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**CATEGORICAL EXCLUSION DETERMINATION -
REMOVAL ACTION NO.25 - NITRIC ACID TANK
CAR AND AREA NEPA DOC. NO. 403**

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NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

CATEGORICAL EXCLUSION (CX) DETERMINATION

**Removal Action No. 25 - Nitric Acid Tank Car and Area
NEPA Document No. 403
Fernald Environmental Management Project (FEMP)
Fernald, Ohio**

Proposed Action

The United States Department of Energy (DOE) at the Fernald Environmental Management Project (FEMP) proposes to remove the Nitric Acid Tank Car contents, decontaminate and dispose of the Nitric Acid Tank Car, and characterize the contamination status of the soil underlying the Tank Car within the bounds of the Nitric Acid Tank Car and Area.

Location

The proposed action will occur at the present location of the Nitric Acid Tank Car, and the adjacent area, the FEMP Main Tank Farm, and the existing on-site nitric acid tanks. The Nitric Acid Tank Car is on a railway siding in the northeast corner of the FEMP site. The FEMP Main Tank Farm is near the center of the process area, north of Plant 4. The existing 20 nitric acid tanks are located around Plant 2. The Fernald site is located in a rural area of southwest Ohio, approximately 18 miles northwest of downtown Cincinnati, Ohio.

Background

In the production of uranium metal, nitric acid was an important process chemical used primarily in the production of uranyl nitrate hexahydrate (UNH) solution, subsequently chemically transformed into uranium trioxide (UO₃). Nitric acid was also used throughout the FEMP production area for acid cleaning and metal pickling operations. From 1975 to 1981, over 56 million pounds of concentrated (55 to 60 percent) nitric acid were purchased.

During peak uranium production, Tank Car No. DODX17135 was used to provide 100,000 pounds of mobile storage capacity. The Nitric Acid Tank Car was kept on a FEMP rail siding until either its contents or storage capacity were needed elsewhere on site. Following acid transfers, the car was returned to the siding. The Nitric Acid Tank Car has been in its present location, unused, for approximately 6 years. Henceforth, the Nitric Acid Tank Car will be referred to the "Tank Car" in this document.

The Tank Car and adjacent area have been declared a Hazardous Waste Management Unit (HWMU) since the discarded nitric acid (HNO₃) has been stored in excess of 90 days, has the hazardous characteristic of corrosivity, and exceeds the Toxicity Characteristic Leaching Procedure (TCLP) concentration limit for chromium. The Tank Car and Area were included in the list of HWMUs in the Resource Conservation and Recovery Act (RCRA) Part A Permit Application submitted

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to the Ohio Environmental Protection Agency (OEPA) in June 1991 and RCRA Part B Permit Application submitted in October 1991. Furthermore, the Tank Car and its contents are also identified as a removal action in the "Proposed Phase III Removal Actions" (dated January 14, 1992) submitted to the U.S. EPA.

The Tank Car and that portion of the FEMP interior track system on which the car currently resides constitute the HWMU. The boundary of the HWMU is 40 feet long by 14 feet wide, encompassing a total area of 560 sq. ft. The tank itself is 6 feet in diameter and approximately 36 feet long and of stainless steel construction. A three-foot diameter manway located at the tank's midpoint provides access. Visual inspection of the Tank Car indicates that there is a relatively small amount of liquid remaining in the tank, estimated at approximately 100 gallons. The contents have been sampled and the samples analyzed for uranium and acid normality. The liquid is approximately 3N HNO₃. The uranium concentration is very low, on the order of 1,400 pCi/l assuming natural uranium isotopic ratios.

Description of Proposed Action

The proposed removal activities include: (1) survey and mark HWMU boundaries, (2) transport the Tank Car to the FEMP Main Tank Farm, (3) remove Tank Car contents, (4) decontaminate, dismantle and dispose of the Tank Car, (5) collect and analyze soil samples, and (6) remove soil as necessary to achieve clean closure. The steps necessary to remove the Tank Car and its contents in a manner that meets applicable regulatory criteria and minimizes the risk to human health and safety and the environment are specified in the "FEMP Nitric Acid Tank Car and Area Removal Action Work Plan and Closure Plan." After completion of the removal activities, closure of the HWMU will be achieved.

The Tank Car and Area removal action will utilize existing procedures and protocols to maximize technical and cost effectiveness. These procedures have been developed for related actions, i.e., Removal Action No. 12 - Safe Shutdown Program; Removal Action No. 17 - Improved Storage of Soil and Debris; and Removal Action No. 9 - Removal of Waste Inventories. It is anticipated that Safe Shutdown personnel will perform all activities necessary to complete the closure and removal of the Tank Car.

Survey and Monument HWMU Boundaries

A radiological survey will be performed to determine and document the radiological status of the Tank Car and work area prior to the start of activities. Any control zones or access restrictions determined to be necessary based on the results of this survey will be established in accordance with the Fernald site's Health and Safety Plan.

A survey crew will establish the boundaries of the HWMU area relative to established Fernald site benchmarks. Following completion of the radiological and boundary surveys, the Tank Car undercarriage will be inspected and lubricated as appropriate prior to attaching the rail car track mover and moving the Tank Car to the Main Tank Farm.

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Transport Nitric Acid Tank Car and Remove Contents

The rail car track mover will be used to tow the Tank Car to the Main Tank Farm. The Tank Car will be positioned over the Tank Farm concrete-lined dike pit to provide a stable working surface, access to the crane needed to remove the access plate on the top of the Tank Car, and a barrier between potential spills and the environment.

Analyses of the Tank Car contents indicate chromium concentrations exceeding TCLP limits. Therefore, the Tank Car contents will be transferred to the existing UNH processing system. The UNH processing system is part of the ongoing Removal Action No. 20, and is used to process material with characteristics similar to those of the Tank Car contents.

The Tank Car contents will be transferred to a mobile stainless steel "dumpster" tank using the FERMC0 Standard Operating Procedure (SOP) 20-C-916. The dumpster tank will remain near the Tank Car to receive initial rinse waters, as described below, before being transferred to the Plant 2/3 digestion area. SOP 20-C-916 will be used to transfer the dumpster contents into the Plant 2/3 sump from which it will be introduced into the UNH processing system. SOP 20-C-916, entitled "Cleaning Sump Systems," provides the procedure for cleaning all sump systems at the FEMP.

Decontaminate and Dispose of the Nitric Acid Tank Car

Following the removal of the Tank Car contents, the Tank Car's internal surfaces will be flushed with high pressure water spray to remove residual traces of nitric acid. Flushing the Tank Car will be conducted in two stages to remove residual acid and any solids that may be present. In the first stage, three separate rinses will be performed and the rinseate (approximately 60-100 gal.) will be combined with the Tank Car contents in the dumpster tank for transfer to the UNH system. A fourth rinse will then be performed and the rinseate (approximately 40-60 gal.) will be collected in a separate clean/unused approved storage container. The rinseate from this fourth rinse will be sampled and analyzed for TCLP metals (total), uranium, and pH. If the result of the total metals analyses indicates that TCLP limits will not be exceeded, the rinseate will be transferred to the Plant 8 waste water treatment system (via Tank 17) for final processing and discharge. If the total metals results indicate that the action levels may be exceeded, a TCLP extraction will be performed and a second metals analysis performed. If this TCLP metals analysis exceeds the TCLP limits, or the pH is less than 2, additional rinse cycles will be performed until the results are reduced below these limits.

The Tank Car's external surfaces will be decontaminated if radiological surface contamination is identified. Methods used to decontaminate the Tank Car external surfaces will consist of dry or wet wipe-downs, simple two-stage soap and water decontamination, or high or low pressure water/detergent spray, as necessary. If spray decontamination is necessary, the resulting waste decontamination solution will be collected in the dike pit and then pumped into Tank 17.

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Surface contamination criteria contained in the DOE Radiological Control Manual (DOE-EH-0256T) and FEMP Radiological Control Manual (RM-0009I) will be applied in determining the final disposition of the Tank Car. Once decontaminated, the Tank Car will be disposed of as scrap metal through a subcontractor.

Collect and Analyze Soil Samples and Remove Soils as Necessary

Following removal of the Tank Car from the designated HWMU location, the underlying soil and track ballast within the HWMU area will be sampled and analyzed for nitrates, metals, pH, and uranium isotopes. Prior to soil sampling activities, a radiation walkover survey will be conducted to assist in determining specific sampling locations.

In the event that contaminated soil is found with concentrations in excess of applicable criteria, the affected soil will be removed as an element of this action in order to achieve clean closure. All soil contaminants attributable to the Tank Car will be removed and dispositioned in accordance with Removal Action No. 17.

Categorical Exclusion to be Applied

The authority for finding this project to be subject to NEPA Categorical Exclusion is contained in Subpart D of 10 CFR Part 1021, entitled "National Environmental Policy Act Implementing Procedures and Guidelines." The Final Rule and Notice, effective May 26, 1992, includes a list of Categorical Exclusions that are classes of actions that normally do not require the preparation of either an Environmental Impact Statement or an Environmental Assessment.

The Final Rule and Notice specifically lists in Part 1021, Appendix B to Subpart D, Sec. 1021.410, B6.1(a) and B6.1(b), the following as types of actions that are Categorical Exclusions applicable to Specific Agency Actions:

B6.1 Removal actions under CERCLA (including those taken as final response actions and those taken before remedial action) and removal-type actions similar in scope under RCRA and other authorities (including those taken as partial closure actions and those taken before corrective action), including treatment (e.g., incineration), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the removal action. These actions will meet the CERCLA regulatory cost and time limits or satisfy either of the two regulatory exemptions from those cost and time limits (National Contingency Plan, 40 CFR part 300). These actions include, but are not limited to:

- (a) Excavation or consolidation of contaminated soils or materials from drainage channels, retention basins, ponds, and spill areas that are not receiving contaminated surface water or wastewater, if surface water or groundwater would not collect and if such actions would reduce the spread of, or direct contact with, the contamination;

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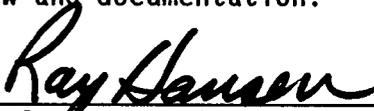
- (b) Removal of bulk containers (for example, drums, barrels) that contain or may contain hazardous substances, pollutants, contaminants, CERCLA-excluded petroleum or natural gas products or hazardous wastes (designated in 40 CFR part 261), if such actions would reduce the likelihood of spillage, leakage, fire, explosion, or exposure to humans, animals, or food chain.

The Removal Action for the Nitric Acid Tank Car and Area Project meets the requirements for the Categorical Exclusion listed above and accomplishes the closure of an identified HWMU. Except for small bottles of nitric acid used in FEMP laboratories, this project will eliminate HNO₃ as a source of hazardous substance from the site, the potential for personnel injury, and the regulatory impact of an unplanned release. Furthermore, the proposed action will not violate applicable statutory, regulatory, or permit requirements; it will not require siting and construction or major expansion of waste disposal, recovery or treatment facilities; and it will not impact any environmentally sensitive areas (e.g., wetlands, floodplains, or the sole-source aquifer).

Compliance Action

I have determined that the proposed action meets the requirements for the CX referenced. Therefore, the proposed action is categorically excluded from further NEPA review and documentation.

Approval:



Raymond J. Hansen, Acting Manager
U.S. Department of Energy, Fernald Field Office

Date:

7-19-93

United States Government

Department of Energy

Fernald Field Office

memorandum

DATE: JUL 20 1993
DOE-2459-93

REPLY TO: FN:Skintik
ATTN OF:

SUBJECT: CATEGORICAL EXCLUSION DETERMINATION (CX 403) - REMOVAL ACTION 25 - NITRIC ACID TANK CAR AND AREA

TO: Carol Borgstrom, EH-25, FORS

The subject categorical exclusion (attachment) under Section D of the Department of Energy's National Environmental Policy Act Guidelines has been approved and is being forwarded for your review.

The Department of Energy, Fernald Field Office (DOE-FN) requests that you notify us within two weeks, in accordance with the Interim Procedural Guidelines for implementation of SEN-15-90, whether you have any objection to this determination.

If you have any questions regarding this matter, please contact Ed Skintik at (513) 648-3151.



Raymond J. Hansen
Acting Manager

Attachment: As Stated

cc w/att:

R. S. Scott, EM-20, FORS
K. A. Chaney, EM-424, TREV
L. Harris, EM-431, TREV
C. J. Brown, FERMCO/51-7
A. R. Coordinator, FERMCO