

ILLINOIS POLLUTION CONTROL BOARD
December 16, 1982

OLIN CORPORATION (MARION),)
)
 Petitioner,)
)
 v.) PCB 82-22
)
 ILLINOIS ENVIRONMENTAL PROTECTION)
 AGENCY,)
)
 Respondent.)

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

This matter comes before the Board upon a petition and amended petition for variance filed March 3 and August 16, 1982 by Olin Corporation, a Virginia corporation, (Olin) requesting a variance from water quality standards of 35 Ill. Adm. Code 302 for discharges from its explosive waste incinerator and retort near Marion, Williamson County. On April 16, 1982 the Illinois Environmental Protection Agency (Agency) recommended that the variance be granted with conditions, after which Olin filed the amended petition of August 16. On September 24, 1982 the Agency filed an amended recommendation, and on October 20, 1982 Olin filed a response requesting that the Board grant the variance subject to the conditions of the amended recommendation. No hearing was held and the Board has received no public comment.

The explosive waste incinerator and retort are operated pursuant to site specific air emission limitations which were established in R78-9 (38 PCB 71, 411, April 3 and May 29, 1980). This portion of the facility is described in that Opinion. The air emissions are pursuant to Operating Permits Number 74 010 107 and 76 120 086.

On April 1, 1981 Olin applied for an NPDES permit for discharges from the scrubber attached to the incinerator and retort. This was denied on June 26, 1981 because of apparent contaminants in the discharge water. This variance request is directed at issuance of the NPDES permit.

Emissions from the incinerator and retort, which are operated alternatively, pass through a wet venturi scrubber. Water for the scrubber is drawn from an abandoned final strip mine impoundment on property owned by Olin. After use, the scrubber water is discharged to the same impoundment, which discharges to a second strip mine pit on adjacent property. The second pit has no known outlet to surface waters.

Emissions from explosive burning contain a number of contaminants which are removed by the scrubbing operation. The following table references the contaminants of concern identified by the Agency in its amended recommendation.

<u>Parameter</u>	<u>Water Quality</u>		<u>Effluent</u>	
	<u>Section</u>	<u>Standard (mg/l)</u>	<u>Section</u>	<u>Standard (mg/l)</u>
Ammonia (asN)	302.212	1.5 to 15	--	--
Cadmium	302.208	0.05	304.124	0.15
Copper	302.208	0.02	304.124	0.5
Cyanide	302.208	0.025	304.124	0.10
Iron	302.208	1.0	304.124	2.0
Lead	302.208	0.1	304.124	0.2
Manganese	302.208	1.0	304.124	1.0
Mercury	302.208	0.0005	304.126	0.0005 to 0.003
Oil/Grease	--	--	304.124	15.0
¹ pH	302.204	6.5 to 9.0	304.125	6 to 9
Phenols	302.208	0.1	304.124	0.3
² TDS	302.208	1000	--	--
³ TSS	--	--	304.124	15.0

¹pH units

²Total Dissolved Solids

³Total Suspended Solids

A study by Envirodyne Engineers, Inc., which is attached to the recommendation, found the following maximum levels of these contaminants. These are based on four days of sampling the retort and incinerator effluents to the first strip pit while various wastes were being burned:

	<u>Effluent Maximum Concentration (mg/l)</u>	<u>Typical Influent (mg/l)</u>
Ammonia	1.9	0.5
Cadmium	0.86	0.01
Copper	5.37	0.02
Cyanide	0.28	0.02
Iron	3.82	0.44
Lead	8.424	0.001
Mercury	0.008	0.0053
Oil/Grease	24	6.5
¹ pH	3.3 - 9.9	6.8 - 7.0
Phenols	0.975	0.002
TDS	2940	2715
TSS	694	3.5

¹pH units

The effluent levels given represent the highest levels encountered during the sampling period. In that these represent instantaneous values, the effluent standards shown in the preceding table should be multiplied by five before any comparisons are made (Section 304.104). Problems seem to arise with cadmium, copper, lead and TSS, although the data are really not sufficient to establish typical monthly and daily averages.

The influent is the water from the strip mine pit which also receives the discharge. It should be noted first that these results indicate excellent water quality as abandoned strip mine pits go. However, the Agency has compared this to neighboring pits and determined that lead, manganese, zinc and iron are higher for the Olin pit (Rec., p. 5). The Agency believes these metals are present in elevated concentrations because of the scrubber discharge to the first pit.

The influent data indicate that the waters of the first pit are in excess of the general use water quality standards for several parameters. However, for reasons detailed below, the Board is not convinced that the general use water quality standards apply in the first pit.

Olin is discharging from the scrubber to ponded water rather than a free-flowing stream. It is not going to be able to take full advantage of mixing to meet the water quality standards in the first pit (Section 302.102). In that the intake and discharge are from the same pond, there may be a buildup which will further complicate Olin's efforts to comply

with the water quality standards. It is unlikely that Olin will be able to treat its effluent from the scrubber to the first pit to the level required by the water quality standards, especially for copper (R81-24, November 12, 1982). A holding applying the water quality standards to the first pit will just result in another site specific water quality proposal.

The scope of application of the general use water quality standards is determined by Sections 303.201 and 301.440, the definition of "waters". As used in Subtitle C, the Board has excluded treatment works from the definition of "waters" found in the Act. In that the first strip pit is entirely contained on Olin's property and is used in a water recycling system, the Board finds it to be a part of the treatment works. Accordingly, no variance from the water quality standards is necessary.

It should be noted that the first strip pit discharges to waters of the State, namely the second pit which is on adjacent property. An NPDES permit is therefore required.

Section 304.102 prohibits dilution of effluents, requires the best degree of treatment for contaminants and allows the Agency to designate in individual permits points of measurement to determine compliance with the effluent standards prior to final discharge to waters of the State. In issuing the NPDES permit, the Agency may well find that treatment is required prior to discharge of these toxic contaminants to the first strip pit. Accordingly, the Board finds that a variance from the effluent standards is necessary.

In the original petition, Olin indicated that it was studying treatment options for the scrubber discharge to the first pit, including the following in increasing order of difficulty:

1. Sedimentation with pH adjustment;
2. Sedimentation with chemical addition and pH adjustment;
3. Solid/liquid separation followed by pH adjustment.

Olin intended to explore these successively until a sufficient scheme emerged. The Agency recommendation also discussed cyanide oxidation.

In the amended petition Olin indicated that it was committed to either bring the discharge from the scrubber to the first pit into compliance or go to a no discharge system. Construction was to start in January, 1983, but the method of treatment was not indicated.

Many of the contaminants listed are toxic metals which could cause significant environmental damage. However, there

is no indication that they are escaping the Olin premises to waters of the State in quantities in excess of the effluent standards at the point of discharge to the second pit, or that they are causing water quality problems beyond that point. Furthermore, the metals are typical of those found in strip ponds which have acidity problems. In that this pit has recovered, it must possess some capacity for natural removal of these metals.

Apart from these considerations, the Board notes that these contaminants arise from an air pollution control project. As noted in R78-9, Olin has taken the lead in developing incinerator technology. Its toxic emissions are now controlled and measured. Therefore, the Board finds that it would impose arbitrary or unreasonable hardship to deny Olin a variance from the effluent standards.

The Agency has recommended that the variance be conditioned on concentration limits above background intake levels for the scrubber discharge. The Board notes first that Section 304.103 provides that, where treatment is required, the effluent standards must be met without subtracting background concentrations. Although above-background limits may be appropriate in certain variances, the Board wishes to correct any misunderstanding of the effluent standards which may exist.

The Agency's recommended interim limitations are based on the maximum levels seen in the four sets of Envirodyne samples. As noted above, the Board questions the statistical significance of the Envirodyne data both because of inadequate samples and a lack of investigation of the full range of wastes. Olin acceded to the recommended limitations, but indicated in its amended petition that it may have to limit the quantities and types of wastes burned to assure compliance. For the reasons stated above in connection with the grant of the variance, the Board sees no reason to limit Olin's operations pending completion and testing of its wastewater treatment plant. The variance will be conditioned on samples to be analyzed by the Agency, as requested in the amended recommendation. The Agency will be directed to issue a construction permit and an interim NPDES permit authorizing discharge and containing any necessary construction authorizations. The Board will extend the term of the variance for one year beyond the date recommended by the Agency to allow adequate testing.

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

ORDER

Petitioner, Olin Corporation, is granted a variance from 35 Ill. Adm. Code 304.124, 304.125 and 304.126, subject to the following conditions:

1. This variance will apply to discharges from Petitioner's incinerator and retort scrubber to the strip mine pit on Olin's facility located near Marion.
2. This variance will expire September 1, 1984.
3. On or before May 15, 1983, Petitioner shall complete construction of a wastewater treatment plant.
4. On or before August 15, 1983, Petitioner shall submit a report on effluent quality from the plant, together with any plans to further upgrade the performance.
5. Once per week, during the term of this variance, Petitioner shall take a composite sample of the scrubber effluent representative of one day's operation of the retort and incinerator. This sample shall indicate the time the retort and/or incinerator was operated, if at all, and shall be submitted to the Agency for analysis.
6. The Agency shall issue any necessary construction permit and authorization for construction of a wastewater treatment plant for this discharge. The Agency shall issue an interim NPDES permit authorizing this discharge pursuant to the conditions of this variance pending construction.
7. Reports and samples shall be submitted to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Springfield, IL 62706
8. 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, IL 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 82-22, 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 16th day of December, 1982 by a vote of 5-0.

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