

ILLINOIS POLLUTION CONTROL BOARD
May 21, 1992

DEPARTMENT OF THE ARMY,)
)
Petitioner,)
) PCB 91-113
v.) (Variance)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by B. Forcade)

This matter comes before the Board on a petition for variance (Pet.) from Board order PCB 87-38 filed by the Department of the Army (Army) on July 8, 1991. The petition requests modifications to the testing procedures included as part of the conditions of the variance granted in PCB 87-38. The petition requests that the records, opinions and orders issued by the Board in PCB 87-38, 84-86, and 83-25 be incorporated. The Board in its July 11, 1991, order denied the Army's request to incorporate the entire record of the three prior proceedings but did incorporate by reference the prior Board opinions and orders. The order also directed the Army to file copies of the documents referenced in the petition. In response to the Board's order, the Army filed a copy of the analytical data (References #1 through #18). Reference #19 was not included because it was not completed at the time the other documents were filed. The Board in its September 26, 1991, order construed the filing of the documents as an amended petition which started the timeclock for actions required by Section 35-38 of the Environmental Protection Act (Act). The Board further directed the Army to file Reference #19 upon its completion, and for the Agency to file an appropriate motion if it believed that Reference #19 was necessary for the Agency to prepare its recommendation.

The Army filed an open waiver of all statutory deadlines on December 13, 1991. Reference #19 was filed on February 24, 1992. The Agency filed its recommendation (Rec.) on April 17, 1992. The Army, in the petition, waived its right to a hearing and no person filed an objection to the petition for modification to the variance conditions, therefore no hearing was held in this matter. No final briefs were filed.

BACKGROUND

The Army petitions the Board to amend its previous order in PCB 87-38, dated September 17, 1987, as amended by Board order dated November 8, 1990. (Pet. at 1.) In PCB 87-38, the Army was granted a five year variance from 35 Ill. Adm. Code 304.105,

Violation of Water Quality Standards, as it applies to the following Sections: 302.203, Unnatural Sludge; 302.206 Dissolved Oxygen; 302.208, Chemical Constituents only to the extent it concerns the standards for total lead, total cadmium and total hexavalent chromium; and 302.212, Ammonia Nitrogen and Un-ionized Ammonia. (Pet. at 1.) The variance granted in PCB 87-38 was an extension, with some modifications, of the three year variance previously granted to the Army in PCB 84-86, dated October 25, 1984. The November 8, 1990, order in PCB 87-38 extended the Army's deadline to submit plans and specifications, to the Agency, for achieving compliance with the applicable regulations from December 1, 1990 to December 1, 1991.

The petition requests that modifications be made to the sampling locations being used during dredging and the water quality standards being analyzed. The Army requests that the following paragraphs of the variance granted in PCB 87-38 be changed as follows:

Paragraph 9(c)(1) - delete arsenic (total), barium (total), cadmium (total), chromium (total hexavalent and total trivalent), nickel (total), selenium (total) and total polychlorinated biphenyl;

Paragraph 9(d) - delete arsenic, barium, cadmium, chromium, nickel, selenium and total polychlorinated biphenyl;

Paragraph 9(c)(2) - sampling locations should be relocated from mid-depth and surface to mid-depth and near bottom because of the flow pattern of the return from the discharge also the number and timing of the samples should consist of two aliquots collected over a six hour period instead of three aliquots collected over an eight hour period and

Paragraph 9(c)(4) - change the locations of the sample sites.

(Pet. at 3 and 4.)

The Army is requesting these amendments based upon the results of eight years of testing that was required by PCB 83-25, PCB 84-86 and PCB 87-38. (Pet. at 2.) Testing was made a condition of the variance in order to develop information for use in future variances and requests for site specific relief. The results of these tests showed that certain parameters have never violated a state standard in more than 500 samples downstream of a discharge and only on a rare occasion did any exceed a state standard in a sample representative of a discharge. (Pet. at 2.) The pre-dredging analyses confirm minimum potential for these parameters to violate state standards. (Pet. at 2.) The analytical data from these tests are presented in References #1 through #19. Eliminating these particular test would save over a thousand dollars a day in testing costs. (Pet. at 3). The

changes in sample locations are requested to better describe the size and shape of the discharge plume. (Pet. at 3.) The new locations were determined from fluorescent dye tracer testing and prior water quality sampling locations.

The purpose of the variance is to allow the Army to continue its program of maintenance dredging in portions of the Illinois River to ensure that the river remains navigable. The need for maintenance dredging was explained by the Board in PCB 84-86:

...[t]he Illinois River is a main pathway for commerce. When sedimentary material accumulates on the bottom of the River navigation may be impeded. Unless the material is removed the build-up of sediment could stop river commerce. Dredging to remove the sediments may be done by mechanical means, such as clamshell, backhoe, and dragline, or it may be done by hydraulic means, such as cutterhead pipeline. The material dredged from the river (sediments and water) may then be disposed of in the waterway (open water disposal), on the shore (bankline disposal), or in a confined disposal area. Both the dredging operation and the disposal operation may have adverse water quality impacts. Several factors may influence these impacts including characteristics of the material to be dredged (sediment and ambient water), method of dredging, method of disposal, hydrologic and meteorologic conditions. Army contends that it essentially has no control over when and how much dredging will be needed to ensure a safe navigation channel. Army also claims that if channel obstructions occur movement of four billion dollars worth of commodities would be impaired, costing as much as \$150 million annually for alternate transportation.

In its October 25, 1984, opinion and order in PCB 84-86 the Board addressed the environmental impact of past dredging operations:

Dredging on the Illinois River has historically (1952-1982) occurred along 36.5 miles of the 150 mile length. The most relevant water quality monitoring data came from dredging under variances in PCB 82-136 and 83-25. While water quality violations do appear in the data, it does not appear that dredging to date has caused or significantly exacerbated water quality violations (final Report in PCB 83-25, Enclosure 2). While different dredging events will not necessarily follow this pattern, the data so far shows minimal water quality impact from dredging. Consequently, on the factual record presented there, [In PCB 84-86] the Board finds that the anticipated adverse environmental

consequences are outweighed by the arbitrary and unreasonable hardship that would be imposed if the Illinois River became non-navigable.

The Agency recommends that Army be granted the modifications to the variance as requested. (Rec. at 1.) The Agency believes that the Army has satisfactorily explained the rationale for the deletion of metals and PCBs from the testing requirements of the variance. (Rec. at 5.) The Agency states that the hardship resulting from denial of the variance remains unchanged from previous Board orders. (Rec. at 6.) The Agency believes that the requested changes to the variance will not result in a substantial impact to the environment. (Rec. at 6.)

In PCB 87-38 the Board required the Army to file a petition for site-specific relief by July 1, 1988. On June 30, 1988, the Army filed a rulemaking (R 88-15) proposal concerning the dredging activities in the Illinois River. This matter was dismissed on January 19, 1991, because the Army was not able to proceed without monitoring data from the dredging activities. The Army was granted leave to re-file a petition and the variance granted in PCB 87-38 was not disturbed in anyway. A petition for site-specific relief would allow the Board to consider whether the Army's maintenance dredging operations in the river are entitled to permanent relief and to consider the Army's contention that the current regulations are inappropriate for dredging activities. A variance is a mechanism by which a person is temporarily relieved from compliance with regulations or orders of the Board while that person takes action to ultimately achieve compliance. Variances are not to be utilized in succession indefinitely as a means of attaining de facto permanent relief. If the Army is entitled to permanent relief it must seek that relief through site-specific rulemaking. Paragraph 7 of the order will be modified to reflect the previous proceedings.

The variance granted to the Army in PCB 87-38 will expire on September 4, 1992. The variance was granted because the burden on the Army and commerce utilizing the river would outweigh the environmental impact avoided if the variance were denied. There is nothing in the record to show that the burden or the environmental impact have changed or would be altered by the suggested modifications. The modifications that the Army is requesting are supported by the data submitted by the Army. In previous samples from dredging operations, the metals which are to be deleted from the testing procedure have occurred at levels below the acceptable level. The elimination of these tests will reduce the Army's testing cost. For these reasons the Board will amend the order in PCB 87-38 as requested by the Army. The amendments will effect Paragraphs 7 and 9 of the variance.

This opinion constitutes the Board's findings of facts and

conclusions of law in this matter.

ORDER

The Board hereby grants the Department of Army, Rock Island District, Corps of Engineers (Army) variance from 35 Ill. Adm. Code 304.105, Violation of Water Quality Standards, as it applies to the following Sections: 302.203, Unnatural Sludge; 302.206, Dissolved Oxygen; 302.208, Chemical Constituents only to the extent it concerns the standards for total lead, total zinc, total copper and total mercury; 302.212, Ammonia Nitrogen and Unionized Ammonia.

1. This variance will expire on September 4, 1992, or upon the date on which Army achieves compliance with applicable water quality standards.
2. This variance will apply only to violations of water quality standards that may occur as a result of discharge of dredged material coming from maintenance dredging of sediments not meeting Illinois EPA 401 certification # C-157-82, and only within the 25 sites on the Illinois River Waterways between river miles 80.2 and 230.2, as specified in Attachment No. 1 to the amended petition for Variance filed on May 6, 1983, in PCB 83-25 which is incorporated into this order. The four pages listing the sites are also attached to the order. For purposes of this order dredging activities of this type, shall be known as Paragraph No. 2 dredging events.
3. Prior to beginning any dredging event, Army shall obtain sediment core samples at locations and depths within the reach of the proposed dredge cut which are representative of that cut, for the purpose of determining whether such cut is a Paragraph No. 2 dredging event based upon an elutriate test performed in accordance with Paragraph 10. Sampling and analysis of the sediments shall include analysis for parameters listed in Paragraph 9(d). This requirement will be fulfilled if the site has previously been sampled as pursuant to Paragraph 9(a) within the 12 months prior to the dredging event.
4. Army shall conduct a Paragraph No. 2 dredging event only where necessary to ensure safe navigation, and the length, width and depth of any such event shall be reduced as much as feasible, consistent with providing safe navigation.
5. For any Paragraph No. 2 dredging event, Army shall consider and evaluate the use of mechanical dredging

with backline disposal, as opposed to hydraulic dredging, for any such event under which less than 50,000 cubic yards will dredged.

6. For any Paragraph No. 2 dredging event, Army shall use all reasonable efforts, other than upland confined disposal, to reduce the volume and character of discharges which might cause water quality violations. Open water disposal is prohibited.
7. Petitioner shall file with the Board a petition for site-specific relief from the above water quality. By December 1, 1991, the Army shall submit to the Agency plans and specifications for achieving compliance with the applicable regulations.
8. In advance of any necessary Paragraph No. 2 dredging event, Army shall notify the Agency of the day that the dredging project is scheduled to begin.
9. Army shall conduct sampling and testing as follows:
 - a) On an annual basis, a survey of existing sediment quality at the 11 sites identified in Attachment #1 to the amended petition for variance in PCB 83-25 with a historical dredging frequency average of once every ten years or less. No less than three sediments core samples shall be taken from each of the sites in the areas and to the depths most likely to be dredged; the actual number of core samples to be obtained shall be determined by the Army and the Agency based on the size and shape of the area to be dredged; sediment samples shall be analyzed for grain size, and an elutriate test, performed in accordance with Paragraph 10, shall be employed to analyze for parameters listed in Paragraph 9(d).
 - b) The sampling and testing requirements of Paragraph 3 of this order.
 - c) During any dredging project, whether a Paragraph No. 2 dredging event or not, water quality impacts and discharge character shall be monitored as follows:
 - 1) Army shall sample the following parameters at all sampling points listed under Paragraph 9(c)(4): specific conductance; turbidity, oil and grease; dissolved oxygen; total suspended solids; total dissolved solids; volatile suspended solids; total ammonia

nitrogen as N; pH; water temperature; lead (total); zinc (total); copper (total); and mercury (total).

- 2) Sampling at the sampling points listed in Paragraph 9(c)(4) shall be at mid-depth and bottom elevations between mid-channel and the bank on which disposal occurs, or at point representative of the discharge. Each sample shall consist of two aliquots collected over a six hour period.
- 3) Sampling at the sampling point listed in Paragraph 9(c)(4) shall be done:
 - A) On two consecutive days per week if a 12-inch dredge is used;
 - B) Daily, but not to exceed five consecutive days per week, if a 20-inch dredge is used;
 - C) For use of any other size dredge, sampling shall be performed at a frequency in proportion to the amount of the discharge, but not less than two consecutive days per week nor more than five consecutive days per week.
- 4) Sampling shall be done at the following points:
 - A) At a point upstream of the influence of the dredging, but no more than one-half mile;
 - B) At a point within tributaries entering the dredge cut, if any, upstream of backwater effects but as close to the confluence as possible;
 - C) At six points downstream of the disposal site:
 - 1) Two sites located approximately 100' downstream from the disposal site; one 25' off shore and one approximately 150' off shore but not beyond the navigation channel.
 - 2) Two sites located approximately 300' downstream from the disposal

site; one 25' off shore and one approximately 200' off shore but not beyond the navigation channel.

3) Two sites located approximately 1,000' downstream from the disposal site; one 25' off shore and one approximately 250' off shore but not beyond the navigation channel.

D) Two samples at the disposal site; one representative of the discharge and one composite representative of the return water.

d) Sediment samples taken under Paragraph 9 shall be analyzed for the following parameters with the results of all chemical analyses being expressed on a dry weight basis: grain size (based on a U.S. #230 sieve), oil and grease, total volatile solids, ammonia nitrogen, five-day biochemical oxygen demand, copper, mercury, lead, and zinc.

10. All sampling and analytical methods to be employed during the variance period shall follow procedures established by Standard Methods for the Examination of Water and Wastewater, 16th Edition and Chemistry Laboratory Manual for Bottom Sediments and Elutriate Testing, March 1979. In addition to the above requirements the elutriate test shall consist of a 30-minute mixing period with a zero (0)-hour settling period. Army in its discretion may also analyze additional samples utilizing a longer settling period. Both sampling and laboratory analyses shall provide for replicate testing. Field analyses shall be performed by trained personnel under direct supervision; laboratory analyses shall be performed by Agency certified laboratories.
11. By February 1, 1988, and annually thereafter for the duration of the variance, Army shall submit to the Agency the results of sampling under Paragraphs 3 and 9, the results of any evaluation under Paragraph 5, and the steps taken to comply with Paragraph 7.
12. Within forty-five (45) days of the date of the Board's order, Army shall submit the following Certification of Acceptance to:

Illinois Environmental Protection Agency
Charles Feinen
Division of Legal Council

2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

The 45-day period will be held in abeyance during any period that this matter is being appealed. Failure to execute and forward this certificate within 45 days shall render the variance null and void. The form of the Certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read and fully understanding the order in PCB 91-113 dated May 21, 1992, hereby accept that order and agree to be bound by all of its terms and conditions.

Petitioner

Authorized Agent

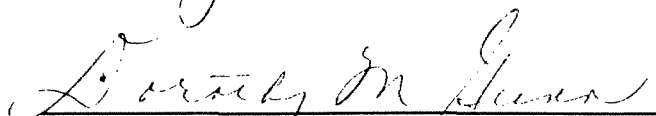
Title

Date

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1991 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.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 21st day of May, 1992, by a vote of 7-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board