considerable stature are fearful to even speak openly of "poisoning" or of "chronic poisoning" for fear of being promptly branded paranoid or as suffering from a persecution complex. Our newer methods of communication have been harnessed to distort this field of science and to enforce this kind of censorship. Our inability to cope with smog is just one of the consequences of such action. A culture which pretends that there is no such thing as chronic poison-

ing may continue to survive for a long time, but it cannot expect to retain leadership in a world where other nations are more realistic.

The American Chemical Society recently estimated for us that there were between 1,500,000 and 2,500,000 chemical compounds now known (2). They were not even sure of the exact number any closer than this. This compares with about 300,000 compounds in 1929. The current rate of discovery of new compounds is on the order of tens of thousands each year. I mention this because of the toxic problem introduced by additives in fuel and oil.

The impracticality of proving the long-term harmfulness to man of each of these compounds should at once be apparent. We are forced to use the broad principles of chronic poisoning which are already available to deal with the details of this vast area of chemical knowledge and toxic ignorance. Whole books are written about a single compound that has been extensively studied and presumably with much study each compound would warrant having a book written about it. Current handbooks of dangerous materials list 5,000 to 10,000 substances which have some demonstrated hazard to man. From our experience with these few compounds we can draw rough rules for safety in dealing with the bulk of them:

(1) Long-term exposure to toxic substances even below the level at which they are noticed or detected at all is likely to produce adverse health effects. Therefore if one gets any warning at all of the presence of toxic gases in the air, action should be taken to limit the time of exposure or to reduce the concentration.

(2) In our gas engineering courses over 20 years ago we were taught that although we were given good instrumental or chemical assay methods for analyzing all of the gases we were likely to encounter in our practice, we must at all times, where there would be human exposure, give an equal emphasis to the bodily reactions of ourselves and to the most sensitive persons in the group. Long-term experience in mining, chemical warfare fumigating, tank cleaning, diving, and industrial exposure had firmly entrenched this practical approach in the lore of those to whom toxic gases were a constant threat. The gas sense of the more sensitive miner or soldier is to be respected and acted upon and not ignored or ridiculed.

My own firsthand experience has frequently confirmed the wisdom of these two concepts. I am shocked when I see both of these principles so often being ignored. When overreliance is placed on animal, plant, chemical, and instrumental methods to the exclusion of the trained and untrained gas sense, the ability to control toxic gases in the environment is weakened. The mining literature contains many examples of canaries proving more resistant than men and of miners being overcome while instruments registered no hazard. Often an instrument is out of adjustment or not measuring the particular gas that overcomes the miner or not measuring precisely the same air that the man is breathing due to location of instrument. Still other factors such as synergy, special sensitivity, working rate, prior exposure or multiple exposure and the use of drugs weaken the usefulness of instruments as indicators of total actual airborne toxicity, which is the key index. The complex chemical nature of smog which may contain several hundred different components complicates its assay for toxicity by other than biological means. In the name of being more "scientific" ancient, thoroughly proven essentials have often been abandoned for narrower, more complicated and more expensive but less sound approaches. It should be understood that these weaknesses of chemical and instrumental assay methods for measuring toxicity of complex smog systems in no way reduce their value as engineering tools for discovering and eliminating sources of smog. They are vital in air pollution engineering. They are useful in air pollution toxicology and physiology but should not be made sole judge in this latter area.

The complaints of a number of citizens at the hearing should be accepted as good evidence that corrective action is in order. The warnings which their bodies have given them as they attempt to live in the city of Washington should be regarded as scientifically valid data. Certainly it would be more "scientific" to act on the basis of this data than to do as has been done in Los Angeles. There standards were set on four contaminants out of several hundred so high as to protect from conspicuous mass death and little else. This legal device is then used to suppress the complaints of the suffering citizens by saying that the alert level demanding action has not been reached and that a "scientific committee" said no one would be hurt below this level. I have queried the members of the scientific committee and about half of them replied.

The consensus of their opinions was that the alert levels are far from tolerable. One of the best informed members agreed with my evaluation of the standards as protecting from nothing but conspicuous mass death. Another member reported that recommendations of the scientific committee to include time of exposure had been overridden several times by the board of supervisors. This action, suppression of complaints and misleading statements of no damage accompanying the alert levels puts the board of supervisors in the unenviable position of presiding over the crude mass experimentation on 5 million persons. One could question whether lifelong partial suffocation and depression is more humane than rapid death in one of Hitler's gas chambers. But this is mere speculation.

I do not question the good intentions of scientific ability of those active in the Los Angeles program, but it is easy to get outside of one's area of competence or to miss key interdisciplinary principles when relying on groups of specialists to handle interdisciplinary problems. To put it bluntly and crudely, fine competent people have "dropped the ball" between the specialities.

It is quite evident that in Los Angeles they were led into following the practices common in that branch of industrial hygiene charged with protecting companies from suit. This approach is to set a standard as high as can possibly be defended in court and then to state that no one will be hurt below this level. This is a useful one-sided legal approach but it takes liberties with physiological truth. The industrial hygiene standards specifically state in their introduction (3) that they are not to be used or modified for use for community air pollution work and yet members of their scientific committee informed me that this is exactly what they did. A better approach is to derive a gradient scale from first principles from the physicological literature such as appears in my table 3 for carbon monoxide on page 96 of the hearings. The public and their officials and business interests may then select through normal legal processes a level of damage which they consider acceptable for reasons of economics and convenience with no one being deceived.

It is interesting to note how closely this table follows the Russian standards derived by experiment for carbon monoxide. They arrive at standards of 2 parts per million for long-term exposure and 6 parts per million for short-term, single exposure. Above this level brain malfunctioning is observable. Their work was not available to me at the time my table was prepared (4). The new California State standards follow an approach more nearly like the one which I have suggested. They set a standard of 30 parts per million for carbon monoxide and recognize that even at this level there will be adverse health effects. Such levels have long been prevalent in the city streets of this country.

I have had opportunity to confirm the need for keeping carbon monoxide levels below a few parts per million in the air breathed by highly trained mental workers by several months of observation on engineering personnel exposed to 15 to 20 parts per million. There was mild but noticeable impairment at this level which suggested considerably lower levels would be necessary for peak efficiency.

Other references which have come to my notice which support not over a few parts per million of carbon monoxide as an acceptable standard for community air pollution work are (5), (6), (7). The first quotes work which demonstrates that carbon monoxide does definitely cross the hexoglobin barrier and saturate the tissue and remain there long after it has been eliminated from the blood. The other two references demonstrate quite definitely that carbon monoxide does far more than just render inactive that percentage of hemoglobin with which it has combined. Brain and heart damage are demonstrated experimentally in dogs at 100 parts per million exposure for 5¾ hours per day, 6 days a week for 11 weeks. The dogs were allowed 3 months healing time after the exposure before autopsies were performed. Mild but extensive brain damage and some heart damage was displayed in all experimental animals and no control animals. Despite the damage, the dogs remained in good spirits and revealed only a slight incoordination, heaviness, or grossness in their motions. We can only speculate on how much more severe the brain damage and heart damage must be where long-lasting depression is frequently commented on. Since the effects of chronic poisoning are ordinarily quite indistinguishable from aging and since humans are not usually available for closely controlled experiments terminating in autopsy it seems the part of wisdom to accept evidence from the more severe experience from other animals and certain highly probable speculations as forming a basis for action.

Can anyone honestly say that we should keep up the pretense of reassuring the public that their health is not being hurt, or of pleading ignorance as to whether it is being hurt or not?

Further research is always desirable and I am not suggesting that it be discontinued or slowed down. But I do not feel that the desire for further research should be used to block action which is indicated by what we already know. One practical-minded Congressman has complained about things being "researched to death," and I quite agree. The administrator uses being too busy as an excuse for inaction on some matter. The scientist often stalls by asking for more time for research. Let us have the control action which is already indicated while further research is going on.

I have made a specialty of measuring the total actual toxicity in the air from observing my own reactions and the reaction of others just as we were taught to do in gas engineering. In August 1957 I spent a week in Los Angeles and found extreme suffering from smog clearly visible in the faces of the people on the street. None were free from it. My own discomfort was intense. Similar observations suggested that toxic levels in Seattle and Santiago were about one-third that of Los Angeles. San Francisco levels seemed much lower, only about one-fifth to one-tenth that of Los Angeles, presumably because of better air drainage. I was shocked to discover that even the old people in Tijuana, Mexico, had more life in their faces than even children in Los Angeles. As I identify myself with engineering and technology I was deeply ashamed of the recklessness and indifference of my chosen field in creating such conditions and calling it progress. Pure air, the first essential for health and happiness was being compromised almost without limit.

The situation in Washington is not nearly so bad as on the west coast, but last fall near the Capital I detected my first touch of eye irritating smog. I could discover no other source of the irritation and a companion confirmed my observation. I strongly suggest that steps be taken now before the situation becomes more serious than it already is now. The proposed regulation amendments seem like a suitable step to take with certain changes as brought out in the hearing, for unrealistic wording weakens rather than strengthens a measure. Under amendment 1, the addition of a phrase, "unless such operation is clearly necessary for the normal function of the vehicle," just before the colon might provide a needed escape clause for special-purpose vehicles such as oil and coal delivery trucks, etc. It would of course be desirable to cover nonpropulsive engines as well but I am not prepared to suggest just how to do this. I am quite in accord with changing "visible" to excessive because water vapor is so often visible in the wintertime.

In summary, further control action over automotive exhaust fumes in the District of Columbia seems clearly indicated. The proposed amendments with minor changes seem to be a desirable step in this direction.

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A Scale of Effects of, and Standards Proposed for, Carbon Monoxide

(By Francis Silver)

MG/M³	PPM	Blood saturation	Basis
0.02 to 0.03	0.02 to 0.03.		S. P. Florov and associates noted deterioration in the higher nervous activity of animals after 70 to 75 days exposure at this level. Animals manifested a reversible, chemical neurosis. No observable changes for a number of days at first with the most sensitive tests.[1] There is doubt in my mind as to whether the variables can be monitored closely at these levels.
2	1.8		Russian maximum allowable concentration for average daily concentration of community air—supposed to protect higher nervous system from damage.[2]
6	5.5		Russian maximal single concentration in atmospheric air.[2]
6 to 11	5 to 10	1 or 2 percent.	Easily measurable impairment in human dim light vision obtained by combining information from 2 references.[3]
17 to 23	15 to 20		Certain sensitive brain workers would have distinct headaches after 8 hours at this level after work for several hours. No headache during work. Efficiency, judgment, and creativity of group probably cut from 1/5 to 2/5. Some emotional blunting, tension, and added interpersonal friction. As this carbon monoxide level was the result of operating forklifts inside building, other factors than carbon monoxide were present from the exhaust.[4]
20 to 30	17 to 26	2 percent	Short exposure threshold of microneurotic symptoms according to the Russians.[1 2]
20	17		Russian 8 hour industrial hygiene standard.[2]
23	20	4 percent	Suggested maximum allowable for mines using internal combustion vehicles.[6]
35	30	6 percent	Suggested maximum allowable concentration for aircraft (includes allowance for altitude and carbon monoxide detector limitations).[3b 7]
			California State Public Health Service published standard regarded as serious 8 hour exposure level at which there will be alteration of bodily function or which is likely to lead to chronic disease.[5]
58	50		McFarland states that this is the generally agreed upon maximum allowable concentration for long exposure but says it is too high for an active person. Used in Italy and some other European countries.[7]
82	70		Average Holland Tunnel exposures—police duty 2 hours on, 2 hours off, 2 hours on. In tunnel 4 hours per day with 2 hours ventilation in middle of duty. A superficial medical examination revealed little evidence of damage.[9]
117	100	17 percent	Threshold limit level for 8-hour exposure as set by American Conference of Governmental Hygienists.[10] Interpreted by many industrial hygienists as being acceptable as an 8-hour maximum allowable concentration but strongly protested by others. This was at one time lowered to 50 but was raised to 100 again "because the blood concentration of chain smokers reaches these levels (which seems like a curious kind of reasoning). Acute symptoms of carbon monoxide poisoning present at this level.[3b]
		20 percent in Lewey and Drabkin's dogs.	Lewey, Drabkin, et al. report moderate but extensive brain damage and some heart damage histologically observable in dogs exposed at this level 5.75 hours per day, 6 days per week, for 11 weeks that had not healed in 3 months. All controls free of damage, all exposed showed damage.[11]
			Los Angeles 1st alert level for smog until recently changed to match State standards.[12]
140	120		California State Public Health Service published standard. Regarded as serious for a 1-hour exposure. Alteration of bodily function or leading to chronic disease.[5]
234	200		Los Angeles 2d alert level for smog.[12]
350	300		Los Angeles 3d alert level for smog.[12]
	450		4-hour exposure thought to be dangerous to life or fatal for unadapted, healthy adults.[7 13]
	1,500		1-hour exposure thought to be dangerous to life or fatal to unadapted, healthy adults.[7 13]
3,500	3,000		In experiments, mice and rabbits could be gradually adapted to live in this level. Both could grow. Mice were not fertile. No fertility tests on rabbits.[14]
		75 percent	If saturation to this level was reached by respiration, dogs collapsed and died or suffered extensive necrotic change to brain and heart. If this level was reached by transfusion with washed erythrocytes, 96 percent saturated, little damage observed and carbon monoxide rapidly eliminated. Experiment assumed to prove poisoning of erythrocytes when partially saturated, so that they could not release oxygen to tissue.[15]

See footnotes at end of table.

A scale of effects of, and standards proposed for, carbon monoxide—Continued

MG/M³	PPM	Blood saturation	Basis
1,200,000 (1 atmosphere), 1,200,000.	250,000 to 333,000.	98.3 percent.	Rats can live at least for minutes in 1 atmospheric pressure of carbon monoxide and 2 atmospheric pressures of pure oxygen because enough oxygen will dissolve in the plasma to supply tissue oxygen without need of hemoglobin. This was first thought to prove that carbon monoxide was not a tissue poison but more refined tests indicate that it is.[16 17 18]
2,400,000 (2 atmospheres), 3,600,000 (3 atmospheres).	400,000 to 600,000.	----------	Rats died at this level in a few minutes regardless of oxygen pressure.[17]

[1] "Limits of Allowable Concentrations of Atmospheric Pollutants," book 1, 1952, V. A. Ryazanov, editor, B. S. Levine, translator, U.S. Department of Commerce, Office of Technical Services, translation No. 59, 21173, p. 62.

[2] Same, p. 64.

[3a] "Unburned Hydrocarbons," congressional hearings on H.R. 9368, Mar. 17, 1958, p. 96.

[3b] "Principles and Practice of Aviation Medicine," H. G. Armstrong, 3d ed., Williams & Wilkins, Baltimore, Md., 1952, pp. 7, 8, 178 through 181, 201.

[3c] "Human Factors in Air Transport Design," R. A. McFarland, McGraw-Hill, 1946, p. 234.

[4] Observations made by F. Silver in an engineering office over a period of a number of months, 1957.

[5] "Archives of Environmental Health," vol. 2, January 1961, "Maximum Acceptable Concentrations," Hervey B. Elkins, pp. 51/45 through 55/49, especially 53/47.

[6] "Underground Hauling in Metal Mines," S. H. Ash, Transactions American Institute of Mining Engineers, vol. 205, September 1956, pp. 909 through 925, especially 910.

[7] "Human Factors in Air Transportation," R. A. McFarland, McGraw-Hill, 1953, pp. 177, 303, 706.

[8] "Technical Report of California Standards for Ambient Air Quality and Motor Vehicle Exhaust," State of California Department of Public Health, 2151 Berkeley Way, Berkeley, Calif., especially p. 15.

[9] Journal of the American Medical Association, vol. 118, 1942, p. 585, Public Health Bulletin 278.

[10] "Threshold Limit Values for 1957," AMA Archives of Industrial Health, September 1957, vol. 16, pp. 261–265.

[10a] The basis for the values in [10] is given in: Industrial Hygiene Quarterly, vol. 17, No. 2, June 1956, p. 129 through 185, especially p. 149, "Hygienic Standards for Daily Inhalation," H. F. Smyth, Jr.

[11] American Journal of Medical Science, vol. 208, No. 4, October 1944, pp. 502 through 511. "Experimental Chronic Carbon Monoxide Poisoning of Dogs," Frederic H. Lewey and David L. Drabkin, pp. 511 through 523, "Cardiac Changes From CO Poisoning," W. E. Ehrich, Samuel Bellet, F. H. Lewey.

[12] "Rules and Regulations of the Air Pollution Control District, County of Los Angeles," p. 28.

[13] Bureau of Standards Technical Paper No. 212, I. V. Brumbaugh, G. W. Jones, 1922, p. 434.

[14] "Carbon Monoxide Asphyxia," C. K. Drinker, Oxford, London, 1938, p. 137.

[15] American Journal of Medical Science, vol. 205, No. 5, May 1943, pp. 755 through 756. "The Effect of Replacement of Normal Blood With Erythrocytes Saturated With Carbon Monoxide," D. L. Drabkin, F. H. Lewey, S. Bellet, W. H. Ehrich.

[16] Journal of Physiology, 1895, vol. 18, pp. 201 through 217. "The Relation of the Action of Carbonic Oxide to Oxygen Tension," J. Haldane.

[17] Biochemical Journal, vol. 21, 1927, pp. 1068 through 1075, "Carbon Monoxide as a Tissue Poison," J. B. S. Haldane.

[18] "A Textbook of Pharmacology," W. T. Salter, W. B. Saunders, Philadelphia, 1952, p. 969.

NOTE.—See the following:
PPM = Parts per million of carbon monoxide by volume in the breathed air.
MG/M³ = Milligrams of carbon monoxide per cubic meter of breathed air.

COMMENTS BY THE AUTHOR ON "A SCALE OF EFFECTS OF, AND STANDARDS PROPOSED FOR, CARBON MONOXIDE

This scale illustrates how a concentration (300,000 parts per million) (of one rather toxic material that will not quickly produce death or even noticeable injury in an experimental animal in a rigged experiment) has to be reduced by a safety factor of 100,000 to get an exposure low enough (3 parts per million) to avoid producing easily measurable impairment in one of our delicate, but important senses.

This also illustrates how a concentration (3,000 parts per million) (in which an experimental animal, thought to respond similarly to man, could grow if "adapted") might still be more than 6 times a level (450 parts per million) thought to be fatal in the "unadapted" human in 4 hours; 3,000 parts per million is nearly 1,000 times the level (about 3 parts per million) which must be used as a maximum allowable exposure if no measurable impairment of delicate, yet important, senses is to occur.

If we should call a particular level "safe for health," how careful and open we must be to define what is meant by "safe" and by "health" if we are not to deceive ourselves and others. Deception will lead to endless argument and to creating environments in which genuinely happy living is not possible. The conclusion is inescapable that the term "safe for health," as it is currently used, tends to be more legalistic and adversary than scientifically, physiologically, or semantically accurate or useful. In the interest of scientific, honest, and fair

dealing with the public, an effort should be made to replace present claims of "safe for health," with more truthful expressions. Even "reasonably safe for health" would be a great improvement, particularly if the term is carefully and honestly defined.

Mr. ROBERTS. Mr. Meredith H. Thompson, Conference of State Sanitary Engineers.

STATEMENT OF MEREDITH H. THOMPSON, ASSISTANT COMMISSIONER, NEW YORK STATE DEPARTMENT OF HEALTH

Mr. THOMPSON. My name is Meredith H. Thompson. I am the assistant commissioner of the New York State Department of Health responsible for environmental health services. I am appearing before this committee as the official representative of the Conference of State Sanitary Engineers, which consists of the chief sanitary engineer of each of the States.

The purpose of the conference is to promote public health; to coordinate public health engineering activities of the State health agencies; to encourage the interchange of experience among the State sanitary engineers; to collect and make available to State sanitary engineers information and data that will assist them in the proper fulfillment of their duties; and finally to represent the views of the State sanitary engineers on matters of national concern. In this latter connection we work closely with the Association of State and Territorial Health Officials. Our organization was established in May 1920, and since that time has represented the views of the States on many national environmental matters.

It is the view of the conference that air pollution is a problem of current and growing significance and concern in many States and communities throughout the United States. We believe that the States and the local government must accelerate their air pollution control efforts. We feel that the Public Health Service's air pollution program provides direction and essential support in the development of technical information and control procedures for dealing with this problem. The activities of the Service are providing needed information about the extent of air pollution in the United States, health and other effects of air pollutants, and practical means for measuring air pollution.

The Service also is providing much needed assistance to the States in the development and operation of air pollution control programs and the training of technical personnel for such activities. There is a continuing need for Federal air pollution research, technical assistance and support of the control responsibilities of States and local communities in this field.

Air pollution is a major environmental health problem of this age. Studies lead us inevitably to a dismaying conclusion: Millions of citizens are living in an air ocean that is, on good evidence, unhealthy to breathe. Cities with the heaviest pollution load tend to rank high both in death and incidence rates for a number of diseases.

Even the most conservative estimates of the cost of air pollution are staggering; nationally they add up to over $11 billion a year. There are a number of factors that run up the air pollution cost: the destruction of fruit, crops, and livestock; the deterioration of metal; the waste of unburned byproducts of combustion; increased cleaning

bills for clothes, furniture, building interiors and exteriors. It is difficult to measure losses incurred by reduced work efficiency, absenteeism due to air pollution-induced illness, the total cost in medical care for those who become ill, added insurance costs and reduced property values.

Thirty years ago, the highest goal of those concerned with air pollution was the elimination of smoke. This has already been accomplished in many places; in many others it has never been a problem. Nevertheless, air pollution is now of more concern, healthwise, than it was in the past. This arises not only from a better understanding of the adverse health effects of air pollution, but also due to the wide variety of newer type of air contaminants. These pollutants include municipal, commercial, private, industrial, and auto exhaust discharges. To our concern for the acute, overt, and obvious disasters such as occurred in Donora, Pa., in 1948, we must add the much subtler and more covert possibility of slowly developing chronic disease and the additional stresses on persons already in precarious health.

California, New Jersey, New York, Oregon, Pennsylvania, and other States have pioneered in legislation requiring standards for clean air. Substances for which standards were needed but could not be set, for lack of solid information, outnumbered those for which standards could be established, and even in these, many qualifications were required. What might be described perhaps as an unexpected benefit from this effort was a definition of our ignorance as to the health effects not only of materials newly in our air but, as well, those that we have known about for many years. Thus posed were a clear series of questions which require answers. In the California effort the Public Health Service made available consultants who were of valuable assistance. Assistance also has been provided to my State, New York, by the Public Health Service on numerous occasions for extended periods of time. Such assistance has been and continues to be essential to all the States.

It is costing and will continue to cost money to control air pollution. Federal grants-in-aid could help the States to initiate, expand, and improve their programs. These funds should be made available to the States on an appropriate matching basis for additional State funds over and above existing levels of expenditure.

If we are to apply the knowledge now available and that which will be developed in the future, we need the assistance which would become available through the legislation now before this committee.

We believe that the provisions of H.R. 4415 introduced by the chairman of the subcommittee on health and safety will do four major things essential to controlling and preventing air pollution. First, it would strengthen the existing research program. Second, it would provide needed financial assistance to State and local governments. Third, it would provide a mechanism to resolve the growing number of interstate air pollution problems. Fourth, this bill would permit the development of criteria for air quality which could be utilized effectively by the State and local governments in the preparation of specific standards.

We recommend that where there is a State air pollution control agency, grants-in-aid for air pollution programs and research for local governments and interstate agencies be approved and allocated at the State level from funds allocated to the State by the Federal agency.

This procedure would assure to a greater degree that the objectives of a planned and coordinated statewide air pollution control program including definite activities by qualified personnel of State, interstate, and local agencies, would be achieved most efficiently and economically.

For a sound statewide air pollution program all administrative functions must be the responsibility of one agency—the State. Federal agency programs, for research, training, technical assistance and funds, must be carried out on a Federal-State relationship. Any bypassing of the responsible State agency by a Federal agency weakens the State agencies authority and jeopardizes State-local and State-interstate relationship—and a coordinated program.

With regard to subsection (a)(3) of section 3, we would recommend that it be reworded to provide that any such action taken by the Secretary would be only with the consent of the air pollution agency of the State. We believe that in section 5(c)(1)(B) in connection with requests for Federal activity, it would be desirable to substitute "may" for "shall." This would make it clear that the Federal Government would not be required to enter into air pollution situations unless it was clearly necessary. Enforcement should be the responsibility of local, State, and interstate agencies in that order.

We further favor H.R. 4415 in that it does not provide for a statutory advisory board. We believe that an advisory group would be desirable, but feel that an administratively established advisory committee would be more desirable. However, if an advisory board is specified in the act, we recommend that the type or composition of the board also be specified.

Air pollution control agencies at the State level must be given authority and responsibility for administering a statewide program including determining the need for and approval and allocation of funds for local and interstate programs. This is necessary to eliminate at least duplication of effort, confusion of industry and municipalities, and pinpoint responsibility.

The Federal agency should evaluate the effectiveness and efficiency of State programs based on developed criteria and make funds available to States on this basis.

In summary then, we favor the enactment of H.R. 4415 with the modifications suggested as we believe this bill most nearly meets the principal problems involved in the control of air pollution nationally and provides a sound basis for effective State and local programs through technical and financial assistance.

Mr. ROBERTS. Thank you, Mr. Thompson. We appreciate your statement.

First of all, I would like to ask you something about your organization. I think I am fairly familiar with that myself, but for the record, of the State Sanitary Engineers?

Mr. THOMPSON. The conference of State sanitary engineers is a formal organization, normally meeting every 2 years.

Its members are the chief sanitary engineering official of each of the departments of health of the States, territories, and possessions of the United States.

Mr. ROBERTS. About how long have you been considering this problem of air pollution?

Mr. THOMPSON. The air pollution problem has been on the conference of State Sanitary Engineers agenda for at least 6 years.

Mr. ROBERTS. And your statement represents the official position of that organization?

Mr. THOMPSON. Yes, sir; it does.

Mr. ROBERTS. Do they have units in all of the States of the Union?

Mr. THOMPSON. They have units in all States of the Union; yes, sir, 50.

Mr. ROBERTS. I appreciate your statement and also your suggestions as to your recommendations of municipal action should go through the approved State agency and I might say that the way that is written has only to do, I believe, with the requests for research funds or, I should say, I guess, studies.

I think that when we get over to the abatement that that section provides that we go through the recognized State agencies, but I think these changes that you mention are reasonable and I might say I am sure you have studied all of the bills and it had been my hope that this was about as reasonable an approach as legislation could attain on getting any action to provide for any abatement in the interstate field.

I am pleased that you support the legislation.

Mr. THOMPSON. Most of us agree to the need for an interstate agency to resolve interstate problems. However, some of us who are members of interstate agencies know that unless the State definitely controls all funds allocated to the interstate agency you not only get duplication of effort but also duplication of engineering and other personnel. Allocation of funds for specific activities by the States is one method of acutally studying and acting on the problems which the States making up the interstate agency studied and acted on. Thus the interstate agency cannot go to a Federal agency and get funds to do something else.

Mr. ROBERTS. Actually, is it your experience that we do have some situations where a State may be doing all it can and wants to do more about it, but is next to a situation that's across the State line which they cannot control and they are powerless to do anything, if you cannot set up some vehicle by which the offending State can be brought into the picture?

Mr. THOMPSON. We agree there should be some mechanism to do this. The Ohio River Sanitation Commission on Water Pollution handles interstate problems nicely. If the State itself cannot do anything about eliminating a pollution source the State brings the problem to the commission. The commission determines that it is a situation on which they should take action. The commission then proceeds with conferences and legal action against the community.

I think everybody agrees these situations will arise.

Mr. ROBERTS. Do you think that if under the compact situation provided for in the bill the States would go ahead and handle these problems, don't you think that the Federal Government would be very slow to move into these areas where they see action is imminent?

Mr. THOMPSON. I wish I could say, "yes"; I'm not sure because the notification of the hearing was in the newspaper before the State commissioner of health knew about it.

Mr. ROBERTS. You do think, then, that in some of the testimony that has been presented there is some evidence that some of the pro-

ceedings under the Water Pollution Control Act have not been fair to the places?

Mr. THOMPSON. I don't know how we want to construe "fair," but they were not carried out in a manner conducive to good public relations and cooperation. I don't think anybody is saying that they may not be desirable, either. They may be very desirable.

Mr. ROBERTS. Thank you, sir.

Mr. Joseph R. Mac Laren, with the Potlatch Forests, Inc., Lewiston, Idaho.

Is Mr. Mac Laren here?

(There was no response.)

Mr. A. J. Teske, with the Idaho Mining Association.

Mr. Teske is secretary of the Idaho Mining Association and I believe you are from Boise, Idaho?

Mr. TESKE. Correct.

Mr. ROBERTS. You may proceed with your statement.

Mr. TESKE. Thank you.

STATEMENT OF A. J. TESKE, SECRETARY, IDAHO MINING ASSOCIATION, BOISE, IDAHO

Mr. TESKE. Thank you very much, Mr. Chairman.

My name is A. J. Teske. I reside in Boise, Idaho, and I am secretary manager of the Idaho Mining Association which represents virtually all the productive mining operations in the State.

Our industry is the third largest in Idaho in terms of dollar volume, being outranked only by agriculture and lumbering. We produce almost as much silver as all the other States combined, are normally second in the lead production, second or third in zinc production, and we are the largest western producer of phosphate rock and its derivatives products.

As you doubtlessly know, the mining industry has problems involving not only air but also water pollution in the disposition of waste products from ore concentrating, smelting, refining, and other processing operations.

It has spent millions of dollars on remedial measures designed to alleviate the effects of these industry effluents on the communities and the people and is constantly continuing its efforts to develop more effective solutions.

At Kellogg, Idaho, for example, one of our large companies long ago erected tremendous smokestacks to carry the sulfur dioxide emissions from its smelting and refining plants into the atmosphere high above the adjacent community. These were generally successful, under normal atmospheric conditions in that mountainous area, in dispersing and diffusing the sulfur dioxide contamination to a level not hazardous to health, but nevertheless there persisted an adverse impact on plant growth which kept the immediate surrounding slopes denuded of normal timber growth. This gave the area a somewhat desolate appearance which offended the esthetic sense of some people, but that was the principal adverse impact.

More recently this company installed equipment at one of its two major smelting plants to convert waste sulfur dioxide gas to a commercially marketable sulfuric acid byproduct. As soon as the area

market for this byproduct can be built up sufficiently, a similar equipment installation is planned at the company's other smelting unit. Thus, the problem of atmospheric pollution with sulfur dioxide will be virtually eliminated in that area.

I cite this example to demonstrate that the industry I represent is fully aware of its public responsibility in this area of air pollution and is moving ahead with all deliberate speed to meet that responsibility. So far as we are concerned it is nothing more than a matter of good community relations and, therefore, good business.

It is against this background that I would like to discuss, briefly, the legislation under consideration here today.

The mining industry has long subscribed to the philosophy that the problems of air pollution, like those of water pollution, are basically local, both as to origin and impact, and that, therefore, responsibility for abatement, prevention, and control of such pollution should remain with the State and local governments.

There are several aspects of H.R. 4415 which appear to run contrary to that philosophy and, therefore, give our industry cause for concern and apprehension.

Some parts of the bill are difficult to reconcile. Section 1, for example, states quite specifically, although somewhat less forcefully than existing law, that Congress also subscribes to the belief that—

> the prevention and control of air pollution at its source is the primary responsibility of States and local governments.

Nevertheless, there are several other provisions which appear to violate this concept and present a definite threat of Federal control in the air pollution field.

Section 3(a)(3), for example, would give the Secretary of Health, Education, and Welfare a free hand to insert himself in any local air pollution problem if, in his judgment, the problem may affect or be of concern to other communities.

Section 3(b)(3) appears to permit the Secretary to grant Federal financial assistance directly to local air pollution control agencies, private organizations, and even individuals. Apparently he would have full authority to determine the terms and conditions of such assistance, without clearance with or the concurrence of a State control agency that may be directly concerned. Such bypassing of the normal channels of procedure among the various levels of government could be extremely damaging to the overall program of air pollution control.

Furthermore, there is included in this bill an appropriation of funds for direct Federal assistance on local control programs to the extent of as much as 75 percent of the cost. Such grants in aid invite Federal intervention into local situations and they generally result in the imposition of Federal standards and control, particularly when, as in the case of this bill, the determination of allotments is left almost completely to the discretion of the Federal authority by the inclusion of such phrases as, "control programs which meet criteria established in regulations by the Secretary," or "on such basis as the Secretary finds reasonable and equitable," again, "upon such terms as the Secretary may find necessary" and "on such basis as he [the Secretary] determines to be reasonable and equitable in accordance with regulations promulgated by him."

Such discretionary authority over the Federal fund faucet would put State and local control agencies at the mercy of the Federal authorities. They must conform to Federal dictation or do without the Federal allotment. We had a recent case in point in Idaho. Our Idaho Legislature was concerned over the continuing payment of unemployment benefits to relatively high income seasonal workers whom many legislators did not believe the unemployment compensation program was intended to cover. They undertook to enact remedial legislation, but were advised by the Federal Office of the Employment Security Agency that there could be a question of "conformity" with Federal standards involved. Although several industry attorneys expressed a conviction that no such issue was involved, the legislature, nevertheless, defeated the bill because it was unwilling to gamble on the loss of some $11 million in Federal funds.

H.R. 4415, with its broad discretionary authority, could easily be an equally effective coercive instrument.

Idaho's mining industry is not convinced that this is the kind of legislation that will insure continued progress in the abatement, prevention, and control of air pollution. In fact, we sincerely believe it would have exactly the opposite effect because it would tend to destroy local initiative and encourage the all-too-natural tendency of people to sit back and let Uncle Sam take care of their problems.

We sincerely believe that the administration of air pollution control programs must remain primarily the concern and responsibility of the States and localities.

The Federal Government, through the U.S. Public Health Service, has an important, continuing role to play particularly in the field of research—in determining the level of atmospheric contamination that can be injurious to health; in developing methods of measuring such contamination; in recommending criteria of air quality that can be applied in evaluating local situations; in cooperating with industry in the development of apparatus and equipment to minimize the emission of smoke, gases, and vapor into the atmosphere; and in conducting a nationwide educational program to alert the public as to its stake and its responsibility in the maintenance of clean air.

The administration and enforcement of pollution control programs must be left at the local level to assure that local and State interests are adequately safeguarded.

Four years ago, after extensive study, Idaho established the State air pollution control commission with adequate investigative and enforcement powers to handle any foreseeable problems in this field.

When I left Boise a few days ago our legislature had under consideration a measure that would exempt from property taxes any capital improvement designed specifically to alleviate air or water pollution.

Like most other States we are trying to take care of our problems at home and we do not feel that the need for direct Federal financial assistance in this area has been demonstrated.

I want to thank you in behalf of the industry I represent for the privilege of appearing before your committee today.

Mr. ROBERTS. Thank you, Mr. Teske. I appreciate the fact that your State apparently is cognizant of this problem and is making a real effort to do something about it.

Would you say that so far as the mining industry is concerned that the problem of air pollution there is principally a local one?

Mr. TESKE. Very much so in our area, yes, sir.

Mr. ROBERTS. In your area?

Mr. TESKE. Yes, sir.

Mr. ROBERTS. I believe you stated that 4 years ago your State established a State air pollution control commission and that your legislature now is considering a measure that would exempt any capital improvements in this field from property taxes.

Mr. TESKE. Yes, sir.

Mr. ROBERTS. Thank you very much, Mr. Teske, for your statement and for your appearance.

Mr. Nelsen?

Mr. NELSEN. I wish to thank the gentleman for his statement. I noticed on page 3 where a reference is made to criteria established. The thought that the Secretary might require unreasonable requirements is something that poses a little bit of a fear on the part of your industry. I feel quite the same way about it having in mind that sometimes when we inject the Federal Government into programs quite frequently we find some arbitrary requirements.

I could take as an example that in our farm program—I happen to be a farmer—the feed grain base was established as 2 years, 1959 and 1960. Many of our farmers on a crop rotation program might have had no feed grain on a certain 80-acre piece of land during either of these years, therefore, they have been barried from participation because of an arbitrary decision on the part of somebody.

The same might be true in almost any kind of a federally administered program. I think your statement has been a very good one and I also like the reference that you make to the things that can be done through research and assistance to the communities in meeting the job and doing the job that needs to be done.

I believe that is the greatest role, and I think everybody on the committee recognizes that. We have, of course, the determination of the interstate problem which is something that I know that our chairman is diligently trying to find an answer to. I think he is very fair about his conclusions and attempts in that direction.

I wish to thank the witness for his statement.

Mr. TESKE. Thank you, sir.

Mr. ROBERTS. Thank you. Mr. Rogers?

Mr. ROGERS of Florida. Mr. Teske, I might just ask one question, sir. I notice you state that in Idaho a State air pollution control commission was instituted about 4 years ago; is that correct?

Mr. TESKE. That is correct.

Mr. ROGERS of Florida. You feel that it has adequate investigative and enforcement power to handle any foreseeable problems in this field?

What powers does it have to deal with the pollution problem?

Mr. TESKE. It has the power to establish rules and regulations; it has the power to investigate situations; the power of inspection of plants; and its rules and regulations are policed by our State health department. They don't have their own policing authority. It is policed through the State health department. They have the authority to hold hearings in the event that a case of abatement comes

up, and then they have the authority to go to the court for injunctive relief. Well, the initial penalty provisions, as I recall, is: they can levy a fine at the rate of $500 a week after 10 days. After notice is given, if the abatement has not proceeded within 10 days, they can levy a fine of $500 a week and they can seek injunctive action in the district court in which the problem is located.

Mr. ROGERS of Florida. Do they have a right of demanding that a particular plant close down in effect for any number of days?

Mr. TESKE. I am sorry, I cannot answer that directly, but I believe that would come under the injunctive relief. I don't believe they have the direct authority, but they would have to go to court, and the court would enjoin the particular operation from operating if it held with the commission decision. That would have to be the court's decision.

Mr. ROGERS of Florida. The way to enforce the commission's decision is through the court?

Mr. TESKE. That is correct.

Mr. ROGERS of Florida. It can't do it directly?

Mr. TESKE. No, sir.

Mr. ROGERS of Florida. Thank you very much.

(The following material was submitted by Mr. Teske:)

[Legislature of the State of Idaho, Thirty-Seventh Session]

In the Senate—S.B. No. 217

By Public Health and Welfare Committee

AN ACT Amending Title 63, Chapter 1, Idaho Code, by adding thereto a new section to be known and designated as Section 63-105T, Idaho Code: providing for tax exemption of facilities, installations or equipment designed for and utilized in the elimination or control of water or air pollution

Be It Enacted by the Legislature of the State of Idaho:

SECTION 1. That Title 63, Chapter 1, Idaho Code, be, and the same is hereby amended by adding thereto a new section to be known and designated as Section 63-105T, Idaho Code, to read as follows:

63-105T. PROPERTY EXEMPT FROM TAXATION—FACILITIES FOR WATER OR AIR POLLUTION CONTROL.—*The following property is exempt from taxation: Facilities, installations, machinery or equipment, attached or unattached to real property, and designed, installed and utilized in the elimination, control or prevention of water or air pollution, or, in event such facilities, installations, equipment or machinery shall also serve other beneficial purposes and uses, such portion of the assessed valuation thereof as may reasonably be calculated to be necessary for and devoted to elimination, control or prevention of water or air pollution.*

[Legislature of the State of Idaho, Thirty-Seventh Session]

In the House of Representatives—House amendments to Senate Bill No. 217

AMENDMENT TO SECTION 1

On page 1 of the printed bill, at the end of line 13 of Section 1 thereof, after the period, insert the following: *"The State Tax Commission shall determine such exempt portion, and shall not include as exempt any portion of any facilities which have value as the specific source of marketable by-products."*

AMENDMENT TO TITLE

On page 1 of the printed bill, at the end of the sixth line of the title, after "pollution" and before the period, insert the following: ", providing for the determination of such exemption and excluding therefrom facilities which have value as the specific source of marketable by-products".

Mr. ROBERTS. This concludes the hearings.

I have some statements to include in the record. One statement is dated March 13, 1963, from the California State Chamber of Commerce, signed by Clark Galloway, general manager; one from the county of San Bernardino, Calif., signed by Mrs. Nancy E. Smith, chairman, dated March 13, 1963; and I would like to announce at this time that the hearing record will remain open for 10 legislative days for the filing of any statements.

(The material mentioned follows:)

CALIFORNIA STATE CHAMBER OF COMMERCE,
San Francisco, March 13, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Subcommittee on Public Health, Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR MR. ROBERTS: The California State Chamber of Commerce, a statewide trade association widely representing business, agriculture, and industry of this State, wishes respectfully to register strong opposition to portions of H.R. 4415 on the following grounds:

1. The program under the bill would probably call for an everincreasing number of administrative personnel and the 5-year, $30 million expenditure would needlessly add to an already enormous Federal budget and deficit.

The States, and California in particular, are already making satisfactory progress in air pollution abatement. Moreover, the problem is different and requires a different approach and solution in almost every local community. No Federal bureau could effectively utilize a central approach to such an infinite and complex variety of local situations.

3. Much of the bill is an unwarranted (and probably unconstitutional) intervention into a legislative area reserved by the Constitution to the various States. For example, the judicial function of assessing, remitting, and mitigating fines is conferred upon the Secretary of Health, Education, and Welfare. Under the bill, Federal officials in Washington would decide and attempt to enforce what they consider to be good for the people on the local level.

4. Implementation of the bill would rupture the relations now existing between the U.S. Public Health Service and the States. It is a radical departure from the long-established policy of voluntary cooperation between the U.S. Public Health Service and the States.

5. Section 5 of the bill could be used by Government officials improperly to harass and punish industries.

Sincerely,

CLARK GALLOWAY, *General Manager.*

COUNTY OF SAN BERNARDINO,
San Bernardino, Calif., March 13, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety of the Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR CONGRESSMAN ROBERTS: There are currently three bills in the national Congress to strengthen the Federal Government's participation in the air pollution problem. They are S. 432 by Senator Ribicoff, S. 444 by Senator Engle, and H.R. 4415 by Congressman Roberts.

We are advised that hearings are to be held on H.R. 4415 within the next few days, and we desire to be on record regarding some provisions of this proposed legislation.

In general, the three bills are similar but major provisions contained in the composite are objectionable. San Bernardino County, one of several counties in California with an active air pollution control program and with a substantial annual budget for this purpose, has considered the proposed legislation and strongly recommends the following:

1. That the Federal Government not provide grants to local agencies to support enforcement work, but that it should be encouraged to provide funds to support necessary programs of both independent and joint research.

2. That the Federal Government not arbitrarily conduct investigations or hold public conferences on specific air pollution problems in a community, but rather

conduct studies of such problems only at the invitation, or with the consent, of the State or local authority. We vigorously object to the provision that would authorize the Federal Government to take abatement enforcement measures against districts and individuals as defined in the measures.

3. That the Federal Government not be authorized to seek enactment of uniform State and local laws. We believe that each community faced with an air pollution problem should design and enact its own laws to fit its own needs. Due to inherent different geographical and meteorological conditions, a practical set of uniform laws is impossible.

4. That the establishment of uniform national standards by the Federal Government is not feasible. California has already adopted air quality standards. If Federal standards were different, a conflict would exist. Further, standards to protect public welfare might be interpreted to mean standards against nuisance. Nuisance standards should be set by the States or local government, not the Federal Government.

We firmly believe that the role of the Federal Government, from both a philosophical and practical standpoint, in the field of air pollution should be limited to research and not control of local agencies seeking to solve local problems.

Very truly yours,

NANCY E. SMITH,
Chairman, Board of Supervisors.

Mr. ROGERS of Florida. Mr. Chairman, will you yield just 1 minute?

Mr. ROBERTS. Yes, sir.

Mr. ROGERS of Florida. There will be some letters, I understand, from people in Florida who would like to file these statements for the record and as you say the record will be held open for 10 days and that should be sufficient time.

Mr. ROBERTS. Thank you.

I also have a statement by the American Petroleum Institute and Western Oil & Gas Association, on H.R. 4415; a statement from the National Tuberculosis Association, Washington, D.C., dated March 18, 1963, one from the American Public Health Association, dated March 1963; and many other statements and letters I would like to insert in the record.

(The material mentioned follows:)

WESTERN OIL & GAS ASSOCIATION,
Los Angeles, Calif., March 18, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety,
House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: In view of your desire to expedite the hearings on H.R. 4415, relating to air pollution, the Western Oil & Gas Association and the American Petroleum Institute have decided to record their views regarding this legislation in a joint statement for the record. We will appreciate its consideration by you and the other members of the subcommittee and, if your rules permit, ask that it appear in the record as though read.

One copy of this statement is attached and I have provided the committee clerk with additional copies.

Very truly yours,

FRANK W. ROGERS,
Manager, Washington Office.

STATEMENT BY AMERICAN PETROLEUM INSTITUTE AND WESTERN OIL & GAS ASSOCIATION

The purpose of this statement is to present the views of the American Petroleum Institute and the Western Oil & Gas Association on H.R. 4415, a bill to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution introduced by Mr. Roberts, of Alabama, on February 28, 1963.

The American Petroleum Institute is a national trade association whose member companies account for the major portion of the oil produced, refined, transported, and marketed in the United States. Members of the Western Oil & Gas Association account for approximately 85 percent of the production, re-

fining, and marketing of petroleum in California, Washington, Oregon, Arizona, Nevada, and Alaska.

Over the years our industry, along with other responsible segments of those communities faced with an air pollution problem, has conducted and supported research, including cooperative research with local, State, and Federal agencies, assisted in the design of local air pollution regulations by providing factual information on emissions from our installations and the costs to control such emissions and has installed equipment, both voluntarily and to comply with these regulations.

Our member companies annually spend $1 million on research and from $15 to $20 million to control smoke, odors, dust, fumes, and hydrocarbons from oil installations in the United States. On the west coast, where photochemical smog has been of unusual concern, the petroleum industry has spent about $4 million on research and $85 million on control equipment since 1948.

We make this reference to our long experience in this field in the hope that our comments will be considered in the light of that experience.

Although H.R. 4415 is titled as a bill to "improve, strengthen, and accelerate" air pollution prevention and abatement, it is, in fact, a bill to place the Federal Government in a position of direct control of local governmental agencies. It exercises this control in two ways:

1. It provides $30 million of Federal funds to make grants to air pollution control agencies (and these are defined as being a State or local entity) to meet the "costs of establishing and maintaining programs for the prevention and control of air pollution."

This bill does not simply provide funds for research. It does not simply provide for joint efforts on the part of the Federal Government with the local agencies.

We submit that what this $30 million does is to provide another means for the expenditure of money which would probably not be spent if it were up to the local citizens in the communities so affected to make that decision for themselves. This money comes from someone else and thus is quite easily spent. H.R. 4415 provides that this money may be used for "maintaining programs for * * * control of air pollution," and this means that it may be used for the general operating budgets of a local air pollution control agency.

The easy availability of this money will bring about the creation of new agencies and the expansion of old ones.

This is an attack on the basic American philosophy that local government is best able to understand and carry out a service for the people, that it is closest to the people, and that it should maintain the responsibility and authority to carry out those services. If the local community decides it needs to control air pollution, it should make that decision and pay for it. This is the only safeguard against unnecessary controls which have a direct relationship to the economy of the community.

2. The bill provides a convenient "escape route" for local governmental officials who do not wish to face up to the real problems of air pollution control; it widens the gulf between the local citizen and control officials and it places upon appointed individuals responsibility that should rightfully be placed on elected officials.

We refer to section 5, which provides under varying circumstances that ultimately either the local agency seeks help from the Federal Government, or that the Secretary of Health, Education, and Welfare shall call conferences on his own initiative.

The section provides for public hearing but leaves up to the Secretary a decision as to whether the problem is being abated. It leaves up to the Secretary the decision as to whether adequate steps are being taken to secure abatement and leaves up to the Secretary the decision of whether to seek action in a Federal court or to encourage action in a State court to enforce what he may consider to be adequate abatement measures.

These are powers given to a nonelected official who is accountable only to the executive branch of the Government. These are powers given to a Federal official who also has the authority to distribute funds to local agencies, not only for joint projects but for operating budgets.

We submit that after such hearings, investigations and indeed judicial findings are made, the local taxpayers will awake to find themselves in many cases seriously disaffected by a whole new set of rules with which they have had little or nothing to do and which have been beyond the control of their own elected

officials. We submit that when they appeal to their local governments they will be referred to the Congress and we submit further that if you pass this law you will then start thinking about ways to repeal it.

These, then, are the two main faults of the proposed legislation. It would provide funds for local budgetary operations, thus encouraging unnecessary regulation simply because the money is there to be spent. Secondly, it would place control of air pollution in the hands of persons not properly accountable to the electorate.

On the other hand, we believe there is a place for amendments to the existing Federal statutes as follows:

1. If agencies within two separate States, or two separate States, find there is serious or adverse air pollution caused in a significant degree by sources located in one of these States, interstate compacts should be encouraged to secure the abatement of such pollution.

"Adverse air pollution" means the presence in the ambient air of materials which cause sensory irritation to humans, damage to vegetation, reduction in visibility, or similar effects.

"Serious air pollution" means the presence in the ambient air of materials which cause alteration of bodily function or which lead to chronic disease, acute sickness, or death in sensitive groups of persons.

2. The Secretary of Health, Education, and Welfare should collect basic data on the effect of air pollution on (1) the senses and bodily function of humans, (2) vegetation, (3) visibility, and other similar effects, evaluate and correlate these basic data, and disseminate such evaluations and correlations to air pollution control agencies for use by them in defining local air quality goals.

This procedure would be preferable to the Secretary's recommending criteria of air quality since these may be different from air quality standards already adopted by individual States.

3. The Secretary should not be authorized to encourage the enactment of uniform State and local laws. This is contrary to the policy in section 1(a)(3) in H.R. 4415, which states the "prevention and control of air pollution at its source is the primary responsibility of State and local governments."

4. Lastly and importantly, sufficient funds should be made available over a long enough period of time for the Secretary to plan and conduct a continuing program of research. We emphasize that this research should be applied, as well as basic so that it can be directed toward specific problems in specific communities. Wherever possible this research should be joint with local agencies, with industry, and with other interested groups.

The American Petroleum Institute and the Western Oil & Gas Association have cooperated closely with the Department of Health, Education, and Welfare. For example, the Western Oil & Gas Association was an active participant in one of the first such joint studies, the study that set out for the first time a reasonable and acceptable method of determining emissions from refineries and which also listed for the first time the quantities of these emissions. This study was made in 1956 and has been the basis for practically all such computation since that time. Since 1953, the petroleum industry, through its national trade association, has provided and spent $2 million for research on community air pollution. The results of these researches have been promptly reported to the scientific world. They constitute the largest body of fundamental information produced by any group or organization on the chemistry of air pollution.

We respectfully request the subcommittee's earnest consideration of our views and we appreciate the opportunity to place them before your honorable body.

NATIONAL TUBERCULOSIS ASSOCIATION,
New York, N.Y., March 18, 1963.

Hon. KENNETH ROBERTS,
Chairman, Health and Safety Subcommittee, House Committee on Interstate and Foreign Commerce, New House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: You will recall from previous correspondence that the interests of the National Tuberculosis Association include not only tuberculosis but all respiratory diseases. We have followed with interest proposed legislation relating to environmental health and specifically to air pollution. The NTA is convinced that a strengthened role and program of leadership for the U.S. Public Health Service is necessary for more effective control of the atmospheric pollution resulting from our burgeoning industrial technology.

In May 1961 the board of directors of the NTA expressed its convictions in regard to this matter by adoption of the following resolution:

"Whereas the NTA has a broad interest in the protection of health, particularly in the prevention and control of respiratory diseases which result from infectious, chemical, and physical agents; and

"Whereas it is increasingly clear that chemical and physical agents in all air, water, soil, and food—all living and working environment—constitute a growing threat; and

"Whereas the effects of such noxious and toxic substances are cumulative—albeit sometimes exceedingly slow—and are exerted by surface action and by ingestion as well as by inhalation: Therefore be it

Resolved, That the NTA express major concern about all environmental health hazards, particularly as they relate to respiratory diseases and that the NTA urge prompt and vigorous action to be taken to bring about their control through a heightened and expanded national program under the leadership of the U.S. Public Health Service."

The intent and objectives of your bill, H.R. 4415, seem to be particularly suited to implementing the NTA position insofar as the problem of air pollution is concerned.

It is because of significant increases in certain respiratory diseases and the relationship between air pollution and such diseases that the NTA supports legislation to deal more effectively with this problem. Deaths in the United States from emphysema, a relatively rare disease until recent years, increased from 3,639 in 1955 to 7,728 in 1959; the death rate from cancer of the respiratory system increased 25 percent in that short span. The growing incidence of chronic respiratory disease has aroused considerable concern among many of the members of the NTA's medical section, the American Thoracic Society. The NTA Subcommittee on Chronic Respiratory Diseases agreed at its meeting on September 27, 1962, that currently there is sounder epidemiologic evidence for the association of air pollution with chronic bronchitis and emphysema than there is for the association of smoking with these diseases.

Dr. Walsh McDermott, in the October 1961 issue of Scientific American, pointed out that due to the availability and use of lifesaving drugs over the past few decades, large numbers of people are alive today who have weathered acute bronchopulmonary illness but that when something untoward occurs, or when air fails to clean itself, these people often become seriously ill and not infrequently die.

The NTA believes that the U.S. Public Health Service is uniquely situated and qualified to coordinate and conduct programs of research in air pollution which necessarily must extend over long periods of time and beyond traditional political boundaries. The NTA is also convinced that primary responsibility for control measures ultimately rests with State and local agencies and that the program of assistance provided in H.R. 4415 is a logical extension of the traditional formula of Federal, State, and local cooperative effort against a common problem.

This Nation, with its rapidly increasing industrialization, can anticipate nothing but a worsening of the air pollution problem unless a better control system is forthcoming. The NTA believes that enactment of H.R. 4415 would materially strengthen air pollution control programs and give a needed impetus to efforts to provide cleaner air for our Nation's population.

Sincerely yours,

JAMES E. PERKINS, M.D.,
Managing Director.

THE AMERICAN PUBLIC HEALTH ASSOCIATION, INC.,
Washington, D.C., March 18, 1963.

Hon. KENNETH ROBERTS,
Chairman, Subcommittee on Health and Safety,
House Committee on Interstate and Foreign Commerce,
New House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: The American Public Health Association appreciates this opportunity to comment on H.R. 4415, the bill which you have introduced in the 88th Congress amending the Federal Air Pollution Control Act. The concern of the American Public Health Association over the increasing complexities and difficulties attendant to air pollution was officially recognized by the governing

council when in 1958 resolutions were adopted calling for early development and publication of standard methods of air sampling and analysis and of quantitative and descriptive standards of acceptable outdoor air quality for the entire population as well as extension of the authority of Public Law 159 of the 84th Congress and an increase above the authorized $5 million for annual appropriations.

In 1960 the governing council again took note of the fact that air pollution was increasing, that industry and the public had to assume responsibility for curbing air pollution created by their own activities, and called upon both industry and the public to support efforts through Government whereby air pollution control programs could be truly effective. It was further stated by our governing council that air polution control activities should be administered by agencies at all levels of Government which have the technical competencies, funds, and legal responsibility to deal with the air pollution problem and urged public health agencies to provide leadership and assume appropriate responsibilities in air pollution control. The American Public Health Association remains convinced of the need for furthering actions in the face of the rising problem.

The volume of outdoor air available to receive wastes is necessarily limited and becoming increasingly more so. Safe air is a basic essential to life and due to the increase of our technological and industrial community, particularly in metropolitan areas, is becoming a vanishing commodity. Research on better methods of preventing or controlling pollution is urgently needed as well as the means to implement and utilize methods currently available. A good base from which to accelerate air pollution control programs was laid through the enactment of the first Federal Air Pollution Control Act and the amendments contained in Public Laws 86–365 and 87–761. The American Public Health Association believes that the objectives of H.R. 4415 are consistent with the needs of the Nation and believes that with minor amendment the bill should receive the favorable consideration of this committee and the Congress.

The American Public Health Association believes that the language under cooperative activities and uniform laws is appropriate and would provide an inducement toward cooperative and coordinated efforts by the States and local governments for prevention and control of air pollution. Such cooperation is essential for the ultimate control of air pollution in view of that feature of the problem which often results in damage to property and agriculture and deleterious effects upon the well-being of individuals at a site sometimes far from the origin of the polluter. The research, investigations, and training activities coordinated by the Public Health Service should certainly be continued and expanded as envisaged in your bill.

The American Public Health Association believes that the program of grants for support of air pollution control programs is both necessary and practical. There are innumerable examples of the benefits of Federal grants-in-aid to the States on a matching basis where effective programs have resulted, especially in the health field, about which our association is most conversant. The stimulation of Federal grants has been both necessary and worth while. We do believe that the language of the bill as contained under section 4(c) should either be amended or the intent of your committee made expressly clear in relation to the method of allotment of Federal grants in order that the appropriate State agency play an integral part in the planning and application for and coordination of grant funds received in that State. The American Public Health Association is convinced that coordination of this kind will result in a more effective program for communities in the entire State.

The American Public Health Association believes that the measures for enforcement of intrastate pollution as contained in H.R. 4415 are the most reasonable and practical of those which have been proposed and would urge that this provision be approved by your committee. We believe also that the inclusion of Federal facilities within the jurisdiction of this proposed act is both necessary and sound.

In summary, Mr. Chairman, the American Public Health Association (except for the single amendment referred to above) supports H.R. 4415 and respectfully urges the enactment thereof. This association would be happy to provide additional information which would be helpful to you and to your committee in the consideration of this legislation.

Yours truly,

BERWYN F. MATTISON, M.D.,
Executive Director.

STATEMENT OF K. W. GRIMSLEY, DIRECTOR, ALABAMA TUBERCULOSIS ASSOCIATION, BIRMINGHAM, ALA.

RESPIRATORY DISEASE CASE FINDING A RESEARCH PROJECT IN ALABAMA

Since January 1962 an important research study has been underway throughout Alabama seeking to learn more of the mysterious chronic lung disease, emphysema. This project is sponsored jointly by the Alabama Tuberculosis Association acting on its own behalf and for the Anti-Tuberculosis Association of Jefferson County and 35 other Alabama County tuberculosis associations, and the Medical College of Alabama. In addition to the above-named sponsors, financial support has been received from the National Tuberculosis Association and in the form of a research contract from the Division of Air Pollution, Bureau of State Services, Public Health Service. The principal financial support has come from the latter.

Objectives

The objectives of the project are as follows:

(1) To develop and test in the field a new and improved device for the measurement of pulmonary function.

(2) Using this device in conjunction with mass radiography, a questionnaire of medical history, and such aerometric measurements and air pollution studies as may be conducted by the Public Health Service—

(*a*) To determine the prevalence of impairment in pulmonary function in a randomly selected sample of the population of a number of Alabama communities.

(*b*) To determine in these random samples, the correlations between reduced pulmonary function, abnormal X-ray findings, presence of pulmonary symptoms, personal health habits such as smoking, socioeconomic and occupational history, frequency of respiratory disease, and exposure to atmospheric pollution.

(*c*) To determine by repeated testing of a stable population group in a number of Alabama communities—

(1) The natural history of the development of the chronic pulmonary diseases, particularly emphysema.

(2) The usefulness of the new pulmonary function testing device in the detection of emphysema in an early, asymptomatic stage.

(*d*) To furnish data for comparisons with other investigations in this country and in the United Kingdom concerning both the epidemiology and the natural history of chronic respiratory disease.

Methodology

There is yet no ideal method for obtaining pulmonary function tests in mass surveys. Many of the simpler tests now available for practical field use require a great deal of subject education and cooperation for occuracy. Furthermore, many tests are abnormal only in patients with rather far advanced pulmonary insufficiency. Since our objective is to gather epidemiologic information, a test was needed which, if possible, identified slight loss of pulmonary reserve, before dyspnea and other gross symptoms appear.

The flow-volume loop is being used since it (*a*) is influenced by relatively slight loss of pulmonary function; (*b*) is not greatly influenced by patient cooperation through the mid and lower portions of the vital capacity; and (*c*) it provides several well-accepted lung function measurements in addition to values of unproved but great potential usefullness.

The apparatus consists in a wedge spirometer and an oscilloscopic recorder. The oscilloscope face is photographed by a Fairchild 70-millimeter sequencer camera of the same type as is used in mass radiography.

All the apparatus together with a mirroroptics photofluorographic X-ray apparatus is housed in a special bus the cost of which was donated by an Alabama company.

Prevalence studies

During the period January 1962 to June 1963 the project conducted, or will conduct, prevalence and correlation studies on randomly selected samples of the population of the seven Alabama communities indicated by the red symbol on the accompanying map. These are geographically representative of the State; however, all large urban centers were excluded. It was felt that to include a large city would overbalance the sample numerically.

In order that prevalence and correlation studies based on the fraction of the population examined might more accurately reflect the total population, individuals in the sample were very carefully preselected. Every attempt has been made to remove bias in the sample.

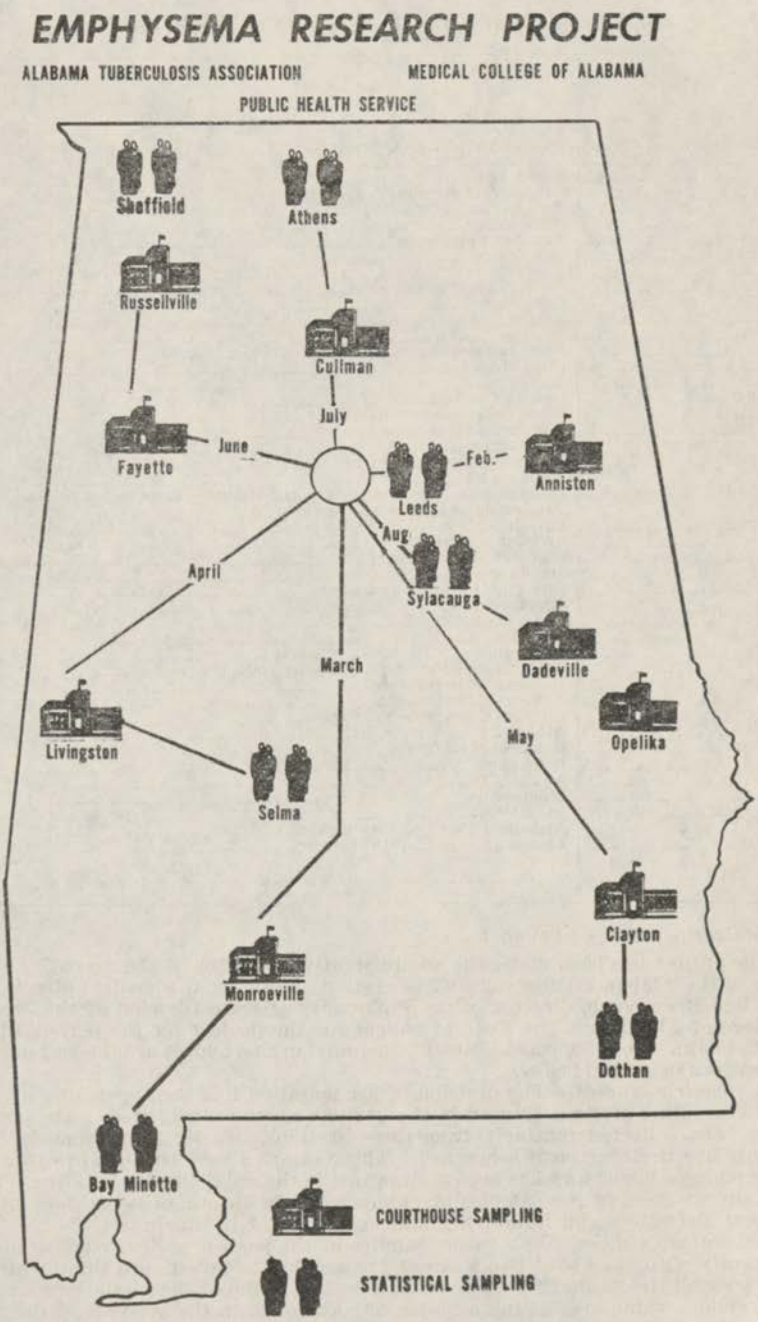
With the assistance of the municipal authorities of the community concerned, a map of the city area is divided into numbered blocks. Using a table of random numbers, one family in each block is designated as the group to be examined. The selection system consists of using a random number to designate the number of houses in a counterclockwise direction from the northwest corner of the block. All members of the designated family over age 21 are requested to submit to the testing. It is a great tribute to the public spirit and interest in scientific research of the people of Alabama that the percentage responding has been extraordinarily high; in the majority of cases over 90 percent, and often over 95 percent.

Natural history studies

In an effort to increase knowledge of the changes in pulmonary function with time, a study has been begun in nine Alabama communities, in which a stable group of males will be tested annually for at least a 5-year period. Such serial tests should reveal an insight into many presently unanswered questions bearing on the possibility of the early diagnosis of choronic lung disease.

To secure this stable population the studies include (*a*) all county governmental employees of these communities and (*b*) all the members of a male civic club.

The pattern of community organization in Alabama is such that employees of local government tend to be long-term residents. Since members of the classified civic clubs likewise have a stake in the community, the number of transients among them is at a minimum. The majority of both groups are male and tend to be in the older age brackets. Both are likewise groups which are literate and cooperative.



1962-63 Operations

Emphysema mobile unit, January 1962 through April 1963

Date	Place	Number tested
Jan. 26	Office clinic	2
Feb. 1	do	2
Feb. 2	Ensley Civitans:	
	Street corner sampling	100
Feb. 6	Bessemer street corner	199
Feb. 16	Office clinic	11
Feb. 21–22	Anniston Courthouse	110
Feb. 23	Office clinic	2
Mar. 2	do	3
Mar. 5–9	Oceds random sampling	222
Mar. 16	Office clinic	2
Mar. 23	do	2
Mar. 30	do	5
Apr. 9–14	Selma random sampling	531
Apr. 27	Office clinic	2
May 11	do	4
June 6–7	Opelika Courthouse	184
June 11–14	Sylacauga random sampling	467
June 18–21	Downtown Birmingham	
	Street corner	1,199
July 9–10	Downtown Birmingham	
	Street corner	385
July 12–18	Decatur, Gadsden, Montgomery and Mobile (demonstration to statewide leadership meetings).	115
July 26–27	Fayette	167
Aug. 9–10	Livingston Courthouse	206
Aug. 14–16	Downtown Birmingham	
	Street corner	394
Sept. 10–14	Five Points West, Birmingham	
	Street corner	646
Sept. 26	Dadeville	119
Oct. 8–26	Dothan	1,374
Nov. 2	Office clinic	10
Nov. 12	Shades Valley Parent Teachers Association	64
Do	Homewood street corner	177
Nov. 20	Cullman Courthouse	40
Dec. 11	Cullman Courthouse completion	89
Feb. 4–8	Athens	503
Feb. 19	Chamber of commerce	57
Mar. 8	Office clinic	18
Mar. 12	Anniston II	107
Mar. 15	Monroeville	80
Mar. 19–22	Bay Minette	374
Apr. 9	Alabama Power Co., Birmingham	291
Apr. 19	Alabama Power Co., street corner	136
Total		8,399

Organization, staff, and budget

The project has been under the administrative direction of the executive secretary of the Alabama Tuberculosis Association and under the medical direction of Dr. Ben Branscomb, director of the Pulmonary Disease Division of the Medical College of Alabama. The Federal budget for the project for the period July 1, 1962, to June 30, 1963, was $148,060. Included in this budget are the two parallel operations described below.

Aerometric studies.—The division of air pollution has been operating a series of 35 sampling stations located in the various communities listed. Air samples have been collected routinely from these stations, usually by personnel of the county health department concerned. These samples have been sent to Birmingham where a laboratory has been maintained in the public health building. Here certain analyses of the samples are undertaken, with others being done by the Robert Taft Memorial Sanitary Engineering Center in Cincinnati.

Laboratory studies.—Laboratory studies at the medical college conducted concurrently with the above two sections are seeking to investigate thoroughly the full possibilities of the "flow volume loop." It is believed these studies will be of tremendous value in effecting a major breakthrough in the problem of the early diagnosis of chronic respiratory disease, particularly emphysema.

Proposals for the fiscal year 1963–64

Having gained experience in the year ending, it is proposed that the project now endeavor to study the interrelationships between pulmonary disability and air pollution in the Birmingham district. It is proposed to undertake this by conducting random sample statistical studies in 10 communities which ring the central Birmingham industrial area in accordance with the attached map.

Also, it is proposed to extend the pulmonary function testing (but not the associated aerometric observations) in eight additional "courthouse" studies as indicated on the attached map.

Budget proposed for 1963–64

It is believed that the program proposed can be conducted with only small increases in the field project budget, and a likewise small but necessary increase in the budget for the laboratory studies undertaken by the medical college. Substantial increases in the budget for the aerometric section will be necessary to cover the Birmingham district.

For this latter purpose, a minimum budget of $93,200 for this phase is proposed. Details are attached herewith.

This budget will make possible precise measures of the diurnal daily, weekly, and monthly variations and intercommunity variations and atmospheric levels of a number of chemical and biological pollutants in the Birmingham district, many of which are known to have potential physiological effects upon health. It is essential to obtain knowledge both of average levels and the frequency of occurrences of the various levels of these pollutants. Knowledge of air pollution patterns will be obtained which will be indispensable for future pollutant control purposes in the Birmingham district.

Valuable information wil be obtained in aerometric methodology such as that in airborne pollen and microallegen measurements. Establishment of such reliable methodology in this area alone could have universal application in the field of medical allergy.

Supplemental aeronetric budget

Continuous measurement of a number of principal gaseous pollutants would be extremely valuable. This can only be carried out by means of more elaborate type of instrumentation itemized in the expanded budget also attached. This equipment would make possible the determination of short period peak concentrations of principal gaseous pollutants which may quite likely themselves be significantly associated with various health affects being measured by the field study.

STATEMENT OF THOMAS L. KIMBALL, EXECUTIVE DIRECTOR, NATIONAL WILDLIFE FEDERATION

DEAR MR. CHAIRMAN: Thank you for your letter of March 23, 1963, thoughtfully inviting the National Wildlife Federation to submit a statement on H.R. 3507, accelerating, extending, and strengthening the Federal air pollution control program. I should appreciate it if this letter could be made a part of the record of consideration on the proposal.

The National Wildlife Federation, a private conservation organization, is composed of independent affiliates in all 50 States and the District of Columbia. These affiliates are comprised of individuals who, when combined with other supporters of the National Wildlife Federation, number an estimated 2 million persons.

In annual convention at Detroit, Mich., earlier this month, the National Wildlife Federation adopted a resolution which expressed its concern about the pollution of valuable air resources and the adverse effects upon plant, animal, and human life. We therefore are hopeful that your committee may see fit to act favorably upon the principles in this proposal.

Conservation organizations, including the National Wildlife Federation, long have been in the forefront in advocating water pollution control, and we believe many of the same principles can be applied to problems relating to air pollution. As pointed out in H.R. 3507, we believe that control of air pollution—as with water pollution—is a primary function of State and local governments.

However, also as with water pollution control, the Federal Government should assert a strong program of financial assistance and leadership in developing cooperative air pollution control programs. This leadership can take several forms.

In view of the foregoing, these brief comments are made:

(1) The Federal Government should initiate a comprehensive program of research, investigation, and training, generally as outlined in section 3.

(2) We concur in the desirability of Federal grants to State agencies for air pollution control programs, generally as outlined in section 4 of H.R. 3507.

(3) Vigorous law enforcement should be provided for, with the Federal Government taking remedial measures when State and local governments will not or cannot. We are pleased to note that enforcement measures proposed in H.R. 3507, section 6, rather closely parallel what we consider have been successful with respect to water pollution control.

(4) It is our belief that Federal facilities should set the proper example by early control of their air pollution.

Thank you for the opportunity of making these observations.

STATEMENT OF JACK C. ADAMS, PRESIDENT, CELATRON, INC.

Mr. Chairman, gentlemen, we of Celatron, Inc., St. Louis, Mo., wish to applaud your efforts in the study of methods of control in the field of atmospheric pollution. It has been our feeling for some years that atmospheric pollution is certainly one of the major problems facing growth and development of our population and economy.

For some 3 years we have been endeavoring to find a solution to the exhaust admissions of combustion engines. It has been our belief that the so-called smog molecular formations are created by the opposite ionic balances, primarily generated in a positive form, from combustion engines. With 3 years of research in laboratory and field usage we feel we have sufficient background, knowledge, and confidence in our unique method of controlling the polarity of exhaust and reducing substantially the prime toxic pollutants of the uncombusted hydrocarbon family, that we are going to undergo the ultimate test all devices and methods must before they could really be considered acceptable.

This evaluation will be conducted in Morganton, N.C., under the auspices of the Morganton Junior Chamber of Commerce and with some marvelous cooperation of the city, county, and State officials. The program will consist of equipping as nearly all vehicles possible in the city with our Celatron cells. There will be infrared spectrophotometer tests made on the weekends of April 5 and 12, after which the cells will be installed under the supervision of the Jaycees. For four consecutive weekends, beginning April 19, these vehicles will again be tested to determine the uncombusted hydrocarbon reduction.

All testing in this program will be conducted by two recognized independent research laboratories, Frolehing and Robertson, Charlotte, N.C., which was recommended by State of North Carolina health officials and by Scientific Associates, Inc., of St. Louis, Mo.

We recognize that many areas of the country are expending hugh sums of money in various study groups and that the State of California has certainly been the leader in the expenditure of funds in search of the solution to this frightful atmospheric pollution problem. We feel that the true significance of solving a problem is in the understanding of the cause, correcting the cause at the source and in having not to worry about effect.

We cordially invite the members of your committee, any interested members of the Health, Education, and Welfare Air Pollution Department to either observe or participate in this research program.

We wish to thank you for your courtesy in holding the hearings record open in order that we may have our statement inserted in this record.

STATEMENT OF THE AMERICAN OSTEOPATHIC ASSOCIATION SUBMITTED BY ALEXANDER LEVITT, D.O.

I am Alexander Levitt, D.O., a practicing physician with offices in Brooklyn, N.Y. I am vice chairman of the bureau of research, and was for a number of

years a member of the committee on public health, American Osteopathic Association.

It is a pleasure to present the views of the American Osteopathic Association on this important legislation, H.R. 4415, cited as the Clean Air Act, and related bills.

The primary purpose of the American Ostopathic Association is promotion of the public health. In carrying out its educational and scientific responsibilities, the association has published to the profession and the public for many years information on the extent and properties and problems of air pollution.

In 1947, while head, department of arthritis and rheumatoid diseases, New York Osteopathic Clinic, I was privileged to deliver before the annual convention of the New York State Osteopathic Society a paper (JAOA, November 1947) entitled "A Study in Degenerative Diseases, Including Cancer." The study included the following commentary on atmospheric pollution:

"Accumulating evidence shows that atmospheric pollution due to solid particles, soot and fly ash, and steam is directly related to cancer of the respiratory system. Cleaner areas of large industrial cities have a lower respiratory cancer rate than do dirtier areas of the same cities. Carbon particles of polluted air not only act as cancer irritants per se, but they also combine with and inactivate such gaseous iodine as is present in the atmosphere, thereby lessening the availability of iodine which is so essential for human or plant life. They also cause chronic low-grade thickening in bronchial and lung parenchymal structures and interfere with lung respiratory functions, thereby depressing general tissue cellular respiration and metabolism and favoring formation of abnormal, disease-provoking cholesterol metabolites."

The evidence has continued to mount. President John F. Kennedy in his health program message of February 7, 1963, said:

"Reports by leading scientists in the past year have stressed that there is overwhelming evidence linking air pollution to the aggravation of heart conditions and to increases in susceptibility to chronic respiratory diseases, particularly among older people."

Under Secretary Ivan A. Nestingen, Department of Health, Education, and Welfare, in his presentation before this subcommittee on March 18 said studies have shown that death rates for cardiorespiratory causes correlate in general with air pollution levels and that these studies and others, when combined with past studies, "make it unmistakably clear that air pollution is associated with important respiratory diseases, such as lung cancer, emphysema, chronic bronchitis, asthma, and the commond cold."

Unless research is encouraged and more and better pollution control measures are adopted to apply the knowledge already available, the evidence will continue to mount.

More than two-thirds of the Nation's people live in urban areas. Growth during the period 1940–60 increased our urban population by 52 million people. As cities are born, air pollution problems arise, and as cities grow, these problems become more severe, with more homes to heat, more automobiles to drive, more factories to operate, and more refuse to dispose of.

Burning dumps now cause air pollution problems in about 25 percent of our urban communities. About two-thirds of our cities employ open dumps for disposal of refuse, and where air movement is restricted by high buildings or hills, the problem of air pollution is intensified.

We support the proposal in H.R. 4415 for a 5-year, $30 million matching grant program to State and local agencies to assist them in establishing, improving, and maintaining programs for the prevention and control of air pollution; and the requirement that the Federal Government shall conduct and promote the coordination and acceleration of research, investigations, training, demonstrations, surveys, and studies relating to the causes, effects, and prevention and control of air pollution; encourage, cooperate with and render technical and financial assistance to local and State agencies.

The American Osteopathic Association emphasized the role of local health offices in air pollution control, during our advocacy of Federal assistance legislation fostering local health units (H.R. 5644) before this committee in 1948.

I had the honor of representing the American Osteopathic Association at the 1958 and 1962 national conferences on air pollution. Following the 1958 conference, the American Osteopathic Association cooperated with the air pollution medical program of the Public Health Service for distribution of supplies of Public Health Service literature at our State association meetings to stimulate interest and activity at State and local levels.

We will continue to do what we can to help eradicate the health menace of air pollution.

Attached for the information of the committee is a leaflet reprinted from Health, a magazine for laymen, published by the American Osteopathic Association, entitled, "What Smog Is Costing You—Is Smog, That Greedy Exactor of Money, Health, and Lives, a Byproduct of Progress?" [1]

STATEMENT BY ANDREW J. BIEMILLER, DIRECTOR OF LEGISLATION, AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

Mr. Chairman, my name is Andrew J. Biemiller. I am director of legislation for the AFL–CIO. I appreciate this opportunity to present our position on H.R. 4415 and related bills to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution.

More than 13½ million working men and women belonging to the unions which are members of the AFL–CIO family have a vital interest in protecting the purity of the air around us, just as they have a vital interest in protecting the purity of our water.

Air—like water—is indispensable to human existence. The quality of air—like the quality of water—is deteriorating as chemicals and other materials discharge in rapidly increasing amounts, at a rate even more rapid than the expansion of the general population, and these harmful discharges into the air are increased by new technological processes, by the growth of urbanization and industrialization.

Air pollution control becomes more difficult as the number of motor vehicles increases. The large number and the mobility of automobiles make them a major cause of air pollution in many areas.

Just as population, urban life, and industrial production impose great demands on a watershed, so these same characteristics of modern life impose great burdens on an airshed—an area of varying size which relies upon a single air mass.

Many areas throughout the country are suffering serious air pollution problems. Some 19 States report air pollution in urban and nearby rural areas, including such large industrial commonwealths as California, Connecticut, Illinois, Ohio, New York, and Pennsylvania.

Air pollution is causing large-scale damage to livestock, crops, timber, and recreational areas, in addition to the economic blight it brings to the city areas themselves.

Last December a national conference on air pollution was held here in the Nation's Capital. The experts were there, as well as representatives of interested organizations. The AFL–CIO was represented on the conference steering committee, just as it was in 1958.

The conference reached unanimous agreement that there is a problem. But there was no unanimous agreement on what steps should be taken to solve air pollution problems, in particular what steps should be taken by the Federal Government. Fortunately, the air pollution control legislation before this subcommittee reflects an awareness of the need for Federal action to support and encourage air pollution control.

It seems to be clearly established that there is casual relationship of some kind between air pollution and various kinds of respiratory disease. Futhermore, it seems clear that air pollution in large urban areas is related to the higher incidence of lung cancer and other pulmonary diseases.

The Surgeon General's 1962 report on motor vehicles, air pollution, and health showed more than 75 million motor vehicles registered in 1961, and estimated the total at 79 million in 1962. In 1977 the total number of motor vehicles is expected to reach 113 million—a 43-percent increase within the next 15 years. This means an inevitable increase in threats to health by additional release of exhaust fumes—an inevitable increase in air pollution from hydrocarbons and carbon monoxide.

The program proposed in H.R. 4415 is aimed in the right direction, and we congratulate the chairman of this subcommittee for sponsoring this legislation.

But, while we believe H.R. 4415 is headed in the right direction, we also believe it should go even further to meet the present and future dimensions of the air pollution problem.

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[1] The leaflet was placed in the committee's files.

In the letter of transmittal of the 1962 report on motor vehicles and air pollution, to which I referred earlier, the Surgeon General urged that "all practicable steps be taken to minimize such pollution rather than waiting until the results of all the needed research are available."

Harold W. Kennedy, county counsel and attorney for the air pollution control district, County of Los Angeles, Calif., made this same point in a paper prepared for the national conference on air pollution. He wrote:

"One issue usually arises in any discussion of adopting regulations or legislation. That issue is whether or not we posses enough scientific information upon which to base regulatory action. The answer is that we do."

I want to stress this last sentence, just as Mr. Kennedy stressed it. "The answer is that we do" have enough scientific knowledge and technology to put air pollution regulation and control into effect.

He goes on to say, and I quote:

"No one will deny the fact that scientific research in the field of air pollution and its effects should be expanded many times. The point under consideration here, however, is whether the adoption of regulations should be delayed until more research has been done. The conclusion to be drawn is that strong and effective rules can be adopted now."

Certainly the experience of the city and county of Los Angeles, of Pittsburgh and a few other areas should not be lightly dismissed. We favor additional study and research in the field of air pollution, but certainly there should be no further delay in starting air pollution control action. We cannot afford to wait until we have all the answers to all the questions, and we should not yield to those who wish simply to fight a delaying action against effective regulation.

As one authority, John Yocum, pointed out last year in an article in the Air Pollution Quarterly: "It is no longer fruitful for industry to argue whether or not it should be compelled to make sometimes expensive provisions to reduce plant emissions to the atmosphere. The questions now are: How should control regulations be written and how can compliance best be achieved?"

We have already called attention to the widespread existence of air pollution in the United States. The problem is particularly pressing for our towns and cities. Recent estimates indicate all urban places with population 50,000 or over have some air pollution problem. Eighty-five percent of our urban population live in these areas. Thus, at least 85 million Americans are exposed to air pollution.

Yet, only 12 States have legal authority to enforce air pollution regulations anywhere in those States, and only 4 of these 12 have any regulatory programs to give that authority any meaning.

Only about 50 percent of the people in the United States exposed to air pollution live in communities which are protected by local control agencies—and most of these local air pollution control agencies are inadequately staffed and financed. Therefore, it is obvious that for various reasons the localities and the States have not taken steps to control air pollution.

Therefore, far more adequate steps by the Federal Government are needed than is provided by H.R. 4415. The AFL–CIO recommends that the committee amend H.R. 4415 to provide these strengthening features:

1. A review of the grants-in-aid program to support State air pollution control programs with a view to increasing the duration and financing of the program. Even a ceiling of $7 million for fiscal 1968 appears inadequate in view of the scope of the problem within and among States. Certainly a 5-year program is a short-range approach to a long-range problem.

2. The bill should direct the Secretary to develop within a suitable time, criteria of air quality with respect to all sources of emissions and discharges into our atmosphere.

We hope this subcommittee will also study the experience of the State of California, particularly with respect to its standards for air quality and vehicle motor emissions, and its tests for new devices to meet such emission standards in the State.

Air pollution, like water pollution, is a problem that will not stay confined within artificial boundaries. Air moves, just as water flows, with a fine contempt for manmade boundaries.

We have at stake the health and safety of the American people. Adequate farsighted action now can protect the health of our citizens from the injurious effects of air pollution. Such action now will have the next generation from serious health hazards and from far greater air pollution costs which we failed to pay in this generation.

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Mr. Chairman, I appreciate this opportunity to present the views of the AFL–CIO on this important legislation. We urge this subcommittee and the full committee to report out a bill which will start an air pollution control program in line with the national need for an indispensable natural resource, the air we breathe.

STATEMENT OF ALLEN D. BRANDT, SC. D., MANAGER OF INDUSTRIAL HEALTH ENGINEERING, BETHLEHEM STEEL CO., BETHLEHEM, PA.

Mr. Chairman and members of the subcommittee, this statement is being made in my capacity as the manager of industrial health engineering of the Bethlehem Steel Co. We appreciate the opportunity to present our views on the air pollution bills now being considered by you.

The Bethlehem Steel Co. for many years has been engaged in an extensive program of air pollution abatement. Emphasis on this activity was increased sharply as long ago as 1946 with the establishment of a formalized program on a companywide basis under my direction.

The Bethlehem Steel Co. has made much progress in recent years in the direction of preventing and controlling any new sources of air pollution as well as the abatement of existing sources.

The company's program has been intensified year by year with the result that many millions of dollars have been spent by the company on air pollution prevention and control equipment.

I have been active in the field of air pollution for almost 25 years. I have been a member of the American Society for Testing Materials Committee D–22 (air pollution), since its formation more than 10 years ago; a member of the U.S. Public Health Service Research Grants Study Section on Environmental Sciences and Engineering (includes air pollution) from 1956 to 1960; and currently am chairman of a council of technical advisers to the New York State Air Pollution Control Board and the chairman of the Pennsylvania Air Pollution Commission, a commission provided for in the State Air Pollution Control Act. I participated in a conference and exhibit on atmospheric pollution in 1952 held by Governor Driscoll of New Jersey. This conference was preliminary to the enactment of air pollution control legislation in that State; I am a member of the steering committee which is planning the first Gordon Research Conference ever to be held on air pollution, specifically air quality criteria. It will be held during the week of June 17–21, 1963, at the Tilton School, Tilton, N.H.

Other committees on which I am active are (1) the American Iron and Steel Institute Air and Water Pollution Abatement Committee, (2) the Pennsylvania State Chamber of Commerce Committee on Air Pollution Abatement, and (3) the American Industrial Hygiene Association Committee on Ambient Air Quality Standards.

In addition to directing the air pollution prevention and abatement program in the Bethlehem Steel Co., I keep abreast of legislation on air pollution and counsel with others outside the company as well as inside on proposed new laws at all levels of government.

Our company favors the general provisions encompassed in H.R. 4415, but on the basis of the long experience of the company and my own concentrated work in the field of air pollution problems, it is our belief and recommendation that certain amendments should be made to this bill. We feel that two important amendments should be made to accomplish needed improvements:

(1) Our first proposed amendment would remove the Federal Government from the enforcement procedures in cases of intrastate (not interstate) air pollution.

In order to accomplish this needed change, we specifically recommend the following:

Page 10, lines 24 and 25, strike out entire lines.

Page 11, lines 1 through 19, strike out entire lines.

Page 15, lines 6 through 19, strike out entire lines.

The above amendments are more than a States rights proposition. We feel that the State and local governments are far more familiar with the interests within the State and its communities, their economies, and their problems than is the Federal Government. State and local authorities will more readily receive the cooperation of the polluters in those communities (a vital consideration in

effective air pollution prevention and control); they will be able more successfully to persuade the polluters to make the necessary corrections, and they will be more readily received when enforcement measures shall be required to be taken. The Federal Government, on the other hand, will be a relative stranger to all these matters, will be looked upon with some suspectedness and lack of cooperation, and will run into a militant opposition should it attempt to saddle a community with some uniform standards that may be predicated upon studies and conditions in a removed out-of-State community but is not compatible with the economy and the best interests of the community involved. It can be said that the Public Health Service has somewhat of a record of working from uniform standards—an approach that is completely wrong in air pollution matters.

As we have said, we speak only of intrastate pollution, the Federal Government will have an entirely free hand in areas of an interstate scope.

(2) Our second proposed amendment would require the Federal Government to secure the concurrence of the State air pollution control agency before entering into negotiations of any sort with a local air pollution control agency operating at a lower level of government within such State.

We specifically recommend the insertion of the following language after section 11 on page 21 of the bill:

"AUTHORITY OF STATES AND LOCAL GOVERNMENTS NOT SUPERSEDED

"SEC. 12. Any action had or taken under the provisions of this Act that shall be concerned with or be otherwise related to a local air pollution control agency of a type of those described in section 10(b) (3) and (4) shall be had or taken only with the concurrence of such agency and only with the concurrence of any existing State air pollution control agency or agencies of the type described in section 10(b)(1) of the State or States in which such local agency is located or in which it exercises its authority."

The above amendment removes the possibility under several provisions of the bill that such provisions could be exercised so as to compromise the air pollution prevention and control program of the State. The lower level local control agencies are answerable to the State agency and they receive their guidance from the State agency, which latter is uniformly staffed with a number of specialists and with a large quantity of air pollution instrumentation. This link should never be severed by the Federal Government going direct to the local agency. We ask only that the State's concurrence be first given.

The amendments we have suggested in items (1) and (2) above necessitates certain other editorial changes as follows:

Page 11, line 20, strike out "C" and insert in its place "B"; line 23, strike out "a" and insert in its place "A."

Page 21, line 20, strike out "12" and insert in its place "13."

Page 22, line 2, strike out "13" and insert in its place "14."

We also recommend certain other amendments as follows:

Page 3, line 6, strike out "encourage the enactment"; lines 7 and 8, strike out entire lines; line 9, strike out "to the prevention and control of air pollution;".

Page 4, line 25, strike out "or be of concern to."

Page 5, line 1, strike out entire line.

Page 7, line 5, strike out period after "welfare" and add ", giving due regard to varying conditions and needs as between particular communities."

These additional amendments are to the same effect as those proposed in items (1) and (2) above.

Thus, the amendment on page 3 removes the possibility of the issuance of a nationwide uniform standard; that on pages 4 and 5 removes communities which are intrastate; and that on page 7 requires that in the setting of an air quality standard the Federal Government take into consideration basic differences between local communities, for it is quite true, as is so frequently said by air pollution specialists, that these qualities, as well as other regulations in the field, are to be tailor made for the differing local communities. What is right for one community may be wrong for another.

We appreciate the courtesy of the committee in affording us the opportunity of presenting our views and respectfully request that careful consideration be given to the suggested amendments.

STATEMENT OF THE CHAMBER OF COMMERCE OF THE UNITED STATES ON AIR POLLUTION LEGISLATION

The Chamber of Commerce of the United States believes that the problems of air pollution warrant efforts to improve, strengthen, and accelerate programs of prevention and abatement.

Because air pollution has grown in amount and complexity as a result of rapid urbanization and industrial and transportation development, the needs for adequate scientific knowledge about causes and treatment have become more acute and pressing. Moreover, because technology is highly dynamic, it is essential that knowledge about air pollution be expanded and kept abreast of technological developments. Air pollution itself is a dynamic and changing phenomenon.

In recognition of the situation, many of the national chamber's organizational and business firm members have a keen interest in air pollution and programs to deal with it.

The national chamber favors measures to prevent and abate pollution at the level of government closest to the incidence of pollution and best able to deal with it. Local and State initiative and responsibility must be the primary focus. The States, for example, acting individually or through compacts, should enact appropriate legislation and should deal with pollution through agencies vested with authority and responsibility to establish, enforce, and administer suitable regulations.

We, therefore, endorse the recognition in H.R. 4415 of the primary responsibility of State and local governments for the control and prevention of air pollution at its source. Likewise, we endorse the provision in H.R. 4415 for interstate compacts on air pollution involving cooperative effort, mutual assistance, and enforcement of laws relating to air pollution. For the same reason we commend those provisions, especially in section 5, to encourage municipal, State, and interstate action, and to prevent the displacement of actions at these levels by Federal enforcement beyond the resort to court action provided in the bill.

Those provisions will help to keep the primary responsibility for control and abatement of air pollution at local and State levels.

The chamber recognizes, however, that there should be adequate Federal authority in the background to be invoked if and when there is either inability or unwillingness to do the job at the level of primary responsibility. To this end, we support the provisions in H.R. 4415, section 2, for cooperative activities and uniform laws.

Except as noted below, section 3, providing for research, investigations, training, and other activities, is a necessary part of the Federal role in stimulating air pollution control and abatement, and essential to the backstopping role of the Federal Government. We urge, however, that the authority to the Secretary in section 3(b)(1) to make recommendations be spelled out so as to make clear that these do not have the force of mandatory regulations, especially with respect to "other activities." Similarly, we urge the revision of section 3(b)(9) so as to make it clearly not the intent of the Congress that the criteria to be established by the Secretary are to have any status as legal standards, but are to be furnished for information only as guidance to pollution control agencies in reflecting scientific findings.

The chamber recognizes that Federal funds are necessary to carry out a Federal role. We can neither endorse the amount nor the 5-year authorization in section 4(a). However, the bill should require the Congress to review critically the entire program at the termination of the period authorized.

Some limited form of Federal grants-in-aid to air pollution control agencies may be helpful in assisting them to meet the cost of establishing and maintaining programs for the prevention and control of air pollution, providing the grants are kept to an absolute minimum to accomplish the desired objective without endangering the primary responsibility and authority of the State and local agencies.

Further, if grants as described above are incorporated in any Federal legislation, a maximum time limit should be set after which the grants to the individual States or agencies would cease. Meanwhile, in order to emphasize State and local responsibility, such grants generally should cover a minor share of program costs. Surely, the stimulation of establishing and initial maintenance of effective State and local air pollution control agencies should not require the continual financial support of the Federal Government.

We oppose subsection (b) of section 4 as being too loose in the authority to the Secretary to make allotments "from time to time." Similarly, the formula for the allocation to the States is really not a formula at all, since it does not specify the relative weights to be attached to population, financial need and the extent of the air pollution problem.

We oppose also the authority in subsection (c) of section 4 to make grants covering two-thirds of the costs of maintaining and establishing programs for the control and prevention of air pollution, or three-fourths of such costs in the cases of interstate of intercity programs. These are much too large proportions of such costs if primary resonsibility is to be met and discharged at the State and local level.

With two exceptions, section 5 of H.R. 4415 on abatement, providing for conferences, hearings and hearing boards, and court action as an ultimate enforcement measure provides an orderly process for dealing with abatement and control. It offers a degree of protection to all affected parties from hasty or arbitrary action. We strongly urge that the bill be amended so as to provide that in the prescribed conferences, as well as the hearings, all parties at interest, including alleged polluters or dischargers of polluted air, will be represented and heard.

The second exception is with regard to section 5(f)(2). We recommend that the word "other" be deleted from that part of the section authorizing the Secretary to provide "technical or other assistance" to States in judicial proceedings involving intrastate abatement. This wording opens the door wide to opportunity for the Federal Government to furnish legal staff to prepare and in effect conduct a State judicial action.

Section 6 of H.R. 4415 should be modified to protect an individual's rights by due process of law. The requirement that persons whose activities result in the emission of pollutants causing or contributing to air pollution—and which has been the subject of a Federal air pollution conference—shall submit reports under oath raises doubts as to whether adequate protection is being given the party to the Federal action.

We urge that section 8, "Information Available to the Public," be amended. The objective of this section can best be accomplished by adoption of language identical to that provided in section 32, Public Law 87–297, Arms Control and Disarmament Act.

As approved by the Congress, section 32 of the Arms Control and Disarmament Act provides that:

"SEC. 32. All research within the United States contracted for, sponsored, cosponsored, or authorized under authority of this Act, shall be provided for in such manner that all information as to uses, products, processes, patents, and other developments resulting from such research developed by Government expenditure will (with such exceptions and limitations, if any, as the Director may find to be necessary in the public interest) be available to the general public. This subsection shall not be so construed as to deprive the owner of any background patent relating thereto of such rights as he may have thereunder."

This language protects the public interest in patents resulting from research financed under this program while protecting a contractor's rights to background information, processes, and similar data obtained by the expenditure of the contractor's own funds.

The matter of ownership of inventions derived from federally sponsored research and development is highly technical and has been the subject of numerous hearings in both the House and Senate. At the present time several bills have been introduced, with varying provisions, for the establishment of both a Government-wide patent policy and to amend the patent provisions of specific acts such as the National Aeronautics and Space Act of 1958.

The Chamber of Commerce of the United States suggests that the matter of patents and proprietary rights be the subject of separate hearings, before appropriate congressional committees, at which time the pros and cons of this technical and controversial subject may be fully examined. Because an overall solution may be some time in coming, we suggest adoption of the language of the Arms Control and Disarmament Act which will provide for full disclosure of all information required for successful air pollution research.

We believe that the provisions of H.R. 4415 with the amendments and deletions we have recommended constitute the maximum authority and arrangements needed to enable the Federal Government to properly backstop the States and local governments in discharging their primary responsibility for control and abatement of air pollution.

STATEMENT BY WILLIAM J. HARNISCH, LEGISLATIVE COUNSEL, THE YOUNGSTOWN SHEET & TUBE CO.

My name is William J. Harnisch. I am legislative counsel and assistant secretary of the Youngstown Sheet & Tube Co., of Youngstown, Ohio. I am on the National Law Committee of the Air Pollution Control Association, and have been interested and active in air pollution control matters for over 6 years.

The present Federal legislation providing for a Federal research and technical asistance program should be continued. I agree with the many experts in this field, and State and municipal officials, also with previous expressions of opinion by the Honorable Kenneth A. Roberts, Congressman from Alabama, that the abatement and enforcement program, to be effective, must remain the responsibilities of State and local governments.

The proceedings of the National Conference on Air Pollution sponsored by the Department of Health, Education, and Welfare clearly showed by the statements and remarks of almost every spokesman, that the present air pollution act should not be extended to provide Federal control and enforcement, directly or indirectly.

Regulations should be local and tailormade to fit local conditions and problems. Communities differ greatly in their needs, and what is economically feasible for one area might be harmful to another. California's exploding population growth, its peculiar atmospheric conditions and unfavorable geographical location which accentuates air pollution, its heavy motor vehicle concentrations, all make for stringent regulations to meet dangerous problems not present in other areas of the country. What may be necessary for California could be unnecessary for New York, Florida, or Colorado. If national standards were applied, they obviously could cause great economic damage, contributing to the unemployment problem.

The local legislator or administrator can first ascertain that there is a problem and what it really is. Then, before adopting laws which perhaps cannot be complied with, the legislator must be sure that there are economically feasible methods for solving the problem.

Most effective regulations can be achieved by enlisting the cooperation of citizens, business, and industry. Voluntary cooperation has been more effective in controlling air pollution than constant action by control officials. Industry after industry in the United States has spent millions on uneconomic air pollution control equipment in order to voluntarily clear the air.

Federal enforcement provisions would create in short time another new expensive Federal bureau. The taxpayer is already groaning under Federal expenditures. Congress has been requested by the executive branch to reduce taxes and control expenditures. This proposal would entail additional unnecessary costs which would increase in the future. It would also be another encroachment on States rights, and furtherance of the socialistic theory that the Federal Government should regulate and control everything.

We can clear the air through Federal research and technical services, reasonable State and local legislation, and the voluntary cooperation by industry and the citizens of each State.

In conclusion, it is respectfully submitted that the Federal enforcement authority be deleted from the legislative proposals under consideration.

STATEMENT OF JOHN M. DEW. KYLE II, A CONSULTANT, WASHINGTON, D.C.

Mr. Chairman and members of the subcommittee, obviously Federal legislation to deal with air pollution is long overdue.

The irrefutable facts developed by the recent national conference on air pollution in Washington, D.C., are too well known to this subcommittee to require any comment.

There appears to be considerable sentiment for local control, i.e., control by the States and municipalities. Without a doubt these political subdivisions have responsibilities, but unquestionably the problem is national in scope.

The winds know no boundary lines. Thus it is that unburned gasses released in any given locality may well drift off to settle and inflict damage in another State or in several other States and thereby bringing the problem under the jurisdiction of the Federal Government. But local governments can do much to "nip the problem at the source."

In the District of Columbia, for instance, what was once termed as "a smoke nuisance" is now a "smog" problem. Here numerous operators of large central heating plants continue to use fuels which produce and give off excessive quantities of unburned gasses. We believe, however, that the government of the District of Columbia through its inherrent police powers has the authority to regulate without additional legislation.

Most of the air pollution now, however, is caused by gas powered vehicles—especially those burning unrefined fuels—and still other internal combustion engines. Almost 8 million internal combustion engines were manufactured in the United States last year, and about 100 million of such engines are in use today.

It is known that mechanical devices to eliminate or to substantially reduce the outflow of unburned gases are available and they can be made to become standard automotive equipment. These devices, it has been announced, can be in full production in about 3 years. Possibly, however, their manufacture and use could be stepped up. Let us urge all possible speed.

It is realized, of course, that the subcommittee will take every reasonable precaution not to impose unnecessary hardships upon any industry or group; however, it is inescapable that after a reasonable adjustment period, motor vehicles that do not meet antipollution standards, must be restrained from operating in interstate commerce; and the States should follow this lead by enacting intrastate controls.

The long history of the old municipal smoke ordnances are both interesting and instructive, but with them several of our great cities have materially reduced air pollution in spite of bitter resistance, in some cases, to the city-imposed controls. Fifty years ago, it is recalled, there were industrialists who said: "It can't be done."

Prompt action by the Congress is vitally necessary, and it is hoped that the subcommittee will take the approach that time is of the essence. There is a terrible precedent. Let us contemplate in retrospect what might have been accomplished if vigorous action had been taken when stream pollution began; but unfortunately our failure to act in the beginning has allowed this problem to grow until today it appears to be impossible of solution. Right here in the Nation's Capital, the Potomac is little more than an open sewer, and scores of similar instances could be cited.

I am grateful for this opportunity to make this statement.

STATEMENT BY THE NATIONAL COAL ASSOCIATION

The purpose of this statement is to present the views of the National Coal Association on H.R. 4415, a bill to improve, strengthen, and accelerate programs for the prevention and abatement of air pollution, introduced by Mr. Kenneth Roberts of Alabama.

The National Coal Association is a national trade association whose member companies account for the major portion of the bituminous coal produced and marketed in the United States.

Over the years, our industry has recognized the need for air pollution control, and has cooperated with responsible segments of those communities faced with an air pollution problem. We have assisted in the design of local and State air pollution regulations, have voluntarily supplied factual information on emissions, and developed practical means to control such emissions. The coal industry itself, at the producing level, has installed air pollution control equipment to comply with these regulations, and in fact had installed them in many areas well before the enactment of regulations. This phase alone has cost our member companies several million dollars.

The coal industry is presently, through its research division, Bituminous Coal Research, Inc., developing new methods to improve air pollution control. These projects are in some cases on a matching dollar basis with industries who utilize bituminous coal, a particular case being a joint project with the Edison Electric Institute and the Association of Edison Illuminating Co., to develop and evaluate methods to control sulfur emission. The National Coal Association has maintained for several years an air pollution control division, whose staff or engineers are available to control agencies for assistance in correcting existing problems or in evaluating installation of new equipment.

We note these facts to point out our diversified experience in the air pollution control field, and we hope these comments will be considered in the light of that experience.

The following is a summation of the basic parameters which we feel should be a part of any air pollution control legislation enacted by Congress.

1. Basic responsibility for air pollution control should remain at the local and/or State levels and this basic responsibility should not be encroached upon by the HEW.

2. The role of the Federal Government should be principally that of a research organization and to encourage (through leadership) interest and activity at State and local levels.

3. The Federal Government should actively encourage the formation of interstate compacts where necessary to control interstate air pollution. Any legislation on air pollution control should carry directives to HEW that such activity be carried out only at the request of the Governor or the State air pollution control agency of the affected State.

4. The exercise of Federal police power in air pollution control should be at the request of the Governor of the affected State and should be limited to those interstate air pollution problems of a substantial nature where there is no interstate agency available to handle the air pollution problem and where the individual States are not working cooperatively to find a reasonable solution to the problem.

5. The loan or assignment of Federal personnel to local and State air pollution control agencies should be restricted to those short-term assignments which are a necessary and integral part of related activities and should be made only at the request of such agencies. (Long-term assignments of Federal personnel frequently tend to exert direct and undue Federal influence on local and State agencies.)

We respectfully request the earnest consideration of our views by the members of the subcommittee, and appreciate this opportunity to place them before you.

STATEMENT BY ROBERT E. O'CONNOR, EXECUTIVE VICE PRESIDENT, AMERICAN PAPER & PULP ASSOCIATION

This statement is submitted by the American Paper & Pulp Association to the Health and Safety Subcommittee, concerning H.R. 4415 and related bills to amend the act of July 14, 1955, as amended (42 U.S.C. 1857–1857g), relating to air pollution control.

The American Paper & Pulp Association is a federated association of 12 divisional associations to which the preponderance of manufacturing companies in our industry belong. The American Paper & Pulp Association is broadly representative of the entire domestic industry. By way of very brief background regarding our industry, sales of paper and allied products for 1962 approximated $14 billion. This represented the products of some 400 companies, with 369 pulpmills, 813 papermills, and more than 4,000 converting plants located in nearly every State in the Union. Our industry employment totals some 600,000, with a wage bill in excess of $3½ billion. Our Federal tax bill in 1962 approximated $600 million.

The American Paper & Pulp Association is in full accord with the need for continuing research and technological assistance, as well as coordination with the States and local governments, for the prevention and control of air pollution, now being carried on by the Surgeon General.

The pulp and paper industry has long recognized its responsibility in the field of air pollution, and has made significant progress with respect to atmospheric pollution control over the past few years. This has been evidenced by the accelerated efforts many mills have made in reducing atmospheric discharge of contaminants and in the cooperative research and development program the industry has undertaken through the National Council for Stream Improvement.

This program was begun in 1957, and significant sums have been spent for university research and mill developments on various phases of atmospheric problems. The bulk of the funds has gone to institutions, but recently a greater proportion is being spent on direct mill activities. Research has been conducted at the following locations:

(1) *Washington State University.*—This project has developed gas chromatographic techniques for the sampling and analyses of kraft mill gases. Currently, the studies are on the chlorination treatment of these emissions.

(2) *University of Florida.*—Simplified methods of stack gas analyses and area sampling techniques were developed. Other studies have included identification of nonsulfur organic compounds present and particulate size measurement.

(3) *Rutgers University.*—The work here has been on the qualitative determination of hydrogen sulfide in the atmosphere. At present, the reaction between hydrogen sulfide and paint surfaces is being studied.

(4) *Louisiana State University.*—This project is studying means for preventing emission of sulfur through stabilization of liquor prior to its combustion—black liquor oxidation. Particular emphasis is being placed on the control of foaming resulting from oxidation.

(5) *New York University.*—This completed project led to the issuance of a manual for solid fuel combustion processes. It was designed primarily to assist the nonpulp papermills in dealing with regulations regulations regarding fly ash emission.

In addition to this cooperative research, most individual pulpmills have programs of their own in this field. Authoritative industry estimates show capital expenditures involving upward of $50 million on equipment and processes resulting in decreased air pollution.

Our industry's awareness of atmospheric problems is shown by the increasing number of mills conducting sampling and analyses programs, both on stacks and in the area.

Our industry believes that local and State rights and responsibilities in the prevention and control of air pollution should be preserved, protected, and enhanced, as these local agencies through cooperative community action can most adequately fit control regulations and enforcement activities to local differences in topography, type, and degree of industrialization within the community, population, and other factors. As was so ably stated by the Honorable Kenneth A. Roberts, chairman of this Subcommittee on Health and Safety, in his address on "The Role To Be Played by the Federal Government," delivered at the National Conference on Air Pollution in December 1962, "* * * let me say that I do not think the Federal Government has any business telling people of say Birmingham or Los Angeles how to proceed to meet their air pollution problems. That was made clear in the 1955 act. Even if Washington attempted to exercise such authority, we would have a hard time writing and enforcing regulations at long range. The effort would be not only difficult but expensive, and without the cooperation of local citizens, very little could be accomplished * * *. In summary, it would seem that abatement and enforcement programs to be effective must remain the responsibility of States and local governments, but there is a vast field in the area of research and the dissemination of information where the Federal Government must continue to take the lead."

To sum up our views on this legislation, we recommend—

(1) That enforcement and control programs be kept at the local level where the problems can best be solved by cooperative community action;

(2) That the Federal Government continue to provide leadership through research and advice. In line with this, the Congress has extended the present Federal Air Pollution Act for another 2 years without change, and we endorse this action.

Therefore, we recommend that the following language be substituted for the text of the bills as introduced:

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That section 3 of the Act entitled 'An Act to provide research and technical assistance relating to air-pollution control,' approved July 14, 1955 (69 Stat. 322, 42 U.S.C. 1857g), as amended is amended by adding at the end thereof the following new subsection:

"(c)(1) The Surgeon General shall conduct research on, and survey the results of other scientific studies on the harmful effects on the public health or general welfare of the various known air-pollution agents (or combinations of agents).

"(2) Whenever the Surgeon General determines that there is substantial scientific agreement that a particular air-pollution agent (or combination of agents) when present in the air in certain quantities, produces effects harmful to the public health or general welfare, he shall establish and publish criteria useful in indicating the kind and extent of such effects which may be expected from the presence of such air-pollution agent (or combination of agents) in the air in varying quantities. Any such criteria shall be published by the Surgeon General for informational purposes only, and shall have no legal effect. The

Surgeon General shall revise and add to such criteria whenever necessary accurately to reflect developing scientific knowledge.

"(3) The Surgeon General shall submit an annual report to the Congress with respect to the administration of this subsection. Such report shall include a list of air-pollution agents for which criteria have been established under paragraph (1), and the status of research on known air-pollution agents with respect to which such criteria have not previously been published or with respect to which the criteria previously published under paragraph (1) are not complete."

STATEMENT OF J. ALLEN OVERTON, JR., EXECUTIVE VICE PRESIDENT, AMERICAN MINING CONGRESS

Mr. Chairman and members of the committee, I am J. Allen Overton, Jr., executive vice president of the American Mining Congress, the national organization representing all branches of the mining industry. The American Mining Congress deeply appreciates the opportunity to place before the Health and Safety Subcommittee of the House Committee on Interstate and Foreign Commerce the views of the mining industry with respect to H.R. 4415.

The mining industry has consistently taken the position that both water and air pollution problems are largely local in nature, with their effects limited principally to nearby areas. It has consistently urged the Congress to establish Federal policies which give full support to the principle of local, State, and area responsibility in this field.

Several previous witnesses have testified before the subcommittee to the effect that American industry has not sat idly by and ignored the very serious problems of air pollution. Hundreds of millions of dollars have been spent by U.S. industry in efforts to abate air pollution. The mining industry itself has spent millions to minimize the effect of effluents from its operations on neighboring communities, and continues to maintain research to effectively meet air pollution problems.

Representatives of the mining industry have actively participated in the work of the Air Pollution Control Association, and have cooperated with the Federal Government, as well as State and local authorities, on air pollution research and education.

At the National Conference on Air Pollution held in Washington in December 1962, the Secretary of Health, Education, and Welfare, the Honorable Anthony J. Celebrezze, made it clear to those attending the meeting that the primary tasks of providing adequate health, education, and welfare measures and facilities are a responsibility of the State and local governments. He emphasized that control and enforcement programs dealing with air pollution matters "have been successful at the local level and should be continued at that level so that all elements of the community—the enforcer and both industrial and nonindustrial air polluters—can work together for the most desirable solution to their common problems."

R. L. Ireland, chairman, Executive Committee of the Consolidation Coal Co., chairman, American Mining Congress Land and Water Use Committee, and industry member of the National Advisory Committee on Community Air Pollution, told that same meeting that the corollary to the statements made by Secretary Celebrezze was that the Federal Government should not enter the regulatory or enforcement field, but that the Federal Government should provide leadership through research and technical assistance that will lead to more effective and more economical control measures.

The reports of the U.S. Public Health Service relating to State activities in the air pollution field indicate that 16 States, representing more than 50 percent of the Nation's population, have enacted statewide air pollution control laws. As a result of the enactment of these laws, coupled with the determined efforts of industry and many local governments, there has been a remarkable improvement in air pollution control.

With the enactment of the 1955 Air Pollution Act, the Congress set forth as policy its determination to preserve and protect the primary responsibilities and rights of the States and local governments in the field of air pollution control.

H.R. 4415 and other similar legislation would substantially weaken this declaration of congressional policy. We believe that the present policy statement of the Congress should be retained.

The legislation under consideration provides for the awarding of program grants to local governments. This legislation, however, does not provide for prior approval by the appropriate State agency nor does it contain any requirement that the project be consistent with the State air pollution control plan. It does not require certification by State agencies showing that a specific project or projects are entitled to priority over other eligible projects on the basis of financial, as well as air pollution control, needs.

We oppose provisions of this legislation authorizing grants-in-aid programs. We believe that the cost of Federal financing of local programs would be excessive, would curb local initiative and would result in Federal domination of local and State programs. The Secretary of Health, Education, and Welfare would be given discretionary authority to make program grants. The Secretary would be empowered to make such grants in accordance with such regulations that he might find necessary to carry out the control program. He is authorized to make grants to air pollution control agencies for programs which "meet criteria established in regulations by the Secretary as necessary for the effective control or air pollution in the area."

In addition, he would be permitted to make grants directly to local control agencies without any reference to the State government. Strong protests have been made by the Governors of several States against the activities of Federal agencies attempting to dictate the form and manner in which the States carry out federally supported programs. The pending legislation does not provide any protection against coercion of the States or localities in the conduct of air pollution control programs.

We further believe that provisions giving the Federal Government broad authority to enforce air pollution abatement should not be enacted. As we have pointed out, and as Secretary Celebrezze has indicated, the very nature of air pollution problems is local in character and can be most effectively met at the local level. We firmly believe that it is undesirable for the Federal Government to be a policeman in these activities. The challenge has been met and will continue to be met by voluntary compliance through cooperation, education, and dissemination of the results of broad research. Enforcement can be effectively administered by local and State authorities and through the enactment of interstate compacts.

We also oppose provisions of this legislation calling for the development of uniform State air pollution laws. Here again it will be noted that pollution problems vary greatly from locality to locality and from State to State. Local conditions such as topography, meteorology, industrial development, degree of urbanization, and land-use planning are best known and understood at the local and State levels. It is our firm conviction that local and State jurisdictions are best equipped to determine the ways and means of combating air pollution problems.

Thank you for the opportunity to express our views.

STATEMENT OF DR. SPENCER M. SMITH, JR., SECRETARY, CITIZENS COMMITTEE ON NATURAL RESOURCES

Mr. Chairman, I am Dr. Spencer M. Smith, Jr., secretary of the Citizens Committee on Natural Resources, a national conservation organization with offices in Washington, D.C. It is my pleasure to represent some of the Nation's outstanding conservationists, who serve on our board of directors. Our organization has had a longtime interest in the areas of water pollution and air pollution in addition to our general activities and concern with natural resource problems.

The problem of and the need for remedial action in air pollution control has been adequately stated, at length, in the National Conference on Air Pollution and by the testimony of the respective agencies and organizations before this committee. It shall not be our purpose here to repeat in any detail the critical conditions throughout the country relative to air pollution that have attracted the attention of all of us as well as the concern of the Congress.

The subcommittee is considering three specific measures to strengthen the Federal air pollution control program—H.R. 3507, H.R. 4061, and H.R. 4415. The authors of these measures and this committee are to be strongly commended for their concern and their diligent labors to rid the air of ever-increasing pollution. Basically, all three measures have common purposes. They seek to

provide the means to establish research and development programs on a nationwide scale. This and other means are taken as preventive measures which must be the handmaiden to any specific remedial action. Also, they recognize the basic responsibilities of the State and local governments and all measures offer financial and technical assistance in order that these programs of State and local governments be implemented to their full effectiveness. All three measures recognize further the need for effective controls at a regional or even a national level. Some difference in procedure and in moneys authorized characterized the basic differences between the respective measures.

By and large, our preference is for H.R. 4415, as drafted, relative to the other two measures. One of the principal reasons for this is the absence of an authorization for any air pollution control advisory board. The first tendency of almost any agency is to have an advisory board. The purposes of an advisory board generally are to provide a link with those immediately involved and to achieve a spirit of cooperation that enhances the particular program. Unfortunately, advisory boards, in my experience, while making some contributions to the general effectiveness of carrying forth regulations, have generally been made up of those who are most often creating the problems that cause the legislation in the first place. In this case, it seems without question that the advisory board would be made up of representatives principally from those industries and those economic interests that are contributing most to air pollution. It is certain that these industries will be deeply interested in all the activities of the agency or agencies concerned with this program and they will, without question, make known their particular points of view to these agencies. An advisory board too often has had the effect of formalizing the opposition of those who seek to soften any effects the program may have on their immediately economic interest.

H.R. 4415, in section 3(a)(4) takes special note of the "nationwide significance of the problems of air pollution from motor vehicles." If the measure can be criticized relative to this problem, it can be levied only against the brevity with which it is discussed. There is little question, in terms of the evidence already before the committee, as to the serious nature of the air pollution caused by exhausts from motor vehicles. It may be that in the near future this committee will be considering specific means of restricting the motor industry's activities as to the discharge of exhaust in the atmosphere.

The differences in the measures before the subcommittee relative to the grant in support of air pollution control program is not unduly significant since appropriations for either will be extremely difficult to obtain. Perhaps even the more modest requirements of H.R. 4415 will not even be realized. Requests for congressional appropriations have a background which leaves one to believe that the beginnings of any such program will find the funds allowed to be of a more modest amount than authorized. It is believed, however, that H.R. 4415 would be a more effective means of aiding the States because of the allowance of three-fourths of the cost of the air pollution control programs. This seems to be a more workable means than the procedure by which any regional activity will allow the Secretary to use his discretion in assessing the charges against the allotments of the respective States.

In our judgment, all of the measures make a creditable showing in terms of the ability to foster research and development and cooperation with the existing agencies of Federal, State, and local governments. The problem of enforcement, however, appears to be difficult, both in its concept and its ultimate implementation. While it seems perfectly proper to appreciate the local and State efforts and to respect the local and State laws, all the measures appear to be most complex in protecting State and local rights but at the same time attempting to achieve abatement of pollution. From my own experience in enforcement in other areas, I can appreciate the fact that the layman is not completely aware of all the complexities of getting the facts, making an evaluation of them, making sure the proper communication has been made with all parties and finally rendering a judgment that does not violate the due process procedure. Trying to appreciate all of these problems, however, Federal enforcement appears weak and overly complex. In our judgment a vigorous Federal enforcement is one of the principal requirements of any successful abatement program.

The procedures and processes of appeal and the great dependence on State and local authority, when such authority has not been effective in securing the necessary enforcement in the past, appears the biggest weakness of the legislation proposed.

We are torn between the desirability of leaving to the States and localities the maximum of all administrative decisions that can conceivably be left to them on the one hand, while on the other hand, achieving the final result for which one strives—adequate air pollution control. The ineffectiveness of local bodies in this area is not too often stated candidly, for no one wishes to be labeled a procurer of other duties for an already gross Federal Government. Unhappily, the issue often resolves itself by adding to Federal responsibilities of an already large central government. It must also be questioned, however, as to whether the problems that plagued society could not be resolved if Federal responsibilities were increased. We suspect that local and State enforcement will not be successful in dealing with air pollution by an industry, national in character, possessing great economic power and which has contracts with labor unions of considerable strength, who will usually support the industry's point of view in such matters. Research conducted by various private organizations for water pollution showed an increase at an amazing rate, once significant enforcement by the Federal Government began to be pursued.

Though H.R. 4415 does ultimately provide for some enforcement by the Federal Government, the difficulty of bringing such powers into play, however, appears obvious. We cannot dismiss or brush aside State and local governments; yet, it seems most desirable that a more rapid bringing into play of Federal resources is necessary if effective enforcement is to be achieved. It may be necessary to resort to such a procedure even if we intrude upon some of the now existing authorities of local, county, and State governments.

Local and State governments have not been too successful in the past in achieving the kind of pollution abatement that is necessary. The fact that the Federal Government must authorize grants-in-aid for research and other technical aid is a recognition of the States' need for help. If they need help in this area they may very well need greater aid in enforcing abatement.

It is our desire that H.R. 4415 can be given favorable consideration at the committee's earliest opportunity. While we should very much like a further strengthening of the Federal enforcement provisions, we certainly would not enter opposition to the measure as written. One should not oppose a measure simply because it does not do everything perfectly. Objections of this type are too often used as an excuse for doing nothing.

STATEMENT BY DR. WILSON T. SOWDER, STATE HEALTH OFFICER, JACKSONVILLE, FLA.

In the proposed Federal legislation dealing with the prevention and control of air pollution, there are several basic principles to which I respectfully solicit your serious thought and consideration in the event any legislation is reported out of your committee for possible passage.

1. The principle and purpose of any bill should be "that the prevention and control of air pollution at its source be the responsibility of State and local governments."

2. It is my feeling that the Surgeon General of the Public Health Service should have active leadership in this program, since it is our strong feeling that Federal activity in air pollution control should be administered by the Public Health Service, which has long demonstrated that it is best fitted to perform these functions by virtue of its experience and close cooperation with State health agencies and air pollution control agencies.

3. It is our feeling that in the event a grant program is enacted, that the grant applications from local agencies be required to be processed through the State agency. We feel that the State air pollution control agency would be better equipped professionally to judge where the most serious air problems are and where the grants should be allocated.

It is suggested that consideration be given to any grant program to be allocated through the State agency commensurate with the construction grants program which is now in effect under Public Law 87-88. It has been explained that there are not many States that have an organized air pollution program, but in the 1962 directory, published by the Air Pollution Control Association in cooperation with the Department of Health, Education, and Welfare, there are 45 States and several territories that list air pollution control programs. If a State does not have one, it should set one up.

4. It would be our recommendation that no legislation should be passed that any Federal activities be imposed or carried on within the State without the

request of the offended State. This request should come from the Governor and/or the air pollution control agency.

It will be appreciated if you will give serious thought to these four principles in the culmination of any bill presented to the Congress.

[Telegram]

PORTLAND, OREG., *March 12, 1963.*

HON. OREN HARRIS,
Chairman, House Interstate and Foreign Commerce Committee,
House Office Building, Washington, D.C.:

On behalf of 850 large and small member firms of Associated Oregon Industries, strongly protest Federal intervention called for in H.R. 4415.

We have always supported State santitary authority which is far better qualified in Oregon. Pollution problem solutions and enforcement methods of Federal Government not needed here.

Only possible area we might consider support of Federal program is in research proposal.

IVAN CONGLETON,
General Manager, Associated Oregon Industries.

ARKANSAS STATE BOARD OF HEALTH,
Little Rock, April 3, 1963.

HON. OREN HARRIS,
Member of Congress,
House Office Building, Washington, D.C.

DEAR MR. HARRIS: We have reviewed H.R. 4415 introduced by Mr. Roberts of Alabama. In our opinion this legislation is good and will benefit the States; however, it is our belief that a more effective air pollution control program will result from grants if the official State air pollution control agency or authority is the recipient of the grant and can coordinate the program throughout the State.

The language on page 8 beginning with line 7 merely permits air pollution control agencies to be recipients whether they are local, county, or State agencies and whether they are voluntary of official. Clarification of this section appears to be warranted.

The section on definitions on page 20 would need rewording to bring it into conformity if changes are made on page 8.

Your interest in this matter will be appreciated.

Yours very truly,

J. T. HERRON, M.D.,
State Health Officer.

BASKING RIDGE, N.J., *April 2, 1963.*

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
SUBCOMMITTEE ON HEALTH AND SAFETY,
House of Representatives, Washington, D.C.

GENTLEMEN: The purpose of this letter is to express my views on the matter of control of air pollution which is before your committee at this time.

Practically all of my business career of nearly 50 years, after college graduation, was spent with Research Corp. and its subsidiary, Research-Cottrell, Inc., leading manufacturers of equipment to remove solids and liquids from stack gases—first as field engineer, then sales engineer, general sales manager, and finally assistant to the chairman on air pollution control activities. Then, upon retirement from this company, I served as executive secretary of the Air Pollution Control Association, a national organization with headquarters in Pittsburgh, Pa., from which I retired 3 years ago. From this it is clear that I have some experience and knowledge and a great deal of interest in the control of atmospheric pollution.

A copy of Mr. Daniel Cannon's testimony has just been received and I wish to go on record as supporting his stand wholeheartedly.

Public Health Service should continue its activities at the present level; that is, it should conduct research on air pollution with results made public. It should continue its air-sampling work, but only where requested by the local authorities. But it should have no power of enforcement. For such activities the present annual budget of $5 million is enough and should not be increased. Also, I suggest extending this work for a maximum period of 5 years, after which the results should be studied to determine if such work should be continued or be terminated.

The idea that little or nothing is being done by industry to control pollution is not correct. As Mr. Cannon has stated, huge sums are being spent every year for control equipment and its operation. Also, it has been my experience that most industrial companies show a willingness to work in harmony with the local control officials in solving their pollution problems.

It is my opinion that, generally speaking, the ill effects, medical and otherwise, of air pollution as it exists today, is overemphasized. Furthermore, the degree of air cleanliness necessary to prevent undue pollution varies from place to place and local ordinances and control are, therefore, more realistic than an overall Federal control.

I am strongly in favor of clean air and in the necessary laws to force compliance, but the control of the pollutants should lie in the area where they are created and the cost of such control should be borne by that locality. There is no reason why taxes collected in New Jersey should pay for cleaning the air in California and vice versa. The idea of Federal grants for this purpose are fundamentally wrong. The expense should be paid by the locality creating the problem.

Local control of air pollution is the proper procedure. In some cases State control is advisable and even area control, such as the Ohio River Valley, involving some sections of more than one State would be desirable. But in no event should the authority rest in any agency of the Federal Government.

To summarize—my recommendation is that the existing activities of Public Health Service in the field of air pollution be continued for a period of 5 years.

Very truly yours,

HARRY M. PIER.

CALIFORNIA STATE CHAMBER OF COMMERCE,
San Francisco, March 13, 1963.

Hon. KENNETH A. ROBERTS,
Chairman, Subcommittee on Public Health, Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR MR. ROBERTS: The California State Chamber of Commerce, a statewide trade association widely representing business, agriculture, and industry of this State, wishes respectfully to register strong opposition to portions of H.R. 4415 on the following grounds:

1. The program under the bill would probably call for an ever-increasing number of administrative personnel and the 5-year, $30 million expenditure would needlessly add to an already enormous Federal budget and deficit.

2. The States, and California in particular, are already making satisfactory progress in air pollution abatement. Moreover, the problem is different and requires a different approach and solution in almost every local community. No Federal bureau could effectively utilize a central approach to such an infinite and complex variety of local situations.

3. Much of the bill is an unwarranted (and probably unconstitutional) intervention into a legislative area reserved by the Constitution to the various States. For example, the judicial function of assessing, remitting, and mitigating fines is conferred upon the Secretary of Health, Education, and Welfare. Under the bill, Federal officials in Washington would decide and attempt to enforce what they consider to be good for the people on the local level.

4. Implementation of the bill would rupture the relations now existing between the U.S. Public Health Service and the States. It is a radical departure from the long-established policy of voluntary cooperation between the U.S. Public Health Service and the States.

5. Section 5 of the bill could be used by Government officials improperly to harass and punish industries.

Sincerely,

CLARK GALLOWAY,
General Manager.

VANDERBILT UNIVERSITY,
SCHOOL OF MEDICINE,
DEPARTMENT OF PREVENTIVE MEDICINE AND PUBLIC HEALTH,
Nashville, Tenn., March 12, 1963.

Hon. OREN HARRIS,
Chairman, House Committee on Interstate and Foreign Commerce,
Washington, D.C.

DEAR SIR: Prior commitments will prevent my appearing before the Subcommittee on Public Health and Safety for the public hearings on the Federal Air Pollution Control Act on March 18. As chairman of the Subcommittee on the Health Aspects of Air Pollution of the American Public Health Association, and as one actively engaged in research concerning the effects of air pollution on health, I should like to voice my opinions concerning the legislation under consideration.

In his special message on improving American health of February 7, 1963, the President cited the dangers to health and to the economy of atmospheric pollution, and recommended legislation authorizing more intensive research programs to determine causes, effects, and methods of control of air pollution; the provision of funds to State and local air pollution control agencies to motivate the development or improvement of their control programs; the study of air pollution problems of interstate or national significance; and action designed to abate interstate air pollution.

I deem these recommendations most vital to the protection of our air and to the achievement of clean air for our cities and industrial areas. I believe that H.R. 4415, introduced by Mr. Roberts of Alabama, would substantially provide the legislation recommended by the President, and I endorse the bill fully and unequivocally.

Very truly yours,

L. D. ZEIDBERG, M.D., M.P.H.,
Professor of Epidemiology.

NATIONAL ASSOCIATION OF MANUFACTURERS,
New York, N.Y., March 29, 1963.

Representative KENNETH A. ROBERTS,
Chairman, Health and Safety Subcommittee, Interstate and Foreign Commerce Committee, House of Representatives, Washington, D.C.

DEAR CHAIRMAN ROBERTS: This letter is being written with regard to the study of your subcommittee on the subject of air pollution control. We are most concerned with the concept appearing in the related bills, specifically, as contained in H.R. 4415, section 8, in regard to disposition of "patents." We believe that the wording therein has not been devised in full consideration of the incentive value of the American patent system which has accelerated our progress and well-being for more than 160 years. The National Association of Manufacturers' policy position in respect to the matter at hand states as follows:

"PATENT RIGHTS UNDER GOVERNMENT RESEARCH AND DEVELOPMENT CONTRACTS

"The incentives of the American system of patents are vital to our continuing industrial growth and leadership in modern technology. Consequently, it should be the basic policy of the Federal Government as to its contracts for research and development that the contractor should retain the commercial and foreign rights in inventions made in the performance of the contract subject to a royalty-free, nonexclusive license to the Government for governmental purposes; provided that any such license should not convey any right to the Government to manufacture or use any invention for the purpose of providing services or supplies to the general public in competition with the contractor or the contractor's commercial licensees in the licensed fields."

At the present time, the Executive Office of the President as well as several congressional committees and private groups are studying the admittedly complex problem of patent rights under Government contracts. Therefore, it would seem well to avoid an unduly limiting policy conclusion in this area at this time. Until completion of the aforementioned study determinations, we believe that the handling of any patents rights resulting from research carried on under terms of this bill should be considered in the instance of each contract by the Secretary or

his authorized representative, as for example as provided under the National Science Foundation Act (42 U.S.C. 1871(a)).

It would be appreciated if the contents of this letter were considered by your subcommittee and included in the record of the current hearings.

Sincerely yours,

G. RICHARD FRYLING,
Chairman, Patents Committee.

CONSOLIDATED EDISON CO. OF NEW YORK, INC.,
New York, N.Y., March 27, 1963.

Re H.R. 3507, H.R. 4061, H.R. 4415, and H.R. 4750.

Hon. KENNETH A. ROBERTS,
Subcommittee on Health and Safety,
House Committee on Interstate and Foreign Commerce
House Office Building, Washington, D.C.

DEAR MR. ROBERTS: I attended the hearings held before your subcommittee on March 18. In accordance with your announcement that statements may be filed within 10 legislative days of the hearings, I am submitting the following with reference to the experience of Consolidated Edison:

Consolidated Edison Co. of New York, Inc., has for many years been actively engaged in an extensive program for the control of stack emissions from its electric and steam generating plants in the New York metropolitan area. We are therefore very interested in the proposed air pollution control legislation presently under consideration by your subcommittee.

Since 1937 Consolidated Edison has spent more than $100 million on air pollution control. Even before that date our company made it a practice to install in all new plants the most modern control equipment available. The art of control of stack emissions has now progressed to the point where, in our most recently constructed large boilers, we have been able to attain and maintain efficiencies in the collection of particulate pollutants of better than 99 percent. Our present program includes not only the installation of this highly efficient equipment in our newer coal-fired plants, but also the renovation of existing equipment in our older plants.

Consolidated Edison is in complete sympathy with the goals of the proposed legislation and we agree that there is a definite need for an increase in the research activities of the Department of Health, Education, and Welfare in this field as well as a need for making the resulting information available throughout the Nation. We do, however, share the concern expressed, during the course of the hearings before your subcommittee, by many representatives of industry, and by local and State governments as to the possible adverse effects of the Federal enforcement provisions contained in the new legislation.

We have for many years cooperated very closely with the New York City Department of Air Pollution Control under the leadership of Commissioner Arthur J. Benline and his predecessors. We feel strongly that this local agency as well as the State and interstate agencies now operating in the New York area are doing an efficient and creditable job. They can make good use of the technical help and information that the Federal Government can provide. We do not feel, however, that there is any demonstrable need here for Federal intervention in the area of enforcement. In our opinion, there is nothing to be gained by the addition of another governmental agency with overlapping powers of enforcement, and there is the strong possibility that such addition might actually hinder the effectiveness of the control operations of the local and State agencies. We trust, therefore, that in your final deliberations your committee will provide proper safeguards that will permit the continued effective operation of local and State departments.

Additional facts with respect to the problem of air pollution as it relates to Consolidated Edison and the public utility industry as a whole are contained in the two speeches, copies of which are annexed hereto, which were delivered by the undersigned, before the National Conference on Air Pollution in Washington, D.C., in December, 1962, and before the annual meeting of the Air Pollution Control Association in Cincinnati in 1960.

Very truly yours,

G. T. MINASIAN, *Assistant to Vice President.*

NATIONAL CONFERENCE ON AIR POLLUTION

Washington, D.C., December 10–12, 1962

PREPARED DISCUSSION: HOW CAN WE GET ACTION FOR CLEANER AIR THROUGH COMMUNITY ACTION

(George T. Minasian, assistant to vice president, Consolidated Edison Co. of New York, Inc., New York, N.Y.)

A prepared discussion following Paper No. H–7 of the same title by John W. Bodine, Philadelphia, Pa., for presentation at Panel H, "Applying Our Public Information and Sociological Know-How," December 11, 1962, Paper H–8

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—PUBLIC HEALTH SERVICE

When I first talked to Mr. Bodine concerning the general nature of his paper, he told me that he actually considered himself quite a newcomer on the subject of air polution. He said, however, that the major interest of Penjerdel in solving common problems through community action had very quickly brought him face to face with the problem of air pollution control and that this now was a most important item in Penjerdel's interstate activities. Having now had the advantage of reading his paper, I can only conclude that for a man who claims to know little about air pollution, he has certainly learned very quickly. His outlining of the problem, the difficulties of solution and the importance of cooperative efforts is a remarkably fine job. As to most that he has to say, I can only add "amen." There are, however, some points on which I would like to comment further and some ideas that have occurred to me through rather long association with air pollution control matters, particularly from the community relations point of view.

For a number of years I have been particularly interested in the use of the term "community," although from a dictionary standpoint it has a number of connotations; for the most part, they all stem back to the fact that a community is a body of people having common organization or common interests. I can think of few things that should bind so many people together in common interest as the purity of our most essential natural resource—the air we breathe.

It is true that while smoke and other types of air pollution, according to the historians, have been a matter of concern for centuries, it is only in relatively recent years that the matter of control has become a subject for major consideration. One need only follow the press reports to see how this subject has grown in importance during the past 15 or 20 years. Although most of us who are close to the problem are convinced that the subject is still not receiving the attention it should, we should be encouraged when we compare the coverage today with that of only a few years ago.

Mr. Bodine speaks feelingly about the general apathy of people when it comes to the subject of air pollution. I am well aware that this exists, but also aware of the fact that on most subjects of major public importance there are relatively few people who take a lively personal interest in them. It is only when the dangers become apparent in the personal affairs of a large number of people that any sort of mass participation occurs.

I feel very strongly, however, that due to the progress being made by the Public Health Service and the various interested groups in the control field and in industry, we have now reached the stage where the majority of those who are considered thought leaders agree that air pollution has become a matter of serious concern to the country and that unless strong progressive measures are taken, the situation can become much more serious than is now apparent.

It has been a matter of record in this country that when a problem becomes severe enough to be threatening, people throw aside their differences and rally behind a common objective. I believe we are fast approaching this point. There are less and less differences of opinion on the dangers inherent in increased urbanization, industrialization, and automotive transportation. In my travels throughout this country and to some extent abroad, I certainly find very little shrugging of shoulders and the "so what" attitude that was very much in evidence not too long ago. There remains a considerable difference of opinion on the exact effects of air pollution on health and general welfare and also as to the relative contributions from various sources. For the most part, and of course there are exceptions, industry is well aware of its contributions to air pollution and of the necessity for positive preventive measures. There are very few

control agencies which claim to be experiencing a major lack of cooperation from members of the industrial and business community. In other words, while 10 years ago control officials and industries were more often than not looked upon as adversaries, they are now for the most part considered to be fellow campaigners in a common battle.

Mr. Bodine emphasizes the importance of getting information on air pollution to more and more people, particularly through the various organizations to which they belong and through the schools. He is absolutely right on this. Even though our various public health and research groups have been making much progress (in spite of the often unfair criticism of those who think the progress is distressingly slow), it is still easy to see how the public can become confused.

With so many new developments and dramatic advances in technology, there are continuous changes in the nature and magnitude of pollutants entering the atmosphere. Not too long ago, the metallurgical and chemical plants were considered the major offenders. As they began to take care of their obvious deficiencies, powerplants, refineries and the open burning of refuse became major culprits, to be followed by incinerators and more recently, of course, the automobile. Also, for many years the concentration was on cinders, fly ash and other particulate matter. Then, as these began to be cleaned up, the emphasis swung toward sulfur dioxide and other gaseous discharges, to which was added the later discovery of the effect of sunlight, etc., on the chemical composition of pollutants. It is easy to see how the layman is inclined to wonder just who bears the responsibility for polluted air and just what the dangerous pollutants may be. All too often, people don't realize the considerable extent to which they themselves contribute to the problem.

As I have said before, I firmly believe that control officials and industry are making great progress toward working hand in hand in solving their mutual problems. I know from firsthand experience that not long ago it was considered improper for public officials to say anything very nice about the efforts of utility companies and other industries. In fairness, I must also admit that in all too many cases the criticisms by the public officials were justifiable. I now find that with the establishment of definite control programs and careful attention to a meeting of schedules, the efforts of these cooperating industries are appreciated. Furthermore, the officials are not afraid to say so, even though, quite understandably, they will never admit that as good a job is being done as they would wish.

In the dissemination of information on air pollution control, in my opinion, the Air Pollution Control Association does a particularly good job. As the membership in this association increases and more and more people partake actively in its program, an even better job will be done. I am particularly interested in the expanding activities of the sections of the association. I happen to be the present chairman of the executive committee of the Mid-Atlantic States section, which holds technical conferences twice a year as do other sections throughout the country. This allows for local participation by those who are not always able to gather together at the national meetings or get to a conference such as this one.

One of APCA's activities is the promotion of Cleaner Air Week, held each year in October and which has been supported by the President of the United States and various Governors and municipal officials. This activity has also been highly commended by our new Secretary of Health, Education, and Welfare, the Honorable Anthony J. Celebrezze.

The Air Pollution Control Association has broadened the scope of its membership throughout the years and we now find representatives of almost all industries, educational institutions as well as various civic groups. In addition to this, of course, there are the national, State, and municipal control officials who were largely instrumental in its formation as the Smoke Abatement Society more than 50 years ago. For many years the constitution and bylaws of the organization specified that the president must always be a control official and there seemed in the operations of the association other considerations that downgraded the industrial representation. These provisions have since been altered and industry is now considered a member in perfectly good standing and can even aspire to the presidency of the organization.

I spoke a few minutes ago about our new Secretary Celebrezze, which reminds me of my experiences some years ago in this air pollution field. In 1950 my company, the Consolidated Edison Co. of New York, was having a particularly difficult time and was being rather seriously attacked by the city and the press

for not making more rapid progress in its air pollution control program, even though it had already spent some millions of dollars. I was told that if I wanted to see evidence of fine cooperation, I should visit Cleveland.

I made two trips, one on the occasion of a luncheon of the Cleveland Citizens Committee, to hear the second report on progress since the formation of the committee. At this time, the air pollution control officer was H. G. Dyktor, commissioner, division of air pollution control for the city of Cleveland. I was tremendously impressed, for here were representatives of all the industries, the lake carriers, the municipal officials, the press and civic associations. They were obviously working in the closest harmony and all had programs for improvement upon which they were working.

I came back to New York full of enthusiasm and hoped that we might gather together a similar representative group. I soon found out that New York was quite different inasmuch as Con Edison supplies the electricity for practically all the plants in the city as well as steam for heating most of the famous skyscrapers and there are very few industries having boiler plants of their own. The general impression was that since Con Edison was burning nearly half of the fuel consumed in New York, its stacks were in effect the stacks of the city and others saw no reason for getting into the act.

This put even more of a responsibility on us to be sure that we did a good job. We must be ready to talk to all groups who show any interest. We must invite them in to see for themselves just what is being done. Above all, we must be sure that we in all cases are entirely truthful, admitting any deficiencies, and show good faith in earnestly pushing our control program, which has cost Con Edison for work completed and approved since 1937 well over $100 million. We find that there are many interested groups in New York, including the New York City Federation of Women's Clubs, the Commerce and Industry Association, chambers of commerce, various local civic organizations, etc. We are glad to participate in the programs put on by the universities and the schools and it is interesting to find that New York public school classes, even down to the fourth grade, have shown interest in air pollution.

We have participated in various research programs and continually watch all new developments which may be of help. Incidentally, I notice that Mr. Bodine has made reference in his paper to the fact that private resources for research are important but that in some cases the knowledge gained has not been made public. He suggests that any companies having such information should be compelled to place it in the public domain. I know of no such instance and I am sure from our own viewpoint we consider it absolutely essential to pass on any information we may gain through research experiment or actual operating experience.

Mr. Bodine's organization and proposed methods of operation fascinate me and I will watch further developments with great interest. At the present time, from my own experience, I am somewhat doubtful that a similar organization could be assembled in the New York metropolitan area. We do have, however, a somewhat different type of cooperating organization, originally known as the Mayors' Conference but now known as the Metropolitan Regional Council. This organization was set up a few years ago at the instigation of New York City's Mayor Wagner and it is made up of the various mayors and other public officials in the 16 counties of New York, New Jersey, and Connecticut. Another group known as the Cooperative Committee on Air Pollution was organized in 1959 and is composed of the top officials of the New York State Air Pollution Control Board, the New Jersey State Air Pollution Control Board, New Jersey Department of Health and the New York City Department of Air Pollution Control. To this group more recently has been added the Interstate Sanitation Commission. This latter committee and also a special committee of the aforementioned Metropolitan Regional Council have both made an important start in getting together for tackling the air pollution control problem on a cooperative basis. They do not, however, have representatives from business, industry, or from the public but the officials involved are in close contact with the latter groups through other organizations.

Incidentally, I should also like to mention the Air Pollution Control League of Greater Cincinnati. This was organized way back in 1906 and is a citizens' nonprofit organization which has been carrying on an intensive program of public education for many years in the Metropolitan Cincinnati area. This is another community activity organization which has greatly impressed me with its effectiveness.

I know there are many other organizations throughout the country devoting time to this important subject with varying degrees of effectiveness. I consider it essential that such organizations be encouraged to continue their activities and that the formation of other groups be promoted. The common aim should always be cooperation, education, and the presentation of a united front against the common enemy—air pollution. We might say that we are all hoping to be smoking less and enjoying it more.

Air Pollution Control as Seen by the Public Utility Industry

(By George T. Minasian, director of community relations, Consolidated Edison Co. of New York, Inc., New York, N.Y.)

A week or so ago, two of my granddaughters, who have reached junior high school age, stopped in to see me and were told that I was going to give a talk at Cincinnati. They wanted to know what I was going to talk about. I told them the title was "Air Pollution Control as Seen by the Public Utility Industry." They know pretty well the story of air pollution since they so often hear their grandfather talking about it. Their first question was: "What is a public utility?" Taken somewhat aback, I started to explain that that is where I earn my living. They pressed the matter further, saying they knew full well that I work for an electric company but, again, just what is a public utility? When I attempted to explain that a public utility company supplies light and power and telephone, the next question was: "I thought you worked for a private utility."

After some further explanation, we got out the unabridged dictionary and found that whoever first selected the name "public utility" did a pretty good job. "Public" is defined as "of, pertaining to or affecting the people at large or the community;" "utility" is defined as "the quality, character or state of being useful or serviceable" and is given the further definition of "fitness to supply the natural needs or the quality of contributing to life, growth, progress, comfort, or happiness." Thus, it would seem that it would be hard to find a more appropriate and laudable objective than that indicated by the simple definitions of the dictionary.

Having thus launched into a family educational program, we got into the encyclopedia where considerable attention is given to public utilities. They are referred to as a "special grouping of industries, distinct from State services or public works, and also distinct from commercial and agricultural undertakings usually termed 'private business.' Public utilities include both privately and publicly owned or managed enterprises which sell their services at prices not fixed by the open market but prices subject to Government regulation." It is further stated that public utilities are generally considered to include—

(1) Services of transportation (common carriers such as the railroads, buses, rapid transit, airlines).
(2) Services incidental to transportation.
(3) Services facilitating communications such as the telephone, telegraph, radio, and TV.
(4) Services providing power, light, heat, or refrigeration.
(5) Services providing water and sanitation in urban communities.
(6) Services regulating water supply for agricultural purposes.

You will see that since we are talking about air pollution and its control, we are not really concerned with many of the services classed as public utilities. We are concerned to some degree with the transportation industry but mainly with those services classified under light, heat, and power. Still further narrowing the field, it may be safely said that with the great swing to natural gas, the gas industry not only presents no air pollution problem but is often of great help in solving the problem. (Incidentally, the report of the New York City Air Pollution Control Department for 1959 indicates that out of 17,185 complaints received by the department, none was due to a gas-fired installation.)

At any rate we now come to the electric light and power industry, which is a real giant and the subject of my remarks today. At the end of the year 1959, this industry had an installed capacity of nearly 160 million kilowatts, three-quarters of which represented the investor-owned companies and the balance, the Federal, State, municipal, and co-op plants. Now, since we are still primarily interested in air pollution, we must eliminate about 20 percent of the total capacity which is represented by hydroplants. (There is also a com-

paratively small amount of capacity using internal combustion as a prime mover.)

This leaves us with a total, as of the first of this year, of approximately 125 million kilowatts of steam-electric powerplants using primarily coal, oil, or gas as fuel.

Incidentally, at this time it might be well to point out the position of the United States in regard to electric generating capacity. This country, with its total capacity of 160 million kilowatts, has more than three times as much as Russia, which stands second. Even under the truly remarkable increases planned by our Russian friends under their latest 7-year plan—in which Russia expects to more than double its capacity to 113 million kilowatts by 1965—the United States is expected by that time to have 250 million kilowatts of capacity in operation.

Surgeon General Burney's January 1960 report to Congress on Environmental Health quoted power production in the United States for the year 1950 compared with the expected production in 1960 and 1970 as follows:

	Billion kilowatt-hours
1950	389
1960	800
1970	1400

I am quoting some of these figures to indicate the size of the industry and to point out the large growth expected in the near future. It has also been demonstrated as an indication of growth that the electric and gas utilities alone contributed to the national economy in the year 1958—a supposedly recession year—$5,600 million worth of construction or almost one-fifth of the total business expense.

Now, let's get back to the year 1959. We find that the steam-electric light and power industry consumed the following amounts of fuel:

Coal representing approximately two-thirds of the kilowatt-hour output (millions of tons)	168.43
Oil (millions of barrels)	88.35
Gas (billions of cubic feet)	1,627.08

Source: Federal Power Commission preliminary figures.

The latter two items are equivalent on a B.t.u. basis to approximately 86 million tons of coal, accounting for roughly one-third of the kilowatt-hour output.

Just what do the above figures mean in terms of the total amount of these fuels used? We find from a report of the U.S. Bureau of Mines that the electric utilities account for about 43 percent of the total domestic use of coal. The next largest classified uses are listed as the coke and gas plants—83 million tons, and retail dealers—34 million tons.

In the fuel oil field, the American Petroleum Institute indicates that the gas and electric industry accounts for about 15 percent of the residuals ordinarily used for steampower boilers.

In the natural gas field, the figures of the American Gas Association also seem to indicate that about 15 percent of the marketed production is used for the electric light and power industry. This latter for the most part, as might be expected, is used under the boilers in the natural gas producing States.

Natural gas as a boiler fuel introduces practically no air pollution problem. In certain locations and under certain conditions its use as a boiler fuel is highly desirable. In most localities oil as a boiler fuel, used in properly designed boilers and with adequate stacks, causes little difficulty insofar as particulate matter and even noxious gases are concerned.

I am well aware of the special conditions existing in Los Angeles and some other localities where meteorological conditions are unusual. For most locations, however, including the New York area—again with the proviso that proper height, temperature, and exit velocities are maintained—sulfur dioxide and other objectionable constituents of the flue gas from powerplant stacks can rarely be measured at habitable levels.

Coming to coal which, up to the present and apparently for the foreseeable future, will be the power industries' main source of energy, there has always been the problem of taking care of particulate matter discharged from the stacks. For a great many years in the not too distant past, the problem was always referred to as a smoke problem. Our own association and other similar groups were always known as smoke abatement or smoke control associations.

Smoke is technically the unburned carbon in fuel. Most large users of coal (and certainly the electric power industry) have learned how to burn the fuel very completely. With an almost complete swing to pulverized coal as against various types of stokers, modern boiler design has enabled the industry to attain a very creditable record in efficiency of combustion. For this progress the industry does not claim that it deserves any very special credit. The efficient burning of fuel is obviously to the advantage of the companies and through the lowering of the cost of production, to the advantage of their customers.

For the past few years, the main problem in the burning of coal has been the control of fly ash. Although the coals ordinarily used vary considerably in the amount of ash they contain, a fair average in this country seems to be about 8 percent. Depending upon the type of boiler, anywhere from about half to nearly 90 percent of this ash would be discharged into the atmosphere if no control methods were used. It takes but a simple calculation to indicate the terrific quantities that would be released without control equipment.

For the most part, the fly ash under efficient burning contains relatively small amounts of entrained carbon. It certainly is not particularly dirty when compared with the sooty deposits from inefficient burners and improperly adjusted liquid fuel burners. However, it is, of course, an obvious nuisance and cannot be tolerated in any great quantity in these more enlightened days.

Although the electric utility companies for many years used various mechanical devices to catch cinders and fly ash particles, it was the electrostatic precipitator that came mainly to the rescue of the industry. These have been installed with increasing effectiveness until the efficiency in fly ash removal now reaches the upper 90 percents. Combined with the latest improved design of mechanical collectors, efficiences of better than 99 percent are being attained. It has been with the control of fly ash that the greatest progress has been made and the largest expenditures encountered.

In anticipation of making this report to you, I have gathered together information on the total expenditures made by the electric light and power industry for air pollution control. The figures do not include the cost of changes made purely for obtaining increased efficiencies in combustion, nor do they include the increased maintenance and operating costs occasioned by the installation of control equipment.

The total amount expended or appropriated for work now underway can be conservatively stated to have passed the $350 million mark. This covers the period since World War II, and includes both the investor-owned utility companies and the publicly owned systems, of which the TVA is, of course, by far the largest. There is, naturally, considerable variation in the expenditures in different parts of the country. For example, in the Southwest, where natural gas is used to such a high extent, there is relatively little capital expense attributed to air pollution control. Also, as is to be expected, expenses run much higher for those companies where plants are located in the midst of heavily populated areas as compared with those whose plants are remote. On the other hand, heavy expenditures have also been made on plants in river valleys, where population density is relatively light but the possibility of damage to vegetation may be high.

The costs can run high. A combined mechanical and electrostatic installation for a 360,000-kilowatt unit today costs about $5 million. This represents an investment in air pollution control equipment of about $14 for each kilowatt of customer demand.

In addition to the expenditures made for equipment, a great deal of money has been spent by utility companies in the search for even better control methods. The funds have gone to research organizations, to schools, and other groups that might come up with worthwhile answers. These activities are well known to the association and have been the subject of many papers presented at its meetings.

I have been speaking mainly about costs and expenditures which, while impressive, do not alone give a true picture of the utility companies' efforts in this direction. For more than 10 years a very appreciable part of my time has been connected in one way or another with air pollution matters.

I have found, somewhat to my surprise, that I have visited most of the larger cities in this country and Canada. Just the other day I checked the advance estimates of the populations of U.S. cities for 1960. These indicate that there are 324 cities with a population of 50,000 or more. I have visited all but 16 of them. It begins to look as though one of my hobbies was the collection of cities. This, to a great extent, is true, since on numerous trips, mostly associated with vacations, I have tried to cover as wide a field as possible. It so happens that

much of this travel has coincided with my active interest in air pollution. I doubt if many have been in so many different locations.

I am, admittedly, a public utility man and I have been particularly interested in utility companies, their distribution systems, their plants and, for the purpose at hand, their methods of air pollution control. Against this background I must express my very firm conviction that this industry has made a most remarkable record in the fight for cleaner air.

In making its heavy expenditures, the industry cannot fall back on savings to be accomplished. Fly ash has been established as useful in the manufacture of concrete but any return from this source is infinitesimal compared with the expenditures made. Also, any devices placed in the airstream must, to a greater or lesser extent, increase the costs of production. Maintenance of the equipment to clean such great masses of flue gas and handle such large quantities of fly ash represent a substantial part of the maintenance and operating costs of the electric utility companies.

In areas located on the seaboard, a large part of the ash must be carted to sea for dumping. At inland plants, large areas must be provided for the disposal of the ash in land-fill operations. In spite of these difficulties, I have found an almost universal feeling on the part of the engineers, operating men, and executives that they must do their best to control air pollution from their plants as a duty to the community.

It is evident, from looking into the history of these operations, that expenditures were undertaken long before any great pressures were exerted upon the utility companies. Frequently this was done many years before the adoption of air pollution control ordinances and the formation of air pollution control departments. I must add that I am not so naive as to think that the pressures of public opinion (through organizations and the press as well as those exerted by the enforcement agencies) do not act as a very real catalyst in increasing the activities of utility companies and speeding up their program.

One of the most disheartening facts in this work of air pollution control is the seeming lack of appreciation on the part of the public of the efforts we are making and the progress attained. We try to tell our story through the press, sometimes through advertising and other media but all too often we fail to get our message across. I am quite convinced that there is only one sure-fire effective way of getting this message across and that is through personal visits to plants by civic groups, political leaders, educators, and even those individuals who take only a personal interest in conditions. During the past few years there have been hundreds of these groups and individuals who have visited us at Con Edison. We are very careful to be extremely accurate in telling them what we have done, what we plan to do, and also to include items indicating our shortcomings. Almost universally, this method makes friends, even though we may not always present satisfactory proof that we have done as well as they expect we should.

During the last year or so, a great deal of interest in my company, Con Edison, has revolved around the fact that we are constructing an atomic energy plant at Indian Point on the Hudson River near Peekskill. The interest was so high that we built a special visitors' overlook building with models and a place for showing a motion picture as well as a good view of the construction underway. Since this overlook building was opened around the 1st of September 1959, we have had more than 50,000 visitors.

An interesting sidelight has come out of the questions asked. In telling the people about the plant and emphasizing all the important safety provisions connected with its operation, we point out that the atomic fuel is not burned in the ordinary sense—and the products of atomic combustion are not discharged into the atmosphere. The fuel is enclosed in metal containers called fuel elements. The unburned fuel as well as the waste products produced during the operation of the reactor, remain in the element until they are reprocessed to recover the unused fuel. As the result of this explanation, we are frequently asked if the increased use of these plants employing atomic fuel rather than the ordinary fossil fuels would not greatly reduce air pollution. Of course this is true but we have to point out that the present cost of atomic energy plants is considerably higher than conventional plants and that it will be many years before a substantial part of the country's requirements will be generated in nuclear fuel plants.

There is an interesting item connected with atomic energy in a release by the Department of the Interior Information Service on April 11, 1960. This has to

do with the use of "depleted uranium," the material remaining after the removal of most of the fissionable component, U^{235}, in producing enriched atomic fuel. This material has been suggested as a smog inhibitor, when installed in automobile exhaust systems to convert the gases into harmless substances.

I have spoken about the difficulty of getting our story across to the man in the street. This is generally much more difficult than getting the story across to professional men and those having an intimate knowledge of the problems involved—such as the majority of you who are at this meeting. I do not think, however, that we should feel too discouraged. It is only natural that people will point their fingers at us because of our very prominent stacks, as they also point their fingers at all stacks of other industries throughout the country. There will always be loud and vociferous objections as long as there are visible and other sensory evidences traceable to us. Basically, I have no great objection to those who are criticizing us for the conditions they experience. I also cannot complain too bitterly about those who object that we have not used the most effective measures in the past, even though these criticisms, based on hindsight are often quite unfair. However, when people criticize my company and my industry, claiming that we have not tried and are not trying to do a good job in air pollution control—well I say that just isn't so.

AIR POLLUTION CONTROL ASSOCIATION,
Pittsburgh, Pa., March 27, 1963.

Hon. KENNETH ROBERTS,
Chairman, Subcommittee on Health and Safety of Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR CONGRESSMAN ROBERTS: The board of directors of the Air Pollution Control Association desires to bring to your attention some of their views on the subject of air pollution control as it may relate to the legislation being considered by your subcommittee.

It is the opinion of the board of directors, acting in behalf of the membership of the association, that community air pollution conditions in the United States must be recognized as public problems requiring control. We believe that the task of obtaining this control, in consonance with air quality objectives acceptable to the local community, is a function requiring a high measure of cooperation between all levels of government, industry, and private citizens.

Many of the problems now confronting American communities are not readily responsive to control because of the lack of complete understanding of the causes of specific air pollution conditions, a shortage of trained personnel, and because of the lack of availability of technically sound and economically justifiable control measures. It is these information problems which have given rise to the need for a broad program of air pollution research and study by the Federal Government. The Air Pollution Control Association supports these activities by the Federal Government and believes that they should be continued without arbitrary restraint on annual appropriation limits or on total program duration, until the air quality problems of American communities shall have been brought to a satisfactory solution.

Continued reliance should be placed on State and local bodies for the legal establishment of air quality limits, contaminant emission standards for specific sources, and the necessary law enforcement activities related to this function. Where air pollution control agencies have been organized by States or local communities it is the association's firm judgment that any federally proposed studies or hearings on interstate matters should be performed only as a result of a formal request by one or more of the established air pollution control agencies with local jurisdiction. We recognize further that some community air pollution occurrences may involve interstate matters and therefore may require limited participation in local affairs by the Federal Government. It is our judgment, however, that this participation should consist only of objective studies of the occurrences, and the conduct of such public hearings as may be necessary to establish the causes and possible correctives for the problem.

In offering these views, the association is guided, as always, by the basic objective of furthering the cause of air pollution control. It is our belief that this objective can best be accomplished by stimulating the development of needed scientific and technical information by financially and technically competent agencies of private industry and the Federal Government, and by placing primary reliance for the direct application of source control techniques on the State and

local governments where community desires respecting air quality levels and source emissions standards can best be expressed.

Very truly yours,

S. SMITH GRISWOLD, *President.*

Mr. ROBERTS. This will conclude 2 days of hearings on four bills, H.R. 4415, H.R. 3507, H.R. 4061, H.R. 4750, and I particularly wish to thank the press, the members of our staff, and all who participated in the hearings and those of you who attended the hearings.

I appreciate very much your courtesy and you attention here.

Thank you very much.

(Whereupon, at 4:10 p.m., the committee was adjourned.)

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