ILLINOIS POLLUTION CONTROL BOARD
February 7, 1991

MARATHON PETROLEUM COMPANY, Petitioner,	)	
v.	)	PCB 90-126 (Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	

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

This matter comes before the Board on Marathon Petroleum Company's ("Marathon") permit modification appeal filed on July 3, 1990. On September 28, 1988 Marathon was granted a RCRA (Resource Conservation and Recovery Act) Part B permit pursuant to Section 39(d) of the Act for a land treatment facility in regards to its Robinson oil refinery located in Crawford County. On January 26, 1990 Marathon submitted a number of modifications to the Illinois Environmental Protection Agency ("Agency") in an attempt to alter some of the terms and conditions of that permit. Many of these highly technical issues were negotiated and subsequently resolved and, as a result, the parties filed a partial settlement agreement with the Board on November 1, 1990. Having only two disputed issues remaining, Marathon filed this appeal pursuant to 35 Ill. Adm. Code Section 705.128 and hearing was held on October 30, 1990. For the following reasons, the Board affirms the Agency's decision to retain the permit conditions which Marathon contests.

Before the Board addresses the permit conditions at issue in today's case, We will briefly touch upon the partial settlement agreement filed by the parties. While Section 40 of the Act provides for Board review of permit appeals, the Agency is charged with the initial determination as to whether the permit conforms with the Act and the regulations thereto.

> ...the applicant shall apply to the Agency for such permit and it shall be the duty of the Agency to issue such a permit upon proof by the applicant that the facility,...will not cause a violation of this Act or of regulations hereunder.

Ill. Rev. Stat. 1989, Chap. 111½, par. 1039(a).

Accordingly, when the Agency and a permittee enter into an agreement as it relates to a factual issue for a permit or a condition thereof, ratification by the Board is unnecessary.

With regard to those challenges properly before the Board, Marathon's first issue of concern involves the measurement of two specific volatile organics. Marathon states that methyl ethyl ketone ("MEK") and tetrahydrofuran ("THF") are being detected in unsaturated zone samples of pore water during quarterly monitoring. Marathon alleges that the source of these volatile organics stem from the polyvinylchloride (PVC) cement used in the lysimeter construction, as opposed to the wastestream constituents generated by the oil refinery. Based on this, Marathon's request is to incorporate a permit modification precluding MEK and THF from being compared with the respective background concentrations.

In support of this contention, Marathon introduced a study performed by its consultant Radian Corporation (Petitioner's Exhibit #2). This exhibit was introduced into evidence by the hearing officer over the Agency's objection. The Agency contended that the only admissible evidence is that which was before the IEPA at the time the decision was made to deny the permit request. We agree. Therefore, the ruling of the hearing officer is overruled and the objection is sustained.

35 Ill. Adm. Code Section 705.128 governs modifications of RCRA permit modifications. Subsection (b) of the Code states:

> If the Agency decides the request is not justified, it shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification are not subject to public notice, comment or hearings. Denial of the request to modify may be appealed to the Board pursuant to 35 Ill. Adm. Code 105.

The courts as well as the Board have had ample opportunity to interpret the provisions of 35 Ill. Adm. Code Section 105. It is well-settled that at a hearing before the Board to contest a denial of a permit, the sole question before the Board is whether the applicant proves that the application, as submitted to the Agency, demonstrated that no violation of the Act would have occurred if the requested permit had been issued. EPA v. Pollution Control Board, 104 Ill. Dec. 786 (1986); Joliet Sand and Gravel v. Pollution Control Board, PCB 86-139 (February 5, 1987), affm, 516 N.E.2d 955 (3rd Dist. 1987). See also, 35 Ill. Adm. Code 105.103(2). Accordingly, the only evidence the Board will review is that which the Agency had access to at the time of its decision.

Even without Petitioner's Exhibit 2,the Agency did have before it Marathon's assertion that the presence of MEK and THF is being caused by the PVC glue used in lysimeter construction. Marathon represents that MEK has not been detected in any wastes

applied to the land treatment facility and that a literature search indicated that PVC cement used in lysimeter construction had as common constituents both MEK and THF. Marathon maintains that, although the soil-pore liquid sample never comes in contact with the PVC cemented joints, the polyethylene tubing used for sample collection is permeable to MEK and THF resulting in contamination of the soil-pore samples.

Based on the conclusion that the detection of MEK and THF in soil-pore samples is due to the PVC cement, Marathon requested a modified protocol for sampling in its permit application. According to this modified protocol, the first samples to be collected from the lysimeters are to be tested for metals, total organic carbon and semi-volatile organics, but not for volatile organics (which include MEK and THF). Before a sample for volatile organics is collected, distilled water is to be drawn through the lysimeter. The first action is intended to flush the lysimeter and remove MEK which has accumulated in the vacuum lines and lysimeter body. The second distilled water wash is intended to flush out the remaining MEK from the system. The protocol also included some additional details of how the flushing is to be carried out.

Prior to the Agency decision, an Agency reviewer had attempted to obtain information from Marathon regarding the MEK detection. On April 19, 1990, Agency reviewer, listed as DWD, spoke with David Saad and Vicki May of Marathon to ask about the MEK problem. The reviewer was told that MEK had not been analyzed prior to 1988 and that he did not know off-hand what the measured concentrations were, but it was suggested that he speak with Mike Holder of Radian Corporation. (See Agency Record pp. 620). A second conversation was held on April 19, 1990 by DWD with Mike Holder and Lynn Zimmerman from Radian Corporation who said that MEK was being detected in concentrations no greater than 5 times the detection limit and provided the same reasons as in this petition for a modification to the sampling protocol. It was also indicated that they (Holder & Zimmerman) had 4 tables showing that the MEK was from the tubing, and not from the water, would be faxed to the Agency. (Agency Record pp. 621). It is not clear if any tables were sent by Marathon or received by the Agency and whether such information was utilized in the Agency's decision. The review notes from DWD also note that he questions the modified protocol and that after speaking with Cindy Davis and Ken Liss (also Agency permit reviewers), he thought that the proposed protocol for flushing out MEK would result in the loss of volatile organics.

In the Agency letter, approving some modifications and disapproving others, dated May 29, 1990 (Agency Exhibit 8), the Agency states that Marathon did not provide all of the background data collected to date to show that the problem (of MEK detection) has been reoccuring and that Marathon had not proved

that the problem is due to the cement from the PVC pipe. The Agency recommended the replacement of the PVC pipe and tubing, use of threaded connections for PVC pipe and use of Teflon for the tubing. The testimony of Cindy Davis-Vilson, who reviewed the application, repeated the recommendation and indicated that the sampling protocol requested by Marathon would not provide a representative sample of the volatiles present in the soil-pore liquid. (Tr. pp. 75-77). Ms. Davis also testified that while waste analysis shows no MEK, such waste analysis was not conducted prior to 1984.

The absence of MEK in the refinery wastestream coupled with the literature review regarding PVC cement constituents provides some indication for suspecting the cement as the source of the MEK and the THF in the soil-pore samples. Even assuming that enough information was given to identify the cement as the cause of the MEK and THF present in soil-water, however, Marathon has not shown that the sampling protocol modification requested will be effective in completely removing all the MEK and THF and that it would not affect the representativeness of samples so collected with regard to the volatile components in the soil-pore water. Based upon the information within the record, the Board is satisfied that the petitioner failed to carry its burden pursuant to Section 40 of the Act in addition to the Board's rules (Ill. Adm. Code 105.102;) regarding permit reviews of hazardous waste disposal sites. As such, the Agency's denial of the permit modifications as it pertains to Marathon's request for an alternative protocol for the sampling of MEK and THF in the soil-pore samples is affirmed.

Lastly, in their Brief dated December 11, 1990, Marathon has asked that any measurements of MEK not be statistically compared with the background values. This is not part of the sampling protocol modification requested in the original application. Further such a change would only be possible if Marathon had shown that the presence of MEK and THF in the lysimeter samples do not affect the representativeness of the collected sample or the concentration of other constituents of interest.

The second issue that could not be settled arises because, under the present permit, the Agency requires that Marathon use a statistical procedure called the average replicate t-test ("t-test") for groundwater analysis and comparison with the background. Marathon characterizes the t-test as "essentially a probability equation which predicts one event into the future" (Tr. pp. 46-48). Marathon alleges that a "moving window" analysis would be more appropriate in that it would provide for necessary change during the life of the facility. The company further argues that the "moving window" procedure would allow for potential changes in background levels by averaging the four most current samples and prevent the inappropriate use of the t-test, which presently requires the samples to be measured against the original background.

The Agency, on the other hand, argues that the first year of background data was incorrectly collected and thus the period for ascertaining this information has been extended for one year. It is therefore the Agency's position that this issue is not ripe for a decision until the full two years of background sampling is completed and statistically analyzed. The Agency also professes that theories of various statistical procedures can be argued anytime, but their actual application and effect on a particular site's data cannot be known without the actual data and the analysis thereof. Once the two years of data are obtained, Marathon can propose to the Agency an alternative statistical procedure as allowed by Marathon's RCRA Part B permit pursuant to 35 Ill. Adm. Code Section 724.197(h) and (i).

The Board first notes that it is unable to see any reference to the "moving window" procedure in either Marathon's application for modification within the Agency record. Assuming, however, that the "moving window" method for determining background was before the Agency in this modification request, the Board agrees with the Agency. The statistical procedure in dispute is designed to compare the measured concentration of a constituent in a sample with the background concentration of that constituent. Marathon's characterization of the t-test as "essentially a probability equation which predicts one event into the future" is incorrect. Moreover, the present permit allows an alternative statistical procedure to be used upon a showing that the prescribed t-test is inappropriate or that the modification requested comports with Section 724.197 of the Administrative Code.

In general, changes in concentration at a background monitoring well could stem from a wealth of sources. Thus, any change in the statistical procedure utilized should be premised upon specific information as to why the contamination in question is occuring. The Agency is correct in not allowing the automatic use of a "moving window" approach to establishing background in that Marathon failed to prove conformance with 35 Ill. Adm. Code Section 724.197. It would be more useful if data collection from the background monitoring well were continued (at least until a background is established) in order to detect any trends and, if warranted, request the Agency for a permit modification to change the background concentration. The "moving window" approach would potentially alter the statistically established background if new samples were collected in background wells showing a level of contamination greater than that originally measured. This would allow the background to be modified without a showing of the source of the contamination. Such a change in background might be warranted, for example, if the cause of the difference in the background is also the cause of an identical change in the background of a well that is being monitored for purposes of compliance (i.e., comparisons with the background). Marathon is currently required to use replicate samples to establish

background and use the t-test to determine if there are any increases above this analysis which are based upon the originally established background. Marathon's objection to this requirement appears to be philosophical rather than evidentiary. Since Marathon has not provided the Agency or the Board with any specific documentation as to why the background determination procedure should be changed, we decline to do so today. Because Marathon has failed to establish that the permit modifications requested would not violate the Act, the Agency's denial of the permit modifications in the instant case is affirmed.

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

ORDER

The conditions imposed by the Agency as to Marathon's RCRA part B permit modification for its Robinson oil refinery are hereby affirmed.

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1989 chap. 111-1/2 par. 1041, provides for appeal of Final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

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 7th day of February, 1991 by a vote of 6-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board