ILLINOIS POLLUTION CONTROL BOARD
December 18, 1980

OLIN CORPORATION, (East Alton), Petitioner,	)	
v.	)	PCB 80-170
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	

OPINION AND ORDER OF THE BOARD (by D. Satchell):

This matter comes before the Board upon a petition for variance filed September 24, 1980 by Olin Corporation, a Virginia corporation (Olin). The petition requests an extension of a variance previously granted from Rule 203(f) of Chapter 3: Water Pollution, which establishes a water quality level of 0.02 mg/l copper (total). On November 17, 1980 the Illinois Environmental Protection Agency (Agency) filed a recommendation and a motion to file. The Agency recommended grant of the variance subject to conditions. On November 21, 1980 Olin amended the petition by waiving hearing. The Board has received no public comment.

Olin operates a manufacturing facility in East Alton, Madison County. The facility occupies 1732 acres and employs 4300 workers with an annual payroll of $86,000,000. Olin has two wastewater treatment facilities which are involved in this variance. These are referred to as "Zone 6" and "Zone 17." The discharges are identified as outfalls 001 and 015 in NPDES permit IL0000230 (Rec. 2, 4). Wastewater from Olin's Zones 1, 2, 4 and 7 are treated at Zone 6. Zones 1 and 7 involve manufacture of brass strip and fabricated products, metallic and shot shell ammunition. There are also a steam generating plant and a potable water treatment plant. At Zone 2 Olin manufactures wads for use in shot shells. At Zone 4 Olin manufactures shot shell ammunition and primer explosives.

At Zone 17 Olin conducts a brass casting operation and manufactures copper and copper based alloy slabs and copper alloy tubing. Wastewater from Zone 17 is treated at the Zone 17 wastewater treatment facility.

Both the Zone 6 and Zone 17 treatment facilities employ lime precipitation and polymer coagulation and flocculation process. Sludge is dewatered by means of vacuum filters. Olin has presented a summary of its discharge monitoring report (DMR) data,

including 1979 averages and its averages for the first half of 1980 (Pet. 3; Pet. Ex. B-1, B-2). Its copper concentrations are as follow:

	Concentrations, mg/l		Flow	
	1979	1980	Ml/day[1]	MGD[2]
Zone 6	0.24	0.28	10.2	2.7
Zone 17	0.27	0.22	2.0	0.52

[1]Megaliters per day

[2]Million gallons per day

Based on the above figures, Olin is discharging daily 2.4 to 2.9 kg of copper from Zone 6 and 0.44 to 0.54 kg from Zone 17.

Rule 408(a) of Chapter 3 sets an effluent limitation of 1.0 mg/l for copper (total). Olin's long term average is well within this level. However, Rule 402 of Chapter 3 provides that no effluent shall alone or in combination with other sources cause a violation of any applicable water quality standard. Rule 203(f) sets a water quality standard for copper (total) of 0.02 mg/l. In this proceeding Olin requests an extension of a previous variance from Rule 203(f).

Effluent from Zone 6 discharges to the East Fork of Wood River and effluent from Zone 17 to Wood River, 1200 and 6000 feet above the confluence of Wood River with the Mississippi River. Since Wood River has a 7-day, 10-year low flow of zero the effluent limitations of Olin's NPDES permit IL0000230 are based on water quality standards. The lower reaches of Wood River are within a dense municipal and industrial area. The river has been channelized and flood control levees constructed. There is a low water dam across the mouth of Wood River to protect the levees and prevent erosion of the channels. Olin's facility and the receiving stream are more thoroughly discussed in the Board's previous Opinions (Olin Corporation v. IEPA, PCB 73-484, 14 PCB 689, December 19, 1974; PCB 75-369, 19 PCB 404, December 4, 1975; PCB 73-509, -510, 22 PCB 3, June 3, 1976; Olin Corporation v. IEPA and IPCB, 54 Ill. App. 3d 480, 370 NE 2d 3, 5th Dist., October 20, 1977.

As a condition of the 1976 variance Olin was required to investigate means of controlling its effluent discharge of copper and to submit quarterly progress reports. Olin was to report in

the event the starch xanthate process for controlling copper became commercially available. Olin has provided the quarterly reports as required. The starch xanthate process is in use at several small facilities. These have reported effluent copper concentrations ranging from 0.05 to 0.68 mg/l. The largest of these facilities treats only 150 gallons per minute (0.2 MGD). Olin states that none of the users of starch xanthate are treating waste streams like Olin's, that none have flows approaching Olin's and that none have achieved effluent copper concentrations of 0.02 mg/l (Pet. Ex. C).

The Zone 6 discharge has a high flow and many sources of wastewater. The Zone 17 discharge appears to be an ordinary metal finishing waste stream with a discharge only slightly larger than those for which the starch xanthate process has been employed, 0.52 MGD or 360 gallons per minute. Olin has not pointed out any particular problem with treating the Zone 17 wastestream with starch xanthate.

As noted above, Olin is discharging about 440-540 grams of copper per day from the Zone 17. If the 2.0 Ml/day were treated to 0.05 mg/l, the lower reported limit for the starch xanthate process, this discharge would be reduced to about 100 grams per day. Although the minimum reported concentration is still two and one-half times the water quality standard, there is a potential for a reduction in the mass discharge of three to four hundred grams per day.

The facts alleged in the petition are insufficient to justify the award of a five year variance for the Zone 17 discharge. However, the facts are also insufficient to cause the Board to require the employment of the starch xanthate process at this time. The Zone 17 variance will be limited to eighteen months. Within twelve months Olin shall present to the Agency a detailed study of the starch xanthate process as applied to the Zone 17 discharge. This study shall include cost estimates, including a comparison to the cost Olin incurs in treating the Zone 17 discharge. Any petition for variance renewal shall include an updated study of the effect of the copper discharge on the receiving stream.

The June 3, 1976 variance contained a condition that the discharge not exceed 0.5 mg/l copper. Olin has sometimes exceeded this level and has reported this to the Agency (Rec. 3). Olin has reported levels as high as 1.33 mg/l. It is not clear whether these are grab samples. The Agency has requested a condition that the levels not exceed 0.5 mg/l "at any time." This could be construed as requiring grab samples to be less than this value. To allow for variability, the Board will specify an averaging rule in the Order. Olin has met a long term average, based on annual

and biennial results, of 0.3 mg/l (Pet. Ex. B-2). The Board will require this on a thirty day average. The daily average shall not exceed 0.6 mg/l, with no grab samples over 1.5 mg/l.

On September 24, 1980 Olin proposed a site specific water quality standard for the lower reaches of Wood River. On October 30, 1980 the Board refused to authorize the proposal for a hearing and requested editorial changes in the proposed language (R80-). The Board expects Olin to diligently pursue its efforts at obtaining a rule change.

For the reasons discussed above and in the previous Opinions and Orders, the Board finds that Olin Corporation would suffer arbitrary or unreasonable hardship if denied a variance from the water quality standard for copper. The variance will be granted with the conditions which appear below.

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

ORDER

Petitioner, Olin Corporation is granted for outfalls 001 and 015 for Zones 6 and 17 a variance from the water quality standard for copper found in Rule 203(f) of Chapter 3: Water Pollution subject to the following conditions:

1. The variance for outfall 001 (Zone 6) will expire December 18, 1985 or upon adoption by the Board of a modified water quality standard for copper in Wood River, whichever occurs first.

2. The variance for outfall 015 (Zone 17) will expire June 18, 1982.

3. Petitioner shall meet the following effluent standards for copper for the discharges covered by this variance, Rule 408 of Chapter 3: Water Pollution notwithstanding:

Monthly average	0.3 mg/l
Daily average	0.6 mg/l
Grab samples	1.5 mg/l

4. On or before December 18, 1981 Olin shall forward to the Agency a detailed study of the implementation of the starch xanthate process to outfall 015 (Zone 17). This study shall include cost estimates and comparison with the costs Olin is incurring in treating the Zone 17 discharge.

5. The motion for leave to file recommendation is granted.

6. The Agency, pursuant to Rule 914 of Chapter 3, shall modify NPDES permit IL0000230 consistent with this Order.

7. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read and fully understanding the Order in PCB 80-170, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____

TITLE _____

DATE _____

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 18th day of December, 1980 by a vote of 4-0.

Christan L. Moffett, Clerk
Illinois Pollution Control Board