

ILLINOIS POLLUTION CONTROL BOARD
March 22, 1990

IN THE MATTER OF:)
)
PROPOSED SITE SPECIFIC RULE CHANGE) R87-34
FOR THE CITY OF ROCK ISLAND'S) (Site-Specific
PUBLIC WATER SUPPLY TREATMENT) (Rulemaking)
PLANT DISCHARGE: 35 ILL. ADM.)
CODE 304.217)

OPINION AND ORDER OF THE BOARD (by J. Anderson):*

This matter is before the Board on a petition for site-specific rulemaking filed by the City of Rock Island (Rock Island).

In its petition, filed September 29, 1987, Rock Island requested the Board to adopt a rule which would "allow the discharge of solids from Rock Island's public water treatment plant located in Rock Island County, Rock Island, Illinois.....to allow for the discharge of effluent containing solids to the Mississippi River" (Exh. 1, p. 1). That discharge does not meet the requirements of 35 Ill. Adm. Code Section 304.106 and 304.124(a) for iron, manganese or total suspended solids (TSS). The Section 304.124(a) standards for these contaminants are 2.0 milligrams per liter (mg/l) for iron, 1.0 mg/l for manganese, and 15 mg/l for TSS. Section 304.106 prohibits effluent which contains "settleable solids, floating debris, visible oil, grease, scum or sludge solids" and states that "[c]olor, odor and turbidity must be reduced to below obvious levels."

Rock Island Proposal

As an alternative to the general standards, Rock Island urges the Board to adopt the following as a new rule addition to Subpart B: Site Specific Rules And Exceptions Not Of General Applicability, of the Board's water pollution rules (35 Ill. Adm. Code Title 35, Subtitle C, Chapter I):

Rock Island Water Treatment Plant discharges

This Section applies to the existing water treatment plant known as the Rock Island Public Water Supply Treatment Plant, owned by the City of Rock Island, which discharges into the Mississippi River. Such discharges shall

* We express our great appreciation to Mr. Phillip Van Ness, who acted as Hearing Officer in this proceeding, and for his contributions to the drafting of this Final Opinion and Order. We also thank Mr. David O'Neill for conducting the February 8, 1989 hearing.

not be subject to the effluent standards for total suspended solids, iron and manganese of 35 Ill. Adm. Code 304.124.

Procedural History

On November 12, 1987, the Environmental Protection Agency (Agency) filed a motion to consolidate the instant proceeding with Board proceeding R87-35 which regards a similar petition for a site-specific rule on behalf of Rock Island's sister city, the City of East Moline; Rock Island opposed the motion. On December 12, 1987, the Board denied the motion.

Pursuant to Board Resolution 88-1 (i.e., without consideration of the merits of the proposal), the Board on April 21, 1988, adopted the Rock Island proposal for First Notice publication in the Illinois Register. The proposal appeared in the Illinois Register for May 20, 1988 (12 Ill. Reg. 8531). An economic impact analysis was filed on June 30, 1988 by the Small Business Office of the Department of Commerce and Community Affairs (DCCA; PC#1), indicating that there would be "no effect" on small businesses. In response to the Hearing Officer's Order and following an extension of time granted by the Hearing Officer, Rock Island pre-filed testimony and exhibits on October 17, 1988. In addition, both the Agency and the Department of Energy and Natural Resources (DENR) pre-filed comments and questions for hearing. On December 7, 1988, the Hearing Officer issued a revised Order regarding pre-hearing submission of testimony and exhibits, and set hearing in this matter for February 8, 1989. Rock Island pre-filed amended testimony and exhibits on January 19, 1989.

On January 24, 1989, the Hearing Officer ordered participants to file comments regarding the necessity for an economic impact study (EcIS). Although Rock Island indicated an EcIS was necessary (PC#4), neither the Agency (PC#3) nor the DENR (PC#2) agreed; on February 23, 1989, two weeks following the hearing in this matter, the Board entered an order finding that no EcIS was necessary. Upon petition from Rock Island, the Hearing Officer granted an extension of the deadline for filing of final post-hearing comments. Post-hearing comments were timely filed by the Agency (PC#6 and #8) and Rock Island (PC#7). One comment was provided to the Hearing Officer at the hearing by Mr. John Hass, President of The Valley Group (PC#5).

On June 9, 1989, pursuant to Section 5.01(d) of the Administrative Procedure Act, Ill. Rev. Stat. ch. 127, par. 1005.01(d), the Board refiled the original proposal for First Notice publication in the Illinois Register; this appeared in the Illinois Register for June 23, 1989 (13 Ill. Reg. 9421). During the following First Notice comment period, comments of a technical nature were received from the Administrative Code Division of the Office of the Secretary of State (PC#9) together

with substantive comments from the Illinois-American Water Company (PC#11). DCCA filed another Impact Analysis, identical in all essentials to the original (PC#1), on July 31, 1989 (PC#10).

No discussion of the procedural history of this case would be complete without mention of the other proceedings before the Board regarding the Rock Island facility. Two of these proceedings are identified by Rock Island in its Motion for Leave To File Site Specific Rule Change Petition without Supporting Signature Petition, which accompanied the original petition, as well as in the testimony provided by Rock Island (Tr. 12-13). These proceedings include two variance proceedings, one which relates to the Board's effluent limitations for trihalomethanes (PCB 87-13)* and the other which sought variance (temporary) relief for the same purposes as the instant site specific rule request (PCB 85-118).** The third proceeding was a failed earlier attempt by Rock Island to secure site-specific rule relief (R84-18), dismissed in part for lack of information regarding environmental impact (Tr. 60).

Background

The effluent in question emanates from Rock Island's public water treatment plant located on a 23 acre site in Rock Island (Tr. 77). The land, which was purchased in the late 1800's for the water treatment plant, is today shared by the plant (10.9 acres) and an open area which is heavily used by the City's park district and its residents as a park (12.9 acres), often referred to as "Reservoir Park" (Tr. 30-32; 36-37; 79-82; 96-100; 171; 237-240). However, the City does not assert that the plant is "landlocked" or that the usage of the area as a "park" supersedes or precludes use of the land for expansion of the plant (Tr. 238-240); the City does claim that loss of the "park" would impact it directly, since the City's own Parks and Recreation Department (rather than an independent park district) utilizes the "park" and would be forced to attempt to secure an alternative (Tr. 241-243). The plant, which was originally built in 1898, provides clarified, filtered and disinfected water to approximately 47,000 residences and 1,000 businesses in the City (Tr. 51).

Rock Island's source of raw water is the Mississippi River. A pumping station at 24th Street in Rock Island pumps the

* The Board granted Rock Island's variance request by order of May 14, 1987.

** The Board granted the variance on October 1, 1987 (Order corrected October 15, 1987), subject to the conditions that Rock Island either obtain a site-specific rule change as herein requested, or implement the appropriate remedies for complying with the limitations of rule Section 304.124(a). Variance relief expires no later than December 1, 1991.

raw water approximately one mile to the treatment plant. The plant has a capacity of 16 million gallons per day (gpd); however, for the last five years, it has only treated about 5.5 million gpd (Tr. 52). The raw water is first pumped to rapid-mix flocculation units, thence to two rectangular sedimentation basins; sedimentation is aided by the addition of alum and lime (Tr. 51-52). Since 1977, some of the sediments in the sedimentation basins have been continuously removed utilizing four circular sludge rakes 65 feet in diameter installed in the upper two-thirds of the basins (Tr. 54; Exh. 5). Clarified water from the sedimentation basins is routed through gravity filters and thereafter is directed to "clear lakes" for disinfection and fluoridation prior to entering the storage and distribution system (Tr. 52; Exh. 4).

Wastes from the water treatment process consist of backwash water from the filters and sludge from the settling basins (Tr. 53; 104; 211-212). Sludges from the sludge rakes and from the filters are continuously removed. These sludges (approximately 19% of the total sludges generated by the plant) are dewatered by use of a backwash recovery basin, a sludge thickener and four basket centrifuges (Tr. 54). The dewatered sludges are then hauled to a regional landfill 12 miles from the plant (Tr. 54; 212).

The largest proportion of solids (approximately 81%) are not captured by the sludge rakes and the filter backwash. It is therefore necessary that the settling basins be taken off-line approximately twice a year to remove the sludges which are not captured by the rakes; the City calculates that the average daily rate of accumulation of these sludges is 4,800 lbs. per day (Tr. 53). It is undisputed that approximately 50% of the solids in Rock Island's discharge originates from the Mississippi River; the balance is added in the course of treatment (Ibid.). The "added" solids (expressed as percentage of the whole) consist of 23% aluminum hydrate and 27% calcium hydrate (Ibid.). These accumulated solids are flushed from the sedimentation basins with fire hoses; flows from the flushing are directed via a 0.4 mile long storm sewer to Black Hawk Creek, an intermittent stream which is tributary to the Rock River (Tr. 57-58). Flushing takes approximately five days, during which solids are discharged at the rate of 144,000 lbs. per day (Tr. 66-67). The average concentration of TSS, iron and manganese in Rock Island's discharge to Black Hawk Creek is as follows:

TSS	14,450 mg/l	
Iron	928 mg/l	
Manganese	300 mg/l	(Tr. 58).

Rock Island does not seek to continue discharging to Black Hawk Creek as it has for approximately 70 years; rather, it seeks to reroute its outfall to the "Sylvan Slough" portion of the Mississippi River, being that portion which passes between the

Rock Island Arsenal island and the City (Tr. 62-63; Exh. A of Exh. 3).

Applicable Law

Proposals for site-specific regulations are governed by the provisions of Title VII of the Act, specifically Section 27 (Ill. Rev. Stat. ch. 111 $\frac{1}{2}$, par. 1027). Subsection (a), in relevant part, states as follows:

a. The Board may adopt substantive regulations as described in this Act. Any such regulations may make different provisions as required by circumstances for different contaminant sources and for different geographical areas...and may include regulations specific to individual persons or sites. In promulgating regulations under this Act, the Board shall take into account the existing physical conditions, the character of the area involved...the nature of the...receiving body of water...and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution.

The Rock Island plant's physical condition has been described at length (Tr. 51-58; 104-105). Nothing in the record indicates that the plant's physical condition, per se, poses any particular impediment to compliance with the general rule, although Rock Island has, as noted above, provided extensive testimony regarding the evident need for a number of maintenance and improvement projects (Tr. 76-77; Exh. 6).

The character of the surrounding area has been at issue here, to the extent that all or some of the adjoining ground (12.9 acres) upon which any sludge handling facilities would be constructed if relief hereunder were denied is heavily utilized as a "park" although the property is clearly not a park in that it has always been owned and held by the City's public water supply department as room for possible expansion or other use. Rock Island and several community witnesses described the importance of the "park" in terms of its usage, locational attributes and cost and difficulty of replacement (Tr. 30-32; 36-37; 79-82; 96-100; 171; 237-240). According to this testimony, the "park" serves some 40,000 persons per year, including some 26,500 participants in organized recreational activities (softball, baseball, soccer, etc.) sponsored by the Rock Island Park and Recreation Department (Tr. 79-80). The City estimates that replacement of the "park" would cost the city \$2,400,000 if the City had funds available for that purpose (Tr. 98; 196); using an assessment technique reported by DENR, it estimates the economic value of the "park" in terms of lost recreational opportunities to be \$138,000 per year (Tr. 197-198; Exh. 8). The

City indicates that for a variety of reasons, other available lands that could be used for park purposes are either intrinsically less desirable (e.g., access is more hazardous) or poorly located for the purpose (Tr. 32; 98-99; Exh. 8). In addition, Rock Island has provided considerable testimony and exhibits characterizing the area in terms of its significant economic downturn since the late 1970s, including the loss of numerous businesses (Tr. 22; 23-24; 35; 41; 74-75; 86-94; 173; 225-226); we will address economic matters below, in the context of Rock Island's contentions regarding economic reasonableness.

Finally, Rock Island does not contend that compliance with the existing regulation is not technically feasible (Tr. 68; PC#7, p. 16). Rather, Rock Island argues that compliance with the general standard is economically unreasonable; by extension, Rock Island suggests that the economic reasonableness of compliance is related to the nature of the receiving body of water.

Nature of the Receiving Body of Water

As noted previously, Rock Island's effluent discharges directly into, and comprises, the headwaters of Black Hawk Creek, a tributary of the Rock River. The City does not propose to continue that discharge, however. Rather, the City proposes to direct its sludge flows to the swiftly moving waters of the "Sylvan Slough" branch of the Mississippi River (Tr. 12; 43; 62; 66; 157; 177-178; 212-214).

The Mississippi River, of which Sylvan Slough is part, is extremely large; Rock Island indicates the mean average flow of the river is 52,200 cubic feet per second that of Sylvan Slough is 9,000 cubic feet per second (Exh. 1, p. 11). The average suspended solids concentration of the river's water is 57 mg/l (Ibid.), which exceeds the standard (15 mg/l) set by 35 Ill. Adm. Code 304.124(a); average total iron concentration of the river has been measured at Clinton, Iowa, some 40 miles upstream, at 1.675 mg/l, with a maximum recorded concentration of 2.7 mg/l (Ibid., p. 16) and thus may also exceed the standard (2 mg/l). The City of Muscatine (Iowa) public water supply intake is located some 25 miles downstream of the Rock Island discharge (Tr. 120). Fish are plentiful in the Rock Island area of the river, with the variety changing with the bottom conditions (Exh. 1, p. 16; Exhs. B1 and B2 of Exh. 1). Fish are also abundant in the Sylvan Slough portion of the river; two "important" game fish species (walleye and sauger) are thought to spawn in the tailrace of the slough (Exh. 1, p. 17).

Impact on the Receiving Body Of Water

Mr. James Huff testified on behalf of Rock Island regarding the effects of Rock Island's discharge on water quality and other features of Black Hawk Creek (Tr. 106-114) and the Rock River (Tr. 110-11; 113). He stated that results of analysis of

sediments and water quality of the creek indicated that the poor water quality of the creek, as measured in terms of its Macroinvertebrate Biotic Index (MBI) was due to factors other than the treatment plant sludge, in light of the fact that MBI readings in areas of the creek unaffected by the sludge discharges were essentially similar to areas that were affected (Ibid., pp. 107-108). As for sediments, he found "no relationship" between plant sludge and creek sediment with respect to iron, manganese and volatile solids (Ibid., p. 113; Exh. 5 of Exh. 3). Finally, he found no effect of the Rock Island discharges on the Rock River (Tr. 110-111; 113; Exhs. 4 and 5 of exh. 3). Mr. Huff also testified regarding the anticipated effect of Rock Island's proposed direct discharge on the Mississippi River (Tr. 114-121; 128-129; 177-178). He testified that the high and relatively constant rate of flow in Sylvan Slough (8,000-10,000 cubic feet per second, year round) resulted in minimal sediment accumulation (Ibid., pp. 120-121). Where sediments had accumulated, the number of taxa and organisms increased (Ibid.). Comparing Rock Island's proposed intermittent outfall per day (87,600 lbs.) to the average daily sediment load of Sylvan Slough (2,800,000 lbs.) and the Mississippi River (16,000,000 lbs.), Mr. Huff opined that the effect of Rock Island's discharges (of which 49% is from the river) would be minor (Ibid., 121-123).

The Agency raises two arguments against Rock Island's assertions regarding environmental impact. First, the Agency restates the position taken by the Board in its Final Order and Opinion in the first Illinois-American Water Company site-specific case, R85-11, dated September 25, 1986.* The Agency notes that in that case the Board made clear that the assimilative capacity of the Mississippi River could not suffice as a reason to abandon the State's technology-based effluent standards (PC#8, p. 5). The Agency further asserts that the City misunderstands the concept of "mixing zones", asserting (citing the proposed language of the Board's current water toxics rulemaking proceeding, R88-21) that mixing zones are not intended to be used as zones for unnatural sedimentation (Ibid.). In any event, the Agency asserts, "the fact that the sludge deposits caused by Rock Island's discharge are, in time, diluted does not

* Upon motion by Illinois-American, the Board allowed Illinois-American to subsequently reopen the record so that it could submit additional information regarding alternative treatment methods. This reopened, or "second", proceeding eventually resulted in the Board's granting of a temporary and conditional rule allowing the Illinois-American facility in East St. Louis to be exempted from the general effluent standards while it experimented with the exclusive use of biodegradable coagulants (R85-11, Final Opinion and Order of February 2, 1989). This latter decision is cited by both East Moline (see PC #8, p. 29-30) and Illinois-American (PC #10, p.2-3).

negate the fact that those sludge deposits are there and may be redeposited somewhere else" (Ibid.).

Rock Island states that the cost of control is approximately \$4,000,000, based upon the recommended least-cost alternative considered, which consists of building sludge drying beds (Tr. 71; 202). Other alternatives considered included discharge to Rock Island's sanitary sewer system, construction of new sludge lagoons, and construction of additional mechanical dewatering devices (Tr. 69). According to Rock Island, discharge to its sanitary sewer system is not viable absent the construction of a new sewage treatment plant, which would cost the City far more than \$4,000,000 (Tr. 70; 200). Also, Rock Island asserts that construction of new sludge lagoons would be more expensive than \$4,000,000, in light of the fact that such lagoons would require more land (15 acres) than is available at the present location and that pumping of sludges to a more distant available location (some 6 miles away) may not be possible (Tr. 70; 201-202). The final alternative, installation of additional mechanical dewatering devices, has been rejected by the City in light of its poor experience (poor results in terms of dewatering, high downtime and excessive maintenance costs) with the devices (basket centrifuges) presently employed (Tr. 70-71; 104-105; 168; Exh. 14, p. 19). At present, Rock Island is using, and considering some additional use of polymers (Tr. 55; 141-146; 148-149). Rock Island acknowledges that recent tests of use of polymers show some promise (Ibid.); in particular, Rock Island indicates that the resulting sludges do pass the Paint Filter Test (Tr. 151-152), whereas sludges obtained without use of polymers generally fail that test (Tr. 71; 104-105).

As for the economic reasonableness of requiring adherence to the general standards rather than allowing it to discharge to the Mississippi River, Rock Island argues that the limited impact on the river, both in terms of Rock Island's discharges (as noted previously) and in terms of similar discharges to the Mississippi River, does not warrant the \$4,000,000 expense of controls, particularly in light of Rock Island's present economic difficulties. In its comments, Illinois-American suggests that, in light of the other site-specific factors, the expense of controls is not warranted even if one discounts Rock Island's economic condition as one such factor (PC#11, pp. 18-19). Illinois-American suggests that, in light of its substantial expenditures for (relatively unsuccessful) sludge dewatering devices, Rock Island is entitled to relief on equitable grounds (Ibid., p. 10).

Rock Island notes that numerous other communities along the Mississippi River discharge their water plant sludges to it, including St. Louis and Cape Girardeau, Missouri, Davenport (including Bettendorf), Iowa and Alton, Illinois (Tr. 115-116). Rock Island further notes that the Ohio River Valley Water Sanitation Commission (ORSANCO), of which Illinois is a member, favors allowing the controlled release of water plant sludges on

a case-by-case basis, provided there are no adverse stream effects (Tr. 116; 178-182). Rock Island cites ORSANCO studies which conclude that technology-based effluent limits are inappropriate because of the high cost compared to the lack of significant benefits [due to the large dilution capacity of the river and temporal variability of the background water quality] (Tr. 116; Exh. 13). Rock Island also directed the Board's attention to the results of studies performed by the Illinois State Water Survey (ISWS) on the impact of wastes from other water treatment plants in Illinois, including that of the City of Pontiac on the Vermilion River (Exh. 12), the City of Alton on the Mississippi River (Exh. 11) and the City of East St. Louis on the Mississippi River (Exh. 16). Each of these studies generally concluded that the subject discharge had no significant effect on the receiving river beyond a very small area nearest the outfall and that such effect might in certain cases be beneficial (PC#7, p. 29). Mr. Huff testified, with regards to the ORSANCO study (Exh. 13), that the Ohio River is similar to the Mississippi River in this regard (Tr. 221).

Rock Island strongly suggests that its situation closely resembles that of Alton, to which this Board on March 8, 1984, granted site-specific rule relief in docket R82-3 (PC#7, pp.31). Illinois-American concurs, suggesting further that a grant of "complete relief" to Rock Island by the Board in the present case will not be inconsistent with its grant of limited relief to Illinois-American in R85-11 (PC#11, pp. 14-15).

Illinois-American takes particular note of the Agency's position in docket R87-27 (adopted by the Board) favorable to downgrading water quality and effluent standards affecting the Metropolitan Sanitary District of Chicago, now known as the Metropolitan Water Reclamation District (MWRD). In that proceeding, Illinois-American argues, the Agency in effect endorsed the ORSANCO position, stating that:

[I]t is not cost effective to spend taxpayers' money for major wastewater treatment facilities which result in marginal water quality improvements. In the Matter of Amendments to Water Quality and Effluent Standards Applicable to the Chicago River System and the Calumet River System, PCB R87-27, Tr. 13.

Illinois-American notes that the Board subsequently adopted the proposed Opinion and Order with but one change, requiring the MWRD, like Illinois-American in the East St. Louis case (R85-11), to perform a comprehensive study of water quality (PC#11, p. 13). Illinois-American suggests that the Agency's position in the MWRD rulemaking, which involved sewage waste rather than water supply waste, cannot be reconciled with its position in opposition to relief for public water supplies (Ibid., pp. 13-14).

As the third basis for a finding that compliance with the general standards would be economically unreasonable, Rock Island asserts the alleged hardship that would attend full compliance. Rock Island offers two means of demonstrating this alleged hardship.

First, Rock Island points out that the capital costs of compliance measured by the pounds of solids discharged and removed per day would be \$833 per pound per day for Rock Island. This cost compares to \$240 for Alton and \$103 for East St. Louis (Tr. 230-231).

Second, Rock Island and several other witnesses repeatedly point out that the city's economy has suffered serious setbacks in the 1980s (Tr. 22; 23-24; 35; 41; 74-75; 86-94; 173; 225-226). It asserts that denial of the rule change request would necessitate a 24 percent increase (\$40.50 per year) in the average household water bill to pay for the needed improvements (Tr. 76). Further, Rock Island points to a long list of needed repairs and improvements in its public water supply system and wastewater treatment system (Tr. 76-77). It characterizes these other needed improvements as competing for scarce public funds (Tr. 76-79; PC#7, pp. 34-35). It notes that property tax and sales tax revenues have dropped since the early 1980s while the costs of borrowing funds have risen (Tr. 89-93): the City apparently has no bond rating, due to the weakened economy (Tr. 73-74).

In rebuttal, the Agency asserts that the hardship alleged by Rock Island is temporary, suggesting that variance, not permanent rule relief, is appropriate (PC#8, p. 3, citing Tr. 20, 43, and 226). The Agency argues that Rock Island residents "have for years avoided the compliance costs that were long ago paid by other Illinois communities. Equity demands that the costs of pollution abatement be fairly allocated among all illinois communities..." (Ibid., pp. 3-4).

Consistency With Federal Law

In its petition, Rock Island asserts that federal law does not prevent the Board from granting the requested relief (Exh. 1, p. 23). In testimony, Rock Island again asserts that, insofar as the United States Environmental Protection Agency (USEPA) has not adopted categorical Best Practicable Technology (BPT) standards applicable to public water supply treatment plant discharges, the Board is empowered to adopt standards on a case-by-case basis using Best Professional Judgment (BPJ) for the establishment of NPDES effluent limits (Tr. 164). In its final comments, Rock Island again asserts this view, with somewhat more elaboration (PC#7, pp. 37-43). Rock Island states that a permit writer using BPJ in the absence of categorical standards is to consider the factors set forth at Section 304(b) of the Clean Water Act (CWA), "which include cost/benefit considerations" (Id.). It further states that the federal anti-backsliding statute (Section 402(o)

of the CWA, 33 U.S.C. 1342(o)) and rule (40 C.F.R. 122.44(l)) apply only where a facility's new permit contains less stringent requirements than the previous permit. It asserts that the fact that its permit application is still under consideration renders the "backsliding" provisions inapplicable (Ibid., p. 38). Finally, Rock Island asserts as follows:

Regardless of whether a permit can be issued which contains no limitation on the discharge of suspended solids, the Board can certainly exempt Rock Island from the generally applicable rule. In turn, if a limit is required in the permit, the Agency can impose a limitation in the permit based on its best professional judgment..." (Ibid., p.42).

On the other hand, the Agency asserts that the effluent limitations at issue are BPT and that the factors enumerated in Section 304(b) of the CWA and 40 C.F.R. 125.3(d) are exclusive in making a BPT determination; these factors, the Agency asserts, preclude the consideration of economic effects and environmental impact (PC#6; PC#8, pp. 6-7). The Agency again argues that permanent relief would constitute "backsliding" prohibited by the Clean Water Act (Ibid., p. 7).

By far the most extensive treatment of this subject was provided in the final comments of Illinois-American (PC#11). Like Rock Island, Illinois-American asserts that the relief sought is not inconsistent with federal law. Like Rock Island, Illinois-American points to the lack of categorical standards (BPT) under Section 304(b) of the CWA; unlike Rock Island or the Agency, however, Illinois-American argues that permits for public water supplies are written under the BPJ case-by-case provisions of Section 402(a)(1) of the CWA (33 U.S.C. 1412(a)(1)) and 40 C.F.R. 125.3(c), not under any part (including case-by-case provisions) of Section 304 of the CWA or any rule promulgated thereunder (Ibid., pp. 5-7). Further, Illinois-American, unlike either the City or the Agency, contends that "backsliding" applies only to permits that were issued when there were no federal effluent guidelines for the discharge category, but are being renewed, reissued or modified after USEPA has promulgated less stringent guidelines under Section 304(b) (Ibid., pp. 6-8). Finally, Illinois-American argues that even if "backsliding" did apply, the subsection (B)(ii) exception of CWA Section 402(o)(2) would apply, due to the Agency's "mistake of law" in issuing Rock Island's permit (Ibid., pp. 8-9). Illinois-American notes that the Board has previously addressed and rejected the Agency's contentions regarding the applicability of BPT provisions in its September 25, 1986, June 16, 1988, September 26, 1988, and February 2, 1989 Opinions and Orders in R85-11 (Ibid., pp. 5-6).

Threshold Issues

We shall deal first with the threshold questions raised in this proceeding. These are, first, whether federal law precludes this Board from granting the relief sought, and second, the applicability and effect of 35 Ill. Adm. Code 304.103 and "mixing zone" provisions.

Federal Law

As to the question of federal law, we are unpersuaded by the Agency's arguments. The Agency has identified no reason why the Board's long-standing position on this issue should change. To our knowledge, USEPA still has not promulgated regulations establishing effluent limitations on water treatment plant waste. In the absence of such regulations, effluent limitations are to be established on a case-by-case basis under CWA Section 402(a)(1). The Agency has not identified any newer federal guidelines which might countermand the USEPA directives upon which the Board has relied since its initial determination of this issue on September 25, 1986, in R85-11 (72 PCB 429, 437-438).

The Board also notes that CWA Section 402(a)(1) on its face relates to the permitting function, which is the province of the Agency. That being so, it would appear that, as Rock Island has suggested, grant by the Board of the requested regulatory relief does not preclude the Agency from exercising its responsibilities and discretion as the permitting agency for Illinois pursuant to Section 39 of the Act. Under any outcome of this proceeding, the Agency will continue to be responsible for establishing such permit terms and conditions as necessary to assure that effluent discharges from East Moline do not violate or contribute to violation of applicable standards, including water quality standards (see 35 Ill. Adm. Code 304.105).

As for the "backsliding" issue, the Board agrees with Illinois-American that the anti-backsliding provisions do not apply to this proceeding in the absence of promulgated federal standards. To hold otherwise would preclude the State from exercising its own judgment over its own waters even where, as here, there has been no corresponding federal pronouncement on the subject. Particularly inasmuch as the Agency retains its permitting powers and responsibilities irrespective of the Board's determination in this proceeding, "backsliding" is not an issue.

Other Threshold Issues

Rock Island has somewhat casually raised the issue of whether 35 Ill. Adm. Code 304.103 exempts it from compliance with the effluent standard for iron and manganese, since these heavy metals originate in the raw water of the Mississippi River (PC#7, pp. 4-5). It cites no authorities for its position and

acknowledges that its process does serve to concentrate these constituents in its effluent (Ibid., p. 5). We find that the concentrations of iron and manganese in Rock Island's effluent do not result entirely from influent contamination as 35 Ill. Adm. Code 304.103 requires.

Finally, Rock Island states that "[t]here is some question as to whether relief is necessary from 35 Ill. Adm. Code 302.203 or 304.106" (PC#7, p. 5). Rock Island suggests, again without citing authority, that a "mixing zone" concept applied to bottom deposits would obviate the need for such relief (Ibid., pp. 5-6). As we have done in other cases (e.g., In the Matter Of: Proposed Site Specific Rule Change For the City of East Moline's Public Water Supply Treatment Plant Discharge, Opinion and Order dated March 8, 1990, p. 15), we reject Rock Island's arguments. We agree with the Agency that the mixing zone concept is not intended to apply to stationary bottom deposits.

Conclusions

We turn now to the question as to whether Rock Island is entitled to the permanent site-specific relief it seeks. As noted above, that issue turns on whether Rock Island has shown that site-specific circumstances make compliance with the general standards economically unreasonable.

Rock Island's first articulated argument in support of its contention that compliance with general standards would be economically unreasonable is rooted in the alleged lack of environmental impact associated with its discharges. Rock Island has demonstrated a very limited negative impact on the Mississippi River could be expected, given the assimilative capacity of the river, the flow characteristics of Sylvan Slough, and the solid rock river bottom in the slough. We do not know whether Rock Island proposes to equip the proposed direct discharge with devices to facilitate rapid mixing as it intimated (Tr. 259), or, if so, whether such devices would be efficacious; however, the record suggests that, even absent such devices, the impact on the river in terms of measurable and observable impact would likely be small. We do not know whether this apparent lack of observable impact is due to the lack of such an impact, or to the difficulty in measuring that impact in great bodies of water such as the Mississippi River. We do know that in this case the city's contribution of solids, as a percentage of the total solids content of its discharge, would be substantial, on the order of 50%; this is not merely a case of returning solids to the river.

We are not persuaded by Rock Island's second argument regarding economic reasonableness, namely, that Rock Island's situation is analogous to that of other dischargers to the Mississippi River. Rock Island has not shown that, like Alton, it requires permanent relief because it is physically prevented from constructing the required treatment facilities on-site by a

lack of available space, by incompatible adjacent land uses, or by any other factor. We certainly will not take it upon ourselves to pass upon the value of a "park" which the community itself acknowledges has not been reserved for such a purpose. The City has not shown, as did Illinois-American in the East St. Louis case, that it requires temporary relief to facilitate research into novel treatment techniques. In short, it has not shown a comparable combination of unique factors that would distinguish it from the host of Illinois communities which are subject to Illinois' technology-based standards. The fact that communities in other states may be allowed to pollute the river with their public water supply treatment wastes is beyond our ken and irrelevant for purposes of determining the merits of a site-specific claim for relief.

We should not be understood as ruling on the merits of the concepts espoused by ORSANCO and endorsed by both East Moline and Illinois-American. However, these concepts reflect an approach which would represent a broad departure from Illinois' current technology-based standards, and must be addressed in the context of general rulemaking, not in the context of a site-specific rule. To do otherwise would induce chaos and inequitable treatment of similarly-situated dischargers.

Moreover, to do otherwise flies in the face of this State's conscious decision, now decades old, to reject the notion that environmental regulation must await proof of environmental degradation. The Environmental Protection Act and our regulations thereunder essentially recognize, through the device of technology-based standards and the Act's call for environmental restoration and enhancement (see, e.g., §1(b)), that real harm to the environment sometimes results from the cumulative effects of many small injuries, rather than a single blow. It is indeed difficult to identify or quantify the harm where the subject is a major body of water. No better example exists than that of the mighty Mississippi, which serves as the drinking water supply, recreational resource and vital transportation link for millions of Americans.

We also believe that the comments of the Board almost 20 years ago in an opinion drafted by Mr. Currie are as relevant today as they were then.

"...it would be folly to set effluent standards at such a level as to permit existing pollution sources in every case to degrade the water to the level set by the standard. To do so would transform standards designed to protect the environment into licenses to degrade. It would ignore the fact that a water quality standard prescribes not the ideal condition of the environment, but an outer limit of dirtiness that should be avoided if it reasonably can be. It would

commit us to the philosophy of allowing the environment to be as dirty as we can bear it, when our correct philosophy should be to make the environment as clean as we reasonably can. Finally, to allocate to existing users the entire waste-diluting capacity of the environment would leave no room for new industry, encourage inefficient practices, and either discriminate against new entrants or require a re-examination and tightening of effluent limit whenever a new facility was contemplated." (R70-5, Opinion, p. 4 adopted March 31, 1971. Also see PCB 88-47, p. 8).

We are also unpersuaded by Rock Island's final argument regarding economic reasonableness, based on the "compliance hardship". First, we reject the rationale underlying Rock Island's comparison of the costs, in dollars per pound per day, of solids removal for Rock Island as opposed to other communities. Such an approach is fundamentally at odds with a technology-based standard (it is always harder for some persons to comply with a law or rule than it is for other persons). Moreover, such an approach leads us down the slippery slope of attempting to divine the maximum "right" price of compliance with standards.

Second, we believe that a temporary 24% rate hike amounting to approximately \$3.50 per month per customer does not constitute an unreasonable economic burden of compliance. In a related vein, we find unpersuasive Rock Island's assertions that this 25% increase would drive industrial users away. While we are sympathetic to the present economic plight of Rock Island and its residents, we cannot ignore the fact that Rock Island has chosen to put off full compliance with the clear requirements of the law for at least 12 years. It has, unlike some of its neighbors, made some effort to control its sludge problem. Nevertheless, it has consistently avoided making the hard choices necessary to gain control of the situation; the Board views the obviously futile act of installing undersized round sludge scrapers in rectangular settling basins as illustrative. Meanwhile, according to its own testimony (and, by implication, according to the testimony of several witnesses), for much of the time that it deferred effective action it was experiencing an economic boom (Tr. 20; 22; 86-87). Taken together, we cannot conclude that the economic forces acting upon Rock Island entitle it to permanent relief as requested, or distinguish it in any way from many other industrial communities.

In like manner, we do not believe that Rock Island's list of competing public works projects under contemplation render compliance with the general effluent standards of 35 Ill. Adm. Code 304.106 and 304.124(a) economically unreasonable. We note that many of these projects are normal maintenance items with

which water suppliers must generally cope; in any event, we will not take it upon ourselves to reorder or second-guess the City's priorities. As we noted in the East Moline case, competing uses for public funds could be assembled by any community in Illinois; this hardly distinguishes Rock Island.

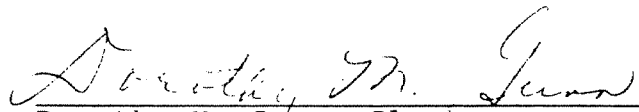
Perhaps the most compelling case presented by Rock Island and members of the community is with regards to the so-called "Reservoir Park". Clearly, the loss of the entire "park" would deal a blow to the community. However, we do not believe that Rock Island has demonstrated that it will have to use up all of the available land, as opposed to a small fraction, thus making both needs compatible; at hearing, Rock Island suggested its earlier estimate was perhaps overly-optimistic, indicating that virtually all of the "park" would be taken. It would appear that the costs of some of the alternatives considered by Rock Island are capable of some interpretation, and may be dependent on a range of assumptions. Equally important, as a matter of policy, we cannot weigh the relative value of this "park" against the value of compliance with environmental directives, particularly where the land at issue already belongs to the public water supply. The "park" land in question has for almost a century been dedicated to possible use for the needs of the water treatment plant; the potential for precisely the type of problem before the city today has existed for all that time. We must properly leave to the City and its Park Department the role of remedying the problem.

ORDER

For the reasons discussed above, the Board declines to continue further with this proposed rulemaking. The petition of the City of Rock Island is denied and this Docket is closed.

IT IS SO ORDERED.

I, Dorothy M. Gunn, clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 3rd day of March, 1990 by a vote of 7-0.


Dorothy M. Gunn, Clerk
Illinois Pollution Control Board