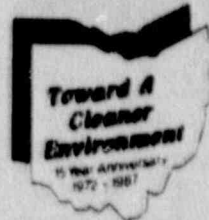




State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Docket 40-7604
PDR



July 28, 1988

Issuance Date 7/28/88
Effective Date 8/29/88

Richard F. Celeste
Governor

CERTIFIED MAIL

Re: CLOSURE PLAN
BP Chemicals America, Inc.
OHDO42157644/03-02-0450

Mr. James Walpole
BP Chemicals America, Inc.
Ft. Amanda Rd., Box 628
Lima, OH 45802-0628

Dear Mr. Walpole:

On January 19, 1988, BP Chemicals America, Inc. submitted to Ohio EPA a closure plan for four hazardous waste surface impoundments located at Ft. Amanda Rd., Lima, OH. Revisions to the closure plan were received on February 26 and on May 26, 1988. The closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that BP Chemicals America, Inc.'s proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the closure plan of BP Chemicals America, Inc. in accordance with OAC Rule 3745-66-12. The public comment period extended from February 1, 1988 to March 8, 1988. No comments were received by Ohio EPA in this matter.

Based upon review of the company's submittal and subsequent revisions, I conclude that the closure plan for the hazardous waste facility at BP Chemicals America, Inc. does not meet the performance standard contained in OAC Rule 3745-66-11 and does not comply with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA by BP Chemicals America, Inc. is hereby disapproved (see Attachment A).

Due to the fact that the Ohio EPA is not currently authorized to conduct the federal hazardous waste program in Ohio, your closure plan also must be reviewed by USEPA. Federal RCRA closure regulations (40 CFR 265.112) require that you submit a closure plan to George Hamper, Chief, Waste Management Division, Technical Programs Section, Ohio Unit, USEPA, Region V, 5HS-13, 230 South Dearborn Street, Chicago, IL 60604. Review and approval of the closure plan by both agencies is necessary prior to commencement of activities required by the approved closure plan.

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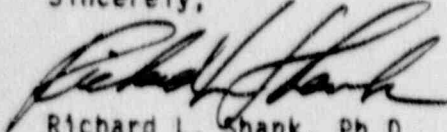
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// additional information

Mr. James Walpole - Page Two

You are notified that this action of the Director is issued as a proposed action pursuant to ORC Section 3745.07. This action will become final on the effective date indicated unless you or an objector files an appeal requesting an adjudication hearing within thirty (30) days of the date of issuance of this action. The adjudication hearing will be conducted in accordance with OAC Chapter 3745-47. The request for a hearing shall specify the issues of fact and law to be contested. Requests for hearings shall be sent to: Ohio Environmental Protection Agency, Hearing Clerk, 1800 WaterMark Drive, P.O. Box 1049, Columbus, OH 43266-0149.

A modified closure plan addressing the points in Attachment A must be submitted to the Director of the Ohio EPA for approval within thirty (30) days of the receipt of this letter in accordance with OAC 3745-66-12. The modified closure plan should be submitted to: Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management, Attn: Thomas Crepeau, Manager, Data Management Section, P.O. Box 1049, Columbus, OH 43266-0149. A copy should also be sent to: Paul Kalter, Ohio EPA, Northwest District Office, 1035 Devlac Grove Dr., Bowling Green, OH 43402.

Sincerely,



Richard L. Shank, Ph.D.
Director

Attachment

RLS/RM/ds

cc: DSHWM Central File, Ohio EPA ✓
George Hamper, USEPA, Region V
Rebecca Strom, USEPA, Region V ✓
Paul Kalter, NWDO, Ohio EPA
Paul Vandermeer, DSHWM, Ohio EPA
Leland Rouse, Chief, Fuel Cycle Safety Branch ✓
Nuclear Regulatory Commission
Mail Stop 6H-3, Wash. DC 20555

1573U/50-55

BP CHEMICALS AMERICA - LIMA

ATTACHMENT A

Hydrology

1. BP Chemicals America, Inc. (formerly Sohio Chemical Co.) shall provide information regarding the permeability of the clay till deposits underneath the proposed closure cell. Specifically, the degree of fracture of the soil shall be provided in order to determine the potential for migration of hazardous waste through the soil. The facility shall also provide a description of the methods used to determine permeability values for materials underlying the East Pond area (see p. G-15, paragraph 3 of the closure plan).
2. As required by DAC 3745-66-17(A)(1), post-closure care for each hazardous waste management unit must include groundwater monitoring in accordance with DAC 3745-65-90 to DAC 3745-65-94. Currently, a groundwater monitoring program capable of determining the impact of BP Chemicals America, Inc. on groundwater quality in the uppermost aquifer as per DAC 3745-65-90 has not been implemented. In order for the facility to adequately monitor groundwater per DAC 3745-65-90 to DAC 3745-65-94, they shall provide an adequate early leak detection monitoring program capable of monitoring both an early leak detection mechanism and a means for assessment of impacts to groundwater in the uppermost aquifer resulting from the surface impoundments. A monitoring system as above may also prevent the ultimate contamination of the buried valley aquifer of the Ottawa River, as the distinct possibility exists of hydraulic continuity between the uppermost aquifer near the East Pond area and the buried valley aquifer.
3. Groundwater conditions in the glacial deposits on the facility's property are ill-defined. A single saturated zone has not been located and monitored by at least 1 upgradient and 3 downgradient wells. BP shall construct such wells as mentioned above and reevaluate all hydrogeological data to date to determine the placement of said wells within the boundaries of a single saturated zone within the glacial till. The wells shall be constructed using acceptable casing materials (not galvanized steel as it will corrode appreciably and contaminate water samples). Contact Jeff Patzke of the Division of Groundwater, Central Office, if you have questions about the proper installation materials to use for the wells.
4. The bedrock groundwater monitoring system currently in operation at Bp Chemicals America, Inc. is completely inadequate for determining the impact of the facility on the uppermost bedrock aquifer for the following reasons:
 - (a) The lengths of open holes (i.e., well intake) in the wells range up to 106 feet. Groundwater samples obtained from wells with long intakes cannot be considered representative of groundwater quality in the uppermost bedrock aquifer due to dilutional effects.

- (b) Several different bedrock strata are probably being monitored by the various wells. Wells TG-2 and TG-5 appear to be monitoring the Tymochtee Dolomite; wells TG-3, TG-6, TG-7, and TG-8 seem to be monitoring both Tymochtee and Greenfield Dolomites; and well TG-1 the Tymochtee, Greenfield, and Lockport Dolomites. BP Chemicals America, Inc. shall install a new system of bedrock monitoring wells in the upper perched bedrock zone. The wells shall be drilled into the bedrock a maximum of 10 feet past the point at which a samplable amount of groundwater is discovered. One gallon per minute flow should be sufficient for sampling needs. Some recommended sampling devices include bottom-emptying boilers and bladder pumps.
5. Several additional items shall be included in the BP Chemicals America, Inc. groundwater monitoring program:
- (a) Calibration of field equipment shall be documented in field logbooks
 - (b) Glass sample bottles for metals shall have fluorocarbon resin-lined lids.
 - (c) Trip blanks shall be used. Sample filter size shall also be indicated.
 - (d) Nitric acid (HNO_3) shall be used to preserve fluoride samples. TOX shall be preserved with 1.1 M sodium sulfite.
 - (e) Both filtered and unfiltered samples shall be collected to compare results.
 - (f) A QA/QC program shall be developed by BP Chemicals America, Inc. Chemicals America, Inc., submitted for Ohio EPA review, and implemented as directed by Ohio EPA specifically for the groundwater procedures.

Closure Plan Design, Engineering, and Miscellaneous Items

6. BP Chemicals America, Inc. shall submit a detailed account of the specific solidification/stabilization process to be used to fix the waste materials in the ponds. Several methods are outlined, but no one specific method is outlined for usage. Also, the facility shall specify the processing method (i.e., mobile plant processing, on-site processing, in-drum processing, etc.) to be used for sludge stabilization.
7. BP Chemicals America, Inc. shall ensure that each day's sludge solidification/stabilization will meet the 28-day cure test prior to disposal in the proposed hazardous waste landfill. All solidification/stabilization of sludge which fails the 28-day cure test must be redone. Proof of adequate curing of fixed sludge must be submitted to Ohio EPA, Northwest District Office ten days after receiving

the curing results.

8. The solidification/stabilization process shall be operated under strict QA/QC to ensure uniformity in the fixation of the sludge through the use of proper fixating materials. Solidified/stabilized waste shall have an unconfined compressive strength of at least 50 psi. If it is less than 50 psi, the solidification/stabilization process must ensure that (a) the waste is chemically stabilized, (b) the waste shows an increase in compressive strength over time, and (c) the stabilized waste is able to endure the stress of both live and dead loads with 2 (two) factors of safety.
9. BP Chemicals America, Inc. shall provide further details regarding equipment and methods to be used for closure cell construction and waste handling.
10. Equipment shall be considered clean (i.e., decontaminated) when the rinseate contains less than 1 mg/l of any RCRA regulated waste organic chemical and less than the allowable maximum concentration of heavy metals using the EP toxicity test.
11. BP Chemicals America, Inc. shall provide detailed descriptions and drawings depicting the run-on and run-off control systems for the closure cell area.
12. BP Chemicals America, Inc. shall provide adequate proof (to Ohio EPA's satisfaction) that the proposed cover design (i.e., asphalt) will provide an equivalent level of performance/protection to that of the final cover system outlined in "Minimum Technology Guidance on Final Covers for Landfills and Surface Impoundments" (USEPA, Contract no. 68-03-3243). Proof may require running of the HELP program (USEPA Publication 530-SW84-009, "The Hydrologic Evaluation of Landfill Performance") comparing infiltration rates between soil/vegetative cover and asphalt cover, comparison of activities needed to maintain each cover (with and without vehicular traffic for the asphalt), etc.

Radioactive Waste

13. The Nuclear Regulatory Commission (NRC) must also review the closure methods outlined by BP Chemicals America, Inc. for the surface impoundments due to the presence of mixed radioactive/hazardous waste. The NRC may find it necessary to issue additional guidelines for the proper treatment or disposal of radioactively contaminated solids and liquids.
14. The solidification/stabilization process must be of sufficient quality to prevent escape of radioactively contaminated particles to the environment. In order to determine if radioactive contaminants are escaping into the environment, BP Chemicals America, Inc. shall devise a plan to place high volume air samplers around the site during waste

stabilization and excavation activities to measure total suspended particulates and subsequently any radiation present in the particulates. The NRC shall review the plan and must give their approval prior to implementation of such a sampling plan.

15. Data given in Appendix 5 of the closure plan shall be summarized, explained, and presented in an easily understandable fashion. Tables shall be presented with appropriate units of measurement for each parameter listed and captions which enable the reader to completely understand the table and its relevance to the report. Handwritten, poorly copied pages are unacceptable.
16. The possibility of radioactive contamination of the groundwater must be explored. All groundwater samples shall be analyzed for gross alpha and gross beta emissions as described in EPA manual SW-846.