

AIR POLLUTION PROGRAM



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INTERSTATE SANITATION COMMISSION
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INTERSTATE SANITATION COMMISSION

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Air Pollution Program

AIR POLLUTION PROGRAM
of the
INTERSTATE SANITATION COMMISSION

INTRODUCTION

The problem of pollution is as old as man and his discovery of fire. When he first sent spirals of smoke heavenward he showed his power to destroy the fine balance of nature. Those Indian smoke signals, perhaps broadcasting an "alert", were the first known human contribution to air pollution on the American continent, although the American Indian was a great conservationist compared to the invading white man.

Today, the "alert" is a signal sent out over a modern-day teletype system, centered in the Interstate Sanitation Commission offices at 10 Columbus Circle, New York City, with communication lines reaching into the surrounding tri-state metropolitan area.

Since air and water do not always remain within the area of one state but are often interstate in their movements, there can be a jurisdictional problem. Pollution originating in one state may affect a bordering state which has no authority to try to control it. For this reason, the Interstate Sanitation Commission was formed in 1936 by compact among the States of New York, New Jersey and Connecticut to abate present and prevent future pollution of waters bordering and between these states through cooperative efforts.

As early as 1959 the Interstate Sanitation Commission urged the necessity of strong regional machinery to be set up to assist

with the growing problem of air pollution in the interstate areas of New York, New Jersey and Connecticut. In 1961, the States of New Jersey and New York, with the approval of Connecticut, authorized the Commission to engage in activities with respect to certain air pollution problems between these two states. An air pollution program was initiated as of January 1, 1962, in which New York and New Jersey participated. Connecticut formally joined the Interstate Sanitation Commission's air pollution program in July 1969.

AIR POLLUTION IS NOT NEW

The problem of air pollution is not new. As early as 1273 King Edward I issued the first anti-pollution edict, forbidding the use of certain types of coal. No doubt this was the same type of coal so damaging in the western world today -- that with high sulfur content which emits discoloring and odorous sulfur dioxide. Nearly 700 years ago fumes from it cause discomfort in London. Under the reign of King Edward II, a man was severely punished for filling the air with pestilential odor through the burning of coal.

Coal came into use in the 13th century over the protests of the clergy who thought it too reminiscent of fire and brimstone. But, with the growth of settlements, the nearby supply of forest woods for fuel became depleted.

Some years after King Edward's edict, John Evelyn, a scientist and man of letters, and founder of the Royal Society, was ordered by King Charles II to report on the causes and effects of the heavy pall which hung over London. He found a

definite relationship between the "dismal cloud" and a number of fatal diseases.

The increasing industrialization of the western world, the growth of population, the concentration of industries in certain metropolitan areas and the movement of people to large urban centers, has brought about the present serious problem of air pollution. Higher standards of living and the tremendous increase in automobile traffic have added to the problem of water and air pollution. The pollution of the air is of growing concern because man has no choice but to breathe it.

Thermal Inversions - The factor which often causes the heavy pall of pollution to accumulate in the atmosphere is a "thermal inversion."

The polluted air normally disperses into the upper atmosphere by mixing and convection or through the movement of the air. The upper air is usually cooler than the lower atmosphere. The warm air, since it is lighter, rises above the cooler air, taking the pollutants with it. However, many times the air in the upper atmosphere is warmer than the air below. This condition is defined as a temperature inversion or a thermal inversion. Until this condition reverts to normal, the polluted air above that area does not move off and lies stagnant over the area.

If this condition lasts for a long time, it can cause serious pollution problems.

ABATEMENT OF AIR POLLUTION NECESSARY

Preventing pollution and keeping clean the air he must breathe is of major importance to man's survival. Pollution in the air is doing much more than lessening our visibility and causing irritation to our eyes, depositing dirt on our window sills and soiling our clothes. In addition to the noxious gases which we breathe into our lungs, each breath of air that we inhale carries with it thousands of tiny grains of undesirable matters. The word "aerosols" is used to designate these solid and liquid particles in the air. In either form they can be drawn into the lungs to impair body functions.

Impure air is creating a growing health problem and the number of people afflicted with lung diseases such as asthma, bronchitis and emphysema is steadily on the rise. The increasing problem of air pollution is at least partly responsible for this. Unless positive steps are taken to reduce it, it will reach even more serious proportions.

HOW THE INTERSTATE SANITATION COMMISSION FUNCTIONS

Since the Interstate Sanitation District, comprising metropolitan New York, New Jersey, and Connecticut, has the largest concentration of population and industry in the United States, the problem of air pollution here is particularly acute. To help alleviate this problem, the Interstate Sanitation Commission cooperates with the three signatory states to the Tri-State Compact for Pollution Abatement in collecting and exchanging information on air pollution which is interstate in character.

Air pollution complaints made to the Interstate Sanitation Commission headquarters at 10 Columbus Circle, New York City, are investigated as follows: When a complaint is received, the Interstate Sanitation Commission obtains as much information as possible; time of occurrence, type of odor or emission and how often it occurs. These complaints are then referred to field personnel. When the source of pollution is determined following investigation, the information obtained is given to the proper local, county and state agencies for investigation and abatement.

To aid in locating sources of pollution, the Interstate Sanitation Commission is installing a wind speed and wind direction-indicating instrument on the boundary between Staten Island, New York, and New Jersey. The information obtained by the instruments will be telemetered to the Commission office and combined with the information given to the Interstate Sanitation Commission by the complainant, will help the Interstate Sanitation Commission to determine the source of the pollutants and whether or not the pollution is coming from another state.

If the evidence indicates that the pollution is interstate in nature, the Interstate Sanitation Commission staff immediately alerts the proper agency in the state which seems to be the source.

REGIONAL AIR POLLUTION WARNING SYSTEM

The Interstate Sanitation Commission is active on the New York-New Jersey-Connecticut Cooperative Committee on Interstate Air Pollution with respect to a Regional Air Pollution Warning System for the New York-Metropolitan Area. This warning system was put

into effect in 1964. The Commission has the responsibility for coordinating the monitoring of contaminants and the authority to call a watch when the United States Weather Bureau issues an advisory that a high air pollution potential will exist for the next 36 hours. This first step is called a "Forecast." The next steps that can be recommended by the Interstate Sanitation Commission but implemented by the states are "Alert", "Warning", "Emergency" and "Termination."

Information from the States of New York, New Jersey and Connecticut, the City of New York, and the National Air Pollution Control Administration sampling stations is transmitted into the Interstate Sanitation Commission office.

After the Commission receives ambient air quality data from each of the participating agencies, it computes dosages of carbon monoxide, sulfur dioxide and suspended particulates and relays this calculated data to all agencies. This information, in conjunction with the weather forecast, is used to determine whether immediate steps should be taken to lower emissions in the affected area.

Criteria for the Air Pollution Warning System are given on the next page.

CRITERIA FOR AIR POLLUTION WARNING SYSTEM

EFFECTIVE OCTOBER 20, 1967

STATUS		TIME INTERVAL CONSIDERED PRIOR TO STATUS (Hrs.)	(1) SULPHUR DIOXIDE (ppm-Hrs.)	(2) RUD (RUD-Hrs.)	(3) CARBON MONOXIDE (ppm-Hrs.)	(4) Forecast (Hrs.)
Forecast		-	-	-	-	36
ALERT	1+2+4 or 3+4	*	2.0	25	180	12
	1+2+4	24	6.0 ↑	100		12
WARN- ING	1+2+4 or 3+4	*	3.0	25	300	12
	1+2+4	24	9.0 ↑	100		12
EMERGENCY 1+2+4		24	15.0 ↑	200		12
TERMINATION						0

* Any consecutive 6 hrs. in the last 12 hrs.

INTERSTATE SANITATION COMMISSION MOBILE AIR MONITORING UNITS

The Interstate Sanitation Commission has two mobile air vans which contain facilities to monitor air pollutants. One vehicle contains instruments to measure sulfur dioxide and smoke shade. The other carries these instruments in addition to one that measures carbon monoxide levels. Each of the mobile vans contains a telephone so that communication can be maintained with the Commission office. In addition to monitoring by the Interstate Sanitation Commission, these vehicles are also available to assist state or other agencies, upon request, for use in verification of data from their continuous sampling stations.

WHAT THE INDIVIDUAL CAN DO TO ABATE AIR POLLUTION

1. Make certain the building in which you live is equipped with emission control devices that conform with your local pollution abatement ordinances.
2. Do not burn materials out of doors. Smoke from such burning is particularly harmful to those with respiratory diseases.
3. Don't waste electricity or use more than necessary. Decreasing the use will cut down air pollution from power plants.
4. Do not accumulate refuse which will overload your incinerator and cause excessive smoke.
5. Since a large portion of the air pollution now is coming from automobile exhausts, make certain your automobile is properly tuned up and kept in proper repair. Use your car only when necessary. When you do drive, do so at a steady, smooth pace rather than in a jumpy manner with stops and starts.

6. If you note excessive air pollution which seems to be interstate in origin, call the Interstate Sanitation Commission headquarters (212) 582-0380 any time of the day or night. Try to give specific information -- type of odor or emission, direction from which it comes.

WHAT THE COMMUNITY CAN DO

1. Support anti-pollution laws and regulations.
2. Obtain and display posters and information about air pollution in schools, libraries and government buildings.
3. Have community forums on the subject and show films. Get the young people and the adults interested in positive programs to abate the growing menace of air pollution.

WHAT EVERYONE SHOULD DO

1. Observe all the precautions recommended by your air pollution control agency, your health department or medical society.
2. Listen for and observe the restrictions recommended by official agencies through newspapers, radio, and television.
3. Cooperate in every way possible to lessen the air pollution which each of us causes.

WHAT TO DO IF SUFFERING FROM A RESPIRATORY AILMENT

1. Do not smoke. Avoid rooms where others are smoking.
2. Avoid any unnecessary physical exertion.

3. In times of heavy pollution, remain indoors with windows closed. Use a fan or air conditioner to circulate air within the room.
4. If you have a cough or experience difficulty in breathing, call your physician.