



Republic's original Petition concerned wastewater discharges from the Republic plant at two locations. These were:

1. Outfall No. 7 to the Calumet River, having a volume of approximately 20,000 gallons per minute (gpm), and
2. A sewer discharge to a City of Chicago sewer, tributary to an interceptor sewer of the Metropolitan Sanitary District (MSD), and the MSD's Calumet Treatment Plant.

Both of those discharges contain various cyanide compounds.

Republic claimed in its original Petition that the cyanide discharge from its plant (at both points) was the result of basic steelmaking processes. Cyanide is formed in the coking process at the steel mill, and enters various wastewater streams at several points. Substantial quantities of water, (approximately 7,000 gpm), are used in the blast furnace for indirect cooling. Of that volume, approximately 3,000 gpm are presently reused in a scrubber, a gas cooler, and an electrostatic precipitator. During that process, cyanide in various forms enters that flow, which is then directed to Republic's "No. 3 Clarifier," where it is treated with polymers, lime and chlorine prior to discharge through the No. 7 Outfall. The cyanide concentrations, (total), in the discharge through No. 7 Outfall, range from less than 0.01 mg/l to 0.8 mg/l.

Petitioner seeks a Variance from Rules 402 and 408(a) of Chapter 3: Water Pollution, of the Pollution Control Board, (Board), Rules and Regulations as they pertain to cyanide discharges into the Calumet River from Outfall No. 7. Rule 402 prohibits discharges causing violation of water quality standards, which in the case of cyanide are 0.025 mg/l. Rule 408(a) sets an effluent standard of 0.025 mg/l for cyanide.

Republic's original Petition also sought a Variance from Rule 703 for its cyanide sewer discharges. However, in its Amended Petition filed March 10, 1975, Republic withdrew that portion of its original Variance Petition. The only issues remaining before us concern the cyanide discharge from No. 7 Outfall, described above.

As part of a civil action in the Circuit Court of Cook County, People of the State of Illinois ex rel. William J. Scott v. Republic Steel Corporation, 69 CH 3675, (consolidated with Metropolitan Sanitary District v. Republic Steel, 69 CH 3532), Republic is committed to terminate its blast furnace process wastewater discharges into the Calumet River through the No. 7 Outfall by December 31, 1975. Republic is committed to install and operate a recycle system for those waste waters, so that the

discharge from the No. 3 Clarifier will be recycled to the gas-cleaning systems of the blast furnace. These actions have been designated by Republic as its compliance plan in this matter, and both Republic and the Agency indicate that Republic's recycle system should be operating on or ahead of schedule.

Republic's Amended Petition asks that it be allowed to continue its cyanide-containing wastewater discharges into the Calumet River for a period of one year from the filing of its Variance Petition, or until completion of its recycle system, whichever comes first. During that time, Republic proposes that it be permitted to continue its discharges into the Calumet River in such volumes and concentration as those experienced over the six months preceding the filing of the Petition, with an absolute limit of 0.8 mg/l of cyanide.

Data submitted by Republic on December 11, 1975, pursuant to the Board's Interim Order of October 30, 1975, indicates that Republic is achieving compliance with that "interim standard." Although all results for 1975 were not available at the time the information was submitted, it appears that the effluent cyanide concentration from Outfall No. 7 has generally been low, (Ex. H, Attachment 42). The other weekly readings were generally lower than 0.01 mg/l. There remains however, considerable question as to the accuracy of any individual test for cyanide concentration, (e.g., Ex. G).

Republic also submitted considerable material on the toxicity of its effluent, and the effect of that effluent on the cyanide water quality of the Calumet River. Much of this material, taken for the most part from the currently pending regulatory matter, R74-15, -16, "CYANIDE," concerns scientific testimony to the effect that cyanide concentrations in the range of the Board's current cyanide water quality standard is not toxic to the marine life in Illinois waterways, (e.g., Ex. C, D, E, F). Other material indicates that the levels of cyanide generally found in the Calumet River would fall within the levels which would be permissible if that scientific testimony is accepted, (Ex. F, G. H). There is sufficient evidence to show that while some analyses of Calumet River water show cyanide levels exceeding the present water quality standard of 0.025 mg/l, (Ex. G, p. 6), cyanide levels in the River are generally within the present water quality standard, (Ex. F, pp. IV-5 to IV-10; Ex. H, Attachments 1-42). Weighing the likelihood of harm from Republic's cyanide effluent against the period of time in question and the effects of any requirement of immediate compliance with the present effluent standards, we find Republic's showing concerning the environmental effects of its discharges during the Variance period to be adequate and the degree of environmental harm to be minimal.

The Agency's original Recommendation in this matter recommended that Variances from Rules 402 and 408(a) be granted for Republic's No. 7 Outfall, but asked that the requested Variance relating to Republic's sewer discharges be denied. The Agency's Amended Recommendation, filed after Republic withdrew its Petition for Variance concerning the sewer discharges, again recommended that this Variance be granted.

We agree with the Agency that Republic has undertaken in good faith, and should by now have completed, an adequate program of compliance. In addition, we feel that it would impose a significant hardship were we to deny this Variance. Republic's good faith reliance on the compliance program resulting from the earlier Circuit Court action, and its expenditure of significant sums to implement that program, provide us with sufficient hardship to allow the grant of this Variance. We feel that the requested Variances from Rules 402 and 408(a), for Republic's No. 7 Outfall have been justified; it would serve no purpose to deny the Variances for the final months of the compliance program.

Before concluding this matter, however, we must take note of Republic's cyanide sewer discharges, and Republic's withdrawn request for Variance concerning those discharges. In an Agreement submitted by the parties at hearing, Republic agreed to withdraw that Variance request, and the Agency agreed that it would submit a favorable Recommendation in the remaining matters. Normally, this procedure would have been unacceptable to the Board in reaching a final conclusion on the merits of this case. However, the parties in this matter have pointed out that the Board has currently pending before it an enforcement case alleging violations of Rule 703 by Republic. EPA v. Republic, PCB 75-11 (filed Jan. 8, 1975). Consideration of that enforcement case has been stayed by the Board pending resolution of a Regulatory Petition filed by Republic which, if enacted by the Board, would significantly relax the standards of Rule 703. That regulatory matter, R74-15, -16, (consolidated), is still pending before the Board. Since it appears that the procedure adopted by the parties in this matter will, through the mechanism of the pending regulatory and enforcement matters, resolve all the issues of Republic's cyanide discharges, we feel that, in this limited instance, the procedure is acceptable.

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

ORDER

IT IS THE ORDER OF THE POLLUTION CONTROL BOARD THAT Petitioner, Republic Steel Corporation, be granted a Variance from December 18, 1974, until December 31, 1975, from Rules 402 and 408(a), as they relate to cyanide discharges from Petitioner's No. 7 Outfall into the Calumet River, subject to the following conditions:

1. Petitioner's cyanide discharges from No. 7 Outfall into the Calumet River during the Variance period shall not exceed, in volume or concentration, substantially the same amounts as were discharged in the twelve month period immediately preceding the filing of the Petition for Variance in this matter.

2. Petitioner's cyanide discharges from its No. 7 Outfall into the Calumet River shall not exceed 0.8 mg/l at any time.

3. Petitioner shall file a complete report concerning completion of the compliance plan described in the foregoing Opinion, such report to be filed with the Environmental Protection Agency within 30 days of the date of this Order, to:

Illinois Environmental Protection Agency  
Manager, Variance Section  
Division of Water Pollution Control  
2200 Churchill Road  
Springfield, Illinois 62706

4. Within thirty (30) days of the date of this Order, Petitioner shall execute and forward to the Environmental Protection Agency, and this Board, a Certificate of Acceptance in the following form:

I, (We), \_\_\_\_\_, having read the Order of the Illinois Pollution Control Board in Case No. PCB 74-481, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
SIGNED

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

Mr. James Young abstained; Dr. Donald Satchell abstained.

I, Christian L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 8<sup>th</sup> day of January, 1976, by a vote of 3-0.

  
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Christian L. Moffett, Clerk  
Illinois Pollution Control Board