

ILLINOIS POLLUTION CONTROL BOARD
April 8, 1993

IN THE MATTER OF:)
)
GRANITE CITY DIVISION OF)
NATIONAL STEEL PETITION FOR)
ADJUSTED STANDARD FROM) AS 90-4
35 ILL.ADM.CODE 302.208:) (Adjusted Standard)
NUMERIC STANDARD FOR FLUORIDE)

DAVID L. RIESER, of ROSS & HARDIES, APPEARED ON BEHALF OF
PETITIONER; and

LISA MORENO APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY.

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

This matter is before the Board on petitioner Granite City
Division of National Steel Corporation (GCD)'s March 5, 1990
petition for adjusted standard. Hearing was held in Granite
City, Illinois, on July 21, 1992. No members of the public
attended the hearing. Briefing was completed on September 10,
1992.

RELIEF REQUESTED

GCD filed this petition on March 5, 1990, in response to the
water toxics standards adopted by the Board on January 25, 1990.
(Amendments to Title 35, Subtitle C (Toxics Control) (January 25,
1990), R88-21(A).) GCD originally sought adjusted standards from
35 Ill.Adm.Code 302.102 (mixing zones), 302.208 (numeric
standards for cyanide, copper, and fluoride), 302.210 (the
narrative standard), and Subpart F (procedures for determining
water quality criteria--narrative standard). (Pet. at 1.) At
hearing on July 21, 1992, however, GCD orally amended its request
for relief. GCD withdrew its request for adjusted standard from
the numeric standards for cyanide and copper, and with regard to
the provisions of Subpart F. GCD now seeks only an adjusted
standard from the numeric standard for fluoride in this
proceeding.¹ GCD requests an adjusted standard raising the water
quality standard for fluoride in Horseshoe Lake from 1.4 mg/L to
4.0 mg/L. (Tr. at 6-11.) Respondent the Illinois Environmental
Protection Agency (Agency) supports GCD's request. (Tr. at 89;
Agency Br. at 1.)

BACKGROUND

¹ The caption of this proceeding has been amended to
reflect this change.

GCD is an integrated steel mill located in Granite City, Illinois, and presently employs approximately 3,500 people. The various wastewater streams generated by the mill are treated in a central wastewater treatment system, with the exception of the cokemaking by-product wastewater. That wastewater is treated by a dedicated activated sludge facility. The wastewaters from the mill are from essentially two sources: steelmaking and blast furnaces. The wastewaters from these two sources are segregated, and each goes through primary treatment consisting of scale pits, sedimentation ponds, and oil skimmers. The wastewaters then receive secondary treatment in separate stabilization lagoons. (The effluent from the cokemaking sludge facility is also directed to the blast furnace lagoon.) Tertiary treatment for a 25 MGD discharge is located adjacent to the lagoons. The discharge from the tertiary treatment plant is directed to Horseshoe Lake. (Tr. at 13-16; Pet. at 2-3.)

Horseshoe Lake is the largest natural lake in the St. Louis metropolitan area, covering just over 2,100 acres. The lake has a mean depth of about four feet. The lake has a number of recreational uses, and Horseshoe Lake State Recreation Area allows public access for fishing and boating. (Tr. at 17, 22.) The highest fluoride concentration in GCD's discharge was 3.95 mg/L, with a corresponding fluoride concentration in the lake of 2.23 mg/L. (Pet. Exh. 1, Table 2.) There are no other point source discharges into Horseshoe Lake. (Tr. at 18.)

GCD has identified three compliance options for meeting the fluoride standard. First, GCD could install additional treatment at a cost of \$7.8 million, and operating expenses of \$1.1 million. This treatment would treat the fluoride in the wastewater, using activated alumina adsorption. Second, GCD could recycle 100% of the tertiary wastewater. The estimated cost of this second option is \$10- \$15 million, and would substantially reduce the flow of water into the lake. Third, GCD could divert the discharge from Horseshoe Lake to the Mississippi River, where a mixing zone might be available. This option would cost approximately \$2.3 million to pipe the discharge four miles to the river, and would also reduce the flow of water into Horseshoe Lake. (Tr. at 19-20.)

Mr. Carl Cannon, Manager of Environmental Control for GCD, testified that the last two options would have a negative impact on Horseshoe Lake. Mr. Cannon stated that without the 20 MGD of water and the associated oxygen, the aquatic species would essentially perish. He also testified that GCD's discharge is the only significant source of water to prevent the lake from drying up during extended drought conditions. For example, during 1954-55, portions of the lake bed were converted to farmland. (Tr. at 20.) Mr. Cannon also presented a letter from the Illinois Department of Conservation, stating that GCD's discharge into Horseshoe Lake is beneficial, because it sustains

a constant normal pool for the lake. (Pet. Exh. 2.)

Ms. Donna Hall, a biologist with Environmental Science & Engineering, Inc. (ESE), also testified on behalf of GCD. Ms. Hall presented the findings of a biological study performed by ESE in 1990. (Pet. Exh. 5.) The 1990 study included toxicity testing, and fishery and macroinvertebrate community evaluation. Ms. Hall testified that GCD's discharge does not appear to adversely affect the current aquatic uses of Horseshoe Lake based on the physical, chemical, and biological characteristics of the lake. (Tr. at 34.) Ms. Hall concluded that the current GCD practices provide greater areas of open water in Horseshoe Lake, which support heron and egret populations, as well as migratory waterfowl who feed in the lake. (Tr. at 36.) Ms. Hall is of the opinion that the community distribution and diversity have demonstrated that the GCD facility has not degraded water quality. (Tr. at 50.) Ms. Hall testified that a revised fluoride standard of 4.0 mg/L would not adversely affect current or future aquatic communities in Horseshoe Lake. (Tr. at 52.)

ADJUSTED STANDARD JUSTIFICATION

Section 28.1 of the Environmental Protection Act (Act) allows the Board to grant adjusted standards modifying the effect of general rules in specific cases. (415 ILCS 5/28.1 (1992).)² Procedural rules for adjusted standards are found at 35 Ill. Adm. Code 106. Subpart G. Where the Board specifies a "level of justification" at the time that it adopts a rule of general applicability, that level of justification is applied to any adjusted standard request filed pursuant to that rule. Absent a specified level of justification, the provisions of Section 28.1(c) of the Act apply to a request for adjusted standard.

GCD seeks an adjusted standard from 35 Ill. Adm. Code 302.208 as that section applies to fluoride. Section 302.208 does not specify a level of justification. Therefore, an adjusted standard from Section 302.208 must meet the criteria in Section 28.1(c). That subsection states:

- c) If a regulation of general applicability does not specify a level of justification required of a petitioner to qualify for an adjusted standard, the Board may grant individual adjusted standards whenever the Board determines, upon adequate proof by petitioner, that:
 1. factors relating to that petitioner are

² The Act was formerly codified at Ill. Rev. Stat. 1991, ch. 111½, par. 1001 et seq.

substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to the petitioner;

2. the existence of those factors justifies an adjusted standard;
3. 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
4. the adjusted standard is consistent with any applicable federal law.

(415 ILCS 5/28.1(c) (1992).)

PROPOSED STANDARD

As noted above, GCD asks for an adjusted standard from 35 Ill. Adm. Code 302.208, as that section applies to fluoride. Section 302.208(e) provides that the concentration of fluoride shall not exceed 1.4 mg/L. GCD proposes the following language for its adjusted standard:

The fluoride standard of 35 Ill. Adm. Code 302.208 shall not apply to Horseshoe Lake, located in Madison County. The fluoride water quality standard (Storet # 00950) for Horseshoe Lake shall be 4.0 mg/L.

AGENCY RESPONSE

The Agency supports GCD's request for an adjusted standard for fluoride. At hearing, Dean Studer, an environmental protection engineer with the Agency's Water Quality Planning Section, testified that GCD's request is justified and reasonable. Mr. Studer stated that treatment for the removal of fluoride would be expensive and present additional problems in disposing of treatment waste, and that diversion of GCD's effluent from Horseshoe Lake would have a negative impact on the lake. (Tr. at 88-91.) Mr. Studer concluded that "[t]he Agency believes that adjusting the water quality standard for fluoride is the simplest economically achievable and environmentally sound solution for Granite City Steel." (Tr. at 89.) The Agency is satisfied that a water quality standard of 4.0 mg/L for fluoride will have no adverse effects on the biological community of Horseshoe Lake. (Tr. at 90; Agency Br. at 1.)

DISCUSSION

The Board initially notes that our decision in this case has

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been complicated by GCD's failure to explicitly address the level of justification of Section 28.1(c) as those factors apply to GCD's request for an adjusted standard for fluoride. Although GCD's original petition addressed the issue of justification in broad terms, that discussion focused on GCD's original request for an adjusted standard from the mixing zone and narrative standard provisions, not on its request for an adjusted standard for fluoride. (Pet. at 10-11.) In its brief, GCD simply states that the record provides ample justification to support the requested relief, and that its request is economically reasonable and environmentally sound. (Pet. Br. at 4, 5.) Both the statute and the Board's procedural rules clearly delineate the level of justification which must be met by a petitioner. The petitioner is under a obligation to address the factors included in that level of justification.

The 1.4 mg/L water quality standard for fluoride was originally adopted by the Board in 1972. (Water Quality Standards Revision (March 7, 1972), R71-14.) The 1.4 mg/L standard was recodified in 1990, in the water toxics rulemaking. In that rulemaking, however, the Board specifically stated that there was no substantive change in that standard. (Amendments to Title 35, Subtitle C (Toxics Control) (January 25, 1990), 107 PCB 267, 291, R88-21(A).) The 1972 opinion does not specifically articulate the factors relied in adopting the fluoride standard. Therefore, it is difficult to analyze GCD's request in light of the Section 28.1(c) requirement that factors relating to the petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the rule of general applicability. The evidence in this case indicates that without the flows from GCD, the water level in Horseshoe Lake would not be stable, and that in extreme situations, the lake might dry up. We believe that it is safe to assume that when adopting the fluoride standard, the Board did not contemplate a situation where the receiving water might disappear. Thus, the Board finds that GCD has shown factors that are substantially and significantly different from those considered in adopting the 1.4 mg/L fluoride standard.

A petitioner must also show that those substantially and significantly different factors justify an adjusted standard. As we have noted, the evidence indicates that the flows from GCD are the only significant source of water to maintain a constant normal pool for the lake, and to prevent the lake from drying up during extended drought conditions. The Board finds that these factors do justify an adjusted standard.

Third, a petitioner must demonstrate that 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. Again, it is difficult to directly assess this

factor because of the lack of specific information on the effects originally considered by the Board. However, the evidence shows that the discharge does not adversely affect the current aquatic uses and communities of Horseshoe Lake, and that current GCD practices provide greater areas of open water to support heron, egret, and migratory waterfowl populations. Both GCD and the Agency believe that a fluoride standard of 4.0 mg/L would not have an adverse affect on the biological community of Horseshoe Lake. The Board finds that the requested standard will not result in environmental or health effects substantially and significantly more adverse than those considered in adopting the rule of general applicability.

Finally, Section 28.1(c) requires that a petitioner demonstrate that the adjusted standard is consistent with any applicable federal law. In its petition, GCD contends that its requested relief is consistent with federal law, and points to Section 303 of the Clean Water Act. (33 U.S.C. §1313(c).) Section 303(c)(2) requires that water quality standards take into account the designated uses of the water involved. The Board finds that the evidence in this case indicates that the requested adjusted standard is consistent with federal law.

CONCLUSION

After a careful review of the record, the Board will grant GCD an adjusted standard from the fluoride standard of Section 302.208. We find that the requirements of Section 28.1(c) have been met. GCD's discharges are the only significant source of water into Horseshoe Lake, and sustain a constant normal pool for the lake. Horseshoe Lake has a number of recreational uses, and supports a diverse fishery and macroinvertebrate community. The toxicity testing indicates that the effluent from the GCD facility should have little to no impact on the aquatic biota in the lake. Both GCD and the Agency presented testimony that a revised fluoride standard of 4.0 mg/L would not adversely affect current or future aquatic communities in Horseshoe Lake. Based upon our determination that the level of justification in Section 28.1(c) has been met, we grant an adjusted standard for fluoride in Horseshoe Lake.

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

ORDER

The Board hereby grants an adjusted standard from 35 Ill. Adm. Code 302.208(e), as that section applies to fluoride, for Horseshoe Lake in Madison County, Illinois. The following standard becomes effective on the date of this order:

The fluoride standard of 35 Ill. Adm. Code 302.208(e) shall

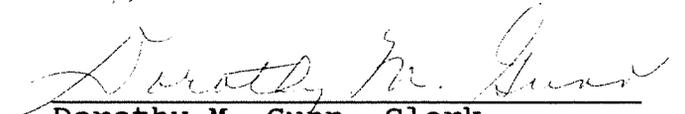
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not apply to Horseshoe Lake, located in Madison County, Illinois. The fluoride water quality standard (Storet # 00950) for Horseshoe Lake shall be 4.0 mg/L.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41) provides for the appeal of final Board orders. The Rules of the Supreme Court of Illinois establish filing requirements. (But see also 35 Ill. Adm. Code 101.246 "Motions for Reconsideration" and Castenada v. Illinois Human Rights Commission (1989), 132 Ill.2d 304, 547 N.E.2d 437; Strube v. Illinois Pollution Control Board, No. 3-92-0468, slip op. at 4-5 (3d Dist. March 15, 1993).)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 8th day of April, 1993, by a vote of 6-0.


Dorothy M. Gunn, Clerk
Illinois Pollution Control Board