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**RESPONSE TO OHIO ENVIRONMENTAL  
PROTECTION AGENCY REGARDING THE  
URANYL NITRATE REMOVAL ACTION**

**04/14/94**

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Department of Energy  
Fernald Environmental Management Project  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705

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APR 14 1994

DOE-1486-94

Mr. Thomas A. Winston, P.E.  
District Chief, SWDO  
Ohio Environmental Protection Agency  
40 South Main Street  
Dayton, Ohio 45402-6404

Dear Mr. Winston:

**RESPONSE TO OHIO ENVIRONMENTAL PROTECTION AGENCY REGARDING THE URANYL NITRATE REMOVAL ACTION**

Reference: Letter, T. A. Winston to J. P. Hamric, "US DOE-FEMP Uranyl Nitrate Emergency," dated March 14, 1994

In response to your letter dated March 14, 1994, requesting additional information on the Uranyl Nitrate Hexahydrate (UNH) Removal Action, the following project information and schedules for neutralization start-up and commencement are provided.

1. The first review of the UNH Neutralization Project will be an Operational Readiness Review (ORR) conducted by an independent (not directly involved in the design or operation of the project) team of Fernald Environmental Restoration Management Corporation (FERMCO) personnel. The purpose of the FERMCO ORR will be to review the entire project to verify that adequate training and qualification programs, procedures, and other controls are in place to assure that the project can proceed safely. The ORR will be conducted in accordance with a detailed ORR Plan of Action to ensure that specifications, design parameters, regulatory requirements, and other prerequisites have been met. The point of contact for this review is Dick Kline (513/648-6530).

The FERMCO ORR will be followed by a second review conducted by an independent team of Department of Energy (DOE) personnel. The purpose of the DOE review is to assure the FERMCO ORR was complete, comprehensive, and conducted in accordance with DOE Order 5480.31, "Startup and Restart of DOE Nuclear Facilities." The point of contact for the DOE review is Ray Hansen (513/648-3119).

The Defense Nuclear Facilities Safety Board (DNFSB) does not have a direct participation in the ORR process, but rather an independent oversight function of this removal action. The point of contact for the (DNFSB) is Dan Ogg (202/208-6556).

2. The time required to complete preparations for the neutralization of UNH is driven by the need to maximize the safety of both site personnel and the general public. It is for this reason that the new design incorporates features such as a new dedicated piping system and redundant controls. Assurance of safety is also the driver for the readiness reviews to be conducted before startup.

The date for initiation of the FERMCO ORR is dependant upon the delivery of the pumps to be used for transfer of the UNH solutions. Procurement of these pumps is in progress. Bids from potential vendors have been received and reviewed. Best and Final Offers are scheduled to be received April 19, 1994. FERMCO anticipates award of a contract by April 22, 1994. Contacts with potential vendors indicate that fourteen weeks will be required to fabricate and deliver the pumps. This fabrication time is extended by the fact that the design specifies the use of a double mechanical seal to assure no leakage. Possible means of shortening this fabrication time, and thereby accelerating the start date for the ORR are currently being examined.

Once the pumps are delivered, four weeks will be required to complete installation of the pumps and checkout of engineering controls, followed by six weeks for system checkout and certification, procedure verification, and operator training and qualification.

The FERMCO ORR will begin immediately after completing these activities. Based upon the previously mentioned assumptions, the current schedule for the ORRs is outlined below.

<u>ORR</u>	<u>SCHEDULED START</u>	<u>SCHEDULED COMPLETION</u>
FERMCO	October 8, 1994	November 7, 1994
DOE	November 8, 1994	December 7, 1994
DOE Approval for Startup		December 21, 1994

Neutralization of the UNH will begin two weeks after completion of the DOE ORR and, weather permitting, is estimated to require six months to complete. Based on that schedule, neutralization of the UNH solutions would be completed in June-July 1995.

3. Although a Closure Plan Information Data (CPID) document was submitted to the Ohio Environmental Protection Agency (OEPA) on June 22, 1993, it is currently the intent of the Fernald Environmental Management Project (FEMP) to integrate the Resource Conservation and Recovery Act (RCRA) closure of these Hazardous Waste Management Units (HWMU) with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) process. The processing of the UNH will occur as a Removal Action, while the remaining closure activities (e.g. addressing environmental media) will be accomplished during the implementation of the remedial actions at the site. In addition, the CPID requirements will be included in the removal and remedial action documents. The FEMP is presently discussing the development of a RCRA/CERCLA strategy and

implementation agreement. Once an integrated RCRA/CERCLA closure approach is formalized between the FEMP and OEPA the June, 1993, CPID will be withdrawn.

On April 8, 1992 an "Information Package" on the UNH Removal Action, which contained essentially the same information as a removal action workplan, was submitted to the United States Environmental Protection Agency (U.S.

EPA) and OEPA and placed in the Administrative Record file. Since the project was at that time designated as an Emergency Removal Action, approval of the document as a Removal Action Workplan was not requested.

A new design for the UNH Neutralization Project has been completed. Documentation on the current design, essentially an update of the April 8, 1992 package, will be submitted to U.S. EPA and OEPA as a Removal Action Workplan. This document will consist of:

- A process description and, flow diagrams, indicating the process and materials to be used, the instrumentation and control equipment, methods for sampling, treating and disposing of solid and liquid waste streams and methods for meeting closure requirements.
- Schedule for initiation and completion of Neutralization and disposition of waste
- Health and Safety Plan
- Regulatory Compliance summary

The workplan described above will be submitted by May 16, 1994.

4. There will be two by-products from the UNH neutralization process. The first will be a liquid filtrate that will be treated in the Bionitrification facility. The effluent will be sampled prior to discharge in accordance with the NPDES permit.

The second by-product will be a filter cake that will be staged and shipped in 55-gallon drums. Analysis of the filter cake produced from the neutralization of 20,000 gallons of UNH during the test run in late 1992 showed the filter cake to be non-hazardous. The current plan is to sample and analyze this filter cake to confirm that it is non-hazardous and then ship it as low-level waste. The details of this sampling and analysis will be presented in the Removal Action Workplan.

An initial presentation to OEPA on the plan and schedule for the UNH Neutralization project has been tentatively scheduled for April 21, 1994. I recommend that this meeting be held at the so that it may be accompanied by a tour of the UNH tanks and the area to be used for the neutralization project.

If you have any questions regarding this information or require additional information, please contact Wally J. Quaid at (513) 648-3137.

Sincerely,

*Wally Quaid*  
J. Phil Hamric *for*  
Manager

FN:Sattler

cc:

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