

ILLINOIS POLLUTION CONTROL BOARD

September 7, 2000

IN THE MATTER OF:)
)
PETITION OF ILLINOIS AMERICAN WATER) AS 99-6
COMPANY'S ALTON PUBLIC WATER SUPPLY) (Adjusted Standard - Water)
REPLACEMENT FACILITY DISCHARGE TO THE)
MISSISSIPPI RIVER FOR AN ADJUSTED STANDARD)
FROM 35 ILL. ADM. CODE 302.203, 304.106, AND)
304.124)
)

OPINION AND ORDER OF THE BOARD (by N.J. Melas):

NANCY J. RICH OF KATTEN, MUCHIN & ZAVIS APPEARED ON BEHALF OF THE PETITIONER; and

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

This matter comes before the Board on a petition for adjusted standard filed on March 19, 1999, by the Illinois American Water Company (IAWC) for its new public water supply treatment facility at Alton, Madison County, Illinois (new facility). In the petition, IAWC requests that the Board adopt an adjusted standard from: (1) Section 304.124 of the Board's rules for discharges of total suspended solids (TSS) and iron in the new facility's effluent; (2) Section 304.106, which bans offensive discharges; and (3) Section 302.203, the water quality provision banning offensive conditions, which has prohibitions similar to Section 304.106. Pet. at 1.¹ The adjusted standard is requested for the new facility's discharge to the Mississippi River (Mississippi) at approximately River Mile 204. Pet. at 12.

The Board's responsibility in this matter arises from the Environmental Protection Act (Act) (415 ILCS 5/1 *et seq.* (1998)). The Board is charged to "determine, define and implement the environmental control standards applicable in the State of Illinois" (415 ILCS 5/5(b) (1998)) and to "grant . . . an adjusted standard for persons who can justify such an adjustment" (415 ILCS 5/28.1(a) (1998)).

The Board has expedited its decision in response to the parties joint motion of July 14, 2000. The Board finds that IAWC has met the requirements for an adjusted standard from Sections 302.203 and 304.106 of the Board's rules and grants that part of the amended petition. The Board finds that IAWC has met the requirements for an adjusted standard from Section 304.124 of the Board's rule as it applies to TSS and grants that part of the amended petition. The Board will not grant an adjusted standard from Section 304.124 of the Board's rules as it applies to iron and denies that part of the amended petition as unnecessary.

EXISTING STANDARDS AND PROPOSED LANGUAGE OF ADJUSTED STANDARD

¹ IAWC's petition, including the attached "Site Specific Analysis of Potential Alternatives for Handling Public Water Supply Residuals at Proposed Alton, IL Facility" by ENSR dated March 1999, will be cited as "Pet. at ___" and IAWC's amended petition will be cited as "Am. Pet. at ___"; the Agency's response will be cited as "Res. at ___" and the Agency's amended response will be cited as "Am. Res. at ___"; the November hearing will be cited as "Tr. 1 at ___" and the January hearing will be cited as "Tr. 2 at ___"; IAWC's exhibits from the November hearing will be cited as "Nov. Pet. Exh. ___ at ___" and its exhibit from the January hearing will be cited as "Jan. Pet. Exh. at ___"; the Agency's exhibit from the January hearing will be cited as "Agency Exh. at ___"; citizen exhibits from the November hearing will be cited as "Nov. Cit. Exh. ___ at ___" and from the January hearing as "Jan. Cit. Exh. ___ at ___"; IAWC's final brief will be cited as "Pet. Br. at ___"; the Agency's final brief will be cited as "Agency Br. at ___"; and McSwiggin's testimony will be cited as "Mc. at ___."

IAWC is seeking an adjusted standard from Section 304.124 of the Board's rules as it applies to TSS and iron. Pet. at 1. Section 304.124 sets forth effluent standards for TSS at 15 mg/L and for iron at 2 mg/L. 35 Ill. Adm. Code 304.124.

IAWC is also seeking, to the extent that the Board deems necessary, an adjusted standard from Section 304.106 of the Board's rules governing offensive discharges. Pet. at 1. Section 304.106 provides that "In addition to the other requirements of this Part, no effluent shall contain settleable solids, floating debris, visible oil, grease, scum or sludge solids. Color, odor and turbidity must be reduced to below obvious levels." 35 Ill. Adm. Code 304.106. IAWC defines turbidity as "a measure of the interference of the passage of light into the water caused by suspended material in the water." Pet. at Att. B at 5-22. IAWC is also seeking an adjusted standard, to the extent the Board deems necessary, from the offensive conditions rule found at Section 302.203. Pet. at 1-2; Res. at 7. Section 302.203 provides that "Waters of the State shall be free from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity other than natural origin. The allowed mixing provisions of Section 302.102 shall not be used to comply with the provisions of this Section." 35 Ill. Adm. Code 302.203.

The NPDES permit (IL # 0000299) for IAWC's existing public drinking water treatment facility for Alton (existing facility) issued by the Illinois Environmental Protection Agency (Agency) does not contain discharge limits because the existing facility is subject to a site specific rule at 35 Ill. Adm. Code 304.206. The permit has monitoring requirements, including those for TSS and iron. Pet. at Att. B at 1-2, 1-5.

Although IAWC has captioned its petition as one for an adjusted standard, the relief it seeks is drafted in the form of a site-specific rulemaking. IAWC requests that the Board adopt a new Section of the Board's water pollution regulations. Despite IAWC's use of site specific rulemaking language in its petition, the Board will treat IAWC's request as a petition for an adjusted standard.

PROCEDURAL HISTORY

On September 16, 1999, the Agency filed its response to IAWC's petition. The Agency recommended that the Board deny the relief requested in IAWC's petition for direct discharge to the Mississippi, and instead recommended that IAWC use gravitational settling in lagoons before discharging its wastewater back to the Mississippi. Res. at 1, 22-23.

The hearing in this matter began on November 30, 1999, in Alton, Illinois before former Board Hearing Officer Karen Kavanagh Mack. The hearing continued on January 6, 2000, (also in Alton) before the Board's Chief Hearing Officer John Knittle. Persons submitting testimony for the November hearing included IAWC President Terry Gloriod, IAWC Southern Division Manager Karen Cooper, IAWC Vice President of Engineering Mark L. Johnson, and ENSR Senior Ecologist Dr. David F. Mitchell. Persons testifying at the November hearing included Alton Mayor Pro Tem Phil Hanrahan, Great Rivers Land Trust Executive Director Wayne Freeman, River Bend Growth Association President Donald Miller, Alton Lake Heritage Parkway Commission Chair Annie Hoagland, and local residents R. L. Christeson and James E. Schrempf. Johnson submitted testimony again and Freeman testified again at the January hearing. Former Piasa Creek Watershed Conservancy member Alan Ringhausen testified at the January hearing along with Richard Mollohan of the Watershed Planning Section of the Agency and Don Roseboom of the Illinois State Water Survey's Watershed Restoration Program and Watershed Science Section.

One of the Agency's witnesses, the Bureau of Water's Permit Section Manager Thomas G. McSwiggin, was unable to attend the hearing due to illness. At the January hearing, Knittle granted the Agency leave to file McSwiggin's testimony in written form. Tr. 2 at 61-62.

At the January hearing, the Agency stated that it had "abandoned" the position that it took in the response and was instead supporting IAWC's petition for an adjusted standard for direct discharge pursuant to IAWC's funding a nearby sediment reduction project. Tr. 2 at 10.

On January 5, 2000, IAWC filed a motion to amend its petition and a description of its amended proposal. On June 22, 2000, the Agency filed its amended response to the petition, its final brief, and McSwiggin's testimony. In its amended response, the Agency echoed its position from the January hearing, recommending that the Board grant IAWC's petition for an adjusted standard provided that IAWC engages in a ten-year sediment reduction project on Piasa Creek. Am. Res. at 1-2, 15.

On July 14, 2000, IAWC filed its final brief accompanied by a motion to file the brief *instanter*, which is granted. IAWC also filed a motion to waive the remainder of the briefing schedule, which the Board also grants. Also on July 14, the parties filed a joint motion for expedited decision which the Board granted on July 27, 2000.

NATURE OF IAWC'S NEW AND EXISTING FACILITIES IN ALTON

The Mississippi is the sole source for IAWC's drinking water supply in Alton. Pet. at 12, Att. B at 3-1. IAWC's existing facility has about 265 miles of water main and serves about 76,500 people in approximately 17,500 homes and businesses. Pet. at 12, Att. B at 3-1. Portions of the existing facility have been supplying water to the City of Alton and nearby communities (and discharging to the Mississippi) since the 1890s. The main service part of the existing facility was built in the 1930s, and the high service part of the existing facility was built in 1981. Pet. at 13, Att. B at 3-1, 3-3.

Operations

The operations at the new facility will be "very similar" to those at the existing facility. With the exception of the new facility being moved to the other side of a highway and up to the top of a bluff to reduce the threat of flooding, the new facility will be in the same area as the existing facility. Pet. at 12. Therefore, information on the operation of the existing facility will be relevant to operations at the new facility. Pet. at 12.

The existing facility returns residuals and sediments back to the Mississippi after the drinking water purification process. Pet. at 6-7, Att. B at 1-2, 6-2. There are two types of service discharges at the existing facility: operational and maintenance. Operational discharges occur daily or weekly. One operational discharge involves intake screens that strain out debris. Pet. at 14, Att. B at 3-2. The screens are washed regularly, and the screen wash and debris are returned to the Mississippi. Pet. at 13, Att. B at 3-1. Other operational discharges at the Main Service facility include discharges of blowdown from the clarifier (about 30,000 gallons per day (gpd) twice per week) and 630,000 gpd of backwash from the sand filters. Operational discharges at the High Service facility include 12,000 gpd of carrier water and residuals from the clarifier, and 210,000 gpd from the sand/anthracite filters.

Maintenance discharges occur three times per year at the Main Service facility when the accumulated solids are cleared out of the clarifier, sedimentation basins, and mixing tanks. In addition, the sedimentation basins are dewatered prior to sludge removal. During each five-day maintenance period at the main service facility, IAWC discharges about 72,000 gpd of water and residuals to the Mississippi. At the high service facility, IAWC cleans the Claricone clarifiers once per year yielding about 24,000 gpd during the two-day cleaning cycle. Pet. at 14-16, Att. B at 3-2, 3-3; Res. at 11-12. These discharges, which are not subject to the existing facility's site specific rule at 35 Ill. Adm. Code 304.206, are routed to a wet well and discharged back to the Mississippi. Res. at 12.

The new facility is expected to provide, on average, 10.5 million gallons of potable water per day (mgd). Nov. Pet. Exh. 3 at 4; Pet. at 4, 17, Att. B at 3-4. The estimated average proportional plant use demand is 0.7 mgd. Adding the estimated average proportional plant use demand and the average daily demand provides the combined flow for the average day - 11.2 mgd - which is the figure that IAWC used in predicting discharge impacts. Nov. Pet. Exh. 3 at 4; Jan. Pet. Exh. at 1. Two processes at the facility will generate discharges, and there will be a periodic cleaning-related maintenance discharge. Pet. at 4.

IAWC predicts that the new facility will discharge approximately 3,360 tons of residual solids per year back into the Mississippi. Jan. Pet. Exh. at 1. Naturally-occurring material makes up about 91% of the total solids returned to the Mississippi and a coagulant called Clar+Ion®, which is used in the treatment process, makes up the other 9%. Nov. Pet. Exh. 3 at 15; Jan. Pet. Exh. at 1; Pet. at 6-7, 75, 82; Att. B at 6-2, 6-12. Clar+Ion® is primarily

comprised of non-metallic biodegradable polymers but it does contain trace amounts of aluminum and sulfates which also end up in the discharge. Pet. at 6-7, 75, 82, Att. B at 6-2, 6-12. IAWC claims that recovery of the aluminum and sulfates will not be practicable due to the large amounts of residuals in the discharge. Pet. at 75.

IAWC alleges that there will be very little difference between the discharge at the new facility and the discharge at the existing facility. Nov. Pet. Exh. 4 at 12. The new facility will consist of a new raw water intake and pumping station, clarification and filtration units, filtered water storage, and chemical feed units. The new clarification units are called Superpulsators® which are high rate sludge-blanket type clarifiers. Like the existing facility, the new facility will have operational and maintenance discharges. The new facility's residual discharges will consist of chemical residuals (38,070 gpd), filter backwash (620,400 gpd), and Superpulsator® blowdown / cleaning water (395,030 gpd). The new facility will have one additional maintenance wet well cleaning every five years, which was not part of maintenance at the existing facility. This new discharge will be "minor in amount and duration" and will not contain any coagulants. The total amount of residuals discharged (with no treatment) will be equal to the variable amounts of solids from the raw water coming into the new facility along with coagulants. The new facility will prevent unacceptable chlorine in the effluent through dechlorination with sulfur dioxide. The new facility's discharge pipe will be located about 50 to 75 feet away from the existing facility's discharge pipe. Nov. Pet. Exh. 3 at 4; Nov. Pet. Exh. 4 at 21; Pet. at 4, 13, 17-19, Att. B at 3-5 to 3-6, 3-11.

IAWC plans on operating the current facility until bringing the new facility on line by December 31, 2000. Nov. Pet. Exh. 2 at 9.

Location

IAWC is building the new facility to replace the existing facility and to prevent flooding. Pet. at 2, 16, Att. B at 1-1, 3-3. The existing facility is located on a parcel of land adjacent to the Mississippi which is only 20 feet above the Mississippi's normal summer level. There is a railroad and highway corridor on the east side of the existing facility and a steep slope up to bluffs overlooking the Mississippi. Pet. at 16, Att. B at 3-3.

The Mississippi flooded the existing facility in 1993. Exh. 2 at 3; Pet. at 2, Att. A, Att. B at 3-3. During that flood, the existing facility was out of service for four days, and consumers were required to boil their tap water for ten days after the facility went back into service. Nov. Pet. Exh. 2 at 2; Pet. at 16, Att. B at 3-3. There were also threats of floods in 1994 and 1995. Nov. Pet. Exh. 2 at 3; Pet. at 2, Att. A, Att. B at 3-3. IAWC has determined that the existing facility is too close to the Mississippi in order for it to provide continuous safe service to Alton residents. Furthermore, IAWC cannot find sufficient groundwater in the areas around Alton and Godfrey; groundwater is cleaner than Mississippi water and is also less expensive to treat. Nov. Pet. Exh. 2 at 2.

The 22-acre site for the new facility was chosen for its elevation (approximately 50 to 60 feet higher than the existing facility), industrial zoning classification, favorable topography for construction, proximity to the existing raw water intake location, and proximity to the existing facility and infrastructure. Nov. Pet. Exh. 3 at 3; Nov. Pet. Exh. 2 at 4; Pet. at 16, 20, Att. B at 3-4, 4-2. The new facility will be located on the east side of the Great River Road across from the existing facility which is on the west side of the Great River Road. Jan. Pet. Exh. at 1. Residences and industrial sites are situated in the area as well. Nov. Pet. Exh. 3 at 3.

REGULATORY HISTORY

In the 1980s, the Alton Water Company (the predecessor to IAWC in Alton) applied to the Board for relief from the effluent standards at 35 Ill. Adm. Code 304.104. The Alton Water Company cited the elevated ambient levels of TSS and iron in the Mississippi, the Mississippi's assimilative capacity, and site specific factors. The Board granted the Alton Water Company a site-specific rule for its existing facility which allowed it to discharge untreated wastewater into the Mississippi. In re Site-Specific Exception to Effluent Standards for Alton Water Treatment Plant (March 8, 1984), R82-3; codified as 35 Ill. Adm. Code 304.206. Although initially declining to adopt a similar site-specific rule for IAWC's East St. Louis water treatment plant, the Board ultimately adopted a rule, effective until January 1, 1992, requiring that the East St. Louis facility use only biodegradable coagulants to treat the raw water and that it conduct a study of the coagulants in the Mississippi. In re Site-Specific Exception to Effluent Standards

for the Illinois American Water Company, East St. Louis Treatment Plant (September 25, 1986), R85-11; In re Site-Specific Exception to Effluent Standards for the Illinois American Water Company, East St. Louis Treatment Plant (February 2, 1989), R85-11; codified as 35 Ill. Adm. Code 304.220.

However, the Board denied similar relief to water treatment facilities discharging to the Mississippi in other cases. See Proposed Site Specific Rule Change for the City of Rock Island's Public Treatment Water Supply Treatment Plant Discharge: 35 Ill. Adm. Code 304.217 (March 22, 1990), R87-34; Proposed Site Specific Rule Change for the City of East Moline's Public Treatment Water Supply Treatment Plant Discharge: 35 Ill. Adm. Code 304.218 (March 8, 1990), R87-35.

The Illinois General Assembly then adopted legislation establishing an adjusted standard procedure in Section 28.3 of the Act unique to water treatment plants that discharge to the Ohio or Mississippi Rivers. The legislation allowed the plants to petition for adjusted standards to allow for the direct discharge of residuals back to those Rivers. Public Act 86-1363, eff. Sept. 7, 1990; codified as 415 ILCS 5/28.3 (1998). The deadline for filing the petitions for these adjusted standards was January 1, 1992. *Id.* Water treatment facilities at Rock Island, East Moline, and the IAWC East St. Louis facility all timely filed petitions for adjusted standards under Section 28.3. The Board granted these petitions. See In re Petition of Illinois American Water Company for an Adjusted Standard from 35 Ill. Adm. Code 304.124 (TSS and Iron Only) for the East St. Louis Public Water Supply Facility (May 20, 1993), AS 91-11; In re Petition of the City of East Moline for an Adjusted Standard from 35 Ill. Adm. Code 304 (May 19, 1994), AS 91-9; In re Petition of the City of Rock Island for an Adjusted Standard from 35 Ill. Adm. Code 304 (October 19, 1995), AS 91-13.

ADJUSTED STANDARD PROCEDURE

In both a general rulemaking and a site-specific rulemaking, the Board is required to take the following factors into consideration: the existing physical conditions, the character of the area involved, including the character of the surrounding land uses, zoning classifications, the nature of the receiving body of water, and the technical reasonability and economic reasonableness of measuring or reducing a particular type of pollution. 415 ILCS 5/27(a) (1998). The general procedures that govern an adjusted standard proceeding are found at Section 28.1 of the Act (415 ILCS 5/28.1 (1998)) and the Board's procedural rules at 35 Ill. Adm. Code 106. Section 28.1 of the Act also requires that the adjusted standard procedure be consistent with Section 27(a).

IAWC seeks an adjusted standard from rules of general applicability. In determining whether an adjusted standard should be granted from a rule of general applicability, the Board must consider the factors at Section 28.1(c) of the Act (415 ILCS 5/28.1(c) (1998)), and IAWC has the burden to prove that it has satisfied those factors, which are:

1. 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;
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.

In granting an adjusted standard, the Board may impose conditions that may be necessary to accomplish the purposes of the Act. 415 ILCS 5/28.1(a) (1998).

IAWC requests that the Board analyze the factors at Section 28.3 of the Act in deciding its adjusted standard petition. Pet. at 43-44. The Agency believes that the Board should base its adjusted standard analysis on

the factors in Section 27(a) and 28.1(c) of the Act, not on the factors at Section 28.3 of the Act. Res. at 8; 415 ILCS 5/27, 5/28.1, 5/28.3 (1998). The Agency also argues that the Board should not rely on its site specific rulemaking decision for the existing facility nor should the Board rely on the other adjusted standards that it granted pursuant to Section 28.3 of the Act. Res. at 8; Am. Res. at 6. The Agency goes on to state that the conditions at the existing facility are not the same as the conditions at the new facility, especially with respect to space for settling lagoons. Res. at 8. The Agency claims that the deadline for seeking adjusted standards under Section 28.3 has long since expired, and the language in Section 28.3 does not indicate that it is to apply to new water treatment facilities. Res. at 9.

The Board agrees with the Agency regarding the deadline for Section 28.3 petitions and will examine the factors at Section 28.1(c) of the Act in granting IAWC's proposed adjusted standard for the new facility. The Board will examine the factors at Section 28.3 of the Act only to the extent that those factors may be relevant to an examination of the factors at Section 28.1(c).

DISCUSSION

The Board will first discuss the effluent from the existing and new facilities in addition to the water quality of the Mississippi at and near River Mile 204. The Board will then examine the factors relating to IAWC that are substantially and significantly different than the factors that the Board relied on in adopting the regulations at issue herein. These factors include the compliance alternatives that IAWC considered, the Great Rivers Land Trust (GRLT) Project, and the intent of Section 28.3 of the Act. The Board will then discuss the environmental impact from the new facility's discharge. The Board will also determine if the existence of the different factors justifies an adjusted standard and if the requested adjusted standard is consistent with federal law. The Board's analysis will be at the end of each section of the discussion.

In its initial recommendation, the Agency advocated the lagoon effluent treatment option, although, as previously explained, it subsequently abandoned its position in favor of the adjusted standard and the GRLT sediment control project. Nonetheless, the Agency made several pertinent arguments in favor of effluent treatment, and the Board will examine those arguments. The Agency recommends that the Board grant IAWC an adjusted standard from 35 Ill. Adm. Code 302.203, 304.106, and 304.124. Am. Res. at 1,15.

Effluent and Water Quality at the Existing Facility and the New Facility

In determining the effect of effluent discharges from the new facility, IAWC studied the basic design of the new facility, including the new treatment process. IAWC developed a model to evaluate the potential impact of the effluent discharge from the new facility. It also measured the impacts from the discharge to the Mississippi under mean flow and 7Q10 conditions.² Nov. Pet. Exh. 4 at 7, 8-9.

Iron

The United States Geological Survey (USGS) sampled dissolved iron concentrations in the Mississippi from 1989 through 1994 below Grafton, Illinois. Daily samples ranged in value from 3 to 710 micrograms per liter (ug/L) with an annual mean value of 36 ug/L from 1989 to 1994. Pet. at 24, Att. B at 4-4, 4-12.

² The United States Environmental Protection Agency (USEPA) defines 7Q10 as "the lowest stream flow for seven consecutive days that would be expected to occur once in 10 years". Terms of Environment: Glossary, Abbreviations And Acronyms, EPA 175-B-92-001, September 1992. Both USEPA and the Board use the 7Q10 concept to describe low stream flows. See also 35 Ill. Adm. Code 302.103. The term is often used as a "worst case scenario" in determining potential impacts from a discharge.

IAWC also studied iron loading from the existing facility³. It estimated that the filter backwash effluent had a mean dissolved iron value of 0.009 mg/L which is well below the effluent standard of 2 mg/L in 35 Ill. Adm. Code 304.124. IAWC predicted that effluent from the new facility would be similar in iron content to the effluent from the existing facility. Pet. at 48, Att B. at 5-5.

IAWC determined that, even under 7Q10, discharges from the proposed facility will lead to very slight increases in iron levels, but they will not violate water quality standards for dissolved iron.⁴ Nov. Pet. Exh. 3 at 15; Nov. Pet. Exh. 4 at 15; Pet. at 45-49, 65, Att. B at 5-2 to 5-11, 5-19, 5-29.

The Agency did not provide a detailed analysis on discharges of iron.

IAWC seeks relief from the effluent standard for total iron at 35. Ill. Adm. Code 304.124 which is 2 mg/L. The estimated iron discharge of 0.009 mg/L from the new effluent is well below the 2 mg/L standard in the Board's rule. The relief that IAWC seeks is accordingly unnecessary.

Total Suspended Solids

The raw water quality at the intake of the existing facility is highly variable. Pet. at 21. Based on data collected at the existing facility during a six year period from 1990-1995, the turbidity of the raw water influent ranged from 8 nephelometric turbidity units (NTU) to 964 NTU. The long term mean of annual averages was 90 NTU. Pet at 21-22, Att. B at 3-6. IAWC determined that turbidity as measured in NTUs correlates to TSS (expressed in mg/L) in a ratio of 1:2, and this value was peer-reviewed by two other engineering firms. Pet. at 22, Att. B at 3-6, 3-7. Thus, the long term mean of annual averages for TSS in the raw Mississippi water was 180 mg/L, and TSS fluctuated between 16 mg/L and 1,928 mg/L.

Following the relocation and construction of Lock and Dam 26, the USGS took samples from the Mississippi at two gauging stations at and below Grafton, Illinois from 1989 to 1995. The average mean monthly value of TSS was 171 mg/L. Nov. Pet. Exh. 4 at 9; Pet. at 23, Att. B at 4-3, 4-10.

IAWC's discharge monitoring reports for its outfall from its existing facility show that concentrations of TSS varied between 15.5 mg/L and 3,256 mg/L from mid 1998 to mid 1999. Res. at 12, Att. A.

Pursuant to Agency requests, IAWC performed additional studies of the TSS and turbidity impact from the new discharge. Nov. Pet. Exh. 2 at 7.

Assuming that discharges are not treated at the new facility and under conditions of average annual turbidity (180 mg/L TSS), IAWC predicts that the Superpulsator® blowdown will produce a continuous flow of 433,099 gpd which will contain an estimated 5,000 mg/L of TSS. IAWC also predicts that filter backwash will produce an intermittent flow of 620,400 gpd which will contain 65 mg/L of TSS. Pet. at Att. B at 3-8. IAWC estimates that the average replacement plant effluent from these two waste streams will have a TSS level of approximately 500 mg/L. The Agency recognizes that the new technology in the new facility will reduce the variability in flow and TSS concentration of the discharge, although the variable content of the raw water input into the new facility will remain the same. Res. at 13.

IAWC claims that the discharge from the new facility will contain a large amount of naturally occurring TSS with only a minor quantity of additional process-generated TSS. Pet. at 75. It claims that the Mississippi is not impacted by the re-introduction of concentrated solids. IAWC opines that TSS in the new facility's untreated

³ IAWC assumed all of the iron discharged from the new facility would be in the dissolved fraction in order to provide a worst case scenario. Pet. at 48.

⁴ The Board notes that IAWC did not request relief from the general water quality standard for iron at 35 Ill. Adm. Code 302.208.

effluent would increase ambient TSS concentrations in the Mississippi by such a small amount as to not be noticeable considering the normal daily fluctuations of TSS in the Mississippi. Pet. at Att. B at 6-14.

IAWC estimates that the sediment plume reaches the surface as close as 225 feet downstream from the discharge and that TSS concentrations in the plume are up to 5.0 mg/L higher than ambient levels in the Mississippi. The plume size is no bigger than 1.1 acres. Nov. Pet. Exh. 4 at 14; Pet. at 71, 72.

IAWC determined that, even under 7Q10, while discharges from the proposed facility will lead to very slight increases in TSS levels, they will not violate water quality standards for total dissolved solids (TDS). Nov. Pet. Exh. 3 at 15; Nov. Pet. Exh. 4 at 15; Pet. at 45-49, 65, Att. B at 5-2 to 5-11, 5-19, 5-29. There is no general use water quality standard for TSS, but the general water quality standard for TDS is 1,000 mg/L. 35 Ill. Adm. Code 302.208. IAWC assumed that TDS equaled TSS.⁵ Pet. at 49, Att. B at 5-4 to 5-5.

Other than providing TSS discharge concentrations that were already included in IAWC's petition for the adjusted standard, the Agency did not provide any detailed analysis of TSS discharges.

Offensive Conditions

The Mississippi river bed near the existing facility consists of deep silt from the bank out approximately 50 or 60 meters, gradually changing to unstable sand farther out into the navigation channel. IAWC studied the area upstream of the Melvin Price Locks and Dam, and suggests that these conditions result from the lack of flow which is typical upstream of navigational dams. Pet. Att. B at 4-5 and App. B at 5.

IAWC predicts that sedimentation as a result of the new facility will be so slight as to be difficult to measure vertically. Pet. at 51-58, Att. B at 5-6 to 5-11, 5-30 to 5-31. Employing a worst case scenario, including the conservative assumption that all particles in the effluent will settle on the bottom of the Mississippi, IAWC predicted a potential increase of 2.2 inches of sediment per year over an area of 2.7 acres. Other IAWC models predicted much less sedimentation, and there is no indication that the discharge from the current facility contributes to sedimentation. Nov. Pet. Exh. 4 at 15-16; Pet. at 7, Att. B at 5-10.

IAWC also predicts that there will be no visible oils, odor, or discoloration from the new facility's discharge. Pet. at Att. B at 5-22. IAWC admits that turbidity may increase slightly. However, turbidity occurs anytime TSS of unnatural origin is discharged to a receiving water from human activity. Pet. at 50-51, Att. B at 5-22 and 5-23.

The Agency agrees with IAWC's findings to some extent, stating that the new facility's discharge will cause a slight rise in the sedimentation rate. The Agency goes on to state that the "increase cannot be described as sludge or unnatural bottom deposits attributable solely to Illinois-American's discharge." Res. at 15; Am. Res. at 10. The Agency agrees that boaters, fishermen, and other Mississippi users would not be able to detect a difference in color or turbidity due to IAWC's untreated effluent from the new facility. The Agency states that IAWC's new discharge will not violate the visual aspect of the narrative standard at 35 Ill. Adm. Code 302.203. Res. at 14; Am. Res. at 10. The Agency also believes that IAWC's effluent from its proposed facility will not cause unnatural bottom deposits and that the discharge will only slightly increase the sedimentation rate. Res. at 15.

However, the Agency does believe that IAWC's discharge from its new facility will cause a turbidity "footprint" in the Mississippi, and claims that such a footprint would violate Section 302.206 of the Board's rules. Res. at 7; Am. Res. at 5; Agency Br. at 1-2 (see footnote). The Agency mistakenly cites the Board rule here, as 302.206 relates to dissolved oxygen. The footprint may be a violation of the turbidity provision of the offensive

⁵ The Board notes that IAWC sought relief from the 15 mg/L effluent standard for TSS at 35 Ill. Adm. Code 304.124 and IAWC will have to prove that it is entitled to that relief. However, IAWC did not seek relief from the 1,000 mg/L water quality standard for TDS at 35 Ill. Adm. Code 302.208 even though IAWC equated TSS with TDS and several TSS readings in the Mississippi near the existing facility were above 1,000 mg/L.

conditions water quality standard at Section 302.203 of the Board's rules. The Board assumes that the Agency is referring to Section 302.203 because it is at issue herein.

IAWC claims that the Agency's position on the footprint contradicts the Board's position on every other public water supply discharge and that the Agency presents no legal authority to back up its position. IAWC cites as proof the Board's opinions granting the site specific rulemaking to the discharge for the current facility and the Section 28.3 adjusted standards granted to Rock Island and East Moline. 35 Ill. Adm. Code 304.210; In re Petition of the City of East Moline for an Adjusted Standard from 35 Ill. Adm. Code 304 (May 19, 1994), AS 91-9; In re Petition of the City of Rock Island for an Adjusted Standard from 35 Ill. Adm. Code 304 (October 19, 1995), AS 91-13. IAWC also claims that the Agency never raised the footprint issue during the hearings. Pet. Br. at 2-3.

Substantially Different Factors

The Board relied on the following factors in developing the rules at issue herein:

The Board's general water quality concerns are to protect against health hazards, protect aquatic life in streams that support it, and protect potability in streams that are potable. Effluent Criteria, Water Quality Standards, Water Quality Standards Revisions for Intrastate Waters (SWB 14) (March 7, 1972), R70-8, R71-14, R71-20, slip op. at 4.

The Board's effluent concerns with respect to TSS are increased turbidity and "harmful bottom deposits." Effluent Criteria, Water Quality Standards Revisions, Water Quality Standards Revisions for Intrastate Waters (SWB 14) (January 6, 1972), R70-8, R71-14, R71-20, slip op. at 19.

IAWC claims that the TSS content in the new facility's discharge will not affect domestic use, and they will not significantly increase bottom deposits or turbidity. Pet. at 68. In its initial response, the Agency disagreed, and stated that the discharge from the new facility will have solids that will contribute to overall turbidity and bottom deposits. The Agency claimed that IAWC has failed to make its case that it is substantially different from other water treatment facilities and thus has not met the justification for an adjusted standard. Res. at 18. The Agency also stated that, unlike the older facilities which were built in the "pre-regulatory era," IAWC is constructing its new facility with full knowledge of State and federal effluent and water quality requirements. As a result, the Agency claims that IAWC should be held to a different standard than the other facilities along the Mississippi. Res. at 9-10.

However, in the amended response the Agency changed its position. It said that the GRLT Project, which will offset the residuals in the untreated discharge from the new facility by a two to one margin, is a substantially different factor than those that the Board were concerned with in adopting the three standards at issue herein. The GRLT Project is not limited by technology to remove sediment from the new facility's discharge, and the GRLT Project could remove more sediment than the technologies which the Board contemplated when it adopted the effluent standards. Am. Res. at 12-13.

In discussing the factors regarding the effluent standard for offensive conditions, the Board stated that primary treatment should be universal and that nuisances should be unacceptable. Effluent Criteria, Water Quality Standards Revisions, Water Quality Standards Revisions for Intrastate Waters (SWB 14) (January 6, 1972), R70-8, R71-14, R71-20, slip op. at 5. However, in the same opinion the Board also addressed background concentrations of contaminants. While the Board did not want to relax standards for facilities that took in water with high levels of contaminants, the Board also did not want to force those facilities to spend money to clean up contaminants that were already in the water. The Board decided that the problem should be addressed on a case-by-case basis. *Id.* at 4.

Compliance Alternatives

IAWC explored several alternatives to the land conservancy plan for disposal of TSS. IAWC concludes that the alternatives are all considerably more expensive than IAWC's preferred "no treatment" option.

IAWC studied four options for treatment of residuals at the new facility: (1) land application; (2) discharge to the Alton publicly owned treatment works (POTW); (3) permanent storage in monofills; and (4) temporary storage and dewatering in lagoons coupled with off-site landfilling. Pet. at 27, Att. B at 6-2 to 6-7. Any one of the four options would allow IAWC to meet the water quality limits for offensive conditions and the effluent limits for TSS and offensive discharges in the Board's rules. IAWC also compared the four options to a fifth option: Direct discharge of its effluent into the Mississippi without treatment.

IAWC states that option 4 is technologically feasible. However, it does not consider any of the options to be economically reasonable. Pet. at 38, 70-71, Att. B at 6-7, 6-10, 6-21. Furthermore, IAWC asserts that none of the treatment options has any significant positive effect on the water quality of the Mississippi, and some even have negative secondary effects. Pet. at 69-72, 75, 78, Att. B at 6-11, 6-14; Res. at 14-15. IAWC concludes that the direct discharge of effluent to the Mississippi is both technologically feasible and economically reasonable. An analysis of the four treatment options, in addition to the "no treatment" option, is as follows:

Land Application. This option entails separating river silts out from river water, temporarily storing residuals at the new facility, and then transporting these residuals to local farmland. Residuals can either be applied as a liquid or applied as dewatered residuals which are called cake. Pet. at 29, Att. B. at 6-2.

Once liquid residuals are hauled to the farmland, they are injected into the soil or applied as a spray to the surface. Sprayed residuals are then disked or plowed into the soil within 24 hours. Applying liquid residuals costs between \$70 and \$300 per ton depending on how far away the farmland is. Significant farmland is not available in the immediate vicinity, and residential growth trends in the area indicate that farmland will be further away from the new facility in the future.

After dewatered cake (*i.e.* about 25% solids) is hauled to farmland, it would be spread in thin layers directly from the truck using a device similar to a manure spreader. Provided that the ground is not frozen or waterlogged, the cake would then be disked or plowed into the soil. This operation costs between \$20 and \$68 per ton. Pet. at 30. Both the liquid residuals and dewatered cake options are similar in cost to the off-site landfilling options (see below). Pet. at 29-30, Att. B at 6-2, 6-3.

Weather, public acceptance, permit requirements on the content of applied materials, and land availability can limit the feasibility of this option. Biosolids from the nearby Godfrey wastewater treatment plant have been applied to farmland for ten months out of the year for the last ten years. However, residuals, unlike biosolids, add little to soil fertility and may even detract from soil fertility. Pet. at 30-31, Att. B at 6-3. Public acceptance of such land application may decrease as a result.

Although the amount of metals from the discharged coagulant is small, over time they would accumulate on the applied land. Based on Illinois regulations for the accumulation of manganese, IAWC would need to acquire 263 new acres of farmland every 20 years. Other metals in the coagulant discharge may also potentially be problematic. Pet. at 31, Att. B at 6-3, 6-21; 35 Ill. Adm. Code 391.420. Uncertainty is also a factor due to the variable nature of the Mississippi and its silts.

Given the uncertainties and costs which are similar to more conventional treatments for residuals, IAWC eliminated this option from further consideration because it is not technologically feasible on a long-term basis. Pet. at 31, Att. B at 6-3, 6-10.

Discharge to the Alton POTW. The volume of flow and mass of solids from the new facility can not be treated at the Alton POTW unless the POTW is expanded. IAWC claims that such expansion is not feasible. Pet. at 33, App. A (August 20, 1997 letter from James M. Blaine to Kim E. Gardner), Att. B at 6-4, 6-21. The cost and technical feasibility of expanding the POTW would be similar to IAWC's costs for building an on-site treatment facility. IAWC eliminated this option from further consideration as not technologically feasible on a long-term basis. Pet. at 33, Att. B at 6-5, 6-10, 6-21.

Construction of a Monofill. Under this option, IAWC would construct impoundments for the permanent storage of residual solids. IAWC estimates that a 40-acre monofill with a 20-year life would be required to handle 10% solid residuals. The property for the new facility is not large enough for such a landfill. IAWC would have to purchase farmland (at \$6,000 to \$10,000 per acre) in order to construct the landfill. The cost of a large, lined impoundment would, according to preliminary estimates, be at least \$20 million. Annual operation and maintenance costs would be approximately \$1.3 million. IAWC also eliminated this option from further consideration when it determined that it is not technologically feasible nor economically reasonable on a long-term basis. Pet. at 32-33, Att. B at 6-4, 6-10, 6-21.

Dewatering Residuals Coupled with Off-Site Landfilling. Dewatering of residuals is a broad category of many techniques that can be used to prepare settled solids for landfilling. Lagoons may be used, but are not essential. Most of these methods have an alum-type base. The new facility will use a Clar+Ion® type alum-organic polymer coagulant. Pet. at 34.

Non-Mechanical Dewatering. Non-mechanical dewatering includes, drainage, decanting, evaporation, freezing, and lagoon systems. An example of a dewatering scheme involves combining sand drying beds and natural freeze-thaw drying beds. However, this requires more area than dewatering lagoons, and construction costs are estimated to be higher. Disruptions to non-mechanical dewatering include fluctuations in climate and low overload capacity if solids production is greater than planned. Pet. at 34-35, Att. B. at 6-5.

Mechanical Dewatering. Mechanical dewatering can be used when there is insufficient space for non-mechanical dewatering. These systems are less susceptible than non-mechanical systems to inclement weather. Methods of mechanical dewatering include vacuum filtration, the belt filter press, and centrifugation. Vacuum filtration has only been used in pilot projects in the water treatment industry. Centrifugation is a proven method of dewatering residuals, but it has a poor track record in handling residuals from the Mississippi. Although feasible, centrifugation and vacuum filtration are not as technologically feasible as belt filter press technology. Pet. at 35-36, Att. B at 6-5, 6-6, 6-10, 6-21.

Belt filter presses are more common than centrifuges in the water purification industry. Although more expensive than non-mechanical means, the belt filter press produces a higher density product (15 to 25 percent solids) which translates to decreased space for material to be landfilled. Land is available at the new facility site for filter press units and associated tankage. IAWC determined that the belt press filter dewatering option was reliable in that it could produce a consistently dense residual product. Pet. at 35-36, 38-39, Att. B at 6-6.

Combining Non-Mechanical and Mechanical Dewatering. IAWC determined that a combination of non-mechanical dewatering, mechanical dewatering, and landfilling was the most viable way to treat the residuals other than direct discharge. Nov. Pet. Exh. 3 at 4-5. IAWC performed an in-depth analysis of this option. However, IAWC still considers this option as less preferable than direct discharge. Costs for the dewatering/landfilling option are extremely high and do not justify the meager environmental benefits. Pet. at 5; Nov. Pet. Exh. 3 at 4-5.

IAWC would need to build four one-acre on-site lagoons for dewatering the residuals. Pet. at 32, 38, 39, 40. Residuals would be stored in the lagoons until they reached a 4% solid state. Pet. at 39, Att. B. at 6-4. IAWC states that this part of the option would have minimal maintenance requirements. Pet. at 38.

The Agency states that IAWC has not raised any “physical impediments” to the construction of lagoons. The Agency also states that settling is “a well known technology with a long operational record” and that nothing at the new facility would cause any operational difficulties. The Agency points to many other Illinois water treatment facilities, besides the few with site specific rules, that use settling lagoons to treat their wastewater (irrespective of the final disposal method). Res. at 18. However, the Agency does not elaborate on any of these lagoon systems nor give specific examples.

IAWC responds that the lagoons contemplated for this treatment option are not settling and dewatering lagoons; they are storage lagoons only. The new site does not have enough room for traditional drying lagoons as they would require anywhere from 8 to 30 acres. Nov. Pet. Exh. 3 at 6.

At public meetings that it conducted on the new facility, IAWC claims that the GRLT, the Alton Lake Heritage Parkway Commission, the City of Alton, and nearby residents were all opposed to the construction of lagoons. Tr. 1 at 31-32; Nov. Pet. Exh. 2 at 5; Nov. Cit. Exh. 4 at 2.

Once residuals are removed from the lagoons in a 4% solid state, they would then be removed and further dewatered in a mechanized belt filter press system in order to produce a product that is between 15% to 25% solids. The residuals would then be shipped to an offsite landfill. Jan. Pet. Exh. at 2; Pet. at 32, 39, Att. B. at 6-4.

Disposal of Residuals at an Existing Landfill. Landfilling is not a stand-alone disposal alternative but instead is considered a component of several other alternatives including mechanical and non-mechanical dewatering processes. Provided that the residuals contain no hazardous waste, the residuals may be landfilled in a permitted nonhazardous special waste landfill. IAWC has conferred with Waste Management Inc. (WMX), the owner of a landfill in Granite City, Illinois which is the closest landfill that accepts residuals from water treatment facilities. WMX states that its Granite City landfill has enough capacity to hold residuals from the new facility for 30 years. As landfill capacity diminishes and tipping fees increase, IAWC believes that it may become cheaper to build a monofill which would only accept residuals from the new facility. Pet. at 37, Att. B at 6-6. Despite the technological feasibility, IAWC calls this option an “extremely ineffective use of landfill capacity”. Pet. at 85.

In its original response, the Agency states that a landfill with 30 years’ remaining capacity makes this a viable treatment option. Res. at 18. IAWC claims that use of landfill space to store the residuals will have a negative effect on the environment since landfill space is becoming more scarce. Pet. at Att. B at 6-16. The landfill’s useful life may be shortened, requiring construction of another landfill or increased costs and energy to haul future trash to other distant landfills.

Cost. The total capital cost for option 4 is \$7.38 million, and the total annualized cost is \$1.14 million.⁶ The total annualized cost breaks down to an annualized capital cost of \$720,000 and an annualized operation cost of \$420,000. Jan Pet. Exh. at 2; Pet. at 40-41, Att. B at 6-22 and at Table D-1A of Appendix D; Res. at 19. The total annualized cost of \$1.14 million per year divided among 17,500 businesses/households in IAWC’s Alton service area is about \$65 per business/household per year. Pet. at 73, Att. B at 6-11. Assuming that costs are spread out evenly among all ratepayers, the average water bill in the Alton area would increase by 22%. Pet. at 84.

Economic Reasonableness. IAWC estimates that these costs represent an approximate increase of 60 to 70 percent over the current operational costs for providing potable water to the community. Pet. at 73, Att. B at 6-11; Res. at 19.

The Agency states that IAWC’s costs estimates are “realistic”, yet disagrees with IAWC’s analysis of costs per household. The Agency has learned from the Illinois Commerce Commission (ICC) that the Southern Division of IAWC serves Alton, East St. Louis Interurban, and Cairo - a total of 84,000 households. The ICC states that ratepayers in the Southern Division all pay the same amount for service and that any treatment associated with IAWC’s new facility at Alton will be spread among 84,000 households, not 17,500. Res. at 14, 19-20; Am. Res. at 13. Under the Agency’s analysis, average ratepayer costs would go up \$13.57 per year, an increase of 4.5%.

IAWC President Terry Gloriod explained that the Agency was wrong in its assumptions about spreading out the cost among 84,000 households. He said that, in the past, IAWC has applied for and received approval for costs to be spread out among all Southern Division customers when costs are incurred throughout the Southern Division. However, he said that the economic analysis here should be based on customers who receive service from the new facility in Alton only. Nov. Pet. Exh. 1 at 5.

⁶ All costs are rounded to the nearest \$10,000. Annualized cost figures assume that capital is amortized over 30 years at an interest rate of 9%.

Even if the costs were spread out among all ratepayers in the Southern Division, Gloriod claims that the costs for both the lagoon and non-lagoon options are unreasonable, stating that the costs do not become reasonable just because they can be spread out among a larger class of ratepayers. Nov. Pet. Exh. 1 at 5.

Local resident R. L. Christeson had a different perspective on the lagoons. He felt that IAWC should keep sediments out of the effluent provided that they had the technology and money to do it. He also saw maintenance of the lagoons and trucking needed to haul residuals to landfills as job opportunities for local residents. Tr. 1 at 34-35. Christeson did not provide any facts, figures, or estimates to back up his claim.

Despite the feasibility of some of the control technologies, IAWC claims that the adjusted standard for direct discharge is warranted on economic grounds. Pet. at 69. The Agency disagrees and states that IAWC has not shown that the technologically feasible options are also economically unreasonable. Res. at 21.

Character of Surrounding Land Uses. According to IAWC, one impact of option 4 will be the estimated 750 truck trips per year on the Great River Road that will be required to haul away the treated residuals. On average, about two truck trips per day will be required to haul away residuals, but there could be as many as 17 truck trips per day. Jan. Pet. Exh. at 2; Nov. Pet. Exh. 3 at 15; Pet. at 73, 85, Att. B at 6-12. This traffic also leads to more congestion, air pollution from truck exhaust, hazards to safety, and a possible decrease in the value of nearby real estate. Pet. at 74, 85-86, Att. B at 6-12, 6-16. IAWC and the City of Alton claim that a proposed Piasa Park located next to the entrance road of the new facility could also be adversely impacted: The safety of park visitors could be compromised from the increased traffic. Nov. Cit. Exh. 1; Pet. at 86, Att. B at 6-12. The Agency points out that IAWC provides no information on the time of day that trucks will be hauling residuals. Res. at 21.

Although noise from the trucks could also impact surrounding land uses, at the first public hearing an IAWC representative contradicted IAWC's previous stance and indicated that noise would not be a problem at the new facility if IAWC were required to build lagoons. Nov. Pet. Exh. at 5.

Local resident James E. Schrempf is also concerned that the increased truck traffic could detract from the legendary Piasa Bird. Several hundred years ago, indigenous peoples in the area painted the Piasa Bird on a rock cliff near the new facility. The City of Alton and local residents are making an effort to draw more tourists to the Piasa Bird, and they do not want their efforts go to waste. Nov. Pet. Exh. 5 at 2-3. As of 1997, however, there was no Piasa Bird; the original had long since been destroyed and a replica from 1920 no longer exists. Jan. Cit. Exh. 1 at 22.

IAWC also points out that the increased trucking activity would be contrary to the spirit of the Alton Lake Heritage Parkway Corridor Law (20 ILCS 3905 (1998)), in that the trucking might interfere with the scenic views of the Mississippi and the bluffs towering over the Mississippi from the Great River Road. The law created the Alton Lake Heritage Parkway Commission (Commission) in 1989. The Commission submitted recommendations to the Illinois General Assembly for protecting the Great River Road which were approved in late 1992. Tr. 1 at 30; Nov. Cit. Exh. 4 at 1; Jan. Cit. Exh. 4 at 68. The Commission started the process that resulted in the Great River Road being designated a federal Scenic Byway in 1998. Nov. Pet. Exh. 2 at 6; Nov. Cit. Exh. 2 at 4, 10; Nov. Cit. Exh. 4 at 2; see also 23 U.S.C. § 162 (1998). Both the Commission and the River Bend Growth Association are troubled by the increase in traffic on the Road. Tr. 1 at 27-28, 31-32; Nov. Cit. Exh. 3; Nov. Cit. Exh. 4 at 2.

Property values near the new facility may be adversely effected by the construction and maintenance of the belt press filter and settlement lagoons. The area near the new facility has become much more valuable in recent years for its view of the Mississippi and as residential property. Nov. Pet. Exh. 5 at 1-2; Pet. at Att. B at 6-17. Phil Hanrahan, the Mayor Pro Tem of Alton, and Schrempf point out that nearby property owners object to lagoons. Tr. 1 at 20; Nov. Cit. Exh. 1; Nov. Pet. Exh. 5 at 2. The Agency states that the affect on property values should not be a great concern as 18 of the 22 acres where the new facility are located are zoned "heavy industrial" and that the residential areas that might be affected are located on a bluff above the new site. Res. at 20-21.

IAWC also points out that acreage used for lagoons may not be the most environmentally beneficial use of the land. Nov. Pet. Exh. 3 at 15.

No Treatment of Discharges to the Mississippi. IAWC predicts that the new facility would discharge about 3,358 dry tons of solids into the Mississippi each year if the solids are not treated. Only 8.7% of that total (290 tons) are residuals of the coagulant used in the treatment process. Metals constitute only a small fraction of that 290 tons. The advantage to direct discharge is that it provides operational flexibility when dealing with the wide variations in the quality of the raw water intake. Pet. at 28-29, Att. B at 6-2.

In addition to being the most cost effective option, IAWC determined that this was also the most technologically feasible option. Pet. at 70, 94, Att. B at 6-10, 6-20.

IAWC's claims that there are "absolutely no water quality concerns" with respect to discharge from the new facility. Tr. 1 at 8. IAWC also claims that there were few environmental concerns about the direct discharge option expressed by the members of the public who attended the public meetings on the new facility. Nov. Pet. Exh. 2 at 5. Hanrahan states that the City of Alton "strongly supports" the direct discharge option due to cost savings, decreased truck traffic, and objections from property owners regarding lagoons. Tr. 1 at 20-21; Nov. Cit. Exh. 1.

GRLT Project

Initially the Agency did not support IAWC's petition to discharge without treatment. Tr. 1 at 9. The Agency states that IAWC is capable of using technology delineated in option 4. However, since the first hearing, the Agency has been receptive to the GRLT Project, and, as a result, is supporting IAWC's petition. Tr. 1 at 9. The project would allow the new facility to discharge directly into the Mississippi in exchange for IAWC's financial support of nearby nonpoint source sediment loading prevention projects. GRLT claims that the reduction in sediment loading achieved by its project will more than offset the sediment discharged by the new facility. Tr. 2 at 23. The Agency "will take an active role in overseeing the development and implementation" of the GRLT Project. Agency Br. at 8.

As Annie Hoagland of the Commission stated, "the potential to permanently reduce sediment is tremendous, while at the discharge site, they (IAWC) are merely putting back what they took out of the river." Nov. Cit. Exh. 4 at 2; see also Tr. 1 at 32.

GRLT Background. The Commission recommended the creation of GRLT. Tr. 1 at 30; Nov. Cit. Exh. 4 at 1. Founded in 1992, the GRLT is a charitable non-profit land trust with a mission to own concentrated conservation easements in the Great Rivers Scenic Byway Area in order to protect the watersheds in the area. GRLT is one of the fastest growing land trusts in the United States and ranks in the top 5% nationally among local and regional land trusts in fundraising capabilities. GRLT already owns several hundred acres in the Alton Lake Heritage Parkway Corridor. Tr. 1 at 21-22; Tr. 2 at 19, 20, 31, 34; Nov. Cit. Exh. 2 at Stmt., 10, 13; Jan. Cit. Exh. 2.

Piasa Creek. GRLT proposed to IAWC a Piasa Creek watershed project to reduce silt loadings from Piasa Creek into the Mississippi. Piasa Creek flows into the Mississippi near Godfrey, 5.5 miles up the Mississippi from the new facility. The Piasa Creek watershed is approximately 121 square miles. The area where Piasa Creek empties into the Mississippi is known as the Great Rivers Confluence because it is where the Missouri and Illinois Rivers also empty into the Mississippi. Tr. 1 at 23; Tr. 2 at 19, 23; Nov. Pet. Exh. 2 at 10-11; Nov. Cit. Exh. 2 at Stmt., 3.

Currently, the waters of the Piasa have a foul odor and are loaded with sediment. Nov. Cit. Exh. 2 at 7; Jan. Cit. Exh. 4 at 12. There is also severe stream bank erosion along stretches of Piasa Creek and Rocky Fork Creek. Tr. 1 at 25; Nov. Cit. Exh. 2 at Stmt. GRLT blames much of the sedimentation, streambank erosion, and degraded water quality on increased urbanization. Years of wetland loss and urban development have hampered the ability of Piasa Creek to absorb flood waters, trap watershed pollutants, and mitigate erosion. Such erosion (due in part to highly erodible loess soils in the area) leads to increased sediment loading in Piasa Creek. Continued urban growth is expected in the watershed. Nov. Cit. Exh. 2 at 2, 5, 9.

GRLT Project Description. GRLT has been working with the Piasa Creek Watershed Conservancy for the past five years to reduce sediment loading and pollution into Piasa Creek. Under the guidelines of the GRLT Project proposal, IAWC would enter into a contract to provide funding to GRLT for ten years to manage the project. In the

contract, GRLT would commit to reduce nonpoint source pollution into Piasa Creek (Piasa creek has no point source discharges) which will in turn reduce nonpoint source loadings into the Mississippi. Tr. 1 at 23-24, 26; Tr. 2 at 24; Nov. Cit. Exh. 2 at Stmt., 2, 4, 11; Jan. Cit. Exh. 3 at 1; Am. Pet. at 1; Mc. at 2-3.

Contract and Cost. IAWC will enter into a contract with GRLT which will require IAWC to fund the GRLT Piasa Creek project at \$4.15 million, at an average rate of \$415,000 per year, over the next ten years provided that IAWC is allowed a direct discharge from the new facility. Tr. 1 at 25; Tr. 2 at 28-29; Nov. Pet. Exh. 2 at 11; Nov. Cit. Exh. 2 at Stmt., 13; Jan. Pet. Exh. at 2-3; Am. Pet. at 2.; Jan. Cit. Exh. 3 at 2-4, Mc. at 2. Starting with the second year, implementation of the project would begin. Tr. at 29-30; Jan. Cit. Exh. 3 at 2, 4.

The Agency plans to insert the contract into the upcoming NPDES permit for the new facility. Am. Res. at 14; Agency Br. at 8-9; Mc. at 2. Monitoring and reporting requirements in the contract would also be in the NPDES permit, allowing the Agency to monitor sediment offsets. Mc. at 2-3.

Monitoring. There is no current monitoring of the amount of sediment flowing in Piasa Creek. Data collection is currently being conducted in order to verify the extent of deterioration in the Piasa Creek watershed. GRLT will hire consultants to conduct a geomorphic inventory assessment (GIA). The GIA will begin soon after IAWC and GRLT enter in to the contract, and it will identify the optimal methods, techniques, and locations for sediment reductions. GRLT will supply the Agency with monthly updates during the GIA. Tr. 1 at 23, 25; Tr. 2 at 26-28; Nov. Cit. Exh. 2 at Stmt., 4-5; Jan. Cit. Exh. 3 at 2-3.

Monitoring will continue during the entire span of the project. Annual measurements will record the amount of sediment trapped in each basin and will provide an outline of what sedimentation rates are throughout the watershed in terms of sediment per acre. Tr. 1 at 24, 25; Tr. 2 at 58; Nov. Cit. Exh. 2 at Stmt.

GRLT will use a Geographic Information System (GIS) for monitoring. Nov. Cit. Exh. 2 at 7. Specifically, sediment input reduction will be measured in two ways. The first method is the stream bank erosion calculation. Once GRLT identifies stream bank erosion areas and secures permission from landowners, the height and length of the erodible stream bank will be measured. The rate of erosion will be calculated by placing stakes (or other types of monuments) along the stream bank and measuring the rate of erosion for one year prior to installation of erosion controls. Sediment loss on the riverbed can also be calculated using a calibrated pulling device. Measurements will be taken quarterly and reported annually. The second method is called silt basin trapping efficiency. Sediment trapped in the sediment basins will be measured in accordance with U.S. Department of Agriculture standards. By measuring the density and volume of sediment, the amount of sediment trapped can be determined (in tons). These methods can also be used to determine the best methods for streambank stabilization. Tr. 2 at 25-26, 54-56, 59; Jan. Cit. Exh. 3 at 1-2.

During the ten year span of the project, GRLT will submit quarterly reports to the Agency which detail the progress of the monitoring and other project-related activities (see below). GRLT staff will also meet periodically with Agency staff to discuss the progress of the GRLT Project. Tr. 2 at 49; Agency Br. at 8.

Land Acquisition and Associated Sub Projects. Control of highly erodible soils along the banks of Piasa Creek and its tributaries provides for control over sediments entering Piasa Creek. Land acquisition for the project will depend on the cooperation of local landowners in addition to size and location of land parcels. GRLT will use the GIS to determine which areas in the watershed are most effective in controlling sediment and those will be priority areas for acquisition. Properties and easements will be surveyed to determine the best places for siltation swales. Over the life of the project, GRLT will purchase land in fee simple and acquire easements depending on the cooperation of local landowners. GRLT even hopes that some landowners will donate land. GRLT hopes to secure about 1,000 acres in the form of 150 foot wide strips along Piasa Creek and its tributaries. \$3 million has been budgeted for this part of the GRLT Project. Tr. 1 at 24-25; Tr. 2 at 20; Nov. Cit. Exh. 2, at Stmt., 3, 5-6, 7, 12.

The GRLT Project will involve educating local landowners and civic organizations about the project. There will also be news releases and reports in the GRLT newsletter. Tr. 1 at 24; Nov. Cit. Exh. 2 at Stmt., 3, 6.

GRLT will implement many stream bank stabilization measures such as peak stone protection, debris removal (such as fallen trees), tree planting, and willow post plantings in eroded areas. Tr. 1 at 25; Nov. Cit. Exh. 2 at Stmt., 6; Jan. Cit. Exh. 4 at 59-60. Water basins and wet ponds will also be constructed in order to reduce flow rates and sedimentation during storms. Water retention structures may be built in the urbanized Rocky Fork Creek watershed which drains Godfrey. Nov. Cit. Exh. 2 at 5, 6.

GRLT will oversee the construction of more than 50 silt dams during the ten year period in easement areas or within land purchased through the GRLT Project. The silt dams will primarily be built in tributaries to Piasa Creek and where tributaries enter Piasa Creek. If necessary, maintenance dredging will remove accumulated sediments and the sediments will be distributed to adjacent farms.⁷ Five site designs will be completed each year, and installation will occur as weather permits. Tr. 1 at 24; Nov. Cit. Exh. 2 at Stmt., 11.

The Future of the GRLT Project. Five years into the GRLT Project (the halfway point), the Agency will make a determination of effectiveness. The five year mark also happens to coincide with the renewal of IAWC's NPDES permit for the new facility. If the GRLT Project is a success, IAWC will continue to fund the second half of the project. Tr. 2 at 25, 30; Jan. Cit. Exh. 3 at 1, 4; Agency Br. at 5.

If the project is not showing signs of success by the five year mark, the Agency will either give IAWC a set amount of time to fix the project or require IAWC to treat the effluent from the new facility as a condition for IAWC to receive a new NPDES permit. Agency Br. at 5; Mc. at 3.

By the beginning of year nine of the project, GRLT hopes to prevent twice as much sediment from entering the Mississippi as the new facility discharges into it. Tr. at 30; Jan. Cit. Exh. 3 at 2, 5. The Agency is confident that the GRLT Project will achieve that ratio and that the ten year schedule for achieving the reductions in sediment loading to the Mississippi is reasonable. Am. Res. at 14; Agency Br. at 11.

In addition to the fifth year review, the Agency will continue to be involved in the site selection process for the various aspects of the project, help review and implement management practices, analyze quarterly reports submitted by GRLT, and meet periodically with GRLT staff. Tr. 2 at 49; Agency Br. at 8.

Possible GRLT Successor. If GRLT does not survive for the duration of the project, their land holdings and easements will be accepted by the Illinois Nature Conservancy or the Nature Institute. Tr. 2 at 31-32.

Similar Sedimentation Reduction Projects

The Agency contracts out with the Illinois State Water Survey (Survey) on sediment control projects such as the Lake Pittsfield watershed project which is very similar to the GRLT Project. Tr. 2 at 52-54. In 1980, the Survey began a sediment control project for Lake Pittsfield in Pike County, Illinois. In a September 1999 report on the Lake Pittsfield project, the authors said:

These multiple effects of annual and seasonal rainfall variation, land use conversion over time, and various erosion control techniques makes the effectiveness of any erosion control technique difficult to determine on an annual watershed basis or even over a decade as indicated by the 1980 Lake Pittsfield sedimentation surveys. When erosion and sediment delivery are to be determined from the highly variable subwatersheds above Lake Pittsfield, the monitoring becomes even more pronounced. Agency Exh. at 40.

⁷ The Board is concerned about the plan to distribute dredged sediments to nearby farms. Spreading filtered sediments on farmland was one of the compliance alternatives that IAWC proposed but did not consider because of questions about the effect of sediments on soil fertility and accumulation of metals. See *supra* at 13-14.

Generally, however, the Survey has been able to greatly reduce the rate of sedimentation in the Lake Pittsfield watershed over the past 20 years. Agency Exh. at Summary.

Dan Roseboom of the Survey testified at the second hearing. Lake Pittsfield, used as a drinking water reservoir, lost 25% of its volume via sedimentation until the Survey implemented measures starting in 1980 to prevent sedimentation. Roseboom is also confident that the GRLT Project will achieve the projected sediment reductions. Tr. 2 at 52-54.

The Agency has experience in evaluating nonpoint source controls. Richard Mollahan of the Watershed Planning Section in the Agency's Bureau of Water manages the Section 319 program. Section 319 of the Clean Water Act has provided funds to the states for the correction of nonpoint source pollution problems since 1990. 33 U.S.C. § 1329 (1998). 80 of the projects that Mollahan's Section has implemented are similar to the GRLT Project (albeit smaller in scope), and two are nearly identical in terms of the management practices employed. Tr. 2 at 44-48. Mollahan said that there has already been "a great deal of landowner and organization cooperation" for the GRLT Project "which is not something that we usually experience in a lot of other areas . . ." Tr. 2 at 50.

Both Mollahan and Roseboom say that the ten year time frame is a minimum for measuring the effectiveness of projects similar to the GRLT Project. Tr. 2 at 48, 57. Mollohan claims that if there is proper maintenance and implementation, the GRLT Project will succeed. Tr. 2 at 51.

The Board has approved projects similar to the GRLT Project in the past. In adjusted standards for both the East Moline and Rock Island water treatment plants, the Board required both facilities to remove erodible farmland from cultivation. The Board then ordered both facilities to maintain the land as fallow, thereby offsetting any potential increase of solids in their discharges. In re Petition of City of East Moline and IEPA (May 19, 1994), AS 91-9, slip op. at 6-7, 9; In re Petition of City of Rock Island (October 19, 1995), AS 91-13, slip op. at 6, 10.

IAWC also points to community outreach program sponsored by Northern Illinois Water Corporation (NIWC) in which NIWC educated members of the community and agricultural organizations about high nitrate levels in the Vermillion River and about ways to prevent nitrate runoff. Since the program's inception in 1993, nitrate levels decreased substantially and savings in treatment costs are estimated to be in the \$5 million to \$7 million range. Jan. Pet. Exh. at Att.

Section 28.3 of the Act

Even though the deadline for filing for an adjusted standard pursuant to Section 28.3 of the Act has long since passed, the Board still finds that Section 28.3 is relevant to the instant petition. The adjusted standard procedure established at Section 28.3 of the Act was somewhat different from the adjusted standard procedure at Section 28.1 of the Act. Section 28.3 only applied to public water suppliers that drew raw source water from the Mississippi or Ohio Rivers and did not use lime in the purification process. Factors that the Board considered under Section 28.3 included "water quality effects, actual and potential stream uses, and economic considerations, including those of the discharger and those effected by the discharge." 415 ILCS 5/28.3(a) (1998).

Analysis

The Board looked to potability as one of the factors in developing the general use water quality standards. Potability of the water at Mile 204 of the Mississippi should not be affected as there will not be a change in location of the intake and neither the Agency nor IAWC cited potability of the water in Mississippi as a concern. The effluent from the existing and new facilities will be nearly identical, so the potability of the water downstream of Mile 204 should not be affected by the new discharge.

As stated previously, there will be a very slight increase in turbidity and new bottom deposits will be so slight that they will be difficult to measure. Such bottom deposits could hardly be described as “harmful” which was one of the factors that the Board looked to in adopting the effluent standard for TSS.

The Agency is also concerned that the plume from the discharge at the new facility will be visible. Am. Res. at 9-11. Although the visibility of the plume could be a violation of Section 302.203 of the Board’s rules (waters of the state must be free of color or turbidity other than natural origin), the Board does not find that the violation is significant.

The compliance alternatives may make the effluent cleaner, but they are expensive and do not contribute to an improvement in the water quality of the Mississippi. Application of filtered residuals to farmland could harm the fertility of the soil and lead to a high concentration of metals. Treatment of the new facility’s wastewater at the Alton POTW is only possible if the Alton POTW is expanded - a very expensive proposition. Landfilling residuals from the new facility in a monofill is also a very expensive proposition.

Although the option of dewatering the residuals in on-site lagoons and sending them offsite to an existing solid waste landfill may be less expensive than the monofill and the Alton POTW options, it is far from an ideal solution. Nearby residents, local civic organizations, and the City of Alton do not want lagoons constructed at the new facility site for fear of increased traffic and disruption of a scenic area. Although local resident R. L. Christeson points out that an on-site treatment facility may provide jobs, the Board finds that the \$7 million cost for such treatment far outweighs the economic benefits that a few jobs might provide.

The Board finds that the direct discharge option is the most technologically feasible and economically reasonable of all the options studied. The option would not require IAWC to build any sort of treatment apparatus and it would cost IAWC very little, if anything. The Board found nothing in the record to indicate that direct discharge would cause any economic damage downstream. Additionally, nothing in the record indicated that the actual or potential uses of the Mississippi would be altered from the new facility’s discharge, especially considering that the new facility’s discharge will be nearly identical in composition to the existing facility’s discharge.

The GRLT Project should prove successful, which is likely given its similarity to other successful sediment loading reduction projects in Illinois. Under the GRLT Project, the reduction in sediment loadings from Piasa Creek will be twice as great as the untreated sediment loadings from the new facility’s discharge. The Board finds that the GRLT Project is significantly and substantially different from any factor than the Board relied on in adopting the regulations at issue herein.

The Board finds that the factors which apply to IAWC’s proposal for an adjusted standard are substantially and significantly different than those factors which the Board relied upon to establish the water quality standard for offensive conditions and the effluent standards for TSS and offensive discharges.

Environmental Impact from the New Facility’s Direct Discharge

An adjusted standard would have to protect the Mississippi by ensuring that native and resident organisms are protected.

The Agency is concerned about the effect of the new discharge on aquatic life. The Agency believes that there will be an area below the new discharge which will not sustain aquatic life. Although fish will not be trapped in the plume below the new discharge, the Agency claims that fish will avoid it and seek less turbid water. It also claims that sessile aquatic invertebrates may die from asphyxiation in the plume. The Agency states that filter-feeding invertebrates in high concentration areas of the plume will not be able to feed and will “join the invertebrate drift in the Mississippi and be transported downstream”. It claims that even if the plume area is smaller than an acre, the plume will still violate 35 Ill. Adm. Code 302.203. Res. at 15-16; Am Res. at 9-11. The Agency offers no scientific data, studies, or other proof to back up its claims.

IAWC evaluated the impact to the environment under a scenario in which IAWC is granted the adjusted standard and the new facility is allowed to discharge directly into the Mississippi. As part of its evaluation, IAWC's consultants supervised a 1997 characterization of habitat for protected (*i.e.*, threatened or endangered) mussel species from 100 meters upstream of the existing intake location to 400 meters downstream of the new discharge location. Nov. Pet. Exh. 2 at 6; Nov. Pet. Exh. 4 at 6; Pet. at 25, Att. B at 4-5, App. B at 5. Mussels (also known as unionids) are usually found in areas of stable sand, gravel, and cobble substrate, but not in deep silt or shifting sand. Silt can clog the gills of a mussel. Mussels may be affected by the construction of water intakes or by treatment discharge. Historically, at least 28 species of mussels occurred in the Mississippi near Alton, including federally protected species. Pet. at Att. B at 4-5, App. B at 1, 5.

IAWC's survey results indicate that the area does not support a mussel community. Furthermore, no living animals were found in the study area, and only eight shells were collected, none of which were State or federally protected. The survey concluded that construction and operation of a water intake and a water discharge would not impact mussels. Benthic communities will not be affected, either. Nov. Pet. Exh. 4 at 12-13; Pet. at 7, 25-26, 66, Att. B at 4-4, 4-5, 5-16 to 5-17, 5-21, App. B at 8.

IAWC disputes the Agency's claim that the plume will harm other aquatic life as well. IAWC profiled fish and other macroinvertebrate communities near the proposed discharge. There are no endangered species in this part of the Mississippi. The turbidity from the discharge is extremely slight in light of the ambient turbidity. Both native and transitory fish are already highly adaptive to the highly turbid conditions already present in the Mississippi at River Mile 204. IAWC determined that the slight increase in TSS may lead some fish and other aquatic species in the Mississippi to avoid the area near the discharge and the potential depositional area, but that there should be no other harmful affects. The discharge from the new facility will be less variable than the discharge from the old facility; lowered variability in discharges is less stressful to biota. Nov. Pet. Exh. 4 at 11, 13. Pet. at 58-62, Att. B 5-14 to 5-19, 5-32 to 5-35.

IAWC claims that the Agency cannot reconcile its approval of the sedimentation and other minor disturbances from the new discharge and still claim that the discharge violates Section 302.203 just because of the minor disruption of aquatic life. Nov. Pet. Exh. 4 at 17-20.

IAWC asserts that there will be no additional nutrient loading and no additional plant or algae growth. Pet. at Att. B at 5-22. The slight increase in TSS also should have no discernible effect on underwater light levels, and the effect on smaller plankton should likewise be negligible. Pet. at Att. B at 5-16.

In summary, IAWC determined that the new facility will not have a significant potential impact to the Mississippi's environment or biota. Nov. Pet. Exh. 3 at 15; Nov. Pet. Exh. 4 at 15, 16; Pet. at Att. B at 5-21.

Analysis

The proposed adjusted standard will not harm aquatic life just because fish are inconvenienced. The Board is also not convinced that filter-feeding invertebrates will die due to an increase in levels of TSS from the new facility's discharge. The additional TSS from the discharge is less than the natural variation of TSS levels in the Mississippi. Furthermore, the GRLT project will eventually keep much more TSS out of the Mississippi than the new facility's discharge puts in. The Board agrees with IAWC's conclusions on the effect of the discharge on aquatic life.

The Board finds that the untreated discharge from the new facility, provided it occurs in the context of the GRLT Project, will not harm human health and will protect aquatic life immediately downstream of the discharge.

Justification for Adjusted Standard

The factors relating to IAWC are substantially and significantly different than the factors which the Board relied upon in adopting the regulations at issue herein. The proposed adjusted standard will not harm the environment or human health. As a result, the Board finds that IAWC has properly justified its petition for an adjusted standard.

Treating the effluent discharged into the Mississippi, which has a naturally-occurring high level of suspended solids and certain types of offensive materials, is not economically reasonable. Furthermore, the proposed treatment options will not improve water quality, sediment quality, habitat quality, or biota quality.

Consistency With Federal Law

Generally, states must adopt water quality standards which protect the designated use of interstate and intrastate waters. 33 U.S.C. § 1313(c) (1998). The Board has adopted the water quality standards at 35 Ill. Adm. Code 302.203 in compliance with federal law. States may also revise water quality standards. 40 C.F.R. § 131.4 (1998). Standards adopted in compliance with the Board's adjusted standard procedure that do not adversely affect the designated uses of a water body are consistent with federal law. The designated uses of the Mississippi will not change pursuant to the grant of this adjusted standard.

There are no federal categorical effluent regulations for drinking water facilities. 33 U.S.C. § 1314(b) (1998). In place of these regulations, the Agency issues NPDES permits to public water supplies on a case-by-case basis pursuant to the Clean Water Act. 33 U.S.C. § 1342 (1998); 40 C.F.R. § 125.3(c)(2) and 125.3(d) (1998).

The Board has stated previously that federal directives give it "broad discretion in determining the appropriate standard of control to apply to discharges from water treatment plants". In re Site Specific Exception to Effluent Standards for the Illinois American Water Company, East St. Louis Treatment Plant (February 2, 1989), R85-11, slip op. at 10.

The Agency admits that USEPA would not object to the instant adjusted standard petition. Res. at 19; Am. Res. at 14.

The Board finds that the requested adjusted standard is consistent with existing federal law.

CONCLUSION

The Board finds that the proposed adjusted standard, including the GRLT Project, is a much better and more cost effective way to obtain sediment loading reductions in the watershed rather than employing other options to remove residuals from a dilute mixture of residuals and water. The Board finds that the GRLT Project is very similar to other successful sediment loading reduction efforts in Illinois. The Board also finds that the GRLT Project will preserve the scenic nature of the Alton Lake Heritage Parkway Corridor and generally be more compatible with surrounding land uses.

The Board finds that IAWC has demonstrated that the factors surrounding the request for the adjusted standard from Sections 302.203, 304.106, and 304.124 of the Illinois Administrative Code are substantially and significantly different than the factors considered by the Board in adopting these rules. In light of the substantial costs associated with treating the new facility's discharge, the Board is persuaded that treatment would be economically unreasonable and would result in little increased environmental protection. Therefore the Board will grant IAWC an adjusted standard from 35 Ill. Adm. Code 302.203, 304.106, and 304.124 as Section 304.124 applies to TSS. The Board will not grant an adjusted standard from Section 304.124 as it applies to iron because it deems the relief unnecessary.

The Board notes that since the existing facility will no longer be in use and will be replaced by the new facility, the site specific rule at Section 304.206 of the Board's rules for the existing facility is no longer necessary. While the Board cannot repeal Section 304.206 in the instant adjusted standard, the Board would appreciate either IAWC or the Agency proposing a rule to the Board which would repeal Section 304.206.

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

ORDER

The Board hereby adopts the following adjusted standard, pursuant to the authority of Section 28.1 of the Environmental Protection Act:

1. This adjusted standard will expire on September 7, 2007. Illinois American Water Company (IAWC) may file a petition with the Board for an extension of this adjusted standard.
2. No facilities with outfalls or discharges to the Mississippi River (Mississippi) will benefit from the relief provided in this order except for IAWC's new public drinking water supply treatment facility (new facility) at Alton, Madison County, Illinois.
3. The general use water quality standard for offensive discharges at 35 Ill. Adm. Code 302.203 will not apply to a one mile stretch of the Mississippi which receives effluent from the new facility and is immediately downstream from the new facility's discharge.
4. The effluent standard for offensive discharges at 35 Ill. Adm. Code 304.106 will not apply to the effluent discharged from the new facility.
5. The effluent standard for total suspended solids (TSS) at 35 Ill. Adm. Code 304.124 will not apply to the effluent discharged from the new facility.
6. The Board grants the adjusted standard pursuant to the following conditions:
 - a. IAWC will send all of its discharges from its new facility only to the Mississippi at River Mile 204. IAWC will not send new facility discharges to tributaries of the Mississippi. IAWC will not send new facility discharges to any other body of water or to land.
 - b. IAWC will cease discharges to the Mississippi from its existing public water treatment facility for Alton once the new facility is operational and supplying water to all of IAWC's customers in the Alton, Illinois area.
 - c. No later than 45 days after the filing of the instant opinion and order, IAWC must enter into a contract with the Great Rivers Land Trust (GRLT) for a sediment loading reduction project (GRLT Project) that GRLT will manage. At a minimum, the contract must specify that:
 - (1) IAWC must provide GRLT a ten (10) year schedule of payments earmarked for the GRLT Project.
 - (2) IAWC must provide a minimum average of \$415,000 per year to GRLT during the span of the GRLT Project. Payments will be equal to year 2000 dollars pursuant to the United States Consumer Price Index (CPI). By the conclusion of the project, IAWC will have provided to GRLT a minimum payment of \$4,150,000 in year 2000 dollars according to the CPI.
 - d. Within ten (10) days of entering into the contract with GRLT, IAWC must provide a copy of the contract to the appropriate personnel at the Agency and shall file a copy of the contract with Board's Clerk's Office.

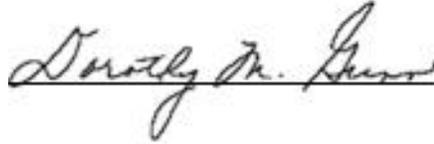
IT IS SO ORDERED.

Board Member G.T. Girard abstained.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1998)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of service of this order. Illinois Supreme Court Rule 335

establishes such filing requirements. See 172 Ill. 2d R. 335; see also 35 Ill. Adm. Code 101.246, Motions 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 September 2000 by a vote of 6-0.

A handwritten signature in cursive script, reading "Dorothy M. Gunn", written over a horizontal line.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board