

ILLINOIS POLLUTION CONTROL BOARD

June 5, 1981

OLIN CORPORATION (Joliet),        )  
                                  )  
                  Petitioner,        )  
                                  )  
                  v.                    )        PCB 81-40  
                                  )  
ILLINOIS ENVIRONMENTAL            )  
PROTECTION AGENCY,                )  
                                  )  
                  Respondent.        )

MR. GEORGE H. PAIN, ATTORNEY AT LAW, APPEARED ON BEHALF OF THE PETITIONER.

MR. DONALD L. GIMBEL, ATTORNEY AT LAW, APPEARED ON BEHALF OF THE RESPONDENT.

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

This matter comes before the Board upon a petition for variance filed March 12, 1981 by Olin Corporation (Olin). The petition requests a variance from the total dissolved solids (TDS) effluent limitation of Rule 408(b) in connection with Outfall 001 from its sodium phosphate factory in Will County. On April 22, 1981 the Illinois Environmental Protection Agency (Agency) recommended that the variance be granted with conditions. This recommendation was amended on May 26, 1981.

On March 23, 1981 Olin filed a motion for expedited ruling. This was denied by the Board on April 16, 1981 after an objection was received from Margaret and Robert Whitler. A public hearing was held May 22, 1981 in Joliet. Olin presented oral and written testimony and Robert Whitler made a statement objecting to the variance. On June 1, 1981 Olin again moved for expedited consideration stating that total retention pond number 1 (TRP 1), which is the source of Outfall 001, was within two and one-half inches of overflowing. The motion for expedited consideration is granted.

Olin owns and operates a plant located at the junction of Patterson and Laraway Roads in Joliet Township, Will County. The plant produces industrial sodium phosphates. Products include monosodium, disodium and trisodium phosphate, trisodium chlorinated phosphates, sodium tripolyphosphate, tetrasodium pyrophosphate, sodium acid phosphate, sodium hexametaphosphate, sodium silica fluoride and sodium fluoride. Sodium phosphates are produced from phosphate rock using the wet acid process. Phosphoric acid is produced from phosphate rock and sulfuric acid. This serves as raw material for the other processes.

The plant has three water recycle loops. This variance focuses on one recycle loop which includes TRP 1. Wastewater from the sodium fluoride manufacturing process is discharged to TRP 1. Suspended solids are removed and the clarified water is returned to the sodium fluoride process. TRP 1 has a net filling rate of ten gallons per minute when the sodium fluoride process is in operation, plus additions from rainfall. TRP 1 water cannot be used as process water for operations other than the sodium fluoride process, although Olin is experimenting with such use. Up to sixty gallons per minute of TRP 1 water can currently be pumped to the stormwater process water system and discharged to the Des Plaines River under existing permit conditions. This quantity, however, depends on the rate of discharge from other ponds.

Olin discharges by Outfall 001 to the Des Plaines River pursuant to NPDES permit No. IL0002020. This permit includes an effluent limitation of 3500 mg/l based on the requirements of Rule 408(b) of Chapter 3: Water Pollution. Olin requires a variance from Rule 408(b) in order to allow it to increase the drawdown rate on TRP 1 from sixty to about 250 gallons per minute for a period of one year. This should bring the water level in TRP 1 down about twenty inches to a safe level. The increased rate of drawdown will result in TDS effluent concentrations of no more than 7000 mg/l. Olin believes that once TRP 1 is brought down to a safe level, the existing water balance system could be carefully managed and TRP 1 water could be treated at a rate consistent with permit requirements.

Petitioner and Agency note that the Board has proposed to delete the Rule 408(b) TDS effluent limitation (R76-21, Proposed Rule, First Notice, February 19, 1981; 5 Ill. Reg. 2629, March 13, 1981). Evidence in that proceeding indicates that there is no technologically feasible method to lower TDS levels. The available methods, including reverse osmosis and distillation, require consumption of large amounts of energy and result in the production of brine which is difficult to dispose of in an environmentally sound manner.

TDS levels in the Des Plaines River average about 500 to 550 mg/l with a maximum of 810 mg/l, under the 1000 mg/l water quality standard of Rule 203(f). Under low flow conditions the increase from 3500 to 7000 mg/l would increase levels in the receiving stream from 810 to 818 mg/l TDS.

The public comment at the hearing expressed concern for water quality and suspended solids levels in the river. Olin will not be authorized to violate water quality standards or to violate the effluent standards for individual constituents other than TDS.

The Agency has recommended the grant of the variance for a period of one year or until deletion of Rule 408(b) in R76-21. The Agency recommended a maximum level of 7000 mg/l as an interim standard. In its amended recommendation the Agency asked that Olin be required to report to it every two months on results of its additional experimentation with reuse as process water of TRP 1 water after treatment and dilution. The Board will include this condition.

The Board finds that it would impose arbitrary or unreasonable hardship to require Olin to meet the Rule 408(b) TDS standard during the pendency of the proposal to delete the standard. The variance will be granted with conditions.

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

#### ORDER

Olin Corporation is granted a variance from Rule 408(b) of Chapter 3: Water Pollution for discharge 001 from its sodium phosphate facility in Will County, subject to the following conditions:

1. This variance will expire one year from the date of this Order or upon the effective date of deletion of the TDS effluent standard from Rule 408(b) in R76-21, whichever occurs first.
2. Effluent from Outfall 001 shall not exceed 7000 mg/l total dissolved solids.
3. Commencing June 30, 1981 and every two months thereafter, Olin Corporation shall submit to the Illinois Environmental Protection Agency a report concerning the progress of its study to reuse the water from TRP 1 in its other production processes until such time as the study is concluded. Olin shall also submit a report as to the final determination of this study.
4. The Agency shall modify NPDES permit No. IL0002020 consistent with the conditions of this variance.
5. 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 81-40, 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 5<sup>th</sup> day of June, 1981 by a vote of 3-0.

Christan L. Moffett  
Christan L. Moffett, Clerk  
Illinois Pollution Control Board