

THE POLLUTION CONTROL BOARD: A FIRST REPORT

by David P. Currie, Chairman

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Illinois has had air and water pollution control agencies for some time. But not until passage of Governor Ogilvie's Environmental Protection Act in 1970 did the state have a full-time board with state-wide authority over all aspects of pollution, whose members are neither politicians nor representatives of particular interest groups, and whose procedures afford unparalleled opportunities for public participation. The Pollution Control Board, created by that law, serves two functions; like a legislature, it adopts regulations of general applicability limiting pollution; and, like a court, it decides whether or not the regulations have been violated in particular cases and imposes penalties for violations. Together with an investigative and prosecutorial agency for the first time adequately financed and an institute designed to bridge the gap between scholars who know the effects and cures of pollution and officials who need to know, the Board is one part of the institutional framework for carrying out an ambitious program to reduce pollution to acceptable levels.

The Governor and the General Assembly thus have done their part to give the people the tools for the kind of aggressive pollution control program they demand and deserve. The legislation itself resembles a blank check: With a few exceptions it gives the government agencies the authority they need to wage such a program, but it does not in itself put an end to a single source of pollution. The success of the new program depends entirely upon the performance of the Board and of its sister agencies, the Environmental Protection Agency and the Institute for Environmental Quality. This paper constitutes a report on the activities of the Pollution Control Board during the first five months of its operation, in order that people may judge for themselves to what extent we have been doing our job.

1. Rule-Making

The Board has set as its first priority the complete updating and strengthening of the regulations adopted by its predecessors and preserved by the present statute. Full-fledged enforcement cannot be undertaken until there are adequate rules to enforce. Consequently the Board has so far held or authorized hearings in more than a dozen rule-making proceedings, some of which have ripened into significant new regulations; embarked, with Institute support, on a number of studies that will provide background information or testimony for use in developing or supporting additional new regulations; solicited the views of the public and of other government agencies as to possible revisions; and utilized many of our meetings around the state as preliminary inquiries into local pollution problems with an eye toward the adoption of new regulations.

A. Air Pollution.

At the risk of oversimplification, the bulk of the air pollution problem can be summed up in the following categories: particulate matter, such as smoke and dust, largely from fuel combustion, refuse burning, and industrial processes; sulfur dioxide, chiefly from the burning of high-sulfur fuels for heating and power generation; carbon monoxide, lead, nitrogen oxides, and unburned hydrocarbons, largely from motor vehicles and (in the case of nitrogen oxides) from other fuel burning sources, together with photochemical oxidants produced by the action of sunlight on certain of these primary pollutants; a number of much less abundant but highly toxic contaminants such as asbestos, cadmium, beryllium, and mercury; and an assortment of unpleasant odors. Our predecessor, the old Air Pollution Control Board, began the task of adopting regulations to deal with these problems; a discussion of the further steps taken by the present Board follows.

1. Episodes. The most acute air-pollution crises occur during times of atmospheric stagnation, when low wind and an inversion layer of warm air above the cool reduce the diluting capacity of the air and cause a buildup of pollutants. Such an episode in London in 1952 is said to have caused 4000 deaths as a result of the aggravation of chronic respiratory and heart diseases due to high levels of sulfur dioxide and particulates. In early 1970 the old Air Pollution Control Board adopted regulations providing for the declaration of air pollution alerts and requiring the operators of pollution sources to take action, in accord with individual action plans to be approved by the enforcement agency, to reduce their emissions while an alert is in effect.

One of the Board's first actions was to undertake, at the request of the Environmental Protection Agency, a complete rewriting of the episode regulations. The most important change made was

to write into the regulations themselves self-executing provisions requiring action to reduce emissions whether or not the Agency has got around to working out the details of an action plan with the individual source operator. This change makes it less likely that an alert will be called and that nothing will be done.

The regulations provide for four alert stages. The first (Watch), declared on the basis of an adverse weather forecast alone, is purely preparatory, warning officials and source operators that action to reduce emissions may become necessary in the next few hours. When pollutant concentrations rise to the level prescribed for the Yellow Alert, large fuel-burning sources are required to make maximum use of low-sulfur fuels; variances permitting manufacturers to discharge contaminants in excess of regulation limits while bringing their facilities into compliance are suspended; most incineration is forbidden; and the public is requested to avoid the unnecessary use of motor vehicles and of electricity. These restrictions are continued at higher alert levels. In addition, at Red Alert the remaining incinerators are shut down and many industries are required to curtail production. At the ultimate Emergency stage a number of additional businesses are required to cease operations; heat must be reduced in most buildings; most aircraft and vehicle uses, and the unnecessary use of electricity, are forbidden. The hope is that by taking action as the episode develops it may be possible to avoid serious health hazards. The adequacy of the alert levels and of the prescribed actions will be reassessed in the light of further experience, and the regulations will be amended again if that proves necessary.

2. Sulfur dioxide and particulates. In 1967 the old Board adopted regulations governing the discharge of particulate pollutants and of odors, but not of sulfur dioxide. In 1969, following the designation of federal air quality control regions in the Chicago and St. Louis regions and the publication of federal documents describing the adverse effects of sulfur dioxide and particulates and methods for their control, the old Board adopted air quality standards prescribing the maximum tolerable concentrations of these two pollutants in the ambient air in the Illinois portions of the two regions. These standards tell us what levels of pollution we must avoid, but they do not tell us how to avoid them. We cannot punish the air if the standards are exceeded; we must translate the air quality standards into enforceable limitations on emissions from individual stacks. The vehicle for achieving compliance with the air quality standards is the implementation plan, which in the case of the Chicago region the Board adopted and submitted to the federal government in December, 1970.

The implementation plan constitutes the Board's program for seeing to it that the air quality standards are met and continue to be. It contains background information on present air quality and emissions; the results of a six-month study by the Argonne National Laboratory to determine, on the basis of computerized mathematical formulas, what reductions in present emissions are necessary in order to achieve the standards; and a set of proposed new regulations to accomplish the necessary reductions.

Perhaps the most significant conclusion in the Argonne report was that it is quite unlikely that the standards for either sulfur dioxide or particulates will be met unless the use of coal and residual oil for residential and commercial heating is forbidden in the most polluted areas of Chicago. Our proposed regulations include such a prohibition, as well as tighter particulate limitations applicable to large combustion sources such as electric generating plants and to incinerators; sulfur dioxide limits roughly equal to the emissions from coal containing 1.4% sulfur; and a number of other changes in the existing regulations.

With Institute support, we have arranged for outside studies to determine the area that must be included within the residential-coal ban; the feasibility and cost of converting existing coal furnaces; and the tightest limitations on industrial particulate emissions that can reasonably be imposed. We cannot afford to be content with regulations that enable us just barely to meet the air quality standards, if technology permits us to do better. To do so would resign us to less than optimum air quality, since the standards are set at the worst level we are prepared to tolerate, and it would allow existing emission sources to use up the entire assimilative capacity of the air, leaving no room for future growth. The technology for particulate control from most processes is well established, highly efficient, and reasonable in cost. It is time we required it to be fully used.

The sulfur dioxide situation is somewhat different. The long-term solution to the sulfur problem seems likely to be either the gasification of high-sulfur fuels or the installation of stack-cleaning devices to remove sulfur dioxide after the combustion of such fuels, together with conversion of smaller furnaces to low-sulfur fuel. In the short run, however, stack-cleaning techniques are promising but not yet widely tested, and many fuel users will choose to shift to low-sulfur fuels in order to comply with the regulations. In light of alleged shortages of low-sulfur fuels, it may be best in the immediate future not to require a lower sulfur content than is needed to meet the air quality standard or to dissipate the supply by requiring clean fuels in areas not contributing to violations of the standard.

Even the most stringent emission limitations cannot suffice to maintain the air quality standards unless the total mass of emissions from each square mile within the region is also limited. We are awaiting a second Argonne report that should tell us, in the next few months, what area emission limits are necessary to assure that the aggregate of sources in an area, each controlled to the maximum feasible extent, do not together cause a violation of the air quality standards.

Hearings on the proposed regulations will be held in February, and area emission limits will be proposed when the second Argonne report is received. We expect to propose analogous regulations for the St. Louis area some time in January, as soon as we obtain the necessary information from our consultants.

Several additional air quality control regions have been designated by the federal government in Illinois, and we shall soon adopt both air quality standards and implementation plans for sulfur dioxide and particulates in those regions, which within the next year are likely to encompass the entire state. One problem in setting air quality standards for non-urban regions is determining how best to assure that areas now cleaner than required by the standards are not permitted to deteriorate unnecessarily. The present regulations contain a general statement that air quality standards are not a license to degrade air that is presently of higher quality; a proposed rewording on which the Board is to hold January hearings would make this more specific by forbidding any degradation of presently high-quality air without a showing of necessity and lack of harm. It may prove desirable to particularize this principle further, as has been suggested to us in a related context by federal water pollution officials, by prescribing numerical standards at or near present air quality levels in the areas that are now clean.

3. The Automobile. The Board has published, after public hearings, a proposed final draft of air quality standards for carbon monoxide, hydrocarbons, and photochemical oxidants in the Chicago and St. Louis regions. Consideration of standards for nitrogen oxides and lead, also associated in large part with the automobile, has been postponed until Spring in expectation of the issuance of federal documents on the effects of these pollutants and on methods of controlling them. Achievement of the proposed standards would keep the concentrations of the various automotive pollutants below levels at which adverse effects have been discovered. Final action awaits resolution of a controversy over the weight to be given a single study reporting adverse effects at carbon monoxide levels far below those implicated by other researchers.

The next step after adoption of the air quality standards for these pollutants will be the development of a plan for achieving them. Argonne has already been asked to begin devising implementation strategies for automotive air quality standards. This task is greatly complicated by a misguided provision of federal law, enacted at the behest of the automobile manufacturers, that forbids all states but California to regulate emissions from new cars. Thus the states, which are required by federal law to adopt and to implement air quality standards for automotive pollutants, are at the same time deprived by federal law of the most effective tool for doing so. We therefore must rely on federal new-car standards, coupled with regulations requiring emission control devices on older cars, requiring inspection and maintenance of devices required by federal law, and limiting the use of vehicles in highly polluted areas. Hearings on some such provisions will very likely be held this coming Summer, although establishment of either an inspection program or a licensing or toll system designed to limit driving in congested areas would require action by the General Assembly.

It should be added that repeal of the federal law limiting state authority in this field, while an important first step, will not solve our automotive problems overnight. Whether because of the manufacturers' laxness or otherwise, the technology for controlling automotive emissions is not as fully developed as it should be. Perhaps the most promising short-term solution includes the employment of catalytic converters and of leadless gasoline; perhaps too the adoption of strict emission limits to be met at a date not very far in the future would give the manufacturers sufficient impetus to perfect the necessary technology. These issues will be explored in the hearings expected this Summer.

4. Open Burning. Regulations of the old Air Pollution Control Board, adopted in 1965, outlawed the open burning of refuse and the conduct of salvage operations by open burning, with exceptions for the burning of diseased trees and of residential debris on the premises where it was generated. The new statute expressly outlawed all burning of refuse in the open or in furnaces not designed for the purpose, while preserving existing regulations and giving this Board authority to allow open burning that would not result in undue pollution. In order to clarify the present uncertain situation, the Board has scheduled January hearings on a proposed new open burning regulation that would explicitly outlaw leaf burning in metropolitan areas; allow campfires in appropriate areas; and allow the Environmental Protection Agency to grant permits for firefighting schools and for the destruction of diseased trees upon a showing that the place and manner of the proposed burning is such as to avoid any detrimental effect upon people or property.

5. Trace Pollutants. On the basis of detailed studies prepared for the federal government by Litton Industries on the sources, effects, and techniques for controlling a number of highly toxic trace contaminants, the Board is preparing for public hearing purposes proposed new emission regulations governing asbestos, cadmium, and mercury. Asbestos becomes airborne during building construction and as a result of the wearing of automotive brake linings; cadmium is a byproduct of the refining of zinc; mercury is released to the air in the burning of fuels and in the incineration of discarded products containing mercury, such as the new long-life alkaline batteries. All three pollutants have been implicated in serious health problems, and regulations to reduce their emission seem called for. The Board will continue to be alert to the need for regulations governing additional trace materials that pose similar threats to human health or welfare.

B. Water Pollution.

Water pollutants are many and varied, ranging from a variety of oxygen-demanding wastes of municipal, industrial, and agricultural origin that rob the water of oxygen necessary for fish life and cause putrid conditions to infectious bacteria and viruses, to toxic chemicals such as cyanides, pesticides, radioactive substances, and heavy metals, to nutrients of undesirable plant life such as nitrates and phosphates, to the enormous discharges of heated water from electric power plants and other installations that can cause gross or subtle changes in lake or stream ecology. Inheriting a substantial body of water-pollution control regulations, the Board has proceeded to revise them as indicated below.

1. Secondary Sewage Treatment. Domestic sewage is one of our most serious water pollution problems. All sewer systems in the state are served at least by primary treatment facilities, which remove perhaps 30% of the short-term oxygen-demanding wastes by simple sedimentation. Existing regulations require the construction of secondary treatment facilities, where they do not already exist, to remove up to 90% of such wastes in accordance with timetables that vary from stream to stream. On the Mississippi River the compliance dates ranged from 1977 to 1982; after public hearings the Board has advanced these dates to require secondary treatment facilities on the Mississippi to be in operation by the end of 1973. We shall take a similar hard look at the adequacy of present schedules for other waters in the coming months.

2. Tertiary Treatment. The existing regulations require an additional level of sewage treatment, to remove 95% or more of the short-term oxygen-demanding wastes, when the effluent from a treatment plant is diluted by less than two to one by the waters of the receiving stream. Present schedules, however, do not explicitly call for tertiary treatment on the Des Plaines River, and we have scheduled a hearing at citizen request to determine

whether such treatment is necessary on that stream. Tertiary treatment is clearly feasible, and the Board will continue to examine the extent to which it should be required on additional streams in order to reduce pollution.

3. Regionalization of Sewage Treatment. Recognizing that the proliferation of small sewage treatment plants is likely to be inefficient and expensive, the Board has authorized a hearing to investigate what it can do to promote or to require the construction of plants that serve an entire region and that comport with overall land and water resource planning, as is encouraged by new federal grant regulations.

4. Phosphorus. Following public hearings the Board has adopted a regulation that would reduce the existing water quality standard for total phosphate in Lake Michigan from .03 ppm, a level at which obnoxious algal growths have been said to occur, to .02 ppm, which approximates the present quality of the open lake. In hopes of achieving this standard the new regulation also requires sewage treatment plants to reduce the phosphate content of effluents to 3.0 ppm by the end of 1971. Phosphate removal technology is effective and relatively inexpensive, and little installation time is required.

Hearings have begun on a proposal to extend the proposed 3.0 ppm effluent standard to all other waters in the state.

5. Ammonia. In addition to being directly toxic to fish, ammonia creates a long-lasting oxygen demand that has led the State Water Survey after considerable study to predict that conventional sewage treatment will be inadequate to achieve the existing water quality standards in portions of the Illinois River. Hearings on a proposal to limit the ammonia content of municipal sewage plant effluent to 2.5 ppm have elicited evidence that treatment methods for oxidizing the ammonia before discharge may be highly effective and reasonable in cost. Further hearings are scheduled for January and February.

6. Combined sewers and stormwater. Severe pollution problems often result from the discharge of raw or inadequately treated sewage during storms, especially in older areas in which a single sewer system must carry both sewage and stormwater in excess of plant capacity. Present regulations require correction of this problem within the Metropolitan Sanitary District of Greater Chicago by 1977 and at other places when deemed "necessary" and "feasible." We have asked the Institute to obtain for us a state-of-the-art study that will give us background information on the extent of this problem and on means for correcting it. We hope to hold hearings looking toward more definite regulations on this subject some time this coming Summer.

7. Septic tanks. There is increasing evidence that in some parts of Illinois, such as the Fox River valley, improperly located or constructed septic tanks, or excessive numbers of septic tanks, are contributing to rather serious pollution problems. The Institute at our request is conducting a study that within the next two months should give us the background information we need to propose regulations restricting the use of septic tanks in order to prevent pollution.

8. Thermal pollution. The Board has before it three alternative proposals for thermal standards governing Lake Michigan. One would preserve the present water quality standard of 85° outside of a mixing zone, with a requirement that natural water temperature not be raised more than 5°. The second would forbid the discharge of any effluent more than 1° above natural water temperature; the third is a complex provision, based on a Michigan proposal, that would essentially limit the rise in ambient temperature to 3° outside of a mixing zone. Federal position papers introduced in Board hearings express concern lest uncontrolled proliferation of electric generating plant discharges during the next thirty years cause severe changes in the ecology of the Lake; power company witnesses argue that existing discharges have not been found to cause any problems. Control devices are available at considerable expense, and Industry admonishes us to be wary of adverse side effects from cooling towers or other control equipment.

The same subject is being considered by the federal-state enforcement conference on Lake Michigan, and the Board expects to issue new regulations in the next two or three months.

We have recently received a request to set a new thermal standard for the Mississippi River as well, and hearings will be scheduled on this proposal in the near future.

9. Mercury. The Board has published a proposed final draft of new regulations that would prescribe one-half part per billion as both an effluent standard and a water quality standard applicable to all Illinois waters, require safe disposal of sludges containing mercury, and require reporting of substantial mercury uses. The proposed standard is the lowest level that present measuring devices can reliably report without undue expense and approximates the background level of mercury in Lake Michigan. Because mercury is so extremely toxic, because it is not degradable, and because it is biologically concentrated in fish, it is the intention of the proposal essentially to forbid all mercury discharges. Techniques for the removal of mercury from effluents have proved highly successful, at least in some applications. However, after the publication of our proposed final draft, which for the first time would extend the proposed limits to discharges to municipal sewers, the paint industry vigorously protested that compliance with the proposal was impossible. Because the post-hearing changes significantly aggravated the effect of the proposal on the paint industry, the Board agreed to hold an additional hearing in January, after which prompt adoption of a strict mercury regulation can be expected.

10. Water Quality Standards. The Sanitary Water Board, our predecessor in water pollution matters, adopted a set of water quality standards applicable to all surface waters in the state in 1967 and 1968. These plans are in three parts: designation of uses to which each stream or lake is to be put; specification of criteria of water quality that are required in order to support the designated uses; and a plan for implementing the criteria, which includes the requirement of secondary or better treatment of oxygen-demanding wastes, disinfection in some cases, and a time schedule for compliance. The criteria embrace quite a number of different indicators of stream quality, such as dissolved oxygen, temperature, pH, bacteria, and a variety of toxic chemicals.

These standards need a good deal of revision. In some cases they set acceptable levels of pollutants that are worse than present water quality; set concentrations too high to support the designated uses; or omit important parameters. Moreover, some use designations may be too low; and in some cases there is a failure to designate uses, so that most of the criteria are inapplicable. The Board is preparing a general reworking of the water quality standards that will remedy these defects and make the standards more compact and consistent. Public hearings should be held on the new proposal in the spring or summer of 1971.

11. Effluent standards. Water quality standards, like air quality standards, are not apt enforcement tools; they tell us how dirty we will let the stream become but do not tell us what may be discharged. What is needed in addition are regulations limiting discharges from each pipe. Such standards for suspended solids and for oxygen-demanding wastes are provided in the various implementation plans, and a separate regulation limits the discharge of cyanides, but enforceable effluent standards for other pollutants, many of which are listed in the water quality standards, are applicable only within the Metropolitan Sanitary District of Greater Chicago. Consequently the Board has been holding hearings on a proposal that would extend these standards state-wide, in accordance with presently unenforceable technical release of the old Sanitary Water Board. In addition the proposal would impose statewide effluent standards for ammonia and phosphorus, as discussed above, and would for the first time establish that the concentration of contaminants is to be measured without regard to any dilution that may take place before discharge. Dilution of wastes is not an acceptable alternative to treatment; the objective must be to keep the wastes out of the water. Additional hearings will be held around the state during January and February, and the adoption of effluent standards is expected in the Spring.

12. Agricultural wastes. The Environmental Protection Agency has been preparing a proposed regulation to deal with feedlot wastes, and the Board has begun holding a series of preliminary inquiries into pollution problems resulting from fertilizers and pesticides. Our authority to deal adequately with agricultural wastes is hampered by the fact that the statutes give authority to ban the use of harmful pesticides to another agency rather than to the Board. But the problems of agricultural pollution in Illinois are serious, and we hope to devote considerable attention to them later in 1971.

13. Other pollutants. At the Board's request the Institute is commissioning state-of-the-art studies to give the Board background information on the effects and control methods for cadmium and lead, two highly toxic water pollutants, and on the problem, as yet inadequately explored, of viruses in sewage treatment plant effluent. We have arranged for Environmental Protection Agency experts to give the Board a two-day briefing on problems of coal-mine wastes in February and have scheduled a preliminary inquiry into oil field wastes for later in the Spring. These studies and inquiries should yield information on which the Board can base proposals for regulations on these subjects later in 1971.

C. Other Rule-Making Matters

1. Radiation. The Board has pending before it a request for a permit to operate a new nuclear electric generating facility, and the statute requires that the Board determine the adverse effects that such operation would have on the environment and impose conditions designed to minimize those effects, with particular reference to radiation hazards. Extensive hearings have been held on the application, and the Board hopes to utilize the information received at these hearings to support proposed regulations for the control of nuclear discharges.

Our task has been complicated by the very recent decision of a federal court in Minnesota that states lack authority, because of a provision in the Atomic Energy Act, to adopt standards governing radiation from generating plants. We are investigating whether or not the decision is correct. If it is, then radiation is one more field--like new automobile emissions--in which the federal Congress has taken the inexcusable position of protecting polluters from state action to protect the public health.

2. Noise. In air and water pollution and in radiation, the statute authorizes the Board to take action against individual sources under general nuisance provisions in advance of adopting specific regulations. In noise, however, the Board can issue no orders until regulations are in effect. Consequently it is quite important that the Board before long devote substantial attention to the development of noise standards. We have received a number of complaints about noise from various sources, and we have scheduled a hearing, at citizen request, to consider

a proposed standard for aircraft noise at Chicago airports. Both the Institute and the City of Chicago, moreover, are having studies done looking toward noise regulations, and we expect to take some action on the subject during 1971. Noise is a new subject for state regulation in Illinois; unlike air and water pollution and solid waste disposal, it was not covered in prior laws.

3. Solid wastes. Existing regulations require modern and sanitary methods of disposing of garbage and other solid wastes by landfill, but the best long-term answer both to the waste disposal problem and to the conservation of resources is the recycling of discarded materials into productive reuse. The Institute is setting up a task force to make a full study of the solid waste issue. On the basis of the Institute report the Board is empowered to adopt regulations to encourage recycling; it may not do so until the report is received. Whether this statutory authority goes far enough to permit the Board to outlaw the sale of items that resist recycling, such as nonreturnable bottles, remains to be seen. It may be that additional legislative action will prove desirable.

II. Enforcement

The strictest regulations are of no use unless they are vigorously enforced. The Board has no power to investigate alleged violations or to initiate proceedings against those who infringe the regulations; it acts as a tribunal for deciding enforcement cases brought by the Environmental Protection Agency, by the Attorney General, or by private citizens. The statute contains an unprecedented provision permitting any citizen to prosecute a polluter before the Board, and several such citizen suits have been filed. Pre-enactment fears that this provision would result in a flood of unfounded litigation have so far failed to materialize, and private enforcement is a valuable addition to and check upon the governmental enforcement agencies.

The Board also has power to grant variances that permit actions normally forbidden by the regulations, upon a showing that to require compliance would impose an arbitrary or unreasonable hardship. As the Board held in one of its first decisions, this standard imposes a heavy burden on the applicant for a variance. It is not enough that he show that the cost of compliance would exceed the benefits, because such a test would require a relitigation of the wisdom of the regulations

in each case, and because simple fairness dictates that in most cases the cost should be borne by those who profit from the polluting operation rather than by the innocent neighbors. Accordingly, the Board held, a variance is to be granted "only in those extraordinary situations in which the cost of compliance is wholly disproportionate to the benefits."

Some fifty-five enforcement and variance matters were filed with the Board during the first five months of its operation. Hearings have been held or scheduled in all except the most trivial of the variance requests, such as those seeking permission to burn diseased trees. A number of cases have already been resolved. A summary of the more important cases follows.

1. Particulate air pollution. In the Lindgren Foundry case, decided in September, the Board ordered that a foundry in Batavia, which had closed for financial reasons, not be reopened by its new owners before the installation of equipment to bring particulate emissions into compliance with the regulations. Viewing the case essentially as one involving a new operation, the Board held that operation of the plant during the installation of controls would impose a severe burden on the surrounding community that could not be justified by the hardships that keeping the plant closed for that period would impose, especially since the new owners had bought the plant with reason to know they would have to conform to the particulate regulations.

Much enforcement is accomplished through the grant of limited variances permitting the operation of existing plants for the time necessary to complete the installation of control equipment. In many cases to require the closing of a plant during such a period would throw a number of employees out of work and deprive the owners of considerable profits without sufficient benefit to the community. Consequently when the old Board in 1967 adopted particulate emission regulations it allowed a one year grace period, which could be lengthened upon a showing of need, during which a firm pursuing a good faith program to achieve compliance would not be deemed in violation of the standards. A number of cases involving such compliance programs have come before the Board upon petitions for variances. We have granted these petitions when it has been shown that the time schedule is as tight as it reasonably can be, the harm from emissions in the meantime not devastating, and the adverse effects if the plant were shut down severe. As a condition we have required the posting of substantial security

to be forfeited if the plant is operated after the prescribed date without adequate controls. These variance orders constitute in effect orders to bring the facility into compliance by a specified date, which in the first two cases decided has been May and July of 1971.

In several cases of this nature the Board is confronted with the difficult issue of what to do about emitters whose programs for compliance appear reasonable in terms of the time requested from commencement to completion of their programs, but who have unreasonably delayed submission or commencement of their programs. One is tempted to say that such people have had ample time to bring themselves into compliance and have not done so; that any hardship they suffer as a result is due to their own negligent or willful failure to file a timely program; and that to grant additional time would be unfair both to the long-suffering public that breathes their pollution and to the many firms that in good faith spent many dollars two years before to bring themselves into compliance. Unfortunately this policy, if followed strictly, might result in shutting down a large percentage of the industry in Illinois, for far too many firms apparently did not take the regulations seriously, and the enforcement agency was at that time too understaffed to pursue a vigorous enforcement program. The consequence could be widespread unemployment of innocent workers, and such a prospect must give us pause.

In one recent case in which the record suggested but did not adequately demonstrate dilatory tactics before the presentation of an otherwise adequate program, the Board gave warning that other firms in the same position would be well advised to file their programs as quickly as possible. The failure to file on time, the Board said, constitutes a violation of the law for which money penalties can be imposed. It might therefore be necessary to impose such penalties on firms that have not yet filed programs, but the Board stressed that it expected to be "much more severe" with anyone who did not file in the very near future and observed that "the time may come when this Board refuses to accept a plea of hardship on behalf of one who has for his own gain deliberately delayed commencement of a control program." This position was designed to encourage the filing of late programs immediately without forgiving past violations. Still more recently, in granting a variance to permit operation during construction of control equipment on a cement plant, the Board required as a condition of the variance that the company pay a ten thousand dollar penalty for its "procrastination" and "vacillation" in delaying for three and a half years the commencement of its control program. Acknowledging that the amount of the penalty was "peanuts" to a company embarking upon a \$15,000,000 rebuilding project, the Board was of the opinion that "a \$10,000 slap will serve as adequate warning to those in similar positions in the future who might be tempted similarly to delay", adding that "future penalties may not be so trivial." We have not seen the last of this problem.

We have completed hearings on complaints charging smoke and other particulate violations from the Joliet electric generating plant of Commonwealth Edison Company and from the electric

plant of the City of Springfield. The Edison units in question have since been substantially retired, but additional issues remain for decision in that case, including whether past approval by the Air Pollution Control Board of a compliance program constitutes a defense to an enforcement action today. Both cases also raise the important issue of whether emissions of sulfur dioxide, for which no state emission standards are yet in force, constitute under the circumstances a violation of the general statutory prohibition of emissions that cause air pollution. Both cases should be decided before March.

Also pending before us in this category are a recently filed complaint against the Granite City Steel Company, on which a prehearing conference is scheduled for January; and a citizen complaint against the Flintkote Company of Chicago Heights, on which the Board has voted to hold a hearing.

2. Refuse disposal and salvage. Two of the more annoying and more primitive forms of pollution that have been a continuing problem despite years of prohibition are the burning of vehicles for salvage purposes and the improper disposal of solid wastes. The Board has had several occasions to express its disapproval of these practices in individual cases.

The very first case resolved by the Board was the denial of a variance to an applicant who, without satisfactory proof that other methods were unavailable, sought permission to burn refuse in the open in contravention of the regulations. Not long afterward the Board entered a cease-and-desist order and a \$1,000 penalty against a salvage operator for the open burning of a truck, in the face of a recent denial of a request by the same operator for a variance that would have allowed such burning. The Board held it was not necessary to have an eyewitness to the lighting of a match in such cases: "the presence of a burning truck in a salvage yard, in consideration of the economic advantage of such burning and the history of salvage operations, requires an explanation in defense. None was forthcoming." A third case resulted in a like order and penalties for the failure to follow regulations requiring the compacting and covering of refuse in a landfill and for a refuse fire that resulted from these violations. It is not necessary, the Board held, that the fire be deliberately set; in making it illegal to cause or allow open burning of refuse the General Assembly and the old Board forbade fires caused by negligence as well. Two additional cases involving allegations of improper refuse disposal have been heard and will soon be decided.

3. Other Variances. The Board has granted two variances permitting the open burning of explosive wastes upon a showing

that no other safe means of disposal were available and that the resultant air pollution would not be so great as to justify the explosion risk, and has granted permission for open burning in order to instruct industrial employees in firefighting techniques after a hearing establishing that no serious pollution would be caused.

4. Water pollution. The most significant water pollution case yet filed with the Board is a set of citizen complaints charging the North Shore Sanitary District with polluting Lake Michigan, other waters, and the air as a result of inadequate sewage treatment. Extensive hearings have been completed, and the Board will act on the case as soon as briefs are received and studied.

Hearings have also been held on an Environmental Protection Agency complaint seeking to require the Village of Glendale Heights to issue non-referendum bonds to finance a needed improvement in sewage treatment facilities. The Board is awaiting receipt of the transcript in this case, as well as in others concerning the discharge of cyanides and of acid wastes from an abandoned coal mine. Several other water pollution cases have been filed and authorized for hearing.

III. Conclusion

It has been a busy five months. For those who are interested in the operating problems of governmental agencies, two of the most difficult issues we have so far faced are how to obtain the information we need in rule-making proceedings and how to assure that both sides are presented in variance and permit cases.

Our staff is quite small and our field of inquiry vast; we cannot possibly generate all the information we need within our own organization. We receive much useful data in public hearings, especially from those who would be required to make expenditures to comply with proposed regulations, but it is often more difficult to get the other side of the story. We have begun to receive invaluable support from the Institute for Environmental Quality, one of whose principal functions is to help supply the Board with the necessary knowledge. We have recommendations and in some cases testimony from the Environmental Protection Agency, whose field experience and whose views as the agency that must enforce what we adopt can be very important to the Board. And we have received a great deal of help from component offices of the new federal

Environmental Protection Agency, which has a fine staff of highly knowledgeable scientists who have furnished key background information and testimony in our hearings. We have the authority to do most of the things we must do to protect the environment against pollution; we must rely very heavily on others for the information we need to do the job intelligently.

As for variances, the difficulty is that the proceedings are seldom adversary, and the Board is in no position to scrape up evidence on its own in opposition to the petition. The statute deals with this problem by requiring the Environmental Protection Agency to investigate each petition, ascertain the views of persons who will be affected if the variance is granted, and make a recommendation to the Board. It also attempts to assure that the interested public is notified and allows the opportunity for anyone to make a statement for the record regarding the grant of the petition. But notifying and ascertaining the views of the public is a difficult and a time-consuming task; newspaper notices are not always widely read, and individual notices to thousands of nearby residents are a substantial burden.

Whether there is a good answer for either of these problems I do not know. But there is one procedural provision in the statute that has already caused the Board considerable inconvenience and that promises to be a real impediment to intelligent action in the future. That is the requirement that the Board pass on variance applications within 90 days after they are filed. The Board is most anxious to avoid unnecessary delays, and many of our cases--enforcement as well as variances--are disposed of in less than that time. But the 90-day requirement leaves us very little room for action. Our procedural rules require a twenty-one day period to allow for the receipt of citizen comments and the report of the Agency; after hearing we must often wait three or four weeks to receive the transcript; and more than once already we have received a transcript no more than a week before the date when the case must be decided. If this should happen in a difficult case it would not give us time to make an adequate study of the record and to reach a soundly reasoned decision. The 90-day provision should be repealed or amended.

I have said that in most respects we have the authority we need to combat pollution. I have already noted, however, that the Board will need additional powers over pesticides and perhaps over solid wastes if it is to do the whole job. Moreover, a strong case can be made for enacting provisions, omitted from the bill that became the Environmental Protection Act, giving the Board power to impose money charges for the discharge of air or water contaminants and for the sale of articles creating an unusual problem of solid waste disposal.

Determining the amount of such charges would be no easy task, but charges are desirable both because they create a powerful incentive to the discharger to minimize his emissions and because people who use the public resources--the air and the water--to dispose of their wastes ought to pay the public for the privilege.

Finally, there is need for legislative action to protect the environment beyond the field of pollution. The present statutes give little authority to control urban sprawl, construction in flood plains and other unsuitable locations, the destruction of forest or agricultural lands, or many other serious threats to the quality of the environment. What is needed in addition is a legislative mandate for a strong foray on the state level into the field of land use planning. Such a law would be a fitting companion to the pollution control program of which this Board is a part.