

ILLINOIS POLLUTION CONTROL BOARD
May 28, 1987

MORTON THIOKOL, INC.,)
MORTON CHEMICAL DIVISION,)
)
Petitioner,)
)
v.) PCB 86-223
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

RICHARD J. KISSEL AND SUSAN M. FRANZETTI, (MARTIN, CRAIG, CHESTER & SONNENSCHNEIN) APPEARED FOR THE PETITIONER; AND

WAYNE WIEMERSLAGE APPEARED FOR THE RESPONDENT.

OPINION AND ORDER OF THE BOARD (by J. Theodore Meyer):

This matter comes before the Board on the December 30, 1986 petition and the February 3, 1987 amended petition for variance filed by Morton Thiokol, Inc., Morton Chemical Division ("Morton Chemical"). Morton Chemical requests a variance from 35 Ill. Adm. Code 304.120(c) providing for a 10 mg/l effluent limitation for BOD₅ and from the BOD₅ effluent limitation for outfall 001A contained in Morton Chemical's current NPDES permit. The variance is requested until June 30, 1988. Two objections to the variance were filed: one by the McHenry County Defenders on January 22, 1987 and one by Ms. Patricia Malo on February 5, 1987. On March 30, 1987, the Illinois Environmental Protection Agency ("Agency") filed its recommendation that variance be denied with the caveat that should additional economic information be provided sufficient to demonstrate an arbitrary or unreasonable hardship that the variance should be granted. Hearing was held on March 30, 1987 in the City of McHenry. On April 16, 1987, Petitioner filed its Brief in Support of Variance.

BACKGROUND

Morton Chemical operates a specialty chemicals manufacturing plant in Ringwood, Illinois. The plant is approximately 114 acres in size and employs approximately 300 employees. A variety of water-based polymerization and dispersion products are manufactured there, resulting in an average discharge of 1.3 MGD of non-contact cooling water, boiler blowdown, and de-ionizer backwash and a more recently added average discharge of 0.01 MGD of treated polymer washwater. It is this additional discharge of

the treated polymer washwater which is the subject of this variance.

Polymer washwater is generated from the cleaning of reactors and auxiliary equipment (e.g. filter presses, heat exchangers, screeners) used in the "Serfene" and "Latex/Lytron" processes. Previously, the polymer washwater had been disposed of in permitted treatment facilities and sanitary landfills via outside contractors. However, recently a polymer washwater concentrator was added to the facility as a waste reduction measure, changing the components of the wastestream and its disposal. The polymer washwater contains approximately 3 percent solids. Through an evaporation process the polymer washwater concentrator converts this waste to solid form by removing approximately 15 percent of the water and any low boiling components which may also be present. The evaporated material is sent to a stripping column where the low boiling components are separated out and the water is then passed to activated carbon units. The resulting stream is then combined with the plant's wastestream of spent non-contact cooling water, boiler blowdown and de-ionizer backwash.

The Agency issued a modified NPDES permit allowing the addition of this distillate water to the existing wastestream on October 31, 1985. However, over Morton Chemical's objection, the Agency denoted the polymer washwater discharge as a separate outfall, #002, and the remaining plant discharge as #001. According to Morton Chemical, this "outfall" is an internal wastestream located approximately 700 feet from outfall 001, and discharges into a spent cooling water sewer which then discharges into the combined wastestream eventually discharged through outfall 001 to Dutch Creek. Dutch Creek is classified as general use and is tributary to the Fox River.

No effluent limitations were imposed on outfall 002 by the Agency. Rather, Morton Chemical was required to perform a one-time analysis of the polymer washwater discharge for priority pollutants, heavy metals and organics. This analysis demonstrated that with the exception of phenol, TOC and COD, the levels of the remaining constituents were below detection limits. Morton was successful in controlling the phenol concentrations from levels of 150 mg/l to less than 0.05 mg/l. The BOD₅ concentration measured at outfall 002 during this analysis was 19.3 mg/l; however, in retrospect, Morton Chemical now believes that this result was in error because of the presence of phenol in the wastewater discharge. The Agency drafted a Reissued NPDES permit on March 20, 1986 for this outfall (now designated as 001A) containing an effluent limitation for BOD₅ of 10 mg/l for a 30 day average and a daily maximum of 20 mg/l. Morton Chemical reasonably believed it could comply with this limitation. However, analysis on a September 9, 1986 sample of the discharge resulted in a level of 320 mg/l. A subsequent analysis on October 1, 1986 registered a BOD₅ level of

521 mg/l before treatment by activated carbon and a level of 193 mg/l after treatment. However, before these results were received, the Agency issued the Reissued NPDES permit on September 26, 1986 with the 10 mg/l limitation. Morton Chemical was given the BOD₅ analyses on October 8, 1986 and immediately apprised the Agency. Morton Chemical believes that the source of the BOD₅ is alcohols detected in the washwater by laboratory analysis. R. at 21.

COMPLIANCE OPTIONS

Fundamentally, Morton Chemical objects to the condition in its permit requiring it to sample and monitor outfall 001A prior to the point at which it combines with outfall 001 before discharge to Dutch Creek. Morton Chemical asserts that sampling of the combined wastewater stream discharge at outfall 001 has shown that the BOD₅ level is less than the level of detection of 5 mg/l (Exh. 15), and that it is at this point, discharge to Dutch Creek, which should be the focus of environmental concern.

However, Morton Chemical has retained the services of Patterson Associates, Incorporated to provide consulting and technical supervision services concerning the polymer wastewater discharge. R. at 25. It was determined that either ozonation or biological treatment would be effective. However, engineering and economic data on the reliability and cost of installation and operation of these technologies remains to be developed. Morton Chemical requests additional time to complete these studies and select an appropriate technology by approximately June 30, 1987. The system selected is expected to be fully operational by June 30, 1988.

If the variance were to be denied, Morton Chemical asserted that it would have only two options. First, it could shut down that part of the plant operations which generate the polymer washwater discharge. However, this alternative would result in the shutdown of approximately 80 percent of the Ringwood plant's production. Second, Morton Chemical could continue its disposal of this liquid waste at a permitted sanitary landfill. Landfill disposal costs are approximately \$1000 per day, for a total cost until final implementation of a treatment alternative of approximately \$550,000. R. at 29-31. Morton Chemical was unsuccessful in its attempts to arrange for disposal through the City of McHenry Wastewater Treatment Plant, the North Shore Sanitary District or the Metropolitan Sanitary District of Greater Chicago.

ENVIRONMENTAL IMPACT

The Agency states that it believes the environmental harm to be minimal in this case but believes that Morton Chemical has failed to show that the \$1000 a day landfilling cost is an

unreasonable hardship. The Agency argues that the amount of hardship must be measured against some economic yardstick such as the sales, earnings or profits of Morton Chemical. R. at 9.

A survey of Dutch Creek in the vicinity of Morton Chemical was conducted in August of 1986 and submitted as Attachment A to the Agency's Recommendation. The survey found suitable habitat for forage fish species. A 1976 electrofishing survey, conducted approximately 2.3 miles downstream from the survey area, yielded ten fish species including large mouth bass, northern pike and bluegill. Sixteen macroinvertebrate taxa were collected at five stations within the survey area. Thus, the Agency concluded that there were no significant biological impacts detected downstream of the Morton Chemical discharge. Dutch Creek has been classified as a moderate aquatic resource by the Department of Conservation. Water quality samples collected in 1986 were within acceptable limits for all General Use water quality parameters except mercury (0.78 ug/l exceeded standard of 0.5 ug/l). Mercury was found both upstream from Morton Chemical as well as in Morton Chemical's discharge, thus the Agency drew no conclusions as to the source of the excursions.

Morton Chemical argues that it would be an arbitrary or unreasonable hardship to require the expenditure of an estimated \$1000 a day to landfill this wastestream when the Agency's own evidence demonstrates that no environmental harm will occur if the discharge is allowed to continue. Brief at 2.

Morton Chemical notes that it has already expended a substantial sum on the polymer washwater concentrator (\$675,000) and has plans for additional expenditures (\$495,000) for a second stage evaporator exclusive of any costs to be incurred by completing the proposed compliance plan. R. at 15-16.

CONCLUSION

At the outset, the Board first wishes to note that the time for Morton Chemical to contest the permitting of outfall 001A as a separate outfall has long since elapsed. Even were the Board to agree to review the Agency's decision to separately permit this discharge, no evidence concerning the outfall status exists in the record other than the "bare" allegation in the amended petition and elsewhere in the record that it is an internal wastestream. Secondly, the Board wishes to note that it does not grant variance from permit conditions but from rules, regulations or orders of the Board. Ill. Rev. Stat. 1985, ch. 111 $\frac{1}{2}$, par. 35. If variance is granted from the effluent limitation of 35 Ill. Adm. Code Section 304.120(c), the permit will be modified by the Agency consistent with the Board's order.

The Agency has attempted to equate the Petitioner's burden of proving in a variance proceeding that it will suffer an

arbitrary or unreasonable hardship with a demonstration that it will be unable to pay the additional costs incurred if the variance is denied. Morton Chemical argues that "the petitioner's ability to pay is not the proper test employed in determining whether a variance should be granted." Brief at 12. The Board believes that the proper "test" lies somewhere between these two assertions. The "ability to pay," which requires some analysis of economic information particular to a given petitioner, is one factor to be weighed against the environmental impact in determining whether an arbitrary or unreasonable hardship has been shown. Simply because an entity is financially sound does not preclude it from ever making such a demonstration. The evidence in this matter demonstrates that the discharge at issue has no "significant" impact on the receiving stream. Although the Agency demonstrated that Morton Chemical could afford to continue landfilling this waste, which may entail its own environmental consequences, it does not follow ipso facto, that there is no arbitrary or unreasonable hardship. The Board is satisfied, that in light of the environmental evidence, and the expenditure of approximately \$550,000 which would be required if variance were denied, that Morton Chemical has demonstrated an arbitrary or unreasonable hardship. Thus, the Board will grant variance, subject to the conditions as suggested by the Agency.

In closing, the Board wishes to note its concern over the excursions of the mercury standard noted in Dutch Creek. Little discussion of this was presented in the record. The Agency's attachment notes that mercury was found upstream of Morton Chemical as well as in its discharge. Despite the presence of mercury in the discharge, the Agency stated in 1986 that Morton Chemical's NPDES permit did not list mercury as a regulated parameter. Moreover, there is no indication whether the mercury present in Morton Chemical's discharges are present in the discharges at Outfall 001A or 001 or both. Nor are the levels of mercury detected provided. Since monitoring and reporting of the mercury levels is not currently required of Morton Chemical, it is no wonder that the Agency expressed doubt as to the source of the excursions in Dutch Creek. Thus, the Board believes that it would be appropriate, as a condition of this variance, to require the Petitioner to monitor for mercury at Outfall 001 and Outfall 001A.

The Board's existing regulations at 35 Ill. Adm. Code 304.126 limit the concentration of mercury in any effluent (from 0.003 mg/l to 0.0005 mg/l with application of averaging). Morton Thiokol has not requested a variance from this regulatory provision and the Board is not granting a variance from it. The Board anticipates that the effluent monitoring for mercury required by today's Order will be done at a level of detection that allows a determination of whether the effluent from 001 and 001A complies with the regulatory limits.

ORDER

Morton Thiokol, Inc., Morton Chemical Division, is hereby granted variance from 35 Ill. Adm. Code 304.120(c) and 304.141(a) for its plant located in Ringwood, Illinois, subject to the following conditions:

1. This variance shall expire on June 30, 1988.
2. This variance shall apply only to Outfall 001A.
3. Petitioner shall continue to monitor and report all parameters for Outfall 001A as required by its NPDES permit, including Biochemical Oxygen Demand (BOD).
4. Petitioner shall begin monitoring and reporting for mercury concentrations at Outfall 001 and Outfall 001A on a monthly basis.
5. Petitioner shall comply with the following schedule:
 - A. By June 30, 1987, develop design criteria and complete the selection of the appropriate technology.
 - B. By July 31, 1987, complete plans and specifications for the needed facilities.
 - C. By January 31, 1988, begin construction of facilities.
 - D. By May 31, 1988, complete construction and,
 - E. By June 30, 1988, attain operational level.
6. Petitioner shall report monthly on its progress to achieve compliance through its construction program. Reports shall be submitted to the Agency concurrently with its Discharge Monitoring Reports (DMR's).
7. Petitioner shall submit a Certificate of Acceptance to the following:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section #19
P.O. Box 19276
Springfield, Illinois 62794-9276
Attention: James Frost

The form of the Certificate of Acceptance shall be as follows:

CERTIFICATION

I, (We) _____, hereby accept and agree to be bound by all terms and conditions of the Order of the Pollution Control Board in PCB 86-223, dated May 14, 1987.

Petitioner

Authorized Agent

Title

Date

IT IS SO ORDERED.

B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 28th day of May, 1987, by a vote of 5-1.

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