ILLINOIS POLLUTION CONTROL BOARD
September 13, 1989

IN THE MATTER OF:	)	
	)	
MARATHON PETROLEUM COMPANY SITE-SPECIFIC	)	R87-2
	)	

ADOPTED RULE FINAL ORDER

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter is before the Board on the January 28, 1987 petition of the Marathon Petroleum Company ("Marathon") pursuant to Section 28 of the Environmental Protection Act ("Act"), Ill. Rev. Stat. ch. 111 1/2, par. 1028. That petition seeks site-specific relief from Section 304.105 of the Board's water pollution rules, 35 Ill. Adm. Code 304.105, as it applies to the total dissolved solids (TDS) and chloride (Cl) content of Marathon's wastewater discharges from outfall 001, under NPDES permit No. IL0004073, into an unnamed tributary of Sugar Creek, in the Wabash River Basin, at Robinson, in Crawford County. The signatures of more than 200 persons accompanied Marathon's petition.

The public hearing occurred on June 21, 1988. The Illinois Environmental Protection Agency ("Agency") and Illinois Department of Energy and Natural Resources ("Department") participated. No member of the public attended. The Department filed its Negative Declaration, stating that an economic impact study (EcIS) was unnecessary, on October 20, 1988 and indicated the concurrence of the Environmental and Technical Advisory Committee by a letter filed November 2, 1988. Marathon filed a post-hearing brief on February 17, 1989. The Agency filed a reply brief on March 13, 1989.

Marathon owns and operates a petroleum refinery at Robinson, Illinois. This facility produces finished petroleum products from crude oil. Marathon acquired the facility in 1924 and has expanded and modernized it to a present refining capacity of 205,000 barrels of crude oil per day (BPD). The estimated annual production level is about 130,000 BPD. The facility has a weekly payroll of $415,000 and employs about 638 persons. Robinson has a population of 7,300, and Crawford County has a population of 20,000. Marathon annually pays $5.2 million in state and local taxes and $46 million for goods and services.

Process wastewater originates from numerous individual, independent sources in the plant. Crude oil contains salt, which winds up in a few of these discharges. Four or five of these process discharges contain higher levels of TDS and Cl. The

highest is "desalter water," which contains over 5,600 milligrams of TDS per liter (mg/l). Marathon's wastewater treatment plant has a primary system capacity of about 3.5 million gallons per day (MGD). It presently treats 1.3 to 1.7 MGD. Marathon recycles a significant amount of its wastewater for plant use. It concedes that this recycling may elevate TDS and Cl contents in its effluent. Eliminating this practice would lower discharge TDS and Cl concentrations, but would not reduce the total amount of TDS and Cl discharged in its effluents.

Marathon discharges wastewater from two outfalls into an unnamed tributary of Sugar Creek. Sugar Creek, in turn, discharges into the Wabash River. Outfall 001 is involved in this proceeding; it discharges process wastewater. Outfall 002, which primarily discharges stormwater runoff, is not involved. Outfall 001 is about ten stream miles upstream of the confluence of Sugar Creek and the Wabash River. The unnamed tributary has a 7-day, 10-year low flow (7Q10) of zero at the point of discharge. The Wabash River at its confluence with Sugar Creek, where it ultimately receives the Marathon effluent, has a 7Q10 of 820 MGD.

The unnamed tributary that receives Marathon's effluent has a degraded water quality, as indicated by the absence of fish and an elevated macroinvertebrate biological diversity index (MBI). (MBI values range from 0 to 11, and vary inversely with macroinvertebrate diversity.) There are fish upstream of Marathon, but the Agency observes that there is a "near extirpation" of fish for over eight stream miles below the outfall, despite the lack of an in-stream barrier. The City of Robinson and other point sources discharge upstream of Marathon. The MBI is 6.0 upstream and 8.3 immediately downstream of the Robinson outfall. The MBI subsequently improves to 6.3 immediately upstream of Marathon, but it increases to 9.8 a short distance downstream. It improves to 8.6 one mile downstream of Marathon. The Agency observed that there is "severe degradation" of the macroinvertebrate community downstream of Marathon. Ex. 9, p. 2. Overall, the Agency observed that "severe stream degradation" is attributable to Marathon and that the Marathon wastewater discharges have a "pronounced and often variable effect" on stream discharge and water quality.

Stream water quality is also degraded as indicated by its TDS and Cl contents. Upstream of Marathon, the average TDS content of the stream was 1,225 mg/l, as observed by the Agency in 1978. It was between 1,390 and 2,740 mg/l downstream. The Agency observed that the majority of the TDS water quality violations occurred downstream of Marathon. Marathon notes that some upstream source is responsible for an elevated TDS content of 8,000 to 9,000 mg/l and a Cl content of about 4,000 mg/l in a tributary discharging near its outfall, whereas its own highest individual wastewater stream contains only 5,600 mg/l TDS.

Marathon's average effluent contains about 2,045 mg/l TDS and 588 mg/l Cl, as indicated by its discharge monitoring reports.

The causative factor for the degraded stream water quality and the adverse effect of Marathon's effluent on the stream is unknown, but it is not likely due to the TDS and Cl content of Marathon's discharges.

The Agency ultimately asserted that it did not oppose site-specific relief for Marathon. Rather, it suggested that the Board should impose an alternative water quality standard, instead of merely imposing an effluent limitation on Marathon's TDS and Cl discharges. In its post-hearing brief, the Agency stated its support for site-specific relief that would impose effluent limitations and water quality standards in the unnamed tributary and the affected reach of Sugar Creek.

The Board's water pollution rules do not include specific effluent limitations for TDS and Cl. Rather, they prohibit any discharge that would cause or contribute to a violation of a water quality standard. 35 Ill. Adm. Code 304.105. The regulations impose in-stream water quality standards of 1,000 mg/l TDS and 500 mg/l Cl. 35 Ill. Adm. Code 302.208. It is relief from Section 304.105, as it relates to TDS and Cl, that Marathon now seeks. Marathon proposes a site-specific rule that would except the unnamed tributary from the TDS and Cl standards, so long as its effluent does not exceed 3,000 mg/l TDS or 700 mg/l Cl. The Agency would also impose water quality standards of 2,000 mg/l TDS and 550 mg/l Cl on the receiving stream.

The rule the Board proposed follows that proposed by Marathon with the addition of an alternative water quality standard, as suggested by the Agency. The proposed rule would render the prohibition of Section 304.105 inapplicable to the unnamed tributary of Sugar Creek as it pertains to TDS and Cl, so long as Marathon's outfall 001 effluent does not exceed either 3,000 mg/l TDS or 700 mg/l Cl and the stream water quality does not exceed either 2,000 mg/l TDS or 550 mg/l Cl.

The Board proposed new section 35 Ill. Adm. Code 303.323 for first notice publication on May 11, 1989. That publication occurred on May 26, 1989. See 13 Ill. Reg. 7863 (May 26, 1989).

The Board received two public comments during the first notice public comment period. Neither affected the substance of the rule. Public Comment number four (P.C. #4), dated June 20, 1989 from the Illinois Department of Commerce and Community Affairs, included the Small Business Bureau's Impact Analysis. P.C. #4 indicated that the proposed rule would have no effect on small businesses. Public Comment number five (P.C. #5), dated June 27, 1989 from the Office of the Secretary of State, suggests a minor revision to the rule.

The Board revised the proposed rule in one minor regard as a result of P.C. #5. In Section 303.323(b), that portion that read "Section 304.105 shall not apply ..." now reads "35 Ill. Adm. Code 304.105 shall not apply ...." The Board made no further revisions and proposed the rule for second notice publication.

On July 27, 1989, the Board submitted the rule to the Joint Committee on Administrative Rules ("JCAR") for second notice. On August 24, 1989, JCAR issued its certification of no objection to the proposed rulemaking.

ORDER

The Board hereby adopts the following rule and directs that it be filed with the Secretary of State and published as a final rule.

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 303
WATER USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

SUBPART A: GENERAL PROVISIONS

Section	
303.100	Scope and Applicability
303.101	Multiple Designations
303.102	Rulemaking Required

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

Section	
303.200	Scope and Applicability
303.201	General Use Waters
303.202	Public and Food Processing Water Supplies
303.203	Underground Waters
303.204	Secondary Contact and Indigenous Aquatic Life Waters

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

Section	
303.300	Scope and Applicability
303.301	Organization
303.311	Ohio River Temperature
303.312	Waters Receiving Fluorspar Mine Drainage
303.321	Wabash River Temperature
303.322	Unnamed Tributary of the Vermilion River

AUTHORITY: Implementing Section 13 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111 1/2, pars. 1013 and 1027).

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 2 Ill. Reg. 27, p. 221, effective July 5, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 5 Ill. Reg. 11592, effective October 19, 1981; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 7 Ill. Reg. 8111, effective June 23, 1983; amended in R87-27 at 12 Ill. Reg. 9917, effective May 27, 1988; amended in R87-2 at ____ Ill. Reg. _____, effective _____.

Section 303.323 Sugar Creek and Its Unnamed Tributary

a) This Section applies only to Sugar Creek and its unnamed tributary from the point at which Marathon Petroleum Company's outfall 001 discharges into the unnamed tributary to the confluence of Sugar Creek and the Wabash River.

b) 35 Ill. Adm. Code 304.105 shall not apply to total dissolved solids and chlorides discharged by Marathon Petroleum Company's outfall 001, so long as both of the following conditions are true:

1) Effluent from Marathon Petroleum Company's outfall 001 does not exceed either 3,000 mg/l total dissolved solids or 700 mg/l chlorides,

2) The water in the unnamed tributary does not exceed 2,000 mg/l total dissolved solids or 550 mg/l chlorides.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Adopted Rule, Final Opinion and Order was adopted on the 13th day of September, 1989, by a vote of 7-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board