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**MINIMUM ADDITIVE WASTE STABILIZATION
REGULATORY COMPLIANCE PLAN**

08/17/92



UNITED STATES ENVIRONMENTAL

REGION 5

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REPLY TO THE ATTENTION OF:

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Minimum Additive Waste
Stabilization Regulatory Compliance
Plan

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Minimum Additive Waste Stabilization (MAWS) Regulatory Compliance Plan. This Plan proposes to investigate the use of soil washing and vitrification to treat Operable Unit (OU) #1 wastes. Although the MAWS project may provide useful information, it currently is not part of the Consent Agreement between U.S. DOE and U.S. EPA. Therefore a detailed MAWS plan must be submitted to U.S. EPA as a Treatability Study for OU #1. This would incorporate all activities within the Consent Agreement, and allow for public involvement.

Also the MAWS plan discusses the need for the delisting of both treated and untreated Resource Conservation and Recovery Act wastes. This process is time consuming and must be initiated immediately. Efforts should be made to separate the delisting process from the MAWS program, and to investigate the impacts on the MAWS program if delisting is not obtainable.

Enclosed are U.S. EPA's comments on the MAWS program. U.S. EPA is willing to further discuss this project with U.S. DOE at a future date.

Please contact me at (312/FTS) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Dennis Carr, WMCO

(WARNER)
Action Response
to T-1742
(4637) 1

AUG 26 1992

MULTIPLE ADDITIVE WASTE STABILIZATION REGULATORY COMPLIANCE PLAN

TECHNICAL COMMENTS

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General Comments

- 1) The U.S. Department of Energy (DOE) has proposed treating Operable Unit (OU) 1 wastes in a pilot-scale system termed the Multiple Additive Waste Stabilization (MAWS) system. DOE does not consider MAWS to be part of a removal action (RA) or to be within the current remedial investigation and feasibility study (RI/FS) scope as identified in the Consent Agreement. However, DOE proposes MAWS as a supplement to ongoing RI/FS technology screening for the two leading remedial technologies -- soil washing and vitrification. According to DOE, the purpose of the regulatory compliance plan is to establish a regulatory framework for MAWS that is consistent with the ongoing RI/FS. However, the regulatory compliance plan is limited to identifying applicable or relevant and appropriate requirements (ARAR) and indicating how MAWS will comply with those ARARs.

The U.S. Environmental Protection Agency (EPA) notes that MAWS will treat OUI waste and that OUI is undergoing an RI/FS. To be consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), MAWS must be integrated into the RI/FS process. This is especially important because DOE's approach uses the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) exclusion to avoid permitting requirements, which are ARARs.

Although EPA concurs that the CERCLA exclusion is appropriate, the manner in which MAWS is proposed is not appropriate for three major reasons: (1) the lack of a forum for public comment, (2) separation of MAWS from the statutory requirements of the NCP, and (3) the lack of a defined time-frame for, or a definition of the limited scope of MAWS.

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Possible alternatives would be to propose the MAWS process as an RA or as a pilot-scale treatability study within the scope of the RI/FS. In either case, MAWS could be operated as an interim measure either to mitigate a known unacceptable risk or to provide useful information on the two technologies. However, EPA notes that more than 6 months of planning may be required, which may necessitate more formal documentation than possible within the scope of an RA. Thus, it would be appropriate to include the MAWS within the scope of the OUI RI/FS. If MAWS is successful as determined by performance, meeting ARARs, and consistency with the permanent remedy, it could be used on other OUs providing statutory requirements were met.

- 2) DOE proposes delisting the OUI wastes either before or after treatment. EPA believes that the proposed delisting petition will require extensive time to implement; also, the outcome of the petition is uncertain, especially considering the radioactivity levels of the untreated waste and the vitrified residuals.

The delisting process should be separated from the MAWS process. The question of delisting is a long-term issue related to the vitrification and soil washing technologies. MAWS will supply important technical information, but the outcome of the delisting process is irrelevant to the MAWS proposal. EPA notes that MAWS is acceptable only as a pilot-scale project; the use of delisting at this point raises the question of whether MAWS is intended as a permanent site remedy.

- 3) Important ARARs are omitted from the MAWS regulatory compliance plan. MAWS-treated waste will have to meet human health-based risk standards under the exposure scenarios identified in the baseline risk assessment. As a result, the preliminary remediation goals will have to be identified and addressed in the treatability study work plan.
- 4) DOE should clearly define the time-frame for MAWS operation. DOE proposes to substantially comply with the RCRA Research and Development permitting requirements. These require 1-year issuance followed by

yearly renewal. Unless the time-frame is clearly defined, this would allow DOE to operate an unpermitted treatment facility for an indefinite time. This is clearly not acceptable; the scope of MAWS should be clearly defined and limited to pilot-scale application within the scope of the RI/FS process.

USEPA RADIATION SECTION COMMENTS ON THE
 US DOE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
 "MINIMUM ADDITIVE WASTE STABILIZATION (MAWS) REGULATORY COMPLIANCE PLAN"
 DATED JULY 1992

General Comments

1. It is stated that soils with less than 35pCi/g dry weight contamination will be denoted as clean. It is unclear whether or not this is a "cleanup goal," or a "preliminary remediation goal (PRG)." At this stage if it is a cleanup goal it is preemptive of the CERCLA process. It may be described as a PRG with approval by CERCLA.
2. The specific procedures and methodologies used to verify that soils are clean should be provided in the detailed plan.

Specific Comments

1. Overview of the MAWS Program Page 5 para 3--Justify the rationale that determined soils with less than 35pCi/g dry weight contamination for total uranium will be denoted as clean. Describe what will be done with soils that are denoted as clean.
2. Soil Washing Page 10 para 2--In the first stage of the soil washing process contaminated soils will be mixed with either contaminated, recycled or potable water in a rotating scrubber screen. Since the soils used in the MAWS bench scale demonstration will have low-level radioactive contamination only, additional information should be provided to clarify what types and levels of contaminants the water will contain.
3. Coarse material from this process will be hand monitored and released. Clarify the destination of the released soils.
4. The text should be expanded to discuss the type of instrument being used to survey coarse materials and its associated detection limits. A procedure should be provided to correlate hand-held radiological detection instrumentation to the release criteria.
5. The description of the array of sodium iodide detectors is much too general. Specific details such as detection limits, counting times, background radiation levels, geometry and sample size should be included in the description.
6. Water Treatment System Page 10 para 4--The text, starting with "The water treatment system will 379 liters per minute", is unclear. There appears to be a word missing.
7. Indicate when the prefilter and sand filter will become saturated and the disposal plans for the spent filters.
8. Radon Emissions Page 13 para 2--Direct measurements should be made from the stack to verify that radon decay products are not being released from the volatilization of the aqueous component of the sludge.

Specific Comments:

- Page 11: How will the water generated as a result of MAWS be integrated into the mass balance to assure a discharge of less than 1700 pounds per year of uranium into the Great Miami River.
- Page 12: RCRA waste could not be stored in a non-RCRA storage facility until the delisting petition was approved.
- Page 14: The term "clean water" is inappropriate.
- Page 19: U.S. DOE must comply with the mass balance agreed upon by both Agencies regarding uranium discharges into the Great Miami River.
- Page 20: See comment for page 12 above.
- Page 21: Pit 5 treated wastes would only be non-RCRA if delisting was achieved.
- Page 22: U.S. DOE must detail how flushing the melter with three volumes of non-RCRA waste will remove residual RCRA wastes, and how this will be verified.
- Page 28: Soils with less than 35 pCi/g should not be used as backfill, since this material may have to be removed as part of a Record of Decision.