ILLINOIS POLLUTION CONTROL BOARD
March 31, 1971

League of Women Voters of Illinois, et al.	)	PCB 70-7
	)	70-12
v.	)	70-13
	)	70-14
North Shore Sanitary District	)	

Opinion of the Board (by Mr. Kissel):

On September 1, 1970, the League of Women Voters of the State of Illinois (the "League"), a not-for-profit corporation organized under the laws of the State of Illinois, filed a complaint with the Pollution Control Board against the North Shore Sanitary District (the "District") alleging that the District was polluting the waters of Lake Michigan by discharging inadequately treated effluent directly into Lake Michigan from the District's sewage treatment plants. Specifically, the complaint alleged that the District was causing violations of the water quality standards found in Sanitary Water Board regulation SWB-7 in regard to bacteria, ammonia nitrogen, methylene blue active substance (MBAS), phosphates, obnoxious odors, dissolved oxygen, chlorides, and filterable residue (total dissolved solids); that the District's ill-treated discharges had caused the closing of beaches and otherwise interfered with legitimate water uses protected by SWB-7; and that the District was not adhering to the schedule for construction of improvements prescribed in SWB-7. The complaint asked this Board to require the District to correct the stated violations. On October 1, 1970, the District filed a Special and Limited Appearance contending that the Board did not have jurisdiction of this matter since there was already pending a case in the Circuit Court of Lake County filed by the Attorney General of the State of Illinois covering, allegedly, the same issues as those covered by the League's complaint with this Board. This motion was denied by the Board in a unanimous opinion (League of Women Voters v. North Shore Sanitary District, #70-7, Oct. 8, 1970). The District then filed an answer essentially denying each and every allegation of the complaint.

On September 24, 1970, Mrs. Loraine Packtor, Mr. & Mrs. Emanuel Winston and Mr. and Mrs. Paul Brown, representing the Committee to Save Highland Park, filed complaints against the North Shore Sanitary District alleging that the District had violated various sections of the Environmental Protection Act in the operation of its Clavey Road sewage treatment plants by causing pollution both of the air and of the Skokie Ditch, into which that plant's effluent is discharged. These complainants sought a cease and desist order against the unlawful manner of

operation at Clavey Road and against the expansion of the plant to accommodate additional sewage. The Board, in another unanimous opinion, ruled that the cases would not be dismissed since they were neither duplicitous nor frivolous (Facktor, et al. v. North Shore Sanitary District, #70-12, Oct. 8, 1970).

The Illinois Environmental Protection Agency (the "Agency") filed a petition for leave to intervene on October 26; this was granted on the proviso that it would not require further postponement of the hearing. The Agency joined in the complaints of both parties, alleging water pollution of Lake Michigan in violation not only of SWB-7 but of the Sanitary Water Board Act and of the Environmental Protection Act (Sections 12(a), 12(c)) as well, and air pollution from the Clavey Road site in violation of the Environmental Protection Act, Section 9(a). The Board ordered the complaints of all the parties (the League, the Facktors, et al., and the Agency) consolidated for the purposes of the hearing. The District filed answers to the complaints of Facktor, et al. and the Agency essentially denying the allegations contained therein, and arguing once more that the Facktor complaints were duplicitous.

A pre-hearing conference was held at which all of the parties were present or represented by counsel. The issues of the case were discussed, and as a result of that conference certain stipulations were made. These appear in the record as the agreed upon exhibits (EXHIBITS A through D). A hearing on all complaints was set and held beginning on November 9, 1970, in the Public Library in Waukegan, Illinois.

ORGANIZATION OF DISTRICT

The District was established by referendum pursuant to the Sanitary District Act of 1911, Chapter 42, Ill. Rev. Stat. §276.99, et seq. As amended, Section 277 of that Act sets forth the purpose for which the District was to be organized; that is, the "preservation of the public health." The Board of trustees, the governing authorities of the District, were and are appointed to their posts by the Circuit Court of Lake County and are charged, under Section 283 of that Act, with the responsibility, inter alia, to provide for sewage disposal and to "save and preserve the water supplied to the inhabitants of (the) district from contamination." Under the statute the District has powers to raise money by taxes, connection and inspection charges, special assessments, and the issuance of both revenue and general obligation bonds. In conformance with some of its responsibilities, the District has adopted an Ordinance governing its operations. (Exhibit "A")

OPERATION OF DISTRICT

The District's boundaries extend from the Lake-Cook County line on the south to the Wisconsin border on the north; from Lake Michigan on the east to an irregular line on the west which line approximately falls on the Tri-State Toll Road. The District operates sewage treatment facilities at the following sites:

1. Waukegan;
2. North Chicago;
3. Lake Bluff;
4. Lake Forest;
5. Highland Park lakefront sites at Park Avenue, Ravine Drive and Cary Avenue; and
6. Clavey Road.

All of the plants operated by the District discharge their effluent into Lake Michigan, except for the Clavey Road plant, which discharges its effluent into the Skokie drainage ditch and which eventually finds its way into the Skokie lagoons, then to Chicago River and finally to the Illinois River basin.

The District is responsible for the construction, operation and maintenance of the interceptor sewers which carry the waste from city-owned and operated sewer lines to the District's plants. Sewage from Winthrop Harbor, Zion, and Waukegan in the northeastern part of the District is conveyed by various interceptors to the Waukegan treatment plant. The North Chicago, Lake Bluff, Lake Forest and three Highland Park lakefront plants receive domestic and industrial wastes from the respective cities or villages in which they are located. Sewage from the Skokie Valley and from the Waukegan-Gurnee Industrial Park flows to the Clavey Road plant.

The Waukegan and Clavey Road plants provide primary and secondary treatment of the wastes by the means of an activated sludge process. This type of secondary treatment is a biological process which is intended to remove approximately 90% of the biochemical oxygen demand (BOD) and suspended solids of the waste received by the plant. The North Chicago plant is also a secondary plant, but it employs a trickling filter. This process is less efficient than the activated sludge process; however, it should still remove approximately 85% of the BOD and suspended solids of the waste received. The other plants of the District are all primary plants only, in which sewage is retained in tanks so that the heavier suspended materials settle to the bottom and are removed. Primary process removed on the average about 35% of the oxygen-demanding wastes and suspended solids received (R. 167). Year-round disinfection of effluents is provided at all plants (R. 131).

OVERLOADS AND BYPASSES

Each of the plants, with the exception of the Ravine Drive plant in Highland Park (R. 142), has far exceeded its capacity and, therefore, is incapable of treating the sewage it receives to even the degree for which it was designed. The Waukegan plant, for example, whose capacity is 10 million gallons per day, is now handling flows of up to 22 million gallons per day. Expressed in other terms, it is capable of handling a population equivalent of 99,500, yet on the average, it is handling the wastes of a population equivalent of 150,000 to 180,000, and only 2/3 of those wastes receive secondary treatment. An examination of the monthly reports submitted by the District to the Agency covering the operation of the Waukegan plant will demonstrate the effectiveness, or rather lack of it, of the treatment process. The reports were made a part of the record as Agency Exhibits 38 through 57. As an example, in August 1970, the plant received on the average of 13.15 million gallons per day of waste. Of that, 10 million gallons per day received secondary treatment and the remaining received only primary treatment. The average total pounds of BOD which entered Lake Michigan was 16,545 with the total of 512,910 pounds entering the Lake during that month. As a result of this overloading, fecal matter, ground vegetables and grease were observed being discharged into the Lake from this plant.

The District's other plants, except Ravine Drive, have similar problems. The Lake Forest plant, for example, is designed to treat a flow of 1.2 million gallons per day and yet the average flow for the summers of 1969 and 1970 was 1.92 million gallons per day.

Thus all but one of the District's plants are grievously overloaded even under normal conditions. The District also suffers from an especially serious stormwater problem. Because of combined sewers, infiltration, and illegally connected downspouts, during heavy rains raw sewage is discharged directly to the lake through automatic bypasses at the six smaller lakefront plants and at Water Street in Waukegan. The District estimates that ten to fifteen percent of its flow and three to five percent of its BOD loading are bypassed and that bypasses occur about 18 to 20 times each year. Bypass flows are given chlorination on the run at the lakefront plants, but not at Water Street (R. 148-50, 534, 535-37, 540).

EFFECT ON LAKE

The effect of the inadequate treatment of wastes on Lake Michigan was graphically demonstrated by the evidence introduced into the record. The first of these graphic demonstrations was the Shore Water Report of the Sanitary Water Board. This Report covered studies and sampling done by the Sanitary Water Board on a number of criteria set forth

in SWB-7. The report, which was confirmed in several important respects by the independent sampling done by the City of Chicago under the direction of Mr. James Vaughn (R. 96-122), concluded that the shore water of Lake Michigan did not meet the criteria covering bacteria, floating solids and debris, total phosphates, ammonia nitrogen and MBAS. All of these substances are associated with the discharge of inadequately treated sewage, and since the District (except for very small plants at Great Lakes Naval Training Center and Fort Sheridan) has the only facilities within many miles which receive and supposedly treat human wastes (R. 122-30), it must be concluded that the degradation of the shore water of Lake Michigan is due directly to the District's discharges. The District made no effort to disprove this conclusion. It is perhaps important to discuss some of the reported conclusions in the Sanitary Water Board report as they compare with the present water quality standards:

1. Bacteria- The standard found in SWB-7 is in terms of total coliforms and fecal streptococci. It is considered satisfactory under SWB-7 if total coliforms are less than 1000 and fecal strep is less than 100/ml; however, if the total coliforms are from 1000 to 5000/ml then the fecal strep must be less than 20/ml. The Sanitary Water Board found that using the five sample basis 57% of the samples failed to meet the standard. In the Highland Park area, for example, 100% of the groups-of-five averages failed to meet the standard. The highest number of individual samples exceeding the standard were found in the area in which the District discharges its wastes.

2. Floating solids and debris- The standard requires that the shore water be "substantially free of floating solids and debris other than from natural sources." Sewage-related scum, grease and vegetable particles were found floating at various times the beaches were inspected, and the report concluded that the standard had not been met.

3. Total phosphates- The standard in SWB-7, at the time of the Sanitary Water Board Survey, was that total phosphate shall not exceed 0.03 mg/l. on an annual average basis and 0.04 mg/l on a single value or average. 55% of the samples taken exceeded the standard with the highest readings being taken in the area of the Lake used by the District. In fact, samples indicated a total phosphate content of as high as 3.9 mg/l, which is 90 times higher than the standard would allow. The standard has since been tightened by this Board to 0.02 mg/l (#R70-6, Jan. 6, 1971).

4. MBAS- The standard is that MBAS shall not exceed 0.02 mg/l on an annual average and 0.05 mg/l on a single value or average. Yet this standard was exceeded in 62% of the samples taken, with some samples in the area of the District reaching 0.6 mg/l, which is 30 times higher than that permitted by the standard.

5. Ammonia nitrogen- The standard is that ammonia nitrogen shall not exceed 0.05 mg/l on an annual average and .12 mg/l on a single value or average. Again the report concludes that this standard was not met; 21% of the samples exceeded it. The maximum values were found in the area of the Lake used by the District.

The Shore Water report was not the only indication of the pollution of the shore water of Lake Michigan at or near the discharges of the District's plants. The Lake County Health Officer directly connected high coliform counts and eventual beach closings to the inadequately treated sewage of the District. Using the criteria for bacteria established in SWB-7, he found during his sampling in the summer of 1970 that between 36 and 60% of the samples exceeded the established Standard (League Exhibit 22). This was sufficient for the Lake County Health Department to recommend closing of the beaches along the north shore because the waters were unsafe to use for bathing. The people of Illinois were thus deprived of the use of a great natural resource.

The recently provided (and as yet incomplete) chlorination of effluents and of most bypass flows is not a complete answer to the public health problem. In the first place, the District's own witness testified that a significant retention time is necessary for chlorination to have its full effect, and that bypass flows are chlorinated without being retained at all (R. 340). In addition, Dr. Friedrich Deinhardt, Chairman of the Department of Microbiology at Presbyterian-St. Luke's Medical Center and Professor of Microbiology at the University of Illinois, testified that viruses such as that responsible for hepatitis can be carried by sewage, can survive in water for extended periods, and that normal chlorination processes are a "joke" as to the elimination of viruses (R. 318-34). Chlorination can, however, be somewhat effective if the sewage is given proper secondary treatment because that degree of treatment removes a barrier from the virus (proteinaceous matter) which allows the later-added chlorine to have a greater effect on killing the bacteria in the waste water. As Dr. Deinhardt puts it:

> "...If we treat sewage in such a way that our bacterial counts at the end, which is much easier to monitor than the content of viruses, is within the accepted levels, then we have reasonable assurance that at the same time we have reduced the contamination of these viruses as good as we know how to do today." (R. 334).

Perhaps the most disturbing testimony we received was that of Dr. Eugene Stoermer, whose scientific studies of algal populations indicate a progressive degradation of the Lake due to advancing euthrophication (the increasing concentration of phosphorus and other nutrients), and whose sobering conclusion is that "we have reached the point that is critical in the history of Lake Michigan" (R. 49). Among Dr. Stoermer's observations were the following:

"Progressively over the years we have seen reduction in the near-shore area, particularly in the southern basin of Lake Michigan, of the species that are indicative of high-quality water.

"In addition, we have seen sequentially the introduction of species which previously did not occur in Lake Michigan and which in other areas do occur under conditions of degraded water quality. . . .

"In our most recent samples, . . . we had good evidence that these nuisance-creating species are invading and, in fact, have invaded the entire Lake Michigan basin. . . . In some of the most affected areas, we have now found essentially all of the species that have similarly been introduced into Lake Erie during its well-documented decline. . . .

"Sewage effluents of course, carry undesirable levels of nutrients which cause the effects I have been talking about this morning. . . . (R. 48-49, 81)."

Dr. Stoermer further testified that phosphate levels in the Waukegan plant effluent are "approximately a hundred to a thousand times as great" as levels at which "we have been able to stimulate growth" and to achieve "very, very pronounced effects" (R. 74, 58). "If there is a significant amount of effluent, this high phosphorus level coming in, it undoubtedly would have some effect on the productivity of the lake" (R. 75). His conclusion was that any course of action affording a realistic chance of "preserving the lake in some sort of a reasonable, usable condition" would "probably demand essentially the removal of all of these effluents, of the controllable effluents" (R. 84-85).

And perhaps the final evidence that the Lake is in fact in a polluted state was this admission in the District's brief:

> "The Brief of the League of Women Voters contains an accurate and frightening description of the condition of Lake Michigan." (District Brief, p. 2).

THE LAW

It is obvious from the facts recited above that inadequately treated discharges by the District into Lake Michigan, particularly with regard to bacteria, viruses, phosphates, and unsightly floating matter, have created a nuisance and rendered the waters of the Lake injurious to public health and to domestic, recreational, and other legitimate uses, and therefore that the District has caused and continues to cause water pollution in violation of section 12(a) of the Environmental Protection Act, as defined by section 3(n). It is equally obvious that these discharges have also caused violations of the numerical standards of Rules and Regulations SWB-7, Rule 1.02, with respect to

bacteria, floating solids and debris, total phosphates, ammonia nitrogen, and MBAS. These standards are preserved in force by section 49 of the Act. As we have held before, the provision of specific numerical standards for certain pollutants does not repeal the statutory prohibition against water pollution, which applies whether or not the regulations themselves are also violated. See Springfield Sanitary District v. EPA, # 70-32 (Jan 27, 1971); EPA v. Commonwealth Edison Co., # 70-4 (Feb. 17, 1971); EPA v. Granite City Steel Co., # 70-34 (Mar. 17, 1971). The statute makes this clear by forbidding any discharge that either causes pollution or violates the regulations (section 12(a)). We have also held that the specific time schedules in the regulations allowing delayed construction of certain facilities do not postpone the effective dates of the water quality standards themselves but constitute the equivalent of a variance allowing additional time only for the construction of named facilities. Springfield Sanitary District v. EPA, supra.

Rule 1.06 of SWB-7 specifically imposes a number of treatment requirements in addition to the abovementioned criteria governing the quality of the Lake itself. First and most fundamental is the requirement of "substantially complete removal of settleable solids" and "removal of all floating debris," par. 10b. This requirement of adequate primary treatment has obviously been violated as a result of the overloaded conditions at several District plants. Paragraph 11b requires secondary treatment of at least 85% removal efficiency and an effluent containing no more than 30 mg/l of BOD and 35 of suspended solids. Several of the plants provide no secondary treatment at all; the other two lakefront plants fail to provide the degree of treatment required or to meet the effluent standards because they are grossly overloaded. Paragraph 11b also requires disinfection "with up to 1 mg/l of chlorine residual in the effluent to reduce coliform to 5,000 or less, where necessary," and both primary treatment and chlorinatio of bypass flows "if necessary."

We find, on the basis of the evidence in this case, that effluent chlorination to the degree specified in this paragraph of SWB-7 and both primary treatment and chlorination of bypasses are "necessary." Effluent chlorination is now being provided, but to what degree is not clear; bypasses are not given primary treatment as required, and the Water Street bypass is not chlorinated either.

Under paragraph 9, combined-sewer and bypass problems are to be corrected "at the time of improvement or expansion of treatment works"; and nutrient reduction, "where deemed necessary," is to be accomplished by September 20, 1977, or "as practical technical methods are developed." We deem nutrient reduction necessary, in light of Dr. Stoermer's testimony, and we have added a new paragraph 10d to forbid the discharge of effluents containing more than 1 mg/l of phosphorus after December 31, 1971. As we found in the rule-making proceeding leading to this amendment, practical methods for phosphorus reduction to the prescribed level are readily available.

Incorporated in SWB-7 was a timetable prescribing dates by which certain of the improvements required to achieve compliance with the treatment standards were required to be completed. For the five small lakefront plants secondary treatment was to be provided, or the effluent diverted from the Lake (the "preferred solution") by July, 1972. For North Chicago, plant expansion (this was the only plant overloaded according to the outdated 1960 figures on which the schedule was based) was required by July, 1972, and nutrient reduction by July, 1977. For Waukegan, the only provision was for both stormwater control and nutrient reduction by July, 1977 any other violations, since no extension was provided, were to be corrected at once.

The Lake Michigan Enforcement Conference, composed of officials of the four lake states and of the federal government, recommended that each state require compliance with existing water quality standards (such as SWB-7) and phosphorus control by December of 1972. See USFWQA, Water Pollution Problems of Lake Michigan and Tributaries (Revised June 1968), p. 68. In response the Technical Secretary of the Sanitary Water Board, which had adopted and which administered the standards at that time, wrote to the Conference with the following new dates for compliance with the Conference recommendations (letter of C. W. Klassen to Murray Stein, May 5, 1970, in Proceedings of Lake Michigan Enforcement Conference, Third Session, vol. 3, p. 104):

Lake Forest	January, 1971
Lake Bluff	August, 1971
North Chicago) Cary Avel) Ravine Drive) Park Avenue)	October, 1971
Waukegan	August, 1972

In light of the somewhat informal procedures of the Sanitary Water Board, it is not possible from the present record to determine whether this revised schedule, submitted with the obvious intention of complying with the Conference recommendation to accelerate the date for nutrient removal, was a binding amendment of the SWB-7 schedules with regard to nutrients, stormwater control, and secondary treatment or only a declaration of the expected time of actual compliance.

In any event the present regulations require phosphate control by December 31, 1971, secondary treatment by no later than July, 1972, and stormwater control at the time of improvement or expansion of existing works. As the District puts it in its Brief (p. 13), "the Sanitary District has been ordered out of Lake Michigan by 1972." In addi ion to final completion deadlines, SWB-7 (Rule 1.06, par. 12) wisely prescribes interim dates for the submission of plans (18 months

before the completion date in the case of facilities serving less than 10,000 population equivalents and 30 months in other cases) and for the award of construction contracts (12 and 21 months respectively). Even of the basis of the July 1972 dates, which may have been accelerated by later action of the Sanitary Water Board in response to the Conference, the date for submission of the last plans was December, 1970, and the District testified that this date would not be entirely met. (R. 530). Moreover, the dates do not cover everything the District is required to do to comply with the standards; the Waukegan plant, for example, has been in flat violation of the effluent standards ever since their adoption, with no grace period provided by the schedule. Moreover, these schedules, like variances granted under the present Environmental Protection Act, were based on information available at the time and are subject to later revision in light of additional facts such as have been presented at this hearing.

Consequently we hold that the present discharges from the North Shore Sanitary District are in violation of the construction schedules of SWB-7; of the effluent standards and water quality standards in those same regulations; and of the water-pollution section of the statute itself, in the numerous respects spelled out above.

THE DISTRICT'S PLANS

This opinion has shown that the District must take action to avoid bypasses of raw sewage, to put an end to the discharge of primary effluent, to expand its overloaded secondary facilities, to reduce its phosphate discharges, and to stop violating the water quality standards with regard to bacteria, ammonia, and MBAS. The next question is what the Board can order the District to do in order to correct these serious violations. To determine what remedy to impose it is necessary to trace through the recent history of the District and the constraints imposed on it or on itself.

In 1963 the engineering consultants to the District reported that the Waukegan, North Chicago, Lake Bluff, Cary Road and Park Avenue plants as well as Clavey Road, had all reached or exceeded their load capacity. In the interim, no additional facilities have been constructed to these plants, other than providing chlorination facilities for bypass discharges to Lake Michigan. With the increase of population in the North Shore area since 1963, a resultant increase in wastewater flow has occurred without a corresponding increase in sewage treatment plant capacity.

From 1963 to 1968 the North Shore Sanitary District, though cognizant of its inadequate treatment of wastes, was advised by the Technical Secretary of the Illinois Sanitary Water Board to postpone the expansion of the Clavey Road plant. The Secretary indicated that he had been informed that, because of the Lake Michigan diversion case then before the United States Supreme Court, it might prejudice Illinois' position in that case if the District were to increase its diversion before the decision was handed down. That case has since been resolved. Wisconsin v. Illinois, 388 U.S. 426 (1967).

In November, 1967, the District engineers presented a plan to the District Trustees setting forth the various alternatives for sewage treatment improvements. Chief among their recommendations was that the District ultimately plan to divert all effluent from the Lake. In May, 1968, the Division of Waterways, State of Illinois, granted the District's request for an allocation of water from Lake Michigan on an extended basis. In order to finance the new facilities necessary to remove its effluent from the Lake, the District asked the people in May 1968 to approve a bond issue of $35 million. It was approved. According to the record, this exhausted the bonding power of the District at that time. Other money became available to the District in the form of an $11.55 million grant from the federal government. With this money in hand the District asked its engineers to design facilities to meet SWB-7 and the recommendations of the Lake Michigan Enforcement Conference. We will be back to the money issue later.

The District's current plans have been neatly summarized in its brief (p. 14):

> The project of the Sanitary District includes additions to the Waukegan plant, including construction of tertiary facilities and a retention basin. . . . When funds are available the effluent from the new Waukegan Plant will be pumped to the Des Plaines River. The District will build a new tertiary treatment plant on the Des Plaines River at Gurnee. The North Chicago Treatment Plant will be retained for pre-treatment and these wastes will be pumped to the new plant at Gurnee. . . . The Clavey Road Plant in Highland Park will be expanded from its present capacity of 4.5 million gallons per day to approximately 19 million gallons per day. The three small lakefront plants in Highland Park and the Lake Bluff and Lake Forest plants will be abandoned and that effluent pumped to the Clavey Road plant for treatment. The Clavey Road effluent will then be pumped West to the Des Plaines River.

It is clear enough that the completion of this program will eliminate all discharges to Lake Michigan, with the exception of bypasses. Moreover, the evidence shows that there will be no bypasses from any of the five small lakefront plants (R. 983); that a retention basin will be built at North Chicago (R. 1080), although it is not clear whether it will eliminate all bypasses at that site; and that present Waukegan bypasses will be captured and given at least twelve hours' sedimentation and chlorination. It is anticipated, however, that "a few times a year for a few hours after having received long term sedimentation and chlorination" the sewage in the Waukegan basin will be allowed to overflow into the Lake when the basin's capacity is exceeded, rather than being put through the plant for complete treatment (R. 977-78, 1056, 1078). Building a basin large enough to accommodate peak flows would, the District conceded, be "theoretically feasible," but the impact of the overflows upon the Lake, in the District's view, "seems to be sufficiently small that it would hardly justify spending millions of dollars to avoid" (R. 1078).

While the District was planning to move ahead with the expansion, other people were not. Since the passage of the District's bond issue in 1968, there has been delay after delay in implementing the recommendations of the District's engineer. This entire mess is outlined extensively in Exhibit "B" which was made a part of the record. Only $8 million of the authorized bonds have been sold, and the District has been advised by bond counsel that it cannot sell any more until the resolution of a law-suit attacking the validity of the authorization itself. Further, the federal grant of $11.55 has been held up pending the decision in a lawsuit questioning the validity of the grant and pending the environmental assessment by the federal government. The simple fact is that at this time the District cannot use the funds which it thought were already in its pocket for use. The further fact is that the $46.55 (plus an additional $0.8 million earned in interest by the District on the bond money already received) is simply not enough to do the basic job (recommended by the District's engineers and approved by the District) of expanding and building plants to adequately treat the wastes received, and to be received. The District's engineer estimates that while the original cost of the expansion project was $60 million in 1967, the cost has now risen, because of increased construction costs and inflation in general, to $85 million. (R. 985)

Because of these and other delays, first priority has been given to those facilities the District anticipates it can build within its present $35,000,000 bond issue and the profferred $11,550,000 federal grant: the enlargement of Clavey Road and abandonment of the five small lakefront plants; the three-stage plant at Gurnee and the diversion and retention facilities at North Chicago; and the enlargement and retention basin at Waukegan. (R. 1079-80). The District estimates that it can have Clavey Road ready to allow closing of the five small plants by the end of 1972 if there are no further delays in litigation or in the use of the money already authorized (R. 166, 1031). Gurnee, given the same assumptions, is expected to be completed "before the end of 1972 or the middle of 1973" (R. 1072). No time estimate for the expansion and retention facilities at Waukegan is given; designs for these improvements were said to be "just under 80 per cent complete" at the time of hearing last November (R. 441), and the letting of any additional contracts was being held up because of litigation over the sale of additional bonds (R. 525-25). Because the $46,550,000 available to the District once this litigation is cleared up and the federal grant released will not cover the tertiary facilities at Waukegan or the diversion of Waukegan to the Des Plaines River, phosphorus removal will be provided at Waukegan in the interim (R. 152). The District has petitioned for a variance to permit the discharge of unabated phosphorus from its five small plants despite the December 1971 deadline, on the ground these plants will be abandoned soon thereafter. That case has been scheduled for hearing, (PCB 71-36). No timetable has been suggested by the District for the final steps in the Waukegan program.

THE QUESTION OF MONEY

We must now face the issue of finding a way for the District to proceed immediately with its plans for expansion. We must find a way to generate more funds than presently are available to the District. To do this we look to Section 46 of the Environmental Protection Act. That Section provides as follows:

> "Any municipality or sanitary district which has been directed by an order issued by the Board or by a Court of competent jurisdiction to abate any violation of this Act or of any regulation adopted thereunder shall unless said order be set aside upon petition for review, take steps for the acquisition or construction of such facilities, or for such repair, alteration, extension or completion of existing facilities, or for such modification of existing practices as may be necessary to comply with the order.
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> . . . . .
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> If funds on hand or unappropriated are insufficient for the purposes of this section, the necessary funds shall be raised by the issuance of either general obligation or revenue bonds. If the estimated cost of the steps necessary to be taken by such municipality or sanitary district with such order is such that the bond issue, necessary to finance such project, would not raise the total outstanding bonded indebtedness of such municipality or sanitary district in excess of the limit imposed upon such indebtedness by the Constitution of the State of Illinois, the necessary bonds may be issued as a direct obligation of such municipality or sanitary district and retired pursuant to general law governing the issue of such bonds. No election or referendum shall be necessary for the issuance of bonds under this section." (Emphasis supplied)

Lacking other limitations and since the new Illinois Constitution, recently passed and to become effective July 1, 1971, contains no limit on the bonding indebtedness of municipalities or sanitary districts, the Board has the power granted in Section 46 to require that the District issue general obligation or revenue bonds in order to obtain the additional monies necessary to complete the expansion program. The District argues that this Board does not have such power to require the issuance of such bonds in this case because of the prohibitions of Chapter 42 Ill. Rev. Stat. Section 285. That section provides, in part, that the District may borrow money for corporate purposes and issue bonds therefor, but "shall not be indebted in any manner, or for any purpose, to an amount in the aggregate to exceed 5 per centum on the valuation of taxable property therein." Since

the District is presently close to its bonding limit, the imposition of the 5% limitation would mean that this Board could not really require any bonds to be issued. The District's argument is based on what at first blush seems to be an apparent discrepancy between the Environmental Protection Act and the Act creating the District. However, the District's construction is too narrow because in other portions of the act creating it (in which the alleged limitation language is found) there is a clear recognition that this Board has the power to require the issuance of bonds beyond the 5% limitation. One need only look further in Section 283 which contains a proviso that if ordered by "an administrative agency of the State of Illinois having jurisdiction" to issue orders to abate its discharge of sewage (this Board is such an agency), the District may issue bonds in an amount "required for that purpose plus such reasonable future expansion" as shall be approved. No mention is made in this part of the section that the District is limited in the amounts of bonds it may issue under these circumstances. Further, Section 283 of the same Act is specific in recognizing that the Environmental Protection Act provisions take precedence if in fact a conflict with the District's Act exists. In that section the following appears:

> "Nothing in this Act contained may be construed as superseding or in any manner limiting the provisions of the 'Environmental Protection Act', enacted by the 76th General Assembly."

The Illinois legislature, which has the authority to do so, has foreseen and resolved any conflict between the two statutes. They have directed that the provisions of the Environmental Protection Act take precedence, and rightfully so, since the legislature in passing that unique and novel piece of legislation, has directed this Board, and its sister groups to clean up our environment so it is a fit place in which to live. It recognized that there would be situations in which the statutory bonding power would have been reached and yet there was a need for more funds, which could only come from the local community. We hold, therefore, that under Section 46 of the Environmental Protection Act this Board has the authority to require the issuance of bonds in this case without being constrained by the 5% bonding limit.

We recognize that the power granted to this Board by the legislature is one which must be used with great discretion. We should not in every case, under whatever circumstances, use this power. But we should use it to fight pollution of the magnitude found in this record. We have been told that Lake Michigan is in a pollutional state. People living in the area of the District are unable to use it for most of the year because of the discharges of the District--the beaches have been closed in past years and they will continue to be closed unless something is done to solve this horrendous problem. Lake Michigan is one of the great natural resources, not only of this area, but of the United States as a whole. We would be shirking our duty and responsibility if we did not do everything within our power to save it.

The District needs over $40 million of additional funds to complete the present expansion program. This is assuming the funds presently tied up are released. We hereby command the District to issue such bonds as are necessary to complete the expansion program as outlined in the order of this Board. If the cost is $50 million, we can easily say that Lake is worth that much.

The District may in fact not be required to use the bonding power which we grant it in this order. Other means may be available for raising the money necessary to complete the required projects. In addition to the present bond issue money ($35 million), the federal grant ($11.55 million), and the interest earned to date ($0.8 million), the Congress of the United States is considering a bill which would make a special grant to the District of $25 million. Also, the new bond issue passed in November 1970 would allow the District to receive a state grant of 25% which could amount to $20 million and if that grant were made additional federal funds could, and should, be made available to the District. Although these may become available to the District at some date in the future, this Board cannot allow the District, and the people of Illinois, to wait to some undetermined time in the future to move the District's program ahead. The Lake cannot wait while litigators, and administrative agencies, decide on where the money will come from. If money does become available to the District in the future, that money can be used to retire the issued bonds as they come due and to pay the interest thereon. The authority herein granted by the Board to the District will allow the District to go "full speed ahead" on the programs which it has proposed.

The District does have the ability to raise additional funds through the use of connection charges, fines and industrial surcharges. The record is clear that the District has not been availing itself of the use of these income producing sources. There is no question that the District should levy fines where indicated, that it should provide for reasonable connection charges and that it should adopt an industrial surcharge ordinance which would require industry to pay its fair share of the cost of treatment.[1] The amount of money which the District would receive from these sources would be minimal and would probably not affect the substantial amounts which are needed. The District should, however, use these methods as a source for funds immediately.

Generally, as to the other aspects of the District's expansion program, (other than Clavey Road which will be discussed later) the District will be obligated by this Board to move with due diligence, under a timetable to be required by this Board, after an additional public hearing, to remove the effluent of all the Lake front plants from the Lake.

1) The testimony in the record demonstrated that there was no basis today for industries discharging into the District's treatment plants to pay any additional costs. In the future, however, it is contemplated that new industries will be adding their wastes to the District's system; therefore, an industrial surcharge ordinance would assist the District in computing charges for the new industries that will be discharging their wastes into the District's system.

NEW SEWER CONNECTIONS

The North Shore Sanitary District is [not only a wealthy] area that can easily afford to provide respectable sewage treatment. It is also a vigorously growing area, and its growth poses an additional problem that must be dealt with in today's order. For new homes, new shopping centers, new developments of all kinds provide more than places to live, to play, and to earn a living; they provide additional sewage that must not be allowed to cause pollution. If sewage is not to pollute, it must be treated, and at present the North Shore Sanitary District has no facilities to treat any additional sewage. The proof is overwhelming that every one of the District's plants (with the possible exception of the small Ravine Drive plant, which is about to be diverted to overloaded Clavey Road and which provides only inadequate primary treatment) is grossly overloaded now. These plants cannot handle their present loads, much less any additional sewage. To add further burdens would compound the already glaring inability of the District to treat the wastes it receives.

To allow any new source of wastes to be connected to the present District system, or any existing source to increase the quantity or concentration of its wastes, would be equivalent to authorizing the dumping of raw sewage directly into Lake Michigan or into the Skokie Ditch. Why this is intolerable has been amply demonstrated elsewhere in this opinion. [It is a barbaric practice that makes a mockery of all our efforts to reduce pollution.] We have had occasion before to refuse to allow the discharge of raw sewage even for a short time, see Springfield Sanitary District v. EPA, #70-32 (Jan. 27, 1971), and we think the same course should be taken here.

It has been the practice of the Environmental Protection Agency in recent times to refuse permits for new sewer connections that would burden treatment facilities that are already overloaded. See petition for review in Village of Lake Forest v. EPA, # 71-21. We have already held that the EPA practice is also Board policy. In EPA v. Village of Glendale Heights, # 70-8 (Feb. 17, 1971), finding that existing treatment facilities were inadequate, we ordered the Village not to permit any new sewer connections until the plant was able to afford proper treatment. In the present case, too, such an order is imperative if we are to avoid the continuing threat of increased water pollution and serve the purposes of the Act. It would be anomalous indeed for this Board after holding that gross pollution is occuring, to issue an order that permitted the situation to get still worse. In the analogous field of air pollution, the regulations are quite clear that new sources of contaminants are not permitted to operate until equipped with control devices sufficient to control emissions in accord with the standards, see Rules and Regulations Governing the Control of Air Pollution, chapter 3, and in granting variances permitting the emission of air contaminants during the installation of control devices we have commonly imposed the condition that emissions not be increased until the situation is corrected. E.g., Greenlee Foundries v. EPA, # 70-33 (March 17, 1971); Ozark-Mahoning Co. v. EPA, # 70-19 (Dec. 22, 1970). Similarly, precedent,

sound policy, and the statute itself make clear that to attach new sewage sources to an overloaded plant is to violate the Environmental Protection Act's ban on water pollution.

We recognize that this ruling may cause considerable inconvenience for those who hope to build or to begin occupying new buildings in the District. It should be obvious that pollution control is never without its costs. Industrial firms are often required to spend millions of dollars for treatment facilities. Closing a polluting plant can put people out of work. But the people of Illinois have reaffirmed by their overwhelming approval of the $750,000,000 Anti-Pollution Bond Issue their conviction that considerable sacrifices must be made to restore our much-abused waters to a more acceptable state. If some hardship is incurred because of today's order, it seems to us to be more than justified by the disadvantages of permitting increased pollution of the Lake. It is disgraceful that one of the richest counties in the nation must close its beaches because of its incredible neglect of its obligation to provide adequate sewage treatment. The people of today are paying for the sins of the past.

It should also be pointed out that we are not necessarily putting an end to the growth of Lake County. We are speaking, first of all, of a rather short time, as we are always reminded by those who ask to continue polluting just a little longer. Second, there is no reason why construction cannot proceed up to the point just prior to sewer connection during the period of the ban. Third, there are alternatives available to provide treatment for new sources while the District plants are being rebuilt. Package plants for sewage treatment are readily available to developers; lagoons may in some cases be permissible expedients; it may be possible to increase the effective capacity of existing secondary plants by the addition of coagulant chemicals or by the use of oxygen for aeration.

Lest it be argued that the addition of new sources of ill-treated sewage is a minor problem, it should be pointed out that, apart from the obvious inadequacy of primary treatment at the smaller plants and the issues of nutrient removal, the entire sorry state of affairs in the North Shore Sanitary District is due directly to the addition of new sources to overloaded plants. The overflows of poorly treated waste to the Lake are the result of such connections, and so are the dreadful air and water pollution violations at Clavey Road. If the present policy against connections had been in force when these overloads began, we should not be in nearly such a mess today.

We shall therefore order the District not to permit any new sources of waste to be connected to its facilities, or any existing source to be increased in quantity or in concentration, until the District can show that it can adequately treat the additional wastes. We hope that this order will not cause a significant slowdown of development and that the District, armed with additional bonding authority, will proceed with such diligence that builders, developers, and their clients will not suffer. If such a slowdown does occur, however, it is attributable to years of past neglect, and the Lake is worth the price.

THE CLAVEY ROAD PROBLEM

Now we must proceed to a consideration of the problems involving the Clavey Road sewage treatment plant and the complaint filed by its neighbors. Mrs. Loraine Facktor, Mr. and Mrs. Paul Brown and Mr. and Mrs. Emanuel Winston have alleged that the operation of the Clavey Road treatment plant by the District is in violation of the statutory prohibition against air and water pollution (Sections 9(a) and 12(a) of the Act) and in violation of the rules and regulations governing the Control of Air Pollution (Regulations which were issued by the Air Pollution Control Board.) Facktor, et al., asks this Board to issue a cease and desist order against the unlawful operation of the Clavey Road plant and to bar the District from proceeding with the expansion of the Clavey Road plant.

FACKTOR MOTION TO DISMISS

Before discussing the merits of the Facktor, et al.,case the Board must deal with one procedural matter. Mrs. Facktor, as was pointed out, was one of the original complainants in this case. Through her attorney, she participated in the pre-hearing conference and the full hearing. Yet, for reasons never given, on the last day of hearing in this matter (there were six days of hearings altogether) Mrs. Facktor's attorney, at the request of his client, advised the hearing officer that she wished to "withdraw her complaint" with prejudice (R.1132). The attorney for the District strenuously objected to the granting of the motion. We agree with the District's attorney in this matter. It is indeed odd that a party would participate so deeply in this matter, and claim that such terrible problems exist, yet want to delay this matter even further by withdrawing from the case. This tactic certainly tends to prove that Mrs. Facktor was not serious about her complaint in the first place, but rather she wished to harass the District by bringing yet another case against it. (See, infra page 26). We cannot allow such action by a party. Those who bring cases before this Board should be prepared to prosecute their cases to a conclusion. The motion to dismiss of Mrs. Facktor is hereby denied. We can now turn to the facts.

THE CLAVEY ROAD SITE

The Clavey Road sewage treatment facility was built in 1958, on a site designated for it in 1928. The location of the Clavey Road plant was part of the City of Highland Park plan of 1947.(R.992). The Clavey Road plant is located on the west side of the Skokie Ditch approximately midway between Clavey Road and County Line Road in the City of Highland Park. The Clavey Road plant has the capacity to treat up to 4.5 million gallons of water per day, using

the activated sludge type of treatment. When Clavey was constructed, the only homes nearby were twelve to fourteen homes in the Village of the Woods subdivision, immediately north of County Line Road and east of Edens Expressway. (R.1000). In the ten-year period since the plant's construction, the Seven Pines subdivision containing seventy to seventy-five homes has been added to the immediate west. Temple Solel and Kennedy Grammar School have been built since 1958 within a half-mile of the plant. (R.1002).

The Clavey plant presently serves the Gurnee area, the Skokie Valley, Park City at the junction of Belvidere and the Skokie Ditch, the western portions of North Chicago, Lake Bluff, Lake Forest, and Highland Park, and the Waukegan-Gurnee industrial park. The plant is hydraulically overloaded on a regular basis, in that it receives more waste than it can handle. (R.141,587). As an indication of the overloading occurring at the 4.5 mgd plant, the Agency testified that January, 1969 records showed an average flow to the plant of 4.38 mgd, with an average total pumpage of 6.2 mgd. Thirteen days of that month, the plant by-passed primarily-treated sewage, most often over 2 mgd per day (EPA Ex.#1). In August, 1970, the plant by-passed on ten days, on an average of 1 mgd per day.(EPA Ex.#19). Ever since the plant has been in operation, the Skokie Ditch has been the receiver of the effluent. The result of the discharge of the effluent into the Skokie Ditch is obvious. The water in the ditch itself (which is a minimum flow and sometimes no flow stream) is of extremely poor quality. As Carl Blomgren of the Agency testified, "(the stream) is full of sludge, it is full of condoms, it is full of floating grease, it is full of sanitary napkins, it has got ground vegetables all along the banks and everything in that river belongs in the treatment plant."(R.589). The sludge from the Clavey plant can be found in the Skokie Lagoon which is over a mile away. The Lagoons themselves record little dissolved oxygen--a condition which makes the Lagoon virtually uninhabitable except by pollution-tolerant organisms. Testimony indicated that the Ditch itself was putrid and visible floating solids were seen on many occasions. There is no question but that the discharges of the Clavey plant into the Skokie ditch are causing water pollution under Section 12(a) of the Environmental Protection Act. Certainly, the hydraulic overloading of the plant is a principal contributor to the pollution because the wastes received under those conditions cannot be adequately treated.

DISTRICT'S EXPANSION OF CLAVEY

Faced with what was an obvious pollution problem the District decided as part of the total expansion program to expand the present Clavey Road facilities. Essentially, the plant will be expanded to accomodate 18 million gallons per day. To accomplish this, additional digester facilities and treatment plans would be added. In addition, an effluent lagoon will be constructed which will hold the wastes and

aerate them after they have received secondary treatment (R.1006). The District plans to construct retention basins designed to hold up to 20 million gallons. These basins will hold the incoming wastes at times when the plant is unable to adequately treat those wastes (this is usually at times when the rainfall is great). When the influent into the plant is reduced, the wastes stored in the retention basins will be run through the full treatment process of the plant. (R.1014). The effect of the retention basins will be that all wastes coming to the Clavey plant will receive secondary treatment, with additional retention and aeration in the effluent lagoon. On the basis of pumpage records, the District estimates that the retention basins will be incapable of handling the excess flow only once a year; on that occasion, the flow will be chlorinated before discharge (R.1017). Any solids left in the presedimentation or retention basins will be scoured out and flushed to the treatment plant(R.1019).

Residents of Highland Park did not agree that the expansion of the Clavey plant should take place in the manner outlined by the District. When the District applied for a permit from the City, the City granted the District a Special permit which would have allowed the expansion of the Clavey plant but under certain conditions, including covering the primary facilities, aeration tanks and final settling tanks, the coverage of the stormwater retention lagoon, the monitoring of possible emissions from the plant, the control of odors during construction, a limitation of the area that might be served by the plant and a limitation on the kind of waste that could be introduced. (R.1024). The District challenged the imposed conditions in a lawsuit in theCircuit Court of Lake County. After hearing, the court held three of the conditions valid; covering of the primary, aeration and final settling tanks, the requirement for monitoring, and the requirement that every effort be made during construction to control the odors. Subsequent to that decision by the Circuit Court (and undoubtedly to forestall an appeal of the decision), the District entered into an agreement with the City in which the District agreed that it would cover, ventilate and deodorize the presedimentation portion of the retention basin. (R.1028). After the agreement, the City issued building permits and work on the expansion at Clavey is now under way.

The District's plan to control gaseous emissions from the plant can now be fully described: All of the structures for the screen chamber, the grit loading building, the thickening tanks, the sludge storage tanks and loading building, and the treatment tanks (which will be covered) will be equipped with a forced ventilation system made to keep the structures under a slight negative pressure, so tha any leakage will be in rather than out. Once air is brought into the process, it will be retained to be used as makeup air in one of the later stages until it is finally taken through wet scrubbers before

discharge to the atmosphere. Exhaust gases from the sludge areas will be taken through a catalytic combustion unit before discharge. To avoid the spread of bacteria either through the atmosphere to the surrounding neighborhood or to the discharge waters, chlorination will be provided as the raw sewage enters the plant, prior to discharge to the aerated lagoon, and again as the flow leaves the effluent lagoon. To handle the excess flows due to heavy infiltration in wet weather, the plant will contain retention basins capable of handling twice the design flow; the excess flow will be chlorinated as it enters the pre-sedimentation basins in order to inhibit the decomposition of sewage, thereby preventing the development of odors. (R.1034-36).

THE ODOR PROBLEM TODAY

Based upon the testimony in the record there is no question that presently the Clavey Road plant (operating at over-capacity) is a nuisance to its neighbors. Many persons testified as to the obnovious odors which were experienced during the last summer. The odors were so bad, according to many witnesses, that the neighbors were unable to use their yards. The smell even permeated some houses and embarrassed the neighbors who had guests. Examples of the testimony about the odors emanating from the plant are many:

> Mrs. Marlene Surell: "[T]he smell is nauseating....and on those days when it smells particularly bad we just don't go for a walk...we go into the house because it just is impossible to sit outside." (R.755-7)
>
> Mrs. Morton Weiner: "We have never really been able to use our outdoors in the summer...as far as people coming to my home, they have experienced nausea, just a sick feeling in their stomach, and have never been able to really enjoy my house." (R.768-770)
>
> Mrs. Loraine Facktor: "[A]t the times that it does smell we can't sleep through the night and it affects our living conditions...I am very sensitive to odors...and I get terrible headaches and I can't breathe from it." [It has] a deep disinfectant chemical smell like Lysol that burns my eyes." (R. 775-6).

Odor is a "contaminant" within the definition contained in the Act. "Air pollution as defined in the Act is the presence in the atmosphere of any contaminant which is injurious to health, or unreasonably interferes with the enjoyment of life or property. There can be no question that the testimony in this record, as outlined above, the District has violated Section 9(a) of the Act. This conclusion is the

same as that made by the Air Pollution Control Board. See APCB 69-5.

THE CLAVEY SITE

If all the complainants wished to do was to prove "air pollution" and "water pollution" as a result of the operation of the present Clavey plant, they would have completely won their case. They wish to go further, however. They wish that this Board require that the District close the operations at the Clavey plant and send it somewhere else. The complainants argue that the plant should be moved for two reasons--first, because of the health hazards which may exist because of the proximity of the plant to people, and second, that alternative sites are available.

As to the first reason--the health issue--the complainants rely heavily on the testimony of Dr. Bertram Carnow. Essentially he testified that not enough is really known about the emissions from sewage treatment plants. What little is known indicates that a sewage treatment plant can emit sulfur dioxide, nitrogen dioxide, chlorine gas, carbon monoxide and carbon dioxide. None of these emissions are excessive in terms of those other facilities that burn fuel in order to operate. Though the emission of those gases did concern Dr. Carnow, his major point was the certain bacteria and viruses can be carried by aerosol particles released during the treatment process. These particles would carry the bacteria and viruses at least for a mile, making those living close to a sewage treatment facilitymore likely to be infected. He concluded, then, that while the studies on transportation of viruses and bacteria today are not definitive enough, sewage treatment plants should not be located within a mile of where people reside (R.647). In addition to Dr. Carnow, Dr. Feinberg, a local resident, testified that persons with respiratory ailments could be affected by the emissions from the treatment plant.

As to the second reason--alternative sites--there was testimony that not only were alternate sites available, but if used, the costs would not be increased. The principal witness for the complainants on this issue was Amos Turner, an electrical engineer. He cited three possible alternatives-(1) a site north of County Line Road near the Des Plaines River (which is presently outside the District's geographic boundaries); (2) a site in Rondout in an alleged industrial area; and (3) a direct hookup to the Metropolitan Sanitary District of Greater Chicago (R913-915). As to the three alternatives, the last is the least probable and likely. The MSD has enough problems of its own without adding to its burden those of the North Shore Sanitary District. In addition, there was no testimony as to the costs of such a hookup and whether it is technically feasible

at all. Suggesting it is easy, implementation is more difficult. Perhaps that statement can be applied to all of Mr. Turner's suggestions. One can find many acres of open land in Lake County where a sewage treatment plant might physically fit, but this Board must take into consideration many factors other than that. Notwithstanding the feeling of Mr. Turner that there will be no increase in cost by shifting the Clavey plant at this time, the fact is that it will be more expensive. More importantly, it will take substantially more time to design, plan and construct such a facility. Interestingly enough, Mr. Turner characterizes each of the two areas he selects other than Clavey Road as "industrial"(R.913). While there may be some local areas which are exclusively for industry, the testimony is quite clear that nowhere in Lake County is there a site which would be greater than one mile from individual residences. In fact, immediately adjacent to the Rondout site is the unincorporated area of Knollwood.

We have reviewed the record in this matter carefully and must disagree with the position taken by Facktor, et al. in asking for the Clavey Road plant to be moved to another site. This decision is notmade without balancing a number of interests. The claimants would probably like us to believe that in making this decision the Board is acting against water pollution, but not against air pollution. This is not the case. While this Board has great respect for Dr. Carnow, we view his position as being that we be as cautious as possible in controlling the emissions from a waste treatment plant. In this regard, the testimony of Dr. Jimmie Quon, an expert in air pollution matters hired by the City of Highland Park to examine the Clavey Road plant in regard to its air pollution problems, should be reviewed. Dr. Quon feels the gaseous emissions from the Clavey plant will be adequately handled:

> -hydrogen sulfide will be removed by a scrubber or oxidized
> -methane will be burned and converted to carbon dioxide
> -chlorine facilities will be carefully designed. (R.1142-7)

The amounts of particulates, oxides of nitrogen and carbon monoxide which will be emitted from the Clavey plant will be that amount which would be expected from 150-200 dwelling units burning natural gas. (R.1144). The significance of those contaminants in the atmosphere is minimal. Further, Dr. Quon concluded that no air pollution problem would result from the Clavey Road facility as planned--this includes an odor problem (R.1148). In addition to the testimony of Dr. Quon, the testimony of Dr. Dienhardt contradicts that of Dr. Carnow on the issue of whether viruses can be transmitted by air.

The decision to require the expansion of Clavey plant takes into account, then, the fact that as expanded the experts tell us that the odor problems will subside and that the problems with the other cases, bacteria and viruses will be taken care of as best we know how with today's technology. Sewage treatment plants must be

located somewhere and must be located so as to cause the least harm to the public health. In this case, the delay which would be caused by moving this plant could severely affect Lake Michigan, since the plants on the Lake which discharge primary-treated sewage will go to the Clavey plant. The opinion previously detailed the sorry state of Lake Michigan. Since the expanded plant with all the additional paraphernalia included will use the best technology known today and since the project must be completed as soon as possible in order to save the Lake, and since there is no place in the county where the plant can be located and not affect people as Facktor, et al. claim they are affected here, we hereby require that the Clavey Road treatment plant site be used and expanded to an 18 million gallon per day plant; as outlined in the District's expansion plans.

Though the Board does recognize that an odor problem does exist in the vicinity (which has been primarily caused by the hydraulic overloading of the plant), the solution lies not in closing down the Clavey Road site, but in assuring its operation with proper controls and within its capacity. The Clavey Road site is the most suitable one available; the expansion plants within the guidelines of this opinion should be carried out forthwith.

DISCHARGES FROM CLAVEY-WHERE?

Presently, the District plans to provide secondary treatment and an effluent lagoon, at the Clavey site. This degree of treatment would provide an effluent from the plant which would contain on the average 10 parts per million BOD and 15 parts per million suspended solids. The District plans to discharge that effluent to the Des Plaines River by means of a sewer pipe which would carry the effluent there. The cost of the pipe which would carry this effluent from the Clavey site to the Des Plaines is estimated at $4 million. SWB-9, which are the water quality standards and implementation plant for the Des Plaines River, provide that where stream dilution is between 1:1 and 2:1 the discharging sanitary district must provide tertiary (secondary plus supplemental) treatment of wastes and have an effluent BOD of 10 and suspended solids of 13. Therefore, with the type of treatment proposed by the District for Clavey, the District would meet the requirements of SWB-9, if the effluent from the Gurnee plant is computed in the dilution. This Board, however, is considering a proposal on which hearings have been held to upgrade the treatment requirement for discharges into the Des Plaines River. The proposal could require no more than 4 parts per million BOD and 5 parts per million suspended solids. If the Board adopted this proposal, and the District discharged its wastes into the Des Plaines River, the District may well have to meet these more restrictive requirements. In addition, testimony indicated that the Skokie ditch needs the flow from the Clavey plant to better flush that system of the sludge and wastes already in it. We hereby require, therefore, that the

District provide third stage treatment at the Clavey site (this means that degree of treatment so as to meet an effluent BOD standard of 4 and a suspended solids standard of 5) and discharge the effluent into the Skokie ditch. The differeræ in cost is minimal. It is estimated by the District's engineers that it would cost $6 million to build tertiary facilities at Clavey Road. Since the District estimates that it will cost $4 million to build the pipe to the Des Plaines, the difference is $2 million to provide good water to the Skokie ditch.

FURTHER HARASSMENT BY THE COMPLAINANTS

One other issue must be dealt with by this Board. Facktor, et al, admitted through the course of the hearing that they were members of the Committee to Save Highland Park, which is supposedly dedicated to the purpose of having the Clavey Road plant cosed. Up to this point, the Committee, in which Facktor, et al, play a major part, has delayed the construction to such a point that the District, by its own admission, will not be able to meet the deadlines imposed on it. A review of the litigation is in order at this point:

1. The Highland Park permit case--The Committee intervened in the proceeding between Highland Park and the District. The result of this litigation was that Highland Park and the District agreed to certain conditions in consideration for the issuance of permits for the construction of the Clavey plant. The Intervenors were not satisfied with this agreement, and have appealed the case -- which appeal is still pending. It is interesting to note that the basis for Highland Park's position was that the law required (at the time the District applied for a pemit with the City of Highland Park) that the District get approval from the municipality in which it was to locate, even though the District is itself a municipal corporation. Since the settlement the Supreme Court of Illinois has, in effect, overruled such contentions as those made by Highland Park. See City of Des Plaines v. Metropolitan Sanitary District of Greater Chicago (Docket No. 43367, November 1970).

2. Other direct lawsuits against the District were filed by members of the Committee questioning the effect of the Clavey plant on the public health, safety and welfare. A zoning suit challenging the validity of the Special Use Permit on these bases was decided in favor of the District.

3. Nuisance suit--presently pending in a case against the District in which members of the Committee seek the Circuit Court of Lake County to declare the Clavey facility a common law nuisance.

4. The Civil Rights case--The Committee has also filed suit in the United States District Court alleging that the locating of the Clavey plant in what was described as a predominantly "Jewish area" was in violation of the Federal Civil Rights Act. The case was dismissed with leave to file an amended complaint: this has never been filed and the time within which to file has expired.

5. Air Pollution Control Board case-- Various residents and the City of Highland Park filed several complaints with the Technical Secretary to the Air Pollution Control Board in 1969. The Board held a hearing on the formal complaint of the Technical Secretary. In its order of February 25, 1970, the Board directed the District to cease operating theClavey plant in such a manner as to cause air pollution. It is found that it was technically feasible and economically reasonable for the District to install equipment which would substantially eliminate such emissions. The individual litigants have since appealed that case and it is still pending.

6. The Bond Issue case--The members of the Committee filed suit in the Circuit Court of Lake County challenging the validity of the $35 million bond issue passed by the electorate in 1968. The District's motion for summary judgment was granted. The complainants have since filed a Notice of Appeal in the Illinois Supreme Court -- which appeal is still pending.

7. Federal Grant Suit-- The nearby homeowners have also brought a suit in the Federal District court challenging the proposed federal grant for the Clavey Road expansion project. The suit seeks $45 million in damages from the Federal government. In the interim, the $11.5 million earmarked for the District has been held up pending the outcome of the litigation.

We have been asked by the attorney for the District to enter a permanent injunction against the individual complainants requiring them to dismiss all pending litigation and prohibiting them from further interference with the District's plans. While the Act under which this Board operates may not seem to say so to the Complaninants (Facktor, et al), we believe that it grants to us the power to stop any person who is, directly or indirectly, causing or threatening to cause pollution in this State. Delay by the District, which has been directly caused by the complainants and their many lawsuits, has contributed not only to the pollutional state of the shore waters of Lake Michigan, but to the air pollution which Facktor, et al want cased.

The Act requires that this Board stoppollution of all types, direct or indirect. Therefore, we hereby order that Mrs. Facktor, Mr. and Mrs. Winston, and Mr. and Mrs. Brown cease and desist from

prosecuting any further actions against the District regarding the expansion program of the District, the District's bond issues, and particularly, the siting of the Clavey Road plant. This order, of course, does not cover the right to appeal this decision.

This opinion constitutes the findings of fact and conclusions of law by the Board.

It is the order of the Pollution Control Board:

1. The District is hereby ordered to cease and desist from polluting the waters of Lake Michigan and the waters of the Skokie Drainage Ditch to the extent reasonably possible until the construction of additional facilities which are required hereunder;

2. The District is hereby ordered to cease and desist from polluting the air at or near its present waste treatment facilities to the extent reasonably possible until the construction of additional facilities which are required hereunder;

3. The District is hereby ordered under Section 46 of the Environmental Protection Act to issue general obligation or revenue bonds, after July 1, 1971, in the amounts necessary to complete the proposed expansion of its treatment facilities in accordance with its proposed expansion program, the guidelines set forth in the opinion of the Board and the time schedule hereinafter set by the Board as provided in paragraph 4 of this order. Under this order the District is hereby authorized to issue such bonds up to the amount of $50 million; provided however, the District shall be authorized to issue an additional $35 million in bonds if the present $35 million bond issue, previously passed by the voters in the District in 1968, fails en toto for any reason. If for any reason the authority of the District under existing legislation proves insufficient to permit any of the actions required by this opinion and order, the District shall do everything in its power to obtain the requisite additional authority from the General Assembly.

4. The District is hereby ordered to use whatever means within its statutory powers as soon as possible to raise funds by the use of connection charges, fines and industrial surcharges.

5. Within thirty (30) days after the date of this order, a public hearing shall be held under Part III of the Procedural Rules of the Pollution Control Board at which time the District shall present to the Board the complete expansion program of the District as proposed by the District and in accordance with the guidelines set forth in this opinion. In addition, the District shall present to the Board a timetable for the completion of the design and construction of each of the facilities to be constructed in the District's expansion program, and an estimate of the costs of each of those facilities. The District shall also present to the Board possible interim solutions, which can be used while construction is proceeding, for the treatment of wastes received by the District. Prior to said hearing, the District shall confer with the Agency regarding the

presentation to be made to the Board. The Agency shall participate in the hearing and make recommendations as to the presentation of the District.

6. The District shall, within the limitations outlined in paragraph 4 of this order, proceed immediately and expeditiously to complete its proposed expansion facilities within the guidelines set forth in the opinion of this Board. Specifically, the District shall immediately proceed with the expansion of the Clavey Road waste treatment facility to construct an 18 million gallon per day plant with advanced treatment within the guidelines outlined in the opinion of the Board. Said facility shall continue, even after expansion is complete, to discharge into the Skokie drainage ditch.

7. The District shall not permit any additions to present sewer connections, or new sewer connections, to its facilities until the District can demonstrate to the Board that it can adequately treat the wastes from those new sources so as not to violate the Environmental Protection Act, or the Rules and Regulations promulgated thereunder.

8. Mrs. Loraine Facktor, Mr. and Mrs. Emanuel Winston and Mr. and Mrs. Paul Brown, three of the claimants herein, are hereby ordered to cease and desist from prosecuting any further actions against the District, the District's bond issues, and particularly the siting of the Clavey Road plant. This order does not intend to limit, in any way, said claimants right to appeal this decision.

9. This order shall be deemed a final order by this Board.

Samuel T. Lawton, Jr. did not participate in the consideration of or decision in this case.

I, Regina E. Ryan, Clerk of the Pollution Control Board, certify that the Board adopted the above opinion and order this 31st day of March, 1971.

Regina E. Ryan (CK)