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PROCEDURES NECESSARY TO COMPLETE CLOSURE OF THE SAFE GEOMETRY DIGESTION SUMP

08/25/94

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LETTER

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AUG 2 5 1994
DOE-2308-94

Mr. Mark Metcalf
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Metcalf:

PROCEDURES NECESSARY TO COMPLETE CLOSURE OF THE SAFE GEOMETRY DIGESTION SUMP

References: 1. Letter, R. Fisher to R. E. Tiller, "Status of Safe Geometry Digestion Sump," dated February 27, 1992

2) Letter, DOE-1484-94, W. Quaider to P. Pardi, "Hazardous Waste Management Unit Information and Request for Extension," dated April 15, 1994

This letter is in response to reference letter 1 and sets forth the procedures necessary to complete closure of the Safe Geometry Digestion Sump. Enclosed is a description of the field activities that will accomplish clean closure of the Safe Geometry Digestion Sump - Hazardous Waste Management Unit (HWMU) #53. These closure actions will be implemented through *Removal Action 12 (RA12), Safe Shutdown*, to ensure compliance with Ohio Administrative Code (OAC) rules 3745-66-11 and 3745-66-14 at the Fernald Environmental Management Project (FEMP) (reference 1). This information is being provided as described in reference letter 2.

OEPA indicated that, while the Safe Geometry Digestion Sump is a HWMU, no formal closure plan would be required (reference 1). This exception was granted based on the following criteria:

a) The sump contains a small quantity of waste.

b) Existing information indicates that the storage of hazardous waste in the sump has not created or posed a threat to public health or safety and has not contributed to wastewater pollution or soil contamination.

c) The condition of the sump for storage of hazardous waste appears to be adequate (i.e., no deterioration, rust, obvious leakage or spillage).

The sump, located on the second floor of a process building, poses no threat to public health, worker safety, or the environment. The condition of the stainless steel sump for storage of hazardous waste appears to be adequate.

No releases have been reported in the FEMP Spill Prevention Control and Countermeasures (SPCC) log.

Currently, less than two gallons of liquid is in the sump. On January 23, 1994, water was reported in the containment pan of the Safe Geometry Digestion System during the daily Resource Conservation and Recovery Act (RCRA) inspection. This pan drains directly to the Safe Geometry Digestion Sump. The source of the water was determined to be from an incident in which a steam line ruptured due to the extreme cold weather *(Assistant Emergency Duty Officer Log # 94-01-043)*. The steam line was repaired and no other leakage into the sump has occurred. The water in the sump from this incident will be removed during the closure activities for this HWMU.

Clean closure of the Safe Geometry Digestion Sump will be accomplished using *Safe Shutdown* procedures and by implementing the following activities before December 1, 1994:

1. Remove and disposition sump contents as hazardous waste utilizing, but not limited to, FEMP Site Operating Procedure (SOP) 1-C-101.

2. Disconnect piping directly associated with sump utilizing, but not limited to, FEMP Site Specific Operating Procedure (SSOP) 0719.

3. Rinse sump with water until pH is between 2.0 and 12.5, utilizing, but not limited to, FEMP SOP-20-C-0916.

4. Analyze final rinse for contaminants of concern (COCs) listed in Table 1 of this letter.

5. Seal sump opening, fastening an acid resistant cap with a leak tight gasket over the opening, utilizing, but not limited to, FEMP SSOP-0719.

The sump contents will be containerized and placed in a hazardous waste storage area until a waste determination is made (step 1). No listed hazardous waste were associated with this unit, therefore the sump contents will be analyzed for RCRA characteristics only. No free liquids are expected to be present in the piping (step 2). Any free liquids encountered during the piping disconnection will be collected and sampled as suspect hazardous waste. Final RCRA determination of this waste will be based on the sample analysis. Following disconnection, the piping will be blanked off.

The COCs were determined from the sampling effort conducted in October 1991. The clean levels listed in Table 1 were derived in accordance with the *Closure Plan Review Guidance for RCRA Facilities - September 1, 1993*, section 3.10, "Decontamination Efforts". Rinseate standards will be met when:

(i) "Fifteen times the public drinking water maximum contaminant level (MCL) for hazardous constituents as promulgated in 40 CFR 141.11 and OAC 3745-81-11 for inorganics and 40 CFR 141.12 and OAC 3745-81-12 for organics;"

(ii) "If an maximum contamination level (MCL) is not available for a particular contaminant, then fifteen times the maximum contaminant level goal (MCLG) as promulgated in 40 CFR 141.50 shall be used as the clean standard. If the MCLG is zero, use 15 times the contaminant's practical quantitation limit in ground water; or"

(iii) "If the product of fifteen times the MCL or MCLG exceeds 1 mg/l or if neither an MCL nor an MCLG is available for a particular contaminant, 1 mg/l shall be used as the clean standard."

For arsenic, cadmium, and chromium statement (i) above applies. However, for lead, statement (ii) above applies. The Practical Quantitation Limit (PQL) in ground water for lead is taken from 40 CFR Part 264 Appendix IX. The PQL is dependent on the analytical method selected by the laboratory. Appendix IX offers three analytical methods:

1. Method 6010, "Inductively Coupled Plasma [ICP] Atomic Emission Spectroscopy," which has a PQL of 40 μg/l (0.04 mg/l).

2. Method 7420, "Lead (Atomic Absorption, Direct Aspiration)," which has a PQL of 1000 μg/l (1.0 mg/l).

3. Method 7421, "Lead (Atomic Absorption, Furnace Technique)," which has a PQL of 10 μg/l (0.01 mg/l).

Method 6010 is the most commonly used method because it is applicable to a large number of metals and wastes. Therefore, the cleanup action level will be 15 times the PQL as defined by Method 6010 (0.04 mg/l), which equates to <u>0.60 mg/l.</u>

Table 1
Clean Levels for Metals and pH

Contaminant of Concern	Clean level for rinseate[1] (mg/L)
pH (D002)	$2.0 \leq pH \leq 12.5$
Arsenic (D004)	0.75
Cadmium (D006)	0.075
Chromium (D007)	1.0
Lead (D008)	0.6

If analysis of the final rinseate meets the clean levels established in Table 1, then the Safe Geometry Sump will be considered clean closed. If these levels are exceeded in the rinseate, the sump will be removed, containerized and stored as mixed waste with the waste codes of the regulated substances present in the final rinse. The rinseate will be characterized and treated at Plant 8 to meet discharge criteria imposed by the FEMP National Pollution Discharge Emission Standards (NPDES) permit and local water quality standards. An estimated ten gallons of rinse water will be generated from the closure of this HWMU.

If you have any questions regarding this matter, please contact John Sattler at (513) 648-3145.

Sincerely,

Wally Quaider

W. J. Quaider
Acting Associate Director

FN:Sattler

cc:

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