

ILLINOIS POLLUTION CONTROL BOARD  
July 7, 1995

IN THE MATTER OF: )  
 )  
PETITION OF ACME STEEL COMPANY ) AS 94-8  
AND LTV STEEL COMPANY FROM ) (Adjusted Standard-Water/NPDES)  
35 ILL. ADM. CODE 302.211 )

DAVID L. RIESER OF ROSS & HARDIES APPEARED ON BEHALF OF ACME  
STEEL COMPANY AND LTV STEEL COMPANY;

RICHARD C. WARRINGTON, JR. APPEARED ON BEHALF OF THE ILLINOIS  
ENVIRONMENTAL PROTECTION AGENCY;

ANNA B. TRISTAN OF THE CHICAGO LEGAL CLINIC APPEARED ON BEHALF OF  
INTERESTED PARTIES.

OPINION AND ORDER OF THE BOARD (by E. Dunham):

This matter comes before the Board on a petition for adjusted standard from 35 Ill. Adm. Code 302.211 filed on March 24, 1994 by ACME Steel Company and LTV Steel Company. On August 8, 1994, petitioners filed an amended petition seeking an adjusted standard for a period of five years. The petitioners also requested additional time to file additional information. On February 23, 1995 petitioners filed an amended petition seeking permanent relief instead of an adjusted standard for five years. The Illinois Environmental Protection Agency's (Agency) response to the petition was filed on November 28, 1994 recommending that the adjusted standard be granted for a period of five years and that petitioners be required to perform additional studies to support permanent relief. On March 23, 1995 the Agency filed an amended response in support of permanent relief based on additional information provided by the petitioners.

On April 20, 1994, the Board received a letter from the Chicago Legal Clinic on behalf of Marian Byrnes of the Southeast Environmental Task Force, Clem Balanoff, Frank Rusdorf and Jo Troncozo (interested parties) requesting that a hearing be held in this matter. A hearing on the petition was held on April 10, 1995 before hearing officer June Edvenson in Chicago, Illinois. Petitioners filed a post-hearing brief on May 15, 1995. Post-hearing comments from the interested parties were filed on May 15, 1995. The Agency filed its post-hearing comment on May 16, 1995. Petitioners filed a reply to the post-hearing comments on May 25, 1995.

The Agency filed a motion to supplement the record on May 16, 1995. The Agency requests to supplement the record with a letter from the U.S. EPA stating that the proposed adjusted standard is consistent with federal law. The Board grants the Agency's motion to supplement the record.

APPLICABLE LAW

The Board's responsibility in this matter arises from the Environmental Protection Act (Act) (415 ILCS 5/1 et seq. (1992)). The Board is charged therein to "determine, define and implement the environmental control standards applicable in the State of Illinois" (415 ILCS 5/5(b)(1992)) and to "grant \* \* \* an adjusted standard for persons who justify such an adjustment" (415 ILCS 5/28.1(a)(1992)). More generally the Board's responsibility is based on a system of checks and balances integral to Illinois environmental governance: the Board is charged with the rulemaking and principal adjudicatory functions, and the Agency is responsible for carrying out the principal administrative duties.

The adjusted standard provision of the Act, at Section 28.1 (415 ILCS 5/28.1 (1992)), was created by the legislature to provide an expedited alternative to site-specific rulemaking. The result of either an adjusted standard or a site-specific rule proceeding is the same (i.e., relief from a particular rule). In both a general rulemaking proceeding and a site-specific rulemaking proceeding, the Board, pursuant to Section 27 of the Act, is required to take the following factors into consideration: the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution. (See specifically, Section 27(a).)

Section 28.1 of the Act establishes the level of justification required for an adjusted standard and also requires the adjusted standard to be consistent with Section 27(a). The level of justification required, as set forth in Section 28.1(c), is that the petitioner present adequate proof that:

- factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
- the existence of those factors justifies an adjusted standard;
- the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
- the adjusted standard is consistent with any applicable federal law.

### BACKGROUND

The petition seeks relief from the requirements of Section 302.211 as it applies to the petitioners' discharges to the portion of the Calumet River from O'Brien Locks and Dam to the 95th St. Bridge. These standards were first applied to ACME and LTV when that portion of the Calumet River was redesignated from a Secondary Contact Waterway (35 Ill. Adm. Code 302, Subpart D) to a General Use Waterway (35 Ill. Adm. Code 302, Subpart B) in R87-27. The regulations adopted in R87-27 were effective on May 27, 1988. Petitioners request that the Secondary Contact and Indigenous Aquatic Life (Secondary Contact) thermal water quality standard of 35 Ill. Adm. Code 302.408 be applied to petitioners' discharges. These are the standards that were applicable to petitioners prior to the redesignation of the Calumet River in R87-27.

The Calumet River is a shipping channel for international traffic between Lake Michigan and the Port of Chicago at Lake Calumet. (Ag. Res. at 9.) Flow from the Calumet River, except in extreme storm events, passes through the O'Brien Locks and Dam at the average rate of 50 cubic feet per second. (Ag. Res. at 10.) The Calumet River and the surrounding area have been greatly modified for use as a shipping channel with channelizing, dredging, water flow reversal and sheet piling replacing the original hydrodynamics of the Calumet River. (Ag. Res. at 7.) Historical practices of filling marshland, industrial waste disposal and inadequately treated sewage have adversely impacted the area. (Ag. Res. at 7.)

The Calumet River has positive environmental indicators. (Pet. at 7.) The Calumet River generally takes water subject to Lake Michigan Water Quality standards from Lake Michigan and discharges it south through the O'Brien Locks and Dam. (Pet. at 7.) The O'Brien Locks and Dam generally prevents the higher pollution loading of the Little Calumet from reaching the subject portion of the Calumet River. (Pet. at 7.) Public improvements, such as the Tunnel and Reservoir Project and sidestream aeration, and improved industrial waste disposal practices have improved the River. (Pet. at 7.) Fish data shows numerous species of tolerant fish in the Calumet River, however, the data does not indicate whether the fish are resident or migrating. (Ag. Res. at 8.)

LTV owns and operates a modern, six meter battery for the production of coke, together with a coke by-product plant at 116th Street and Burley Avenue in Chicago, Illinois. (Pet. at 2.) The facility employs 325 people. (Pet. at 2.) The facility supplies coke to LTV's Indiana Harbor facility which includes a blast furnace, steel mill and rolling mill. (Pet. at 2.)

The Agency issued a NPDES permit to LTV on February 11, 1991

and March 13, 1991. (Pet. at 3.) This was the first permit issued to the facility to contain effluent limits based upon the General Use water quality standards. (Pet. at 3.) LTV appealed the thermal discharge limits of the NPDES permit in docket PCB 91-49<sup>1</sup>. (Pet. at 3.) LTV discharges 12 to 38 million gallons per day (MGD) of non-contact cooling water, groundwater and stormwater through its outfall 004 to the Calumet River. (Pet. at 3.)

ACME operates an integrated steel manufacturing facility consisting of a coke plant and blast furnace plant in Chicago, Illinois and a steel making plant in Riverdale, Illinois. (Pet. at 3.) ACME employs approximately 2,000 people in its Chicago and Riverdale plants with an additional 200 people at its Riverdale headquarters. (Pet. at 4.) The relief requested in the adjusted standard petition would not apply to the Riverdale facility. (Pet. at 3.)

An NPDES permit was issued to ACME on January 8, 1991. (Pet. at 4.) This was the first permit issued to ACME following the redesignation of the Calumet River and contained effluent limits based on the general use water quality standards. (Pet. at 4.) ACME appealed the permit conditions based on the more stringent water quality standard required by the redesignation of the Calumet River. (Pet. at 4.) This appeal is docketed as PCB 91-28<sup>2</sup>. (Pet. at 4.) ACME's blast furnace and coke plant operations discharge 14.619 MGD of non-contact cooling water and stormwater through four outfalls into the Calumet River. (Pet. at 5.)

Neither ACME nor LTV currently treat the thermal component of their discharge. (Pet. at 5.) To comply with the permit conditions the facilities would be required to construct holding basins or cooling towers. (Pet. at 5.) These alternatives involve substantial costs for construction, operation and maintenance. (Pet. at 5.) The limited space available for construction dictates higher costs. (Pet. at 5.)

A study of compliance alternatives for the ACME coke plant identified two options for the coke plant. (Pet. at 6.) The two options include constructing a settling lagoon at a capital cost

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<sup>1</sup> The appeal of the permit is presently being stayed awaiting the outcome of this adjusted standard procedure.

<sup>2</sup> The Board consolidated PCB 91-28 with PCB 92-2. PCB 92-2 is an appeal of a permit modification to accommodate a zebra mussel eradication program. The appeal of the permit is presently being stayed awaiting the outcome of this adjusted standard procedure.

of \$1.2 million or a cooling tower at a capital cost of \$1.1 million. (Pet. at 6.) Estimated operations and maintenance (O & M) costs for each system would be \$155,000 and \$235,000, respectively. (Pet. at 6.) Due to space limitations, a cooling tower is the only available option for the furnace plant. (Pet. at 6.) The cost of the cooling tower for the furnace plant is estimated at \$2.6 million with annual O & M costs of \$310,000. (Pet. at 6.)

A study of the LTV facility revealed that a cooling tower could be constructed at the facility. (Pet. at 6.) However, the study concluded that it was doubtful that the addition of a water tower would achieve consistent compliance. (Pet. at 6.) The estimated construction cost of the cooling tower system is \$3.2 million with O & M costs anticipated at between \$100,000 and \$450,000. (Pet. at 6.)

#### SUBSTANTIALLY DIFFERENT FACTORS

Petitioners maintain that the Calumet River was originally designated as a Secondary Contact Waterway in recognition of the fact that it would not achieve the broad uses contemplated for General Use streams. (Pet. at 9.) The redesignation of the portion of the Calumet River was part of a rulemaking affecting the Chicago area waterways. (Pet. at 10.) The portion of the Calumet River effected by this adjusted standard was not included in the original notice of the proceeding. (Pet. at 11.) Therefore, petitioners assert that they did not have specific notice of the pending redesignation. (Pet. at 11.) Petitioners claim that the redesignation was made without any apparent consideration of its impact on LTV and ACME or the environmental conditions of the related portions of the Calumet River. (Pet. at 11.) Petitioners assert that the Board made no finding that the uses of the waterway had changed or that compliance with the newly applied standards would be technically feasible or economically reasonable. (Pet. at 11.)

Petitioners claim that this situation creates significantly different factors which justify the adjusted standard. Petitioners maintain that compliance with the General Use Thermal Standards would not be technically feasible or economically reasonable.

The Agency believes that justification exists for the adjusted standard based on the information submitted and the studies performed. (Ag. Res. at 12.) The Agency maintains that the data presented shows great variability in the fish species historically present in the Calumet River. (Ag. Res. at 12.)

The Agency argues that non-participation of the petitioners in the R87-27 rulemaking does not result in a significantly different factor. (Ag. Resp. at 12.) The Agency also argues that

the habitat limitations do not represent a significantly different factor that justifies the requested standard. (Ag. Res. at 12.) The Agency contends that the Board considered the aquatic life limitations in channelized waters as part of revising the dissolved oxygen standard in R87-27. (Ag. Res. at 12.)

#### ENVIRONMENTAL IMPACT

LTV and ACME conducted a thermal plume evaluation and habitat assessment of the segment of the Calumet River. (Pet. at 8.) The study was performed according to a work plan agreed to by the Agency. (Pet. at 8.) The study concluded that the thermal inputs from LTV and ACME's discharges have no impact on the aquatic community and there would be no improvement to the community if the General Use water quality standards for temperature were achieved. (Pet. at 8.) The habitat assessment demonstrated that the Calumet River is a channelized shipping canal and will not support a diverse, warm water aquatic community. (Pet. at 8.) The report describes the area of the Calumet River adjacent to LTV and ACME as straight and channelized containing no shallow areas for fish breeding and production with almost no cover, riffles, runs or fast currents. (Pet. at 9.) The study finds that the area does not have a natural shoreline and that the bottom is mostly soft substrates that are continually churned by barge and shipping traffic. (Pet. at 9.) The report concludes that the aquatic community in the area is limited by this lack of habitat structure and this limitation is permanent and unrelated to water quality including temperature. (Pet. at 9.)

#### CONSISTENCY WITH FEDERAL LAW

Petitioners contend that the requested adjusted standard is consistent with federal law. (Pet. at 11.) Petitioners maintain that the evidence demonstrates that none of the uses would be impaired at this location by the requested relief. (Pet. at 11.) The Agency asserts that the adjusted standard is consistent with federal law. (Ag. Res. at 13.) The adjusted standard is subject to review by the U.S. EPA. (Am. Res. at 2.) The U.S. EPA has indicated that it has reviewed the adjusted standard request and found it to be consistent with federal law. (Letter from U.S. EPA Region 5 provided in the Agency's May 16, 1995 Motion to Supplement the Record.)

#### COMMENTS FROM INTERESTED PARTIES

The Chicago Legal Clinic, on behalf of the interested parties, argues that petitioners' request for an adjusted standard should be denied. In its post hearing comments, the interested parties argue that petitioners have failed to present adequate justification for the requested adjusted standard. The

interested parties contend that petitioners have failed to prove any significantly different factors to justify an adjusted standard. (Com. at 2.) The interested parties further contend that petitioners have failed to prove that the requested adjusted standard will not result in environmental effects more adverse than the effects considered by the Board in adopting the rule of general applicability. (Com. at 3.)

The interested parties maintain that petitioners failed to provide thermal temperature data of the receiving stream. (Com. at 4.) The interested parties contend that the temperature data submitted by petitioners was irrelevant in that it was from an area 2 1/2 miles into Lake Michigan and was not taken during the worst case period (typically July and August) as recommended by petitioner's expert. (Com. at 4.) The interested parties contend that the fish data provided was inadequate. (Com. at 5.) The interested parties note that the Agency recommended that the petitioner be allowed two years in which to conduct a fish study and that the data submitted was from a single day of an electroshock fish study. (Com. at 5.) The interested parties maintain that petitioners failed to monitor the temperature of the Calumet River and outfalls. (Com. at 6.) In addition, the interested parties contend that petitioners did not adequately investigate the fish habitat. (Com. at 6.) The interested parties contend that the petitioners failed to prove that compliance is technically infeasible or economically unreasonable. (Com. at 6.) The interested parties maintain that without any consistent data of the temperature of the Calumet River, the temperature of the outfalls, the discharge, the volume and rate of output petitioners cannot prove technical infeasibility or economic unreasonableness. (Com. at 6.) The interested parties contend that the adjusted standard should be denied or postponed until the results of a fish study of the Cal Sag and Des Plaines River conducted by Commonwealth Edison is published and reviewed. (Com. at 7.)

In its reply brief petitioners maintains that it presented substantial evidence as to every issue and supported the claim for relief. (Reply at 1.) Petitioners contend that the interested parties have based their arguments on unsworn comments by the Agency and misstatements of the record. (Reply at 5.) Petitioners observe that the reports contain substantial temperature data over three years. (Reply at 4.) Petitioners maintain that the fish sampling involved three different days at six different stations over a two month period and was not a "one day fishing operation". (Reply at 4.)

#### DISCUSSION

The Commonwealth Edison study referenced by the interested parties, pertains to waterways other than the stretch of the Calumet River affected by the adjusted standard. (Tr. at 164.)

Petitioners maintain that while the study may be comprehensive, it will not shed any light on the site-specific nature of the adjusted standard. (Tr. at 164.) As the information obtained from the study will be mostly irrelevant to the requested adjusted standard the Board will not delay review of this matter pending the completion of the outcome of the Commonwealth Edison study.

The interested parties question the validity and completeness of the studies presented by the petitioners. The Board finds that the studies presented by petitioners are sufficient to support the requested relief. The Agency determined that the studies were complete and studies were performed in accordance with Agency guidelines and requirements. In addition the interested parties did not provide any studies or testimony in opposition of the petitioners.

Petitioners have presented significantly different factors to justify the granting of the adjusted standard. The studies presented by petitioners show the unique characteristics of the habitat of the portion of the Calumet River. This additional information on the habitat was not considered by the Board in the rulemaking that redesignated this portion of the Calumet River.

The studies performed by the petitioners indicated that the thermal effect of the discharges will not result in impact on the environment. Petitioners also concluded that the General Use water quality standards would not result in improvements to the aquatic community. No testimony was presented to dispute the findings of the petitioner. Therefore, based on the evidence before the Board, the Board finds that the proposed adjusted standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability.

Petitioners and the Agency agree that the requested adjusted standard is consistent with federal law. The U.S. EPA has indicated that the requested adjusted standard is consistent with federal law. Therefore, the Board finds that the adjusted standard is consistent with federal law.

While petitioners have reviewed alternatives for compliance and determined that there is technology that would allow petitioners to obtain compliance with the standards, there is some uncertainty that compliance could be achieved consistently at the LTV facility. Further, while the Board believes that compliance with the standard is technically feasible under the studied alternatives, after consideration of the environmental impact and the costs of adding the necessary technologies to achieve compliance, the Board finds that the alternatives presented by the petitioners are economically unreasonable.



7

CONCLUSION

For all of the above reasons, the Board finds that petitioners have presented adequate proof of justification for the requested adjusted standard as set forth in Section 28.1(c) of the Act and the requested adjusted standard, as presented in this proceeding, is consistent with the factors set forth in Section 27(a) of the Act.

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

ORDER

The Board hereby grants an adjusted standard from 35 Ill. Adm. Code 302.211 as that section applies to the discharges of ACME Steel Company and LTV Steel Company to the Calumet River between the 95th Street Bridge and the O'Brien Lock and Dam. The following standard becomes effective on the date of this order:

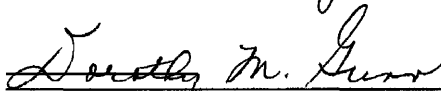
- a) The General Use water quality standards for temperature, 35 Ill. Adm. Code 302.211, shall not apply to the discharges from ACME Steel Company and LTV Steel Company into the Calumet River between the 95th Street Bridge and the O'Brien Lock and Dam.
- b) The Secondary Contact and Indigenous Aquatic Life Standards for temperature, 35 Ill. Adm. Code 302.408, shall be applied to discharges from these facilities into the Calumet River between the 95th Street Bridge and the O'Brien Locks and Dam.

IT IS SO ORDERED.

J. Theodore Meyer dissented.

Section 41 of the Environmental Protection Act, (415 ILCS 5/41 (1992)), provides for appeal of final orders of the Board within 35 days of the date of service of this order. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246, Motion for Reconsideration.)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 7th day of July, 1995, by a vote of 6-1.

  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board