ILLINOIS POLLUTION CONTROL BOARD
February 28, 1991

DEPARTMENT OF THE ARMY,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 90-199
	)	(Variance)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
	)	
Respondent.	)	

MR. ROBERT J. MUFFLER APPEARED ON BEHALF OF PETITIONER, and

MS. LISA MORENO APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by J. Anderson):

This matter comes before the Board on a Petition for Variance ("Petition") filed by the Department of the Army ("Army") on November 2, 1990. The Army seeks variance from 35 Ill. Adm. Code 302.208(e), "Chemical Constituents", and from 304.124(a), "Additional Contaminants", to the extent that the rules relate to the water quality standards for total chloride, sulfates, dissolved iron, and total manganese and the effluent standards for total iron and manganese. The Environmental Protection Agency ("Agency") filed its Recommendation on December 24, 1990. The Agency recommended that variance be granted, but that it be subject to conditions. On January 2, 1991, a hearing was held in this matter in Alton, Illinois. On January 17, 1991, the Agency filed an Amended Recommendation. The Agency again recommended that variance be granted, but modified the Recommendation with regard to certain proposed variance conditions.

Based on the record before it, the Board finds that the Army has presented adequate proof that immediate compliance with the Board's regulations would impose an arbitrary or unreasonable hardship. Accordingly, the variance will be granted subject to the conditions set forth in accompanying Order.

BACKGROUND

As part of its duties under the Civil Works Program, the United States Army Corps of Engineers, St. Louis District, is responsible for flood control on the Mississippi River and for the operation and maintenance of 505 flood relief wells that are a part of the mainline flood protection system for the Metro East Sanitary District and the Chain of Rocks Canal Levee. (Amended Rec. par. 3).

The Army submitted its Petition for Variance so that it may implement a program to rehabilitate the relief wells. (Pet. p. 1).* The rehabilitation program consists of two projects. (Id.). The first, entitled "Relief Well Rehabilitation Phase I, Metro East Sanitary District (MESD) P&S", is currently in the planning and specification stage. (Id.). The second project will follow and is entitled, "Chain of Rocks Relief Well Rehabilitation Phase I, P&S". (Id.). Each project consists of three phases (Phases I through III). (Id.).

Geographically, the St. Louis District is comprised of approximately 27,000 square miles of land in eastern Missouri and western Illinois. (Id.). The area's population is approximately three million persons, two million of whom are located in the St. Louis Metropolitan area. (Id.). Major geographic features of the St. Louis District include 300 miles of the Upper Mississippi River; the lower 80 miles of the Illinois River; all of the Salt and Meramec Rivers, and the Upper St. Francis Basin in Missouri; the Kaskaskia, Big Muddy, and the Lower Cache Rivers in Illinois; and several smaller tributary streams and creeks. (Id. pp. 1-2).

The area involved in the variance request is divided into the following locales:

a. the Lower Flank, with 63 relief wells that discharge towards the Prairie Du Pont Creek;

b. the Upper Flank, with 6 relief wells that discharge towards the Cahokia Creek Diversion Channel;

c. the Chain of Rocks Canal East Levee, with 200 relief wells that discharge towards the Chain of Rocks Canal; and

d. the Riverfront, with 236 relief wells, 18 of which discharge into the Granite City Sewer Ditch which in turn discharges into the Mississippi River, and 218 of which discharge directly into the Mississippi from Mile 184 to Mile 174.

(Id. p. 2; Reference Portfolio Enclosure 3- Table 1 and aerial maps)

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* Because the rehabilitation program will create a discharge that is classified as a wastewater pursuant to Board regulations, the Army must obtain both a variance and a National Pollution Discharge Elimination System ("NPDES") permit to operate the wells. (Pet. pp. 1, 11; Amended Rec. par. 11). After the Board grants the variance, the Agency will issue a permit that incorporates the effluent and water quality standards established by the variance. (Amended Rec. par. 11).

The relief wells were installed in the 1950's and early 1960's, and consist of 8-inch diameter, slotted treated wood stave pipe and metal housings at the surface. (Id. p. 2). In the Metro East area, the wells are approximately 70 to 80 feet deep. (R. p. 8). The wells are installed in large diameter holes, drilled down into levee or floodwall foundations. (Pet. p. 2). Graded gravel filter packs surround the pipe annulus. (Id.).

The purpose of the relief well system is to provide a relief for excessive hydrostatic pressure coming from the flood stages on the Mississippi River. (R. p. 8). There is an aquifer beneath the clay that is overburden in most of the floodplain areas. Levees are built on the aquifer. (Id.). The levees' integrity is dependent upon the pressure release of the relief wells because such release lowers the natural uplift grade end down to a point where there will not be instability at the landslide levee toe. (Id.).

The Army asserts that the capacity of the relief wells has declined considerably from the original capacity. (Pet. p. 2). Specifically, the Army states that recent studies indicate that the yields from the relief wells are 35 percent below their installed capacities, and that, as a result, such reduced capacities will adversely affect the integrity of the flood protection system. (Id.). The Army notes that the decline in performance is attributable to the accumulation of bacterial residue and other fine-grained materials (i.e. mineral scale and possibly silt to clay-sized particles) in the screens and filter packs that surround the pipe annulus. (Id.).

As previously stated, the Army is proposing a three phase rehabilitation program. Such program consists of cleaning all wells with household chemicals (Phase I), cleaning those wells in a worse condition with a combination treatment of steam, chemicals, and acid (Phase II), and replacement of a few wells (Phase III). (Id.). The program was developed from the data gathered from recently completed relief well testing programs and on the Army's experiences in rehabilitating relief wells in the other drainage and levee districts. (Id.). A detailed description of the program is as follows:

Phase I

> All wells (except those included in the testing program) will be sounded for depth and pumped to determine their existing condition. The wells will be pumped at an approximate rate of 500 gallons per minute for two hours to produce approximately 60,000 gallons of groundwater discharged to the surface. The Army will then add a combination of detergents and disinfectants to the wells, which will be agitated for approximately 15 minutes by surging with a long block and surgeon tool. The detergent will be a dispersing agent or surfactant such as trisodium phosphate (added in the amount

of approximately 10 pounds per 100 gallons of water). The disinfectant will consist of chlorine in the form of calcium hypochlorite which is used in swimming pools (added in the amount of approximately 2 pounds per 100 gallons of water). After 24 hours, the wells will then be purged of the effluent by surging. In addition to the combination of the chemicals and surging that will kill bacteria and remove the fine-grained material from the well screens and filter material, a scrubber brush and a surgeon tool will also be used to clean the encrustation from the well screens and put the chemical and cleaning agents out into the gravel pack where they will kill the bacteria and dislodge the silt and mineral encrustation. This stage will last approximately two hours. Approximately 30,000 gallons will be discharged on the riverside of the levee or floodwall. The Army will then insert a submergible well and a well pump in order to evacuate all the cleaning agents from the well. The pumping will last approximately one hour, and the chemicals will be discharged on the riverside of the levee after traveling through a discharge line that is run over the levee. Another pump test will then be performed to evaluate the amount of improvement, and the results compared with the minimum acceptable criteria developed for that well. The Army anticipates that this phase will return approximately two-thirds of the wells to their original design performance.

Phase II

Those wells with specific capacities below the minimum design yield criteria following Phase I will be subject to this phase. The Army estimates that approximately one-third of the wells will be subject to this phase (i.e. approximately 100 wells in the Metro-East area and 60 in the Chain of Rocks levee). Phase II will consist of a treatment program using a process similar or equal to the Blended Chemical Heat Treatment (BCHT) currently under patent by ARCC, Inc. In this process, steam and a combination of surfactants, hydrochlorine, and acids are used to substantially reduce the bacteria surrounding the wells, and remove any material that reduces efficiency. Included in this phase are qualitative bacterial and chemical field tests that will assist in diagnosing the cause of well yield decline and in selection of the most appropriate combinations of chemicals to be used. As in Phase I, the wells will be purged of the effluent, and approximately 30,000 gallons will be discharged on the levee or floodwall. Final pump tests will be performed as in Phase I to evaluate performance. The Army anticipates that this phase will bring all of the remaining wells to a performance level within minimum design criteria.

Phase III

Wells that are missing, damaged, or deteriorated beyond repair in the MESD and along the Chain of Rocks Canal will be

replaced with new wells. No chemicals are involved in this phase.

(Id. pp. 2-3)

REGULATORY FRAMEWORK

The United States Environmental Protection Agency ("USEPA") has promulgated general use water quality standards for several chemical constituents in water. Illinois subsequently adopted the same limits under Illinois law.

The current applicable water quality and effluent standards from which the Army is seeking a variance are as follows:

35 Ill. Adm. Code 302.208(e) (water quality):

Chloride (total)	500.0 mg/l
Sulfate	500.0 mg.l
Iron (dissolved)	1.0 mg/l
Manganese (total)	1.0 mg/l

35 Ill. Adm. Code 304.124(a) (effluent):

Iron (total)	2.0 mg/l
Manganese	1.0 mg/l

In consideration of any variance, the Board determines whether a petitioner has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship. Ill. Rev. Stat. 1989, ch. 111 1/2, par. 1035(a). Further, the burden is not upon the Board to show that the harm to the public outweighs petitioner's hardships; the burden is upon petitioner to show that its claimed arbitrary or unreasonable hardship outweighs the public interest in attaining compliance with regulations designed to protect human health and the environment. Willowbrook Motel v. Illinois Pollution Control Board, 135 Ill.App.3d 343, 481 N.E.2d 1032 (1st Dist. 1985).

Lastly, a variance by its nature is a temporary reprieve from compliance with the Board's regulations and compliance is to be sought regardless of the hardship which the task of eventual compliance presents an individual polluter. Monsanto Co. v. IPCB 67 Ill. 2d 267, 367 N.E.2d 684 (1977). Accordingly, except in certain special circumstances, a variance petitioner is required, as a condition to grant of variance, to commit to a plan that is reasonably calculated to achieve compliance with the term of the variance.

COMPLIANCE PROGRAM

The Army asserts that it is not proposing a treatment program for the effluent from the rehabilitation program because

a treatment program, a one time program of short duration that will encompass wide spread locations and numerous wells, is not justified economically. (Pet. p. 10). The Army adds, however, that compliance will resume upon completion of the program because the rehabilitation program is a temporary program to cleanse and restore the wells. (Id.).

The Army asserts that studies on alternative ways of rehabilitating relief wells were conducted in the past. (Id. p. 11). The Waterways Experiment Station in Vicksburg, Mississippi assisted and contributed to the development of the rehabilitation program selected. (Id.). The selected program was based on engineering feasibility, effectiveness, and economics. (Id.).

A pipeline will be attached to the relief wells to carry the wastewater to riverside of the levee. (Id.). The wastewater will have a saxophone discharge. (Id.). The surrounding area beneath the discharge point will have an erosion barrier such as a heavy plastic sheeting. (Id.). Upon completion of the rehabilitation program and in order to minimize environmental impacts, any areas damaged by the discharge will be restored to their original condition. (Id.).

The Army has developed the following tentative schedule for the rehabilitation program, which is dependent upon available funding:

Phase I

Plans & Specs to SBA 8(a) Program	Dec. 1990
Receive Proposal from SBA Contractor	Jan. 1991
Contract Award	Feb. 1991
Notice to Proceed	Mar. 1991
Begin Actual Rehabilitation	Apr. 1991
Complete Rehabilitation	Oct. 1991

anticipate 135 days of actual pumping

Phase II

Advertise/Plans & Specs to SBA	Mar. 1992
Bid Opening/Receive Proposal	Apr. 1992
Contract Award	May 1992
Notice to Proceed	Jun. 1992
Begin Actual Rehabilitation	Jul. 1992
Complete Rehabilitation	Dec. 1992

anticipate 80 days of actual pumping

(Id. p. 10)

HARDSHIP

The Army provides four reasons why it believes that compliance with the Board's regulations would impose an arbitrary and unreasonable hardship economically and technically. First, the Army asserts that the cost to treat the discharge from the rehabilitation program is not justified for the short duration required to implement the program. (Id. p. 12). Second, the Army notes that the development and construction of a treatment facility to treat the discharge would take longer and create more damage to the surrounding area than the rehabilitation program. (Id.). Third, the Army notes that in addition to the cost to treat the discharge, the increased time period required to develop the treatment system would increase the risks associated with potential flooding and structural integrity of the flood protection system. (Id.). Specifically, a levee slide or an embankment failure could occur that may eventually lead to the actual breaching of a levee in which water would be released to previously protected areas and result in property destruction and possible loss of life. (R. p. 9). Finally, the Army notes that a major design modification would be required to the subject project in order to maintain compliance, and that the modifications would result in a "considerable cost" increase to the project and major changes to the scheduled construction dates in addition to the cost that would be incurred should the flood protection system fail. (Pet. p. 12).

The Agency agrees with the Army that requiring the discharges from the rehabilitation program to be treated to meet applicable standards would cause an arbitrary and unreasonable hardship, particularly in light of the nature and short duration of the project and the fact that the treatment system would have to be mobile and relatively complex in order to accommodate the contaminants involved in the project. (Amended Rec. par. 14).

ENVIRONMENTAL IMPACT

The water quality for each of the tributaries receiving the relief well discharge (listed on page 2 above) is as follows:

Chloride (mg/l)	Sulfates (mg/l)	Manganese (mg/l)	Iron (mg/l)	Nitrogen (mg/l)	Phosphorous (mg/l)
Lower Flank (Prairie Du Pont Creek)					
unknown	unknown	unknown	unknown	unknown	unknown
Upper Flank (Cahokia Creek Diversion Channel)					
	58-150	.23-1.4	.68-24	<.1-1.5	.12-.97

Chain of Rocks Canal					
22-48	38-53	.15-.20	1.5-2.2	.42-2.0	.14-.25
Riverfront (Granite City Sewer Ditch)					
unknown	unknown	unknown	unknown	unknown	unknown
Riverfront (Mile 184 to Mile 174)					
20-41	54-130	1.1-20	.07-.96	.54-5.7	.05-.47

(Pet. pp. 5-9)

The Army states that when the calcium hypochlorite is added to the relief wells during Phase I, the contact time is calculated so that the available chlorine will be spent. (Id. p. 3). It also notes that the chemical reactions will be numerous with the end product being an increase in concentration of chloride salts. (Id.). Finally, the Army notes that any increase in concentration of phosphorus compounds due to the addition of trisodium phosphate during the phase will be insignificant because, if it reached the receiving water, it would bind with suspended material and rapidly settle to the bottom and be unavailable for biological uptake. (Id.).

With regard to Phase II, the Army notes that when the sulfamic acid ($HOSO_2NH_2$) is used, the contact time is calculated so that the acid will break down to sulfur salts and nitrogen salts and so there will be no significant change in the pH of the effluent when compared to ambient groundwater conditions. (Id.). The Army also asserts that any heating of the water that occurs during this phase will be insignificant because the contact time is sufficient such that the discharge water would return to ambient temperatures. (Id.). Chlorine in the form of calcium hypochlorate is also added as a disinfectant in this phase resulting in an increase in chlorides.

In both Phase I and Phase II, the water flowing under natural conditions and the water discharged from the wells during the rehabilitation program eventually reach the same receiving water. (Id.). The only difference appears to be an increase in chlorine salt in Phase I and sulfur salts in Phase II. (Id.). The discharge rate of the effluent during the rehabilitation process is 500 gpm for 60 minutes or 1.1 cubic feet per second for each well. (Id.). Thus, where the receiving water is known, there exists a very large dilution effect between the effluent and receiving water. (Id.).

In terms of numerical values, the Army anticipates the following relief well discharge water quality during the two phases of the rehabilitation program:*

	Chloride (mg/l)	Sulfates (mg/l)	Iron (mg/l)	Manganese (mg/l)
Lower Flank (Prairie Du Pont Creek)				
Ambient Groundwater[2]	0.89-21	2.5-168	7.7-26	0.27-1.9
Effluent Phase I	0.89-608[1]	2.5-168	7.7-26	0.27-1.9
Effluent Phase II	0.89-608[1]	2.5-23,700[1]	7.7-26	0.29-1.9
Upper Flank (Cahokia Creek Diversion Channel)				
Ambient Groundwater[2]	9-57	41-130	1.5-9.4	0.05-0.8
Effluent Phase I	9-608[1]	41-130	1.5-9.4	0.05-0.8
Effluent Phase II	9-608[1]	41-23,700[1]	1.5-9.4	0.05-0.8
Chain of Rocks Canal				
Ambient Groundwater[2]	3-40	45-160	5-10	0.36-0.59

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* The Army predicts that, although some effluent will enter one of the areas listed below, most of the well discharge and cleaning effluent will not reach the receiving streams because it will evaporate or percolate into the ground at the base of the riverside levee toe (or, in some instances, as much a thousand feet away from the levee and the water). (Pet. p. 5).

Moreover, the Army, in its petition, shows calculations indicating an increase in nitrogen and phosphorus. However, both the Army and the Agency do not discuss the formation of nitrogen and phosphorus compounds or their impact on the receiving streams. We note that the addition of nitrogen and phosphorus compounds could add to the nutrient bonding of the receiving streams.

Effluent Phase I	3-608[1]	45-160	5-10	0.36-0.59
Effluent Phase II	3-608[1]	45-23,700[1]	5-10	0.36-0.59
Riverfront (Granite City Sewer Ditch)				
Ambient Groundwater[2]	42	91	21	1.6
Effluent Phase I	42-608[1]	91	21	1.6
Effluent Phase II	42-608[1]	91-23,700[1]	21	1.6
Riverfront (Mile 184 to Mile 174)				
Ambient Groundwater[2]	3.5-66	15-553	3.4-23.8	0.24-1.7
Effluent Phase I	3.5-608[1]	15-553	3.4-23.8	0.24-1.7
Effluent Phase II	3.5-608[1]	15-23,700[1]	3.4-23.8	0.24-1.7

[1]The Army does not know the exact form of the chemicals to be used or the rate of mixing that will occur. As a result, the chloride and sulfate concentrations for Phases I and II are estimates with the upper limit being the initial concentration of the chemicals added to rehabilitate the relief wells. As mixing with groundwater occurs over time, the concentrations found in the discharges will drop to the lower values. The values for total iron and manganese represent ambient groundwater concentrations.

[2]A complete summary of the chemical characteristics of the ambient groundwater from the relief wells can be found in Enclosure 1 of the Reference Portfolio that is attached to the Army's Petition for Variance.

(Pet. Ex. 1)

In addition to the above, the Army gives several more reasons as to why it believes that granting a variance from certain Board standards for the water discharged from the relief wells during the rehabilitation program into the various receiving waters will have a negligible environmental impact.

First, the Army asserts that the Mississippi River between river miles 174 to 184 and the Chain of Rocks Canal is so vast that the impacts of the relief well discharge will be negligible due to dilution. (Id. p. 10). As for the Chain of Rocks Canal, the Army notes that fish and wildlife resources on the canal are poor in comparison to the main channel of the Mississippi River because of the heavy level of barge traffic on the canal and sterile riparian zone, and that impacts to fish and wildlife resources on the canal would be minimal and short term due to the dilutive effects of the Mississippi River. (Id. pp. 10-11).

The Army also notes that the Cahokia Ditch Diversion Canal, Granite City Sewer Ditch, and Prairie du Pont Creek provide very poor fish and wildlife habitat. (Id. p. 11). Specifically, the Army asserts that these ditches experience elevated temperatures during critical low flow summer months and support only aquatic life which is tolerant of a hostile environment (i.e. gizzard shad, carp fathead minnows, and green sunfish) because these streams experience low/nonexisting flow conditions, forming a series of polluted pools in the summer and because all have been highly modified by channelization and lack a riparian border to provide shade. (Id.). Although the Army has not conducted an aquatic inventory of these ditches, it notes that the aquatic biota is likely to be similar to a number of other urban ditches in the general area which have been sampled because the streams receive inflow from smaller drainage ditches and storm sewers from nearby municipalities that contain pollutants such as oil, gasoline, antifreeze, salt, etc. into the streams. (Id.).

CONSISTENCY WITH FEDERAL LAW

Both the Army and the Agency state that there are no federal regulations currently in effect that are applicable to the relief well rehabilitation project. (Pet. p. 12; Amended Rec. par. 20).

AGENCY RECOMMENDATION

The Agency states that it believes that the Army's variance request is reasonable. (Amended Rec. par. 21). Specifically, the Agency states that it appears that rehabilitation of the relief wells is overdue, and should be done as quickly as possible in order to mitigate the potential for flooding due to reduced relief performance. (Id.).

With regard to the term of the variance, the Agency recommends that variance begin upon initiation of Phase I of the project and continue until Phase II is complete or in five years, whichever occurs first. (Amended Rec., par. 22(E)).

CONCLUSION

In light of all the facts and circumstances of this case, it appears that the Army has presented adequate proof that immediate compliance with 35 Ill. Adm. Code 302.208(e) and 304.124(a) would impose an arbitrary or unreasonable hardship upon the Army. Moreover, although the Army has not quantified the amount of dilution that will occur in the receiving streams, the Board agrees with the parties that no significant environmental impact will result from the rehabilitation program. The Board will accordingly grant variance consistent with this Opinion.

As a final note, the Board believes that the conditions as recommended by the Agency are generally appropriate. The Board, however, makes one substantive insertion; the placement of the phrase, "or with any standard for water then in effect", or like phrases, at appropriate places in the Order. The purpose is to assure that if the standard is altered during the term of variance by USEPA action and corresponding action by the Board, the compliance target for the Army then becomes the revised standard rather than the presently applicable standard.

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

ORDER

Petitioner, the Department of the Army, is hereby granted variance from 35 Ill. Adm. Code 302.208(e), Chemical Constituents, and 304.124(a), Additional Contaminants, but only as they relate to the water quality standards for total chloride, sulfates, dissolved iron, and total manganese, and the effluent standards for total iron and manganese, subject to the following conditions:

(1) This variance shall begin upon initiation of Phase I of the well rehabilitation project.

(2) This variance shall terminate on the earliest of the following dates:

  (a) the date on which Phase II is complete; or

  (b) in five years from the date this variance begins.

(3) Compliance shall be achieved with the water quality standards for total chloride, sulfates, dissolved iron, and total manganese found in 35 Ill. Adm. Code 302.208(e), and the effluent standards for total iron and manganese found in 35 Ill. Adm. Code 304.124(a), or any standards for those constituents in water then in effect, no later than the date of termination of this variance.

(4) The Phase I and Phase II relief well rehabilitation wastewater discharges to Prairie Du Pont Creek, Cahokia Creek Diversion Channel, Granite City Sewer Ditch, and Riverfront Mile 184 to Mile 174 shall not exceed the respective maximum concentration levels for chloride, sulfate, iron, and manganese set forth in the table on pages 9-10 of the Opinion accompanying this Order.

(5) Prior to beginning each phase of the rehabilitation project the Petitioner shall notify Mr. Bob Schleuger of the Department of Water Pollution Control, Collinsville Office, by telephone at 618-346-5120. Petitioner shall also notify Mr. Mark T. Books of the Agency's Compliance Assurance Section in writing at the following address:

Mr. Mark T. Books
Illinois Environmental Protection Agency
Division of Water Pollution Control
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

(6) Petitioner shall use the least amount of chemicals needed to perform the necessary work and shall document the dose rates.

(7) Petitioner shall perform sampling at the time the wells are initially purged of the effluent after the surging operations as follows:

A. No sampling shall be required for any well with an overland flow greater than 1,500 feet as indicated in Table 1 of the Petition (90 wells, all of which discharge to the Mississippi River);

B. For wells with an overland flow of less than 1,500 feet, sampling shall be conducted on a representative number of wells based on well spacing, such that one well shall be sampled for every well within a 200 foot distance of the sampled well. The total of sampled wells in each phase need not exceed one third of the total of all wells in that phase.

C. The following parameters shall be sampled:

1. Chloride--Phase I for all wells to be sampled;

2. Sulfates--Phase II for all wells to be sampled;

3. Iron--Phase I and II, except Phase II wells discharging into the Granite City Sewer Ditch;

4. Manganese--Phase I wells discharging to Prairie Du Pont Creek only.

(8) The results of the laboratory analyses shall be reported to:

Mr. Mark T. Books
Illinois Environmental Protection Agency
Division of Water Pollution Control
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

(9) Until full compliance is achieved, Petitioner shall take all reasonable measures to minimize the levels of the chemical constituents at issue in this variance.

Within 45 days of the date of this Order, Petitioner shall execute and forward to Mr. Mark T. Books, Division of Water Pollution Control, Illinois Environmental Protection Agency, 2200 Churchill Road, Post Office Box 19276, Springfield, Illinois 62794-9276, a Certification of Acceptance and Agreement to be bound to all terms and conditions of this variance. The 45-day period shall be held in abeyance during any period that this matter is being appealed. Failure to execute and forward the Certificate within 45 days renders this variance void and of no force and effect as a shield against enforcement of rules from which variance was granted. The form of said Certification shall be as follows:

CERTIFICATION

I, (We), _____, hereby accept and agree to the bound by all terms and conditions of the Order of the Illinois Pollution Control Board, in PCB 90-199, February 28, 1991.

_____
Petitioner

_____
By: Authorized Agent

_____
Title

_____
Date

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1989, 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 28th day of February, 1991, by a vote of 6-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board