ILLINOIS POLLUTION CONTROL BOARD
March 8, 1990

IN THE MATTER OF:	)	
	)	
PROPOSED SITE SPECIFIC RULE CHANGE	)	R87-35
FOR THE CITY OF EAST MOLINE'S	)	(Site-Specific
PUBLIC WATER SUPPLY TREATMENT	)	(Rulemaking)
PLANT DISCHARGE: 35 ILL. ADM.	)	
CODE 304.218	)	

FINAL 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 East Moline (East Moline). In its original petition, filed October 9, 1987, East Moline requested the Board to adopt a rule which would "allow the discharge of solids from East Moline's public water supply treatment plant located in Rock Island County, East Moline, Illinois to the Mississippi" (Exh. 1, p. 1). That discharge does not meet the requirements of 35 Ill. Adm. Code Sections 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."

East Moline Proposal

As an alternative to the general standards, East Moline 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):

East Moline Water Treatment Plant discharges

This Section applies to the existing water treatment plant known as the East Moline Public Water Supply Treatment Plant, owned by the City of East Moline, which discharges into the Mississippi River. Such discharges shall not be subject to the effluent standards for

* 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 9, 1989 hearing.

total suspended solids, iron and manganese of 35 Ill. Adm. Code 304.124.

At the outset, it is important to note that the relief actually requested by East Moline varied somewhat from that characterized in the proposed rule. As East Moline subsequently made clear at hearing and in its closing comments, East Moline actually requested that it be enabled to "continue to discharge the solids generated at its water treatment plant either to an unnamed tributary that flows to the Mississippi river or to a discharge pipe that flows directly to the Mississippi" (e.g., see PC #8, p. 1; emphasis added).

Procedural History

On November 12, 1987, the Environmental Protection Agency (Agency) filed a motion to consolidate the instant proceeding with Board proceeding R87-34 which regards a similar petition for a site-specific rule on behalf of East Moline's sister city, the City of Rock Island; East Moline 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 East Moline proposal for First Notice publication in the Illinois Register. The proposal appeared in the Illinois Register for May 27, 1988 (12 Ill. Reg. 8822). 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, East Moline 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 9, 1989. On January 24, 1989, the Hearing Officer ordered participants to file comments regarding the necessity for an economic impact study (EcIS). Although East Moline 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 East Moline, the Hearing Officer granted an extension of the deadline for filing of final post-hearing comments. Post-hearing comments were timely filed by Mayor Emmendorfer of East Moline (PC #5), State Representative DeJaegher (PC #6), the Agency (PC #7), East Moline (PC #8), and State Senator Jacobs (PC #9).

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 30, 1989 (13 Ill. Reg. 9656). 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 #11) together with substantive comments from the Illinois-American Water Company (PC #10). DCCA filed another Impact Analysis, identical in all essentials to the original (PC #1), on August 8, 1989 (PC #12).

On February 1, 1990, citing deadlines looming in the appeal of the related variance case, East Moline filed a Motion for an Expedited Decision, requesting that the Board establish a planned schedule for decision. That motion was granted by order of the Board dated February 8, 1990.

No discussion of the procedural history of this case would be complete without mention of the several proceedings previously or currently before the Board regarding the East Moline facility. These proceedings are identified by East Moline 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 East Moline (Tr. 46-47). These proceedings include a permit appeal (PCB 86-218) which at the time of filing of the instant petition was before the Appellate Court for the Third District on appeal from a decision of the Board affirming the Agency's denial of East Moline's application for a National Pollution Discharge Elimination System (NPDES) permit.* Also included are two variance proceedings, one which relates to the Board's effluent limitations for trihalomethanes (PCB 87-128)** and the other which seeks variance relief for the same purposes as the instant site specific rule request (PCB 87-127).*** In its Petition as well as in testimony (Tr. 33), East Moline has referred the Board to the "companion" Petition for Variance in the latter case for further information concerning the reasons for seeking the rule change at issue in this proceeding (see Exh. 1, p. 2 [footnote]).

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* No. 3-88-0788; the opinion of the Appellate Court was entered on August 31, 1989, and the mandate returned to the Board on October 25, 1989. The decision of the Board was affirmed.

** The Board granted East Moline's variance request by order of January 21, 1988.

*** The Board's November 15, 1989, decision denying variance relief has been appealed to the Appellate Court for the Third District and is currently pending (No. 3-89-0804); this proceeding was cited by East Moline as the impetus for its February 1, 1990, Motion for Expedited Decision in the instant case.

Background

The effluent in question emanates from East Moline's public water treatment plant located in East Moline (Tr. 35). The plant, which was built in the mid-1950's, provides clarified, filtered and disinfected water to approximately 22,000 residences and 100 businesses in the City (Tr. 37). Industries use more than 50% of the water supplied (Tr. 188).

East Moline's source of raw water is the Mississippi River. A pumping station at 7th Street and First Avenue pumps the raw water through a 30-inch diameter intake line. Treatment of the water begins at the pumping station where powdered activated carbon is added to the raw water. The raw water containing the activated carbon is then pumped through two pipes to two separate rapid-mix units, where lime and alum are added. Subsequently the water passes through separate but identical paddle-wheel flocculation basins followed by rectangular settling basins, and is treated with chlorine. Water from the settling basins is combined and directed through rapid sand filtration units. After filtering, the water is placed in storage in a "clearwell" before being pumped to the distribution system (Tr. 35-37).

Wastes from the water treatment process consist of backwash water from the filters and sludge from the settling tanks and drain lines (Tr. 37). The filters are backwashed daily; average daily flow is 268,600 gallons. The settling basins are dragged approximately every other day to remove sludge; average daily flow of these sludges is 26,900 gallons. The proportion of suspended solids in the settling basin sludge is much higher than in the filter backwash water [5,687 mg/l TSS vs. 84 mg/l TSS] (Tr. 38-39). It is undisputed that 75% of the solids in East Moline's discharge originates from the Mississippi River; the balance is added in the course of treatment (Tr. 96; 139-141).* The "added" solids (expressed as percentage of the whole) consist of 19.7% [304 lbs/day] aluminum hydroxide and 5.6% [87 lbs/day] powdered activated carbon (Tr. 96). The poundage of solids discharged has fallen by 79% in the last 15 years, to 1,544 pounds per day; East Moline asserts that this is due to process changes (elimination of lime softening) and better control over chemical addition (Ibid). The six month average discharge concentrations of iron and manganese for the settling basin discharge were 8.1 mg/l and 8.27 mg/l respectively; the iron and manganese concentrations for the filter backwash discharge were 1.46 mg/l and 0.42 mg/l respectively (Tr. 136-137). The average daily flow rate for the combined discharges was approximately 11,000 gallons (Tr. 39).

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* The original petition (Exh. 1) at page 4 indicated a significantly different percentage contribution of river solids; this was attributed to East Moline's reliance upon dated information.

The record indicates that East Moline was first advised by the Agency on November 5, 1971, that it could no longer continue to discharge its sediment and backwash water to the Mississippi in an untreated condition (Exh. 1, p. 2). Since that time, save for the aforementioned reductions in sediment poundage primarily associated with operational changes, East Moline has evidently made no effort to actually construct facilities to treat and dispose of its solids (Tr. 200-201); it has, however, commissioned a number of studies of its treatment and disposal options over the years, including a study reported in 1974 by Consoer, Townsend and Associates (Exh. 7), an update of the 1974 report performed in 1979 by Warner Van Pragg Inc. (Tr. 42), a further update performed in 1987 by O.L. Broemmer, Consulting Engineers (Ibid), a study performed by Water Engineering Technologies (WET) in 1987-1988 (Tr. 43-46; 55-56; 202-207), a study performed in 1985 by Huff & Huff, Inc. regarding the impact of the East Moline discharge on the receiving stream and on the Mississippi River (Tr.94-113; Exhs. 2 and 17 and attachments), and a 1989 study by Greeley and Hansen Engineers (preliminarily reported on April 4, 1989 [Exhibit B of PC #8]).

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. 111½, 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 East Moline plant's physical condition has been described at length (Tr. 35-37; 95-98). Nothing in the record indicates that the plant's physical condition, per se, poses any particular impediment to compliance with the general rule, although East Moline has provided extensive testimony regarding the evident need for a number of maintenance and improvement projects (Tr. 46-49; 62-72; 154-155). The character of the surrounding area has also not been at issue here, although East Moline 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. 78-83; 219-220; item 2 of Exh. A of PC #8); we will address economic matters below, in the context of East Moline's contentions regarding economic reasonableness. Finally, East Moline does not contend that compliance with the existing regulation is not technically feasible (Tr. 16-17; PC #8, pp. 11-13). Rather, East Moline argues that compliance with the general standard is economically unreasonable; by extension, East Moline 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, East Moline's effluent discharges directly into the channelized portion of an unnamed creek or ditch. The combined length of the entire drainage system is 16,000 feet. The bottom 12,000 feet of the drainage system is channelized; the final 1,000 feet is downstream of East Moline's discharge and is in turn tributary to an enclosed storm sewer which flows to the Mississippi River. The upper reaches of the system, which is above the channelized portion, follows a natural drainage pattern, coursing through or alongside a golf course, residential areas and a city park (Tr. 41; 97; 122-124). East Moline has queried whether the ditch can properly be found not to be a water of the State (Tr. 119-121; PC #8, p. 5).

The Mississippi River, into which the storm sewer eventually discharges, is extremely large; East Moline indicates the mean average flow of the river is 52,200 cubic feet per minute (Exh. 1, p.6-7). The average suspended solids concentration of the river's water is 57 mg/l (PC #8, pp. 10-11; Exh. 1, pp. 6-7), 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 (which is upstream of East Moline) at 1.675 mg/l, with a maximum recorded concentration of 2.7 mg/l, and thus may also presently exceed the standard (2 mg/l). The City of Moline's public water supply intake is located some 15,000 feet downstream of the East Moline storm sewer discharge (Tr. 107). Fish are plentiful in the East Moline area of the river, with the variety changing with the bottom conditions (Exh. 1, including Exhibits C1 and C2 thereof).

Impact on the Receiving Body Of Water

Mr. James Huff testified on behalf of East Moline regarding the effects of East Moline's discharge on water quality and other features of the ditch. His analysis focused on the benthic macroinvertebrate population and on stream sediments. The macroinvertebrate biotic index (MBI) was calculated as a means of measuring impacts of East Moline's discharge on water quality. He concluded that while the MBI values of waters below the East Moline discharge point were somewhat better (lower) than that of waters above (7.6 vs. 8.3), the benthic invertebrate population below the discharge point was less than one-tenth of that above. He concluded that the benthic invertebrate population of

the ditch is being adversely impacted by the East Moline filtration plant (Tr. 98-101; see also Exh. 17, Attachment 3). He further observed that sludge worms were dominant at the nearest downstream site (below the East Moline discharge point), although they were not found at any other downstream site (Tr. 100). Mr. Huff further testified regarding the stream sediments. He noted that bottom sediments in the channelized portion of the ditch upstream of the East Moline discharge averaged two inches in depth (the average depth of sediment in the unchannelized portion of the ditch averaged less than one inch); however, the depth of bottom sediments downstream of the East Moline discharge ranged from 18 to more than 24 inches. He concluded that the primary source of this sediment was the East Moline water treatment plant discharges (Tr. 102-103). However, he opined that if one applied the mixing zone allowed by Board regulations to the ditch, the allowable 26 acres would encompass the entire length of the ditch downstream of the East Moline discharge point up to the storm sewer entrance (Tr. 117-118).

Mr. Huff also testified regarding the effect of East Moline's discharge on the Mississippi River. He testified that bottom sediments were collected from the river both upstream and downstream of the storm sewer outfall. He indicated that volatile solids were elevated immediately offshore from the outfall point during both sample periods (June and August, 1985). Sediment samples within 200 feet of the outfall had calcium levels which were elevated some two to three times that of the upstream samples in June, but not in August. Aluminum levels in this same area were also elevated, but only during the month of August, 1985. MBI values upstream and downstream of the outfall were similar. However, both the June and August sampling indicated fewer taxa and fewer organisms in the area nearest the outfall (within 200 feet downstream and 50 feet offshore). Mr. Huff concluded that the impact, if any, on the Mississippi River is confined to so small an area (50 X 200 feet) as to suggest no measurable impact on downstream users (Tr. 103-107). As to turbidity, Mr. Huff stated that observable effects on the river were limited to an area within five feet of the storm sewer outfall (Tr. 117). Finally, Mr. Huff opined that all forms of impact on the river would dissipate within the mixing zone allowed by the Board's regulations (Tr. 117).

The Agency raises two arguments against East Moline's assertions regarding 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 #7, pp. 6-7). Second, the Agency asserts that East Moline has misunderstood the intent of the mixing zone concept, citing the proposed amendments to 35 Ill. Adm. Code 302.102 in Board proceeding R88-21 (Water Toxics) as properly articulating "the Agency's intent to prevent mixing zones from being used as a zone for unnatural sedimentation" (Ibid., p. 7). The Agency further asserts that regardless of mixing zone policy, the fact that East Moline's sludge deposits are in time diluted does not negate the fact that they are there and may be deposited somewhere else (Id.). Consequently, the Agency asserts, "the absence of an adverse environmental impact has not been sufficiently documented" (Id.).

Economic Reasonableness

Although East Moline has asked the Board to allow it to continue discharging to the unnamed ditch, and although East Moline has suggested that the ditch is either not a "Water of the State" (Tr. 122; 125-126) or, in any event is not seriously impacted by the treatment plant discharges (Tr. 53-54), it has on several occasions made the point that it is willing to consider installation of a pipeline (or extension of the storm sewer) to convey its discharges directly to the river (Tr. 15-16; 57; 74-75; 117). East Moline has suggested that this alternative could be embellished by installation of a "high velocity discharger with a diffuser on the end [of the pipe]" to produce more rapid mixing of sludge in the river so as to reduce bottom sediment deposits near the outfall (Tr. 225-226). However, East Moline did not describe this option or provide any information regarding feasibility or effect. In any event, East Moline has made clear that it considers the costs associated with this alternative ($50,000 to $75,000; see item #4 of Attachment A of PC #8) to not be unreasonable (Tr. 183).

East Moline states that the cost of control is approximately $750,000, based upon the recommended least-cost alternative considered, which consists of building sludge lagoons (Tr. 42;

* 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 biodegradeable 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).

74-75).* Other alternatives considered included discharge to a storm sewer system, discharge to a sanitary sewer system, landfilling after thickening and partial dewatering, and irrigation, alum reclamation and recalcination to recover lime; for the filter backwash, recirculation and reuse were also considered (Exh. 7, pp. 19, 36-40). At present, East Moline is considering some use of polymers (Tr. 55-56, 209-214 and 218-219; see also item #3 of Exhibit A of PC #8).

As for the economic reasonableness of requiring adherence to the general standards rather than allowing it to discharge to the Mississippi River, East Moline argues that the limited impact on the river, both in terms of East Moline's discharges (as noted previously) and in terms of similar discharges to the Mississippi River, does not warrant the $750,000 expense of controls in light of East Moline's present economic difficulties. In its comments, Illinois-American suggests in support that, in light of the other site-specific factors, the expense of controls is not warranted even if one discounts East Moline's economic condition as one such factor (PC #10, p. 18).

East Moline notes that numerous other communities along the Mississippi River discharge their water plant sludges to that river, including St. Louis, Missouri, Davenport, Iowa and Alton, Illinois (Tr. 107). East Moline 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. 108). East Moline 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. 108-109; 117). East Moline 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

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* In its closing comments, East Moline acknowledges that a potential different least cost alternative had been identified in the Greeley and Hansen draft report which was received after the hearing in this matter. However, East Moline states that it is unprepared to commit to this alternative absent receipt of a final report; moreover, East Moline casts doubt as to whether the Greeley and Hansen report significantly changes East Moline's position in this case in that the compliance costs "are substantially the same as those presented at hearing" (PC # 8, p. 13).

the outfall and that such effect might in certain cases be beneficial (PC #8, pp. 20-22).

East Moline 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 #8, p. 23). Illinois-American concurs, suggesting further that a grant of "complete relief" to East Moline by the Board in the present case will not be inconsistent with its grant of limited relief to Illinois-American in R85-11 (PC #10, 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 #10, p. 12). 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., p. 13).

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

First, East Moline points out that the capital costs of compliance measured by the pounds of solids discharged and removed per day would be $485 per pound per day for East Moline. This cost compares to $240 for Alton and $103 for East St. Louis (Tr. 216-217).

Second, East Moline repeatedly points out that the city's economy has suffered serious setbacks in the 1980s (Tr. 51-52; 76-91; 114-116; 149; 165). It asserts that denial of the rule change request would necessitate a ten percent increase ($26 per year) in the average household water bill to pay for the needed

improvements (Tr.153). Further, East Moline points to a long list of needed repairs and improvements in its public water supply system and wastewater treatment system (Tr. 43-46; 48-51; Exh. 20). It characterizes these other needed improvements as competing for scarce public funds, suggesting that, based upon a balancing of costs versus benefits, compliance with the standards for TSS, iron and manganese is of a lower priority than many of the other projects planned (PC #8, pp. 25-26). It notes that property tax and sales tax revenues have dropped since the early 1980s while the costs of borrowing funds have risen as the city's bond rating has declined in response to the weakened economy (Tr. 114-116; 162-165; item #2 of Exhibit A of PC #8).

In rebuttal, the Agency asserts that East Moline has seriously considered only one compliance method, sludge lagoons. It states that "noticeably absent" is any discussion of applying sludge to land, and asserts that at least one other water treatment plant on the Mississippi River applies sludge to land (PC #7, pp. 2-3). However, the Agency provided no evidence as to land application of sludge and elicited no testimony on that subject at hearing.

The Agency next takes issue with East Moline's arguments regarding competing projects. The Agency states that "many of the items on the improvements list are normal maintenance items and should have been completed long ago" (Ibid., p.3).

The Agency takes strong exception to the idea of granting relief to East Moline due to its depressed economy, suggesting that such economic conditions are temporary and as such do not support permanent relief from the rules (Id.). The Agency notes that East Moline 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..." (Id.). The Agency asserts, "the record is bereft of any substantially and significantly different factor that distinguishes East Moline from the many Illinois Communities that have already expended ever-scarce resources to comply with effluent standards" (Ibid., p.4).

Finally, the Agency notes that a 10% increase in water rates amounts to only about $2.17 per month per household (Tr. 175) or as little as $1.90 per month per user (PC #7, pp.4-5). The Agency therefore concludes that "an economically reasonable compliance method exists for East Moline that should be pursued in the context of its variance proceeding, PCB 87-127, and not in a site-specific context" (Ibid., p. 5). In this context, the Agency rejects comparisons to the Alton case, noting that full compliance for Alton would have cost $3,000,000 "in 1982 dollars". The Agency also observed that in granting Alton's relief, the Board had specifically noted the physical limitations on Alton's water plant (which unlike East Moline's was "land

locked") and side land uses "not present in this proceeding" (Ibid., pp. 5-6).

Consistency With Federal Law

In its petition, East Moline asserts that federal law does not prevent the Board from granting the requested relief (Exh. 1, p. 13). In testimony, East Moline 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. 109-113). In its final comments, East Moline again asserts this view, with somewhat more elaboration (PC #8, pp. 26-30). East Moline 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 is under appeal and has never been enforceable renders the "backsliding" provisions inapplicable (Id.). Finally, East Moline 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 East Moline 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. 29)

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 #7, pp. 7-8). The Agency also takes a somewhat different view of the "cost/benefit" provisions of Section 304 (b) of the CWA than does East Moline. According to the Agency, the factors delineated in subsection (b)(1)(B) state an "economic law of diminishing returns", not, as the Agency believes East Moline contends, a comparison of "economic hardship of compliance with the environmental benefit of compliance" (PC #7, p. 8; emphasis in original).

By far the most extensive treatment of this subject was provided in the final comments of Illinois-American (PC #10). Like East Moline, Illinois-American asserts that the relief sought is not inconsistent with federal law. Like East Moline,

Illinois- American points to the lack of categorical standards (BPT) under Section 304(b) of the CWA; unlike East Moline 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., p. 7). 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 East Moline'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, whether the unnamed tributary to the Mississippi River into which East Moline presently directs its effluent (generally referred to by witnesses at the hearing as "the ditch") is a "water of the State" for purposes of the Act. Finally, East Moline expresses "uncertainty" as to 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 East Moline 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. We also believe that, to the extent that the permit terms are themselves the subject of a proceeding on appeal in the courts, they cannot serve as the basis for "backsliding". To hold otherwise would make a hollow exercise of the appeal process and convey a measure of unfettered discretion to the permitting agency which is at odds with constitutional guaranties of due process and equal protection (see Ill. Const. 1970, Art. 1, Sec. 2).

Waters of the State

East Moline suggests that given the characteristics of the ditch into which it directs its effluent, the ditch "could be properly found not to be a water of the State and, therefore, not subject to protection" (PC #8, p. 5). Significantly, East Moline cites no authority for this proposition. This issue has previously been before the Board and the courts. In Tri-County Landfill Co. v. Illinois Pollution Control Board, 41 Ill. App. 3d 249, 353 N.E.2d 316 (1976), the Appellate Court for the Second District, noting the sweeping purposes and goals of the Environmental Protection Act, held that "waters of the State" means all waters located in the State, including waters on private land, not just such waters as are navigable. The court quoted the language of Section 11 (a)(i) of the Act:

> "(1) that pollution of the waters of this State constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish, and aquatic life, impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water, depresses property values, and offends the senses."

Nothing in this record suggests that the meaning and usage thus adopted by the court in 1976 is no longer valid, or that the concerns expressed by the legislature in the excerpted portion of

the Act (which provision remains intact to this day) are any less compelling now. We find East Moline's suggestion that the stream or ditch is not a "water of the State" is without merit.

Other Threshold Issues

East Moline 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 #8, pp. 3-4). It cites no authorities for its position and acknowledges that its process does serve to concentrate these constituents in its effluent (Ibid., p.4). As we did in the "companion" variance case, we find that the concentrations of iron and manganese in East Moline's effluent do not result entirely from influent contamination as 35 Ill. Adm. Code 304.103 requires (PCB 87-127, slip op. at p. 5, November 15, 1989).

Finally, East Moline states that "[t]here is some question as to whether relief is necessary from 35 Ill. Adm. Code 302.203 or 304.106" (PC #8, p. 4). East Moline suggests, again without citing authority, that a "mixing zone" concept applied to bottom deposits in the ditch would obviate the need for such relief (Ibid., pp.4-5). Again, as we did in the "companion" East Moline variance case Opinion, we reject East Moline'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 East Moline is entitled to the permanent site-specific relief it seeks. As noted above, that issue turns on whether East Moline has shown that site-specific circumstances make compliance with the general standards economically unreasonable. For the reasons stated below, we have concluded that East Moline has failed to make that showing.

East Moline'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. Since, as noted previously, there are arguably two receiving bodies of water (the "ditch" and the Mississippi River), there are two potential outcomes.

First, we conclude that East Moline's assertions that no or minimal environmental harm would result from continued unchecked discharges from the plant to the unnamed tributary ("ditch") are contrary to the evidence. The record, as noted above, is clear that East Moline's discharges have substantially reduced (in excess of an order of magnitude) the number of benthic invertebrate organisms in the stream below East Moline's outfall, commensurately increased the depth of bottom sediments, and

altered the distribution and types of organisms in those sediments, with sludge worms dominant near the outfall. Against these significant negative results, East Moline can offer only a slightly enhanced MBI value in downstream waters as a "positive" attribute. Our determination in this case is fully consistent with our Opinion and Order in the "companion" variance case, wherein we noted that the record of that proceeding persuaded us that East Moline's discharges "do, in fact, present a serious risk to the receiving stream" (Ibid., p. 10).

Second, although East Moline has demonstrated a very limited negative impact on the Mississippi River from the storm sewer outfall, it has neither shown the relative contribution of the treatment plant discharge to that outfall, nor demonstrated that a direct treatment plant discharge (such as East Moline has suggested as an "alternative" to sludge lagoons) would have the same characteristics and the same minimal effects upon the river. Mr. Huff did testify that he expected the impact from such a direct discharge would be the "same type" as that currently exhibited by the storm sewer (Tr. 117), but he provided virtually no foundation for that statement. We do not know the relative contribution or character of other sources tributary to the storm sewer outfall. We do not know where a direct discharge would be located in relation to the features of the river. We do not know whether East Moline proposes to equip the proposed direct discharge with a high velocity discharger with a diffuser as it intimated at hearing (Tr. 225-226), or, if so, whether such a device would be efficacious. We do not know whether East Moline would propose to extend the direct discharge further out into the river as it also implied (Tr. 226), or, if so, whether such an extension would be efficacious or, indeed, possible.

We should not be understood as saying today that such a "direct discharge" proposal has no merit. Rather, we are merely noting that whatever merits such a proposal may have were not presented to us by East Moline; the Board will not take it upon itself to salvage an incomplete proposal or to fashion a new proposal from the remnants of another.

We are more nearly persuaded by East Moline's argument that East Moline's situation is analogous to that of other dischargers to the Mississippi River. However, East Moline 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. It 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 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 completely unpersuaded by East Moline's final argument regarding economic reasonableness, based on the "compliance hardship". First, we generally reject the rationale underlying East Moline's comparison of the costs, in dollars per pound per day, of solids removal for East Moline 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. At best, the Board will consider such statistics as secondary indicia of hardship.

Second, we agree with the Agency that a temporary 10% rate hike, amounting to approximately $2 per month per customer does not constitute an unreasonable economic burden of compliance. In a related vein, we find unpersuasive East Moline's assertions that this 10% increase would drive industrial users away; the previous 35% increase in rates resulted in a documented loss of only 1.6% of East Moline's users [a golf course and a car wash](Tr. 187-188; item #2 of Exh. A of PC #8). While we are sympathetic to the present economic plight of East Moline and its residents, we cannot ignore the fact that East Moline has chosen to put off compliance with the clear requirements of the law for almost 20 years. It has studied its options to death, without a single concrete step towards achieving compliance; to this day, East Moline has not selected a compliance alternative. Meanwhile, according to its own testimony, for much of the time that it has deferred decision and action it was experiencing an economic boom (Tr. 79; 82). Taken together, we cannot conclude that the economic forces acting upon East Moline entitle it to permanent relief as requested.

Third, we do not believe that East Moline's long list of competing water treatment and water supply projects under contemplation by East Moline render compliance with the general effluent standards of 35 Ill. Adm. Code 304.106 and 304.124(a) economically unreasonable. We agree with the Agency that many of these projects are normal maintenance items with which water suppliers must generally cope. Certainly a long list of competing uses for public funds could be assembled by any community in Illinois; this hardly distinguishes East Moline.

We are mindful that our Opinion in the "companion" variance case (PCB 87-127) includes several statements suggesting that at least some of East Moline's arguments in that case were better directed to seeking permanent relief as East Moline requests in this proceeding:

> "East Moline argues that the cost should permanently excuse compliance. East Moline's

> arguments may be relevant to permanent relief in a site-specific proceeding but they are not relevant to temporary relief in a variance proceeding." (Ibid., p. 4)
>
> "The economic reasonableness arguments put forth by petitioners are not appropriate to the temporary relief contemplated in a variance petition." (Ibid., p.7)
>
> "Economic reasonableness speaks to the standards for permanent, not temporary relief." (Ibid., p.11)

Our decision today should not be construed as inconsistent with these prior statements. In fact, the blurring of the lines distinguishing variance requests and site-specific rulemakings has occurred throughout the instant proceeding (e.g., Tr. 21; 51; Exh. 1, p. 12); at one point during the hearing in this docket, the attending Board member noted the erroneous references in the petition and in testimony to "arbitrary and unreasonable hardship" as grounds for site-specific rule relief (Tr. 209). We have directed our attention in the instant proceeding to those factors relevant to the permanent rule relief requested; in the "companion" variance case, we focused on those factors enunciated by law as applicable to the temporary variance relief requested in that proceeding. The statements quoted above from the "companion" variance Opinion were intended to clarify and identify the relevant issues, not to prejudge the issues in this proceeding.

ORDER

For the reasons discussed above, the Board declines to continue further with this proposed rulemaking. The petition of the City of East Moline 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 Final Opinion and Order was adopted on the 8th day of March, 1990 by a vote of 7-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board