ILLINOIS POLLUTION CONTROL BOARD
June 22, 1989

ILLINOIS POWER COMPANY (Clinton Power Station),	)	
Petitioner,	)	
v.	)	PCB 88-97
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

SHELDON A. ZABEL, ESQ., ATTORNEY-AT-LAW, APPEARED ON BEHALF OF PETITIONER; AND

KATHLEEN C. BASSI, ESQ., ATTORNEY-AT-LAW, APPEARED ON BEHALF OF RESPONDENT.

OPINION ORDER OF THE BOARD (by J. Marlin):

This matter comes before the Board upon a request for variance initially filed on June 3, 1988 and amended February 17, 1989 by petitioner, Illinois Power Company (IPC). IPC is a public utility headquartered in Decatur, Illinois. IPC has a service territory of approximately 15,000 square miles and employs approximately 4,600 people. IPC provides electrical service to an estimated 543,000 customers. (Am. Pet. at 2). IPC owns and operates a nuclear-fueled electrical generating station located in Clinton, Illinois. In conjunction with construction of the Clinton Power Station (Station), IPC constructed Clinton Lake. This artificial cooling lake was formed by damming two streams, Salt Creek and its north fork, downstream of their confluence. Water is withdrawn from one arm of the lake to cool the condensers and discharged into the other arm. This amended petition for variance concerns the thermal effluent limitations imposed upon the discharge. IPC seeks a variance from these thermal limitations until October 1, 1990. A hearing was held on the petition on April 10-11, 1989, at which one member of the public attended. The Illinois Environmental Protection Agency (Agency) recommends that the variance be granted, but disagrees as to the conditions to be imposed.

BACKGROUND

Prior to the present proceeding, IPC filed a petition in 1980 seeking an alternative thermal limitation from that required by Rule 203(i)(4) of the Board's Water Pollution Rules and Regulations. (35 Ill. Adm. Code 203(i)(4).)* On May 28, 1981, the Board entered its Order providing that the daily average temperature of discharges shall not exceed 99°F during more than

12 percent of the hours in a twelve-month period (i.e., 44 days) and shall at no time exceed 108.3°F. (IPC v. IEPA, PCB 81-82, 42 PCB 145 (June 25, 1981); IPC v. IEPA, PCB 81-82, 41 PCB 501 (May 28, 1981).)

When IPC began plant testing the Station it discovered that temperatures in the discharge exceeded those predicted in prior studies upon which the thermal standards were set. According to IPC:

> Cooling water (flume) discharge temperatures during the summer of 1987 were observed to be greater than those which would have been expected for the power levels being experienced. These observations led IPC to conclude that the thermal limits in the Station's NPDES permit for the flume discharge to Clinton Lake may preclude full power operation of the Station during a very warm and dry summer. IPC retained Edinger in early 1988 to model the cooling characteristics of the lake with Station operating data that reflected changes in Station design since the modeling performed by Edinger in July, 1979. IPC also retained Environmental Science and Engineering, Inc. (ES&E) to assess the incremental impact of the thermal discharge on the fishery of the lake based on the Edinger modeling efforts. The modeling studies confirmed the current thermal limits were inadequate and the biological assessment indicated the impact on the fishery on the lake would not substantially differ from that determined for the July, 1979 modeling.
>
> (Ex. H at 2).

In the instant proceeding, IPC seeks a variance until October 1, 1990 from the temperature limitations imposed by the Board in its May 28, 1981 Order. IPC seeks to have these limitations modified to provide that the daily average temperature shall not exceed 99°F for more than 16.5 percent of the hours in twelve-month periods (i.e., 60 days) and shall at no time exceed 106.5°F. Additionally, IPC requests that the temperatures be monitored at the edge of a 26-acre semicircular "mixing zone" rather than at the second drop structure of the discharge flume as presently provided. (Am. Pet. 15-16).

* Rule 203(i)(4) is now codified at 35 Ill. Adm. Code 302.211(e).

The Agency agrees that compliance with the present temperature limitations imposes an arbitrary or unreasonable hardship upon IPC. However, the Agency disagrees with IPC as to the scope of relief to be afforded under the variance. The Agency recommends that the variance be granted for a five-year period or until such time as the Board acts upon IPC's petition for site-specific rule change, whichever occurs first, provided that IPC files its site-specific petition by April 1, 1991. The Agency also recommends that IPC's thermal effluent limits shall not exceed 99°F in excess of 56 days during a fixed calendar year of January 1 - December 31 (as opposed to the current rolling calendar period) and shall at no time exceed 108.3°F. Lastly, the Agency recommends that the monitoring point remain at the second drop structure of the discharge flume. (Agency's Rec. at 9-12).

In its post-hearing brief, IPC states that it does not object to the five-year variance period nor does it object to the fixed calendar modification. IPC does object to being required to file its site-specific petition by a date certain. IPC further states that its main concern is the imposition of thermal limitations rather than the location of the monitoring point. Accordingly, IPC asserts that, if the second drop structure of the discharge flume is retained as the monitoring point, the daily average thermal limits should not exceed 99°F in excess of 90 days and shall not at no time exceed 110.7°F.

The parties agree that the normal increase in temperature across the condenser is 19.5°F. (IPC Ex. H at 6; Tr. I at 18-19; Agency's Post-H Brief at 3). Consequently, if the daily average intake temperature exceeds 79.5°F, the 99°F limitation will be exceeded. IPC supports its request for a variance with studies and models which analyze the weather conditions of the summers of 1955 through 1988 and the frequency in years in which a given temperature and duration would be expected to recur to predict lake temperatures under assumed operating conditions and summer weather conditions (frequency - duration analysis). (IPC Ex. D, H and J). According to IPC, this data indicates that, in a "normal" summer (i.e., a summer which has a likelihood of recurrence once every two years or more frequently), the 99°F limitation would be exceeded 60 days, assuming the current monitoring point and operation at full power. (IPC Ex. D at 39.)

For purposes of determining the circumstances under which Station operation would exceed the daily maximum limitation of 108.3°F, IPC submitted data which predicts the daily average discharge temperature for a once-in-ten-year summer to be 108.9°F. (IPC Ex. D at 32.) In a once-in-thirty-year summer, the daily average temperature at the discharge flume would reach 109.2°F on seven days. (Id.)

The Agency's recommendation that IPC be allowed to exceed the 99°F daily average for 56 days is based upon an analysis of the summer of 1988 and its effect on Clinton Lake. (IPC Ex. I,

Attachment 1.) The Agency characterizes the summer of 1988 as one of "severe" weather conditions, but accepts IPC's data which classifies it as a once-in-eleven or twelve-year summer. The Agency added the 19.5°F typical rise in temperature across the condenser to the actual intake temperatures during the 1988 summer to determine that there were 55 days between June and September where the 99°F limit was exceeded. (Id.)

The Agency bases its recommendation that the maximum temperature remain at 108.3°F on the fact that, during the summer of 1988, IPC had to derate on only two days to avoid exceeding this limit and this was only because of a problem with one of three water circulating pumps. (Tr. I at 51.)

The parties also differ as to the probable environmental impact of granting the requested relief. IPC contends that a balanced and diverse fishery will be maintained under the proposed limitations. The Agency asserts that the adverse effects of continually exceeding the 99°F limit have not been quantified. Therefore, the Agency proposes that a more cautious approach be taken by utilizing its proposed limitations.

COMPLIANCE PLAN

The principal purpose of the requested variance is to allow time for IPC to collect data which it believes is necessary to make the requisite demonstration before the Board for a new site-specific thermal standard. Consequently, IPC's plan for achieving compliance with the thermal effluent standards is to petition the Board for site-specific relief. According to this plan, IPC will collect data during the summer of 1989 while operating the Station at design conditions (full power), unconstrained by the present thermal standards, analyze this data and prepare the documentation necessary for a new site-specific standard. IPC anticipates that its petition for site-specific relief will be ready for filing by March of 1990. IPC believes that the specific thermal standard to be requested will be the same as the limitations requested in the instant variance proceeding.

IPC considered several alternative means of achieving compliance before deciding upon the plan discussed above. Specifically, IPC considered the alternative supplemental cooling schemes of a trimming cooling tower and discharge flume spray modules. (IPC Ex. F). These alternatives were rejected by IPC because they would require the investment of additional capital. According to IPC's study, the total capital investment for a cooling tower would be $13,505,000 and $16,293,000 for spray modules. (IPC Ex. F at 6). IPC also evaluated the desirability of reducing power levels to maintain compliance with the present limitations. (IPC Ex. G). This alternative was also rejected on the basis of cost. IPC analyzed the costs associated with derating during the summer of 1988 and concluded that "a 10.7% capacity derating coincident with system peak demand

corresponds to a 1989 revenue requirement loss of $76.6 million". (IPC Ex. G).

The prospect of filing for site-specific regulatory relief does not obviate the need for a compliance plan in a variance proceeding, however, the Board has recognized that some factual circumstances prompt some flexibility regarding this requirement. (Anderson Clayton Foods v. IEPA, PCB 84-147 (January 24, 1985).) The Board has granted a variance in the absence of a concrete compliance plan where more information regarding new technology needed to be gathered in order to recommend methods of compliance or, alternatively, regulatory changes. (Id.) Similarly, the Board granted a variance even though a petitioner did not present a compliance plan where the technology did not exist for petitioner to reasonably reach compliance. (Mobil Oil Company v. IEPA, PCB 84-37 (September 20, 1984).) The Board concluded that the conducting of research aimed at finding a means of coming into compliance could be accepted as a compliance plan. (Id.) Lastly, the Board has recognized a rare exception to the compliance plan requirement where the variance requested is of a limited duration, the environmental impact is minimal and petitioner has made good-faith efforts to remain in compliance. (General Motors Corp. v. IEPA, PCB 86-195 (February 19, 1987).)

The Board concludes that, under the instant circumstances, the lack of a concrete compliance plan does not bar the granting of a variance. IPC has experienced conditions at the Station substantially different than those predicted in prior models and, as discussed below, has demonstrated that the expected adverse environmental impact resulting from its proposed limitations is minimal and temporary. Moreover, the parties agree and the evidence demonstrates that it is not reasonable to expect IPC to immediately comply with the current thermal limits.

HARDSHIP AND ENVIRONMENTAL IMPACT

IPC contends that compliance with the present thermal standards imposes an arbitrary or unreasonable hardship for two reasons. First, IPC asserts that the current limitations may require it to derate (i.e., operate at less than full power) without any corresponding beneficial environmental impact. Secondly, IPC alleges that it is prevented from collecting data in support of a new thermal standard while constrained by the present limitations. The Agency agrees that compliance with the current thermal limitations imposes an arbitrary or unreasonable hardship upon IPC. The Agency disagrees, however, with the relief necessary to alleviate this hardship.

To the extent that IPC is contending that the possibility of derating to avoid exceeding the thermal standards in and of itself constitutes an arbitrary or unreasonable hardship, the Board must disagree. The existence of such regulations presumes that, under certain circumstances, a power plant may be required

to derate. The costs associated with derating may constitute hardship. Additionally, the record does not indicate that there is no adverse environmental impact associated with increased thermal disharge, but rather that the impact is expected to be minimal in regard to the fishery.

IPC also asserts that the possibility that it will be constrained in its effort to collect site-specific data imposes an arbitrary or unreasonable hardship. The Board disagrees with this contention to the extent that IPC suggests that the only way to avoid the imposition of such a hardship is to allow it to discharge without any thermal constraints pending an investigation into the actual effects of this discharge. However, IPC does qualify this assertion by recognizing that it should be subject to reasonable constraints designed to avoid an adverse environmental impact while in the process of collecting its data. The Board notes that there are many circumstances where discharge of a substance into the environment in order to study its effects would be irresponsible.

IPC presented substantial evidence in support of its contention that its proposed thermal limitations would not have a significant adverse environmental impact on the fishery in Clinton Lake. However, the Board notes at the outset that, contrary to IPC's assertion, the Board is not bound by its prior finding that "one-unit operation will not produce unacceptable lake conditions". (PCB 81-82 at 4). Just as IPC is relying on updated data and improved modeling in seeking higher thermal limits, the Board may reach a different conclusion today than in 1981 based upon more current information. IPC's request is based upon lake temperatures predicted for a once-in-thirty-year summer as set forth in the Generalized Longitudinal-Vertical and Hydrodynamics and Transport model (GLVHT). This report was initially prepared utilizing the USEPA protocol for assessment of thermal effects and modeling results based upon the summer of 1987. (IPC Ex. E at 2.) The report was updated by the prepared testimony of Richard Hall, applying USEPA protocol in the same manner to GLVHT modeling results based upon data from the summer of 1988. (IPC Ex. K at 4.)

The results of the GLVHT once-in-thirty-year summer study were compared to the 1980 LARM study which formed the basis of the Board's decision setting the present thermal standards. (IPC Ex. K at 4.) This comparison indicates that: 1) impacts on adult survival habitat are minimal and similar to the 1980 study for most Representative Important Fish Species (RIS), although habitat for survival of channel catfish is reduced from 82 percent to 69 percent and survival habitat for white crappie during July and August was unavailable; 2) impacts on adult growth habitat are minimal and similar to the 1980 study for most RIS, but less for carp and channel catfish, and habitat for growth of white crappies is unavailable in July and August under the 1980 study and only minimally available under the GLVHT study; 3) habitat availability for spawning was not evaluated

during the 1980 study, but under the GLVHT study, spawning for most RIS is restricted to April and May. Also, bluegill spawning is not available in May and June and is restricted in July and August and white crappie spawning is not available under the GLVHT study; and 4) in general, embryo survival restrictions are less severe than the spawning restriction for each RIS and month and, consequently, the availability of spawning habitat is a better determinant of impact on RIS. (IPC Ex. K at 4-5 Table 1.)

The specific findings of the GLVHT study were tempered by several comments. Testimony indicates that the evaluation represents a conservative utilization of USEPA protocol as well as a conservative approach in general in that it does not consider what IPC characterizes as the "beneficial impacts of increased temperatures in cooling lakes" as demonstrated by an extended growing season and early initiation of spawning. (IPC Ex. K at 5.) Lastly, while the study indicates an impact on the available habitat of white crappie, this species would be severely impacted even without Station operation under severe summer weather conditions. (Id. at 6.)

IPC also presented expert testimony regarding the inherent conservatism of USEPA protocol and the results of environmental monitoring of biological effects at Clinton Lake during the two summers of Station operation. Lastly, IPC introduced a letter from the Director of the Department of Conservation (DOC) which stated that DOC had no reason to oppose the variance (IPC, Ex. O). Specifically, the Director opined that, although there were three minor fish kills on Clinton Lake in August of 1988, these kills had no significant or permanent impact upon the fish population. (Id). Based upon this testimony, evidence and the study discussed above, IPC asserts that under modeled once-in-thirty year summer conditions, operation at full power under the proposed limitations will not adversely impact on the maintenance of a balanced and diverse fishery at Clinton Lake.

The Agency questions the accuracy of the GLVHT study, insofar as the summer of 1988 is concerned, because of the lack of inflow data. According to the Agency, the GLVHT study inaccurately predicted lake temperatures to be cooler than those actually occurring in 1988. The Agency argues that because of this inaccuracy, the model underestimates the adverse environmental effects. Based upon this discrepancy, the Agency, preferring to err on the side of caution, rejects IPC's assertion that its proposed limitations will not have an adverse environmental impact.

The Board finds that immediate compliance with the present thermal limitations impose an arbitrary or unreasonable hardship upon IPC. In entering its order in PCB 81-82 setting the present thermal standards, the Board relied upon a modeling study utilizing the Laterally Averaged Reservoir Model (LARM 1). Subsequently, updated models based on plant operation show that the predictions contained in LARM 1 are no longer applicable.

Additionally, the data relied upon by the Agency reflecting the actual operating conditions of the summer of 1988 indicates that it is unrealistic to constrain IPC to the 99°F/44 day thermal limitations. The primary question then is what conditions should be imposed under the variance to alleviate this hardship, yet maintain the quality of the biological community of Clinton Lake.

DISCUSSION

As a practical matter, Clinton Lake was constructed as a cooling lake. It also has substantial recreational benefits. The lake is not a closed system and has substantial impact on the stream it impounds. Operation of the station can affect the lake and upstream and downstream habitats. The ultimate regulation of this facility must take all these matters into account.

On balance, the Board sees no particular benefit to denying the bulk of IPC's variance request. The requested limits will be consistently reached only in a worst-case year and it is not likely that such a year will occur during the term of this variance. If such a year does occur, the expected impact on the fisheries is expected to be minimal and is reversible. Unlike some discharges, hot water will not leave a permanent residue in the environment or necessitate extensive cleanup.

The Board notes that IPC has presented almost no information on biological organisms other than fish in the RIS group. There are clearly adverse imnpacts on several of these species. It is not clear that a lengthened growing season offsets impacts on spawning and survival, but the evidence indicates that overall sport fishing is not seriously harmed, and is in many ways enhanced, by the expected thermal discharges. It is ironic that the white crappie which make up 94 percent of the sport fishing catch may be totally eliminated from the lake during some years. (Ex. E. at 34 and 114).

In any future proceeding, the Board expects IPC will discuss the effect of thermal discharges on invertebrates and other vertebrates as well as sport fish. Such information would be useful in addressing overall environmental impact.

IPC correctly points out that cooling lakes in Illinois operate under a variety of thermal limits. It also states that on the basis of heat rejection rate to surface area or volume, Clinton Lake is lightly loaded compared to other Illinois cooling lakes. This discussion does not consider several items that would shed light on the equity question. Such factors as shape, depth, location on a stream in relation to its headwaters, position of intake and outlet, and flow into and out of the lake could all impact on ability to dissipate heat or impact the environment.

Given the questions raised by IPC, it may be wise to take a comprehensive look at the whole matter of thermal discharges.

IPC presented a limited number of compliance options. In reviewing the record it became clear that temperature increases when one of the three circulating water pumps is down. The provisions of a backup pump may help achieve compliance when one pump needs repair. IPC may also wish to consider adding some type of heat conducting device to the flume to passively conduct heat from the water and radiate it to the air.

CONDITIONS
MONITORING POINT

Presently, the monitoring point for the thermal limitations is the second drop structure of the discharge flume. IPC proposes that compliance with the thermal standards at Clinton Lake should be determined at the edge of a 26-acre semicircular mixing zone where the water temperature would be cooler than at the present monitoring point. The Agency asserts that the present monitoring point should be retained. The Agency does not recommend use of a mixing zone because of the accompanying regulatory requirements and practical problems associated with the use of such a mixing zone.

IPC's principal support for use of a mixing zone is that the Board has incorporated the use of a mixing zone in prior proceedings involving cooling lakes. (See, CIPS v. IEPA, PCB 77-158 and 78-100 consolidated (March 19, 1982); CIPS v. IEPA, PCB 78-271 (August 21, 1980).) However, as the Agency points out, cooling lakes have varying characteristics. There is no consistent use of a mixing zone as a monitoring point, nor is there a consistency as to the thermal limitations imposed. (IPC Ex. H at 19-20.) The Board's approval of the use of a mixing zone at other cooling lakes does not necessitate the use of a mixing zone at Clinton Lake.

IPC has failed to provide any compelling reason to change the monitoring point from the present location. As IPC recognizes, the primary concern is that the imposition of the thermal limitations be appropriate for the chosen monitoring point. Therefore, the current monitoring point will be retained.

THERMAL LIMITATIONS

IPC argues that, if the second drop structure of the discharge flume is maintained as the monitoring point, the daily average thermal limits should not exceed 99°F in excess of 90 days in a twelve-month period and shall at no time exceed 110.7°F. (IPC Ex. H at 22.) The Agency recommends that the daily average thermal limits shall not exceed 99°F in excess of 56 days and shall at no time exceed 108.3°F. (Agency Rec. at 11.)

IPC's 99°F/90-day limitation is based upon the "frequency-duration analysis" which predicts lake temperatures for

statistically ranked summers. (IPC Ex. D and H.) Based upon this modeling study, IPC predicts that the daily average thermal limits will exceed 99°F for at least 89 days in a twelve-month period assuming full operation and a once-in-thirty-year summer. Accordingly, IPC's requested relief is based upon a worst-case scenario.

The Agency's recommendation of a 99°F/56 day limitation is based upon the fact that IPC only exceeded the 99°F limit on 55 days during 1988. While the Agency recognizes the need for modeling, it places less credence on the modeling predictions because of the occasional discrepancies between the predictions and actual lake temperatures.

IPC argues that the Agency's position is flawed because summer conditions more severe than those of 1988 are clearly possible so that the limitations proposed by the Agency could operate to unduly restrain IPC. On the other hand, the Agency argues that there are only 92 days between June 1 and August 31 and that to grant the requested 90-day relief is to, in effect, impose no limitations upon IPC.

The Board finds that IPC's criticism of the Agency's reliance upon the summer of 1988 as the sole basis for its recommendation has merit. Simply because IPC only exceeded the 99°F limit on 55 days during 1988, does not mean that identical limitations will suffice during the variance period. The Board is reluctant to impose conditions with which a petitioner cannot realistically comply. Yet, the Board also agrees with the Agency to the extent that any permanent relief afforded IPC should not necessarily be based solely upon a once-in-thirty-year summer worst-case scenario. As previously noted, the thermal limitations imposed need not be so broad as to avoid all possibility of derating.

The Board concludes that the thermal limitations suggested by IPC at the second drop structure of the discharge flume are appropriate for this variance. These limits are based on the assumption that all three circulating pumps will be operating during warm weather unless IPC cannot operate a pump because it is not in working order. The Agency raised questions about the potential impact of the discharge from Clinton Lake on Salt Creek. Given that thermal inputs will raise lake temperature, there may be a downstream effect. IPC will, therefore, be ordered to monitor the temperature of the discharge from the dam on at least a daily basis. IPC may choose to monitor selected downstream locations if it believes this might prove useful.

VARIANCE DURATION

This variance will expire on the date requested by IPC. It will allow sufficient time for IPC to file for an extension or site-specific relief prior to the summer of 1991. There is no reason to force IPC to file a site specific by a date certain or

to grant a 5 year variance. The Board notes that its findings in the instant variance proceeding are not binding on any future proceeding for site-specific relief. The Board also notes that IPC may wish to consider the alternative of an adjusted standard.

CONSISTENCY WITH FEDERAL LAW

Both IPC and the Agency maintain that the Board may grant the relief requested by IPC or recommended by the Agency consistent with the Clean Water Act. (33 U.S.C. sec. 1251 et seq.)

CONCLUSION

In view of the hardship demonstrated, as well as the minimal projected environmental effects expected during the term of this proposed variance, the Board finds tht adequate proof has been presented that immediate compliance with the thermal limits entered in PCB 81-82 would impose an arbitrary or unreasonable hardship upon IPC. Accordingly, the variance will be granted subject to the conditions outlined in the Order below.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Illinois Power Company is hereby granted a variance from the thermal limitations imposed in the Board's Order of May 28, 1981 (PCB 81-82) for its Clinton Power Station subject to the following conditions:

1. This variance begins June 22, 1989 and expires on October 1, 1990;

2. The daily average temperature of discharges at the second drop structure of the discharge flume shall not exceed 99 degrees Fahrenheit during more than 90 days in a twelve-month period and shall at no time exceed 110.7 degrees Fahrenheit during a fixed calendar year running from January 1 through December 31;

3. IPC shall monitor the temperature of water discharged from Clinton Lkae to Salt Creek on at least a daily basis; and

4. Within 45 days after the date of this Opinion and Order, Illinois Power Company shall execute and send to:

Illinois Environmental Protection Agency
Attention: Pat Lindsay
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

a certificate of acceptance of this variance by which it agrees to be bound by the terms and conditions contained herein. This variance will be void if Illinois Power Company fails to execute and forward the certificate within the 45-day period. The 45-day period shall be in abeyance for any period during which the matter is appealed. The form of the certification shall be as follows:

CERTIFICATION

I, (We) _____, having read the Opinion and Order of the Illinois Pollution Control Board in PCB 88-97, dated June 22, 1989, understand and accept the said Opinion and Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

_____
Petitioner

_____
Authorized Agent

_____
Title

_____
Date

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1985, ch. 111-1/2, par. 1041, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 22nd day of June, 1989, by a vote of 7-0.

Dorothy M. Gunn
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board