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CLOSURE STATUS REPORT AND REQUEST FOR EXTENSION OF CLOSURE SCHEDULE FOR THE STORAGE PAD NORTH OF PLANT 6

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LETTER

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DOE-2390-93

Donald R. Schregardus, Director
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Columbus, Ohio 43266-0149

Dear Mr. Schregardus:

CLOSURE STATUS REPORT AND REQUEST FOR EXTENSION OF CLOSURE SCHEDULE FOR THE STORAGE PAD NORTH OF PLANT 6

Reference:
1) Letter, Mr. Donald R. Schregardus to Mr. Gerald W. Westerbeck "CLOSURE PLAN APPROVAL," dated September 30, 1991.

2) Letter, DOE-980-92, R. E. Tiller to Mr. Donald R. Schregardus, "Request for Extension of Plant 6 Pad and Tanks T5 and T6 Closures," dated February 28, 1992.

3) Letter, DOE-1971-93, Thomas J. Rowland to Mr. Donald R. Schregardus, "Extension of Closure Schedules for the Trane Liquid Waste Incinerator, Storage Pad North of Plant 6, and the Bulk Storage Tanks T5 and T6," dated May 21, 1993.

The Fernald Environmental Management Project (FEMP) has determined that clean closure of the Storage Pad North of Plant 6 could not be achieved using the approach detailed in the approved Closure Plan Information and Data (CPID). However, the pad has been cleaned and the residual soil contamination does not pose an immediate threat to human health and the environment, allowing subsequent remediation/removal of soil contamination to be completed through the Comprehensive Environmental Response Compensation and Liabilities Act (CERCLA) actions at the FEMP. Consistent with recent discussion between representatives of the FEMP and the Ohio Environmental Protection Agency (OEPA), Southwest District Office, this closure status report provides information and data concerning Resource Conservation and Recovery Act (RCRA) closure actions that have been taken and discusses additional actions that will achieve the RCRA closure performance standards in OAC 3745-11 (40 CFR 264.111) for the Storage Pad North of Plant 6.

OEPA approval of the CPID was received on October 2, 1991 (Reference 1), and subsequent field activities were initiated in accordance with the approved closure document. In response to discussions with representatives of the OEPA Southwest District Office, a request for extension of the closures was submitted in February 1992 (Reference 2). Preliminary evaluation of the analytical data from the closure activities indicated that clean closure was achieved. However, as demonstrated in this report, a further study of the data revealed that the area had not been clean closed. Submission of closure documentation was delayed in order to complete validation and assessment of data and integrate CERCLA response actions to remove and remediate residual contamination. Subsequently, a second request was submitted in May 1993 (Reference 3). This closure status report is being submitted to provide an update of closure actions and to request an extension of closure under OAC 3745-13(A)(1) and (2).

SUMMARY of COMPLETED CLOSURE ACTIONS

To date, the actions taken pursuant to the CPID for closure of the Storage Pad North of Plant 6 have included:

- high pressure washing to clean and decontaminate the pad surface.
- conducting rinseate sampling and analysis for targeted waste constituents in rinseates to evaluate the effectiveness of decontamination;
- collecting and analyzing soil samples from the adjacent and underlying soils to identify and evaluate possible contamination and determine if contamination is below the clean closure criteria as defined in the approved CPID. Soil sampling points that were used are shown on the drawing in Figure 1, Enclosure 1.

Only lead and 1,1,1-trichloroethane are tabulated and evaluated in this report because they were the only target analytes listed in the closure plan. Copies of the all laboratory data reports, supporting documentation for sampling activities and summaries of the reported data for lead and 1,1,1-trichloroethane are provided in Enclosure 2.

<u>Review and Evaluation of Decontamination Efforts</u>

The Hazardous Waste Management Unit (HWMU) containing the Pad North of Plant 6 has been cleaned to the point that there is no immediate threat to human health and the environment. Based on field observations and the rinseate analyses conducted to evaluate the results of high pressure washing, decontamination of the pad was successful. This conclusion is based on the values reported for the target compounds as less than detection limits (see Table 1, Enclosure 1). Table 1 also lists updated decontamination action limits which would apply under the revised criteria (i.e., revised since the CPID was submitted in 1990) provided in the May, 1991 OEPA Closure Plan Review Guidance. The new criteria sets the decontamination limits at 15 times the maximum contaminant level/maximum contaminant level goal as listed in OAC 3745-81-11 and -12 (parallels 40 CFR 141.11 and .12) and 40 CFR 141.50 or if there is none, 1 mg/L. Although, the available data indicates the pad is

clean, the determination is qualified in that the 3.0 ug/L reported detection limit for lead in the final rinseate is higher than the decontamination action level of 0.05 ug/L. Since the pad is to be removed during the CERCLA remediation, no further actions are deemed necessary to further verify decontamination of the pad.

Review and Evaluation of Soil Sampling and Analyses

A total of 33 soil samples were collected from 12 sample locations around and under the storage pad. The data reported is listed for each sample location in Figure 1 (Enclosure 1). The results indicate low levels of 1,1,1-trichloroethane contamination in the soils around and under the pad.

The Kolmogorov-Smirnov procedure was used to statistically evaluate the normality of the data from closure soil samples and the FEMP area background soil samples (i.e. the FEMP CERCLA/RCRA Background Soil Study, March, 1993). Based on the evaluation, it was determined that it would be more appropriate to run the non-parametric Mann-Whitney U Test (a procedure that is a direct corollary to the Wilcoxon Signed Rank or Rank Sum Test). Table 2 (Enclosure 1) provides the average concentrations for site and background lead levels in soils and identifies statistically significant differences based on the Mann-Whitney U Probability. Probability values less than 0.05 indicate significant differences with a 95% confidence level. The reported average concentration in the soil around and under the Storage Pad North of Plant 6 Pad is statistically higher than background. It was noted that if the highest value reported (i.e., 226.0 mg/L from the sample point 7 - see Figure 1, Enclosure 1) is excluded as an anomaly, the average concentration is statistically lower than background. Since it had already been determined that 1,1,1-trichloroethane contamination precludes clean closure, the calculation reported in Table 2 included all values reported (see Figure 1, Enclosure 1).

Based on field observations and process knowledge, it is unlikely that the lead and 1,1,1-trichloroethane contamination is a result of hazardous waste storage on the Storage Pad North of Plant 6. There is no evidence or historical record of major spills which would have been required to create the levels of contamination reported. Additionally, there is an ongoing CERCLA removal action to pump and treat perched groundwater under Plant 6 to remove 1,1,1-trichloroethane contamination. The most probable source of lead contamination was from lead paint particles deposited in the area (including contamination entrained in the run-off from the roadway) from sand blasting the water tower in 1987. The water tower is located southeast of Plant 6. The contamination at sampling point 7 is in the swale where water would have accumulated when flowing from the roadway to the catch basin (see Figure 1, Enclosure 1). However, since there is no way to confirm that the 1,1,1-trichloroethane or lead contamination did not originate from the HWMU, the FEMP cannot declare clean closure has been achieved.

While soil samples indicate levels above those specified within the CPID, the levels are relatively low. The level and extent of contamination indicated by the sample analyses does not pose an immediate threat to human health or the environment.

REMOVAL/REMEDIATION OF RESIDUAL CONTAMINATION THROUGH CERCLA RESPONSE ACTIONS

The FEMP proposes to complete actions necessary to remove the containment pad and evaluate and conduct required remediation of soil contamination under the CERCLA process. The removal and remediation of residual contamination will be achieved under a combination the Interim and Final Records of Decision (RODs) for OU3 and under CERCLA Removal Action No. 12 "Safe Shutdown." Contaminated soil and debris generated from these activities will be managed according to Removal Action No. 17 "Improved Storage of Soil and Debris."

CERCLA Background Discussions

In 1986, the Department of Energy (DOE) initiated the ongoing Remedial Investigation/Feasibility Study (RI/FS) to evaluate and determine remediation requirements pursuant to CERCLA. Consistent with the scope of National Contingency Plan (NCP) and the Amended Consent Agreement between DOE and USEPA, all remediation activities and any resulting changes to facility schedules must be coordinated and integrated with the RI/FS and CERCLA removal and remedial response actions. Additionally, all remediation activities, including RCRA Closure activities, must be consistent with the Final ROD for the operable unit containing the HWMU.

In accordance with 40 CFR 300.400(g), CERCLA response actions must identify other Applicable or Relevant and Appropriate Requirements (ARARs), unless justifiably waived, including Ohio EPA and USEPA requirements for HWMU closures. Pursuant to the Amended Consent Agreement, the FEMP management will:

- Characterize chemical and radiological contamination at the FEMP and establish site cleanup objectives;
- Conduct necessary short-term response actions to eliminate or minimize immediate threats to human health and environment (i.e removal actions); and
- Implement any necessary long-term monitoring and surveillance of the facility and surrounding environment.

Based on the RI/FS, a proposed plan will be recommended for the CERCLA ROD for each Operable Unit. The Final ROD for each Operable Unit will specify the required final remediation or removal of contaminated media, equipment and structures.

During the RI/FS investigations, Removal Action (RA) No. 12, and RA No. 17 (discussed below) have been initiated to provide immediate response actions necessary to stabilize or remove contamination for protection of human health and the environment. Removal action work plans have been prepared for review and comment by the OEPA and USEPA with final approval granted by the USEPA under CERCLA.

In addition, an Interim ROD is currently being planned to expedite the demolition of equipment and structures in OU3 prior to the issuance of the Final ROD. Remedial Design/Remedial Action (RD/RA) plans will be prepared to

implement the requirements of the RODs (either Interim and/or Final) to remediate each Operable Unit.

RA No. 12, the Safe Shutdown Program, was created to perform the safe shutdown of all process facilities in preparation of final remediation. Safe Shutdown essentially entails the engineering, planning, and scheduling for isolation of process equipment, piping systems, and associated utilities; and removing residual and excess materials, supplies, and combustibles to appropriate disposition and approved storage locations.

Safe Shutdown management activities include: developing appropriate safety documentation (Risk Assessment, Risk Management Plan, Health & Safety Plan, Safety Assessment); preparing Training Plans and Task-Specific Lesson Plans; reviewing SOPs and updates; performing preliminary assessments for all process buildings and process equipment; evaluating preliminary assessments; preparing Task Orders to address equipment isolation and cleanout; continuing efforts to dispose of the surplus equipment and materials; evaluating process buildings for future use or demolition; and initiating the development of engineering studies and packages to guide equipment isolation/de-energization activities.

Safe Shutdown field work activities include: isolation of process equipment; removing excess equipment and materials, supplies, and combustibles; initiating the process of removing residual materials from process equipment; and initiating decontamination efforts. All buildings are being inventoried for residual material and excess equipment. Necessary documentation is being processed to identify proper disposition of these materials.

RA No. 17 provides for the improved management of soil and debris in two phases. Phase I defines soil and debris management during the design and construction of the three proposed storage facilities. Phase II addresses soil and debris management from the time the improved storage facilities are constructed until final remedial alternatives for the FEMP are selected. RA No. 17 provides specific criteria for the management of contaminated soil and debris contamination and identifies options for its disposition including decontamination, disposal off-site, or storage in controlled stockpiles or an improved storage facility.

<u>CERCLA Response Actions to Remove and Remediate Residual Contamination</u>

The following sequence of events will be used to complete the removal and final remediation in a manner that will also achieve the RCRA closure performance standards under OAC 3745-66-11 (40 CFR 265.110):

1) As needed, utilities and equipment in Plant 6 will be isolated and removed under the ongoing Safe Shutdown Program.

2) The containment pad will be removed under the remedial design/remedial action (RD/RA) work plan for the Interim Record of Decision for Operable Unit 3 (OU3).

3) The clean up level required to achieve acceptable final remediation of soils and potential contamination of the concrete in direct contact with contaminated soils will be defined by the final RODs for OU3 and OU5. Final removal or remediation of

residual contamination in subsurface structures and utilities and in the environmental media will be conducted under the RD/RA work plans for OU3 and OU5.

This integrated approach to RCRA closure and CERCLA remediation will enable the FEMP to achieve an environmentally sound and cost-effective final remediation that is protective of human health and the environment and consistent with the intent of both the State of Ohio and federal regulations. Table 3, Enclosure 1, identifies the current schedule/status established under the Amended Consent Agreement between the USEPA and DOE for implementation of the CERCLA response actions identified for removal and remediation of residual contamination.

In accordance with OAC 3745-66-13(A)(1) and (2), the FEMP is requesting that the Director of the OEPA allow the FEMP the time necessary to complete the CERCLA response actions. Completion of the actions outlined in this closure status report and update will, by necessity, take longer than 180 days to complete. As they are developed, response action work plans, reports of sampling and analytical data, and documentation of the CERCLA response actions will be provided to the OEPA for review and comment. In addition, the OEPA will be notified at least five (5) business days in advance of significant activities that will accomplish RCRA closure objectives. Significant activities include removal of the containment pad, soil sampling, and removal or remediation that may be conducted adjacent to and under the containment pad.

If you or your staff have questions regarding the information provided in this letter, our staff contact is Mr. John Sattler at (513) 648-3145.

Sincerely,

Ray Hansen

FN: Sattler

Raymond J. Hansen
Acting Manager

cc w/ enc:

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INSERT (ON ONE PAGE)

- TABLE 1: SUMMARY OF FINAL PAD DECONTAMINATION RINSEATE SAMPLE ANALYSES

- TABLE 2: SUMMARY OF STATISTICAL EVALUATION OF SOIL ANALYSES

TABLE 3: CERCLA RESPONSE ACTION SCHEDULES AND STATUS

CERCLA RESPONSE ACTION	CURRENT STATUS/SCHEDULE
Removal Action No. 12 "Safe Shutdown"	Safe Shutdown Activities are scheduled to begin in the area in August 1994.
Removal Action No. 17 "Improved Management of Soils and Debris"	Approved by both OEPA and USEPA in Dec. 1992. Procedure is in-place and will be used for this CPID.
Operable Unit 3 Interim Record of Decision	Estimated date of Draft Proposed Plan to OEPA and USEPA Aug. 1993. Estimated date of Draft Interim ROD to OEPA and USEPA Sept. 1994.
Operable Unit 5 Final Record of Decision	Proposed draft ROD is due OEPA and USEPA July 3, 1995.
Operable Unit 3 Final Record of Decision	Proposed draft ROD is due OEPA and USEPA May 2, 1997.

ENCLOSURE: SUMMARY NOTEBOOK PAD NORTH OF PLANT 6 CLOSURE SAMPLING AND ANALYSES