ILLINOIS POLLUTION CONTROL BOARD
October 25, 1984

DEPARTMENT OF THE ARMY,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 84-86
	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
Respondent.	)	

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

This matter comes to the Board on a July 9, 1984, Petition, and an August 13 Amended Petition, filed by the Department of the Army, Rock Island District, Corps of Engineers ("Army"). Army seeks a five year variance from certain water quality standards, in order to conduct maintenance dredging at selected locations on the Illinois River. On September 9, the Illinois Environmental Protection Agency ("Agency") filed a recommendation, on October 5, the Army filed a Reply to Agency Recommendation, and on October 18, the Agency filed an amended recommendation. The Agency recommends a grant of variance with conditions for three years. No objections were received, no hearing was held.

Army first sought relief from water quality standards in a provisional variance PCB 82-136. On November 19, 1982, the Board granted the provisional variance, subject to the conditions requested by the Agency. On February 28, 1983, in PCB 83-25, Army filed a petition seeking a five year variance from water quality standards to continue dredging. On July 26, 1983, the Board granted a one year variance subject to conditions predominantly relating to monitoring dredging sites and providing additional information on dredging generally. The July 26, Order was slightly modified on September 8, 1983, and January 12, 1984. The entire record in PCB 83-25 has been incorporated in the present proceeding. As with the prior cases, the Army now seeks a variance from the enforcability of numerical water quality standards relating to total lead, total cadmium, total hexavalent chromium, ammonia nitrogen and un-ionized ammonia, dissolved oxygen, as well as the narrative standards concerning unnatural sludge.

Army's proposed activity and claimed hardship were explained in greater detail in the Board's July 26, 1983, Opinion and Order in PCB 83-25 (pp. 2-5). Briefly, the 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 meterologic 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 alternative transportation.

Dredging of 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 here, 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 to commerce. The Board will grant variance.

With the exception of the term of variance, the Army and the Agency are in agreement concerning the conditions. These are, in essence, the same conditions originally imposed by the Board in PCB 83-25. With minor exceptions, the Board will impose those conditions here.

Army has requested a five year variance, while the Agency recommends three years. However, in the record before the Board there is only meaningful data regarding water quality impacts from a single dredging event, where a 12-inch pipeline dredge was utilized during a period of very high flow (resulting in maximum dilution of impact). The Board is reluctant to grant a lengthy variance on so small a data base. Therefore, the Board will grant a two year variance hoping to acquire more information before making a decision on a longer variance. This should not impose a significant burden on the parties as any future variance request may incorporate the record here by reference, reflecting only new data or changed circumstances.

There is one point of confusion in the present record. Army has evaluated the ambient data in comparison to state water quality standards for secondary contact and indigenous aquatic life (Final Report in PCB 83-25, Enclosure 2, pp. 5, 17, 21). Those standards do not apply to the Illinois River. The General Use water quality standards apply and it is from those standards that Army has requested the variance. Moreover, there may be locations where public and food processing water is withdrawn from the Illinois River. In such cases, the water quality standards of Subpart C apply. In any reports concerning future variances, Army is requested to evaluate the data against the appropriate water quality standard. For example, Tables 1, 2, and 3 of Enclosure 2 seem to indicate violations of the Board's General Use water quality standards for copper. Because of discrepancies in the Board's previous Order between the parameters monitored, those for which variance is sought, and those for which standards exist, the Board will add total dissolved solids and total trivalent chromium to the list of parameters to be monitored. Should ammonia nitrogen exceed 1.5 mg/l, the Board expects the data to reflect the un-ionized ammonia as derived by the calculation in 35 Ill. Adm. Code 302.212.

The Agency has requested that the Board clarify condition 10(c)(4)(d) of the prior Order (Rec. ¶10), which requires monitoring at three points representative of the discharge of dredged material. When bankline disposal is utilized, a portion of the material/water slurry will drain back into the waterway. The subject condition is an attempt by the Board to acquire information on the character and pollutants in that material returning to the waterway. To the extent it is possible, the Board would like to see results; if it is not possible the parties may explain the difficulties.

Army has requested the return of certain documents filed in this proceeding (Am. Pet., ¶2). As this is an adjudicatory proceeding, the Board must retain possession of documents on which it relied. However, the Army may make arrangements with the Clerk of the Board to borrow the original documents for the purpose of coyping them. If Army can provide the Clerk with clear copies, the Clerk may relinquish the originals to Army.

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

ORDER

Petitioner, Department of Army, Rock Island District, Corps of Engineers, is granted a variance from Section 304.105 as it applies to Sections 302.203, 302.206, 302.208 (Total Lead, Total Cadmium, and Total Hexavalent Chromium only), and 302.212, subject to the following conditions:

1. This variance will expire on November 1, 1986.

2. This variance will apply only to violations of water quality that may occur as a result of discharge of dredge 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. For purposes of this Order these shall be known as Paragraph No. 2 dredging events.

3. Prior to beginning any dredging event, Petitioner 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 purposes of determining whether such cut is a Paragraph No. 2 dredging event. Sampling and analysis of the sediments shall be determined by the Petitioner and the Agency, but shall include analysis for parameters in Paragraph 9, d).

4. Petitioner 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, Petitioner shall consider and evaluate the use of mechanical dredging with bankline disposal, as opposed to hydraulic dredging, for any such event under which less than 50,000 cubic yards will be dredged.

6. For any Paragraph No. 2 dredging event, Petitioner 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. If analysis under Paragraph No. 3 or Paragraph 9, a) disclose that sediments fail Illinois EPA 401 certification #C-157-82, the Petitioner shall immediately begin planning for the location, development and construction of a confined disposal facility, and investigate alternatives, innovative or otherwise, for controlling pollutants in a manner which minimizes the need for confined disposal facilities. Petitioner shall fully cooperate with the Department of Transportation in this planning effort.

8. In advance of any necessary Paragraph No. 2 dredging event, Petitioner shall notify the Agency of the day that the dredging project is scheduled to being.

9. Petitioner shall conduct sampling and testing as follows:

a) On an annual basis, a survey of existing sediment and water 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 sediment 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 Petitioner and the Agency based on the size and shape of the area to be dredged; sediment samples shall be analyzed as set forth in Paragraph 9 d). At the time sediment samples are collected, ambient surface and mid-depth grab water samples shall be collected. These samples shall be analyzed for: water temperature, dissolved oxygen, pH, specific conductance, and turbidity.

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) Petitioner 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); arsenic (total); barium (total); cadmium (total); chromium (total hexavalent and total trivalent); copper (total); mercury (total); nickel (total); and selenium (total).

(2) Sampling at the sampling points listed in Paragraph 9 c), 4 shall be at surface and mid-depth elevations between mid-channel and the bank on which disposal occurs, or at point representative of the discharge.

(3) Sampling at the sampling point listed in Paragraph 9c),4 shall be done:

a. On two consecutive days per week if 12-inch dredge is used;

b. Daily if a 20-inch dredge is used;

c. For use of any other size dredge, sampling shall be performed at a frequency in proportion the amount of the discharge, but not less than two consecutive days per week nor more than once daily.

(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 three points downstream of the discharge: 1) at half the distance to the periphery of the mixing zone and 3) at twice the distance to the periphery of the mixing zone. The "mixing zone" shall be defined as an area equal to 25 percent of the cross-sectional area of the stream or the area of a circle with a radius of 600 feet, whichever is less.

d. At three points representative of the discharge of dredged material.

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, total polychlorinated biphenyl, arsenic, barium, cadmium, chromium, copper, mercury, nickel, lead, selenium, and zinc.

10. All sampling and analytical methods to be employed during the variance period shall follow procedures established by Standard Methods for the Examinatin of Water and Wastewater, 15th Edition and Chemistry Laboratory Manual for Bottom Sediments and Elutriate Testing, March 1979. 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 certified laboratories.

11. By February 1, 1985, and annually thereafter for the duration of the variance, Petitioner shall submit to the Agency the results of sampling under Paragraph 9, the results of any evaluation under Paragraph 5, and the steps taken under Paragraph 7, if any, in planning the location development and construction of a confined disposal facility.

12. Within forty-five days of the date of the Board's Order Petitioner shall submit the following Certificate of Acceptance to DWPC/Compliance Assurance Section.

CERTIFICATION

I, (We), _____, having read and fully understanding the Order in PCB 84-86, 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.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 25th day of October, 1984 by a vote of 5-0.

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