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REQUEST FOR EXEMPTION TO DEPARTMENT OF ENERGY ORDER 5820.2A FOR DISPOSAL OF FERNALD OPERABLE UNIT 1 REMEDIATION LOW-LEVEL WASTES AT A COMMERCIAL FACILITY

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United States Government

Department of Energy
Fernald Field Office

memorandum

DATE: APR 0 1 1994

DOE-1340-94

REPLY TO ATTN OF: FN:Lojek

SUBJECT: **REQUEST FOR EXEMPTION TO DEPARTMENT OF ENERGY ORDER 5820.2A FOR DISPOSAL OF FERNALD OPERABLE UNIT 1 REMEDIATION LOW-LEVEL WASTES AT A COMMERCIAL FACILITY**

TO: James J. Fiore, Director, Office of Eastern Area Programs, Environmental Restoration, EM-42

Purpose

This memorandum is to request an exemption from the Department of Energy (DOE) Order 5820.2A, Radioactive Waste Management, to allow the Fernald Environmental Management Project (FEMP) to utilize a commercial facility to dispose of the low-level radioactive waste (LLW) resulting from the remediation of the FEMPs waste pits Operable Unit 1 (OU1). DOE Order 5820.2A, Radioactive Waste Management, states that DOE LLW must be disposed of at DOE sites. Exemptions to the Order are permitted and have been approved for mixed waste disposal at commercial sites. The designated approval authority for exemptions is the Deputy Assistant Secretary for Waste Management (EM-30).

Approximately 640,000 cu yd of waste sludges, pit liners and berms, and associated contaminated soils will be excavated, dried, and shipped off site under the preferred alternative for remediation of OU1, as detailed in the Feasibility Study/Proposed Plan/Environmental Assessment (FS/PP/EA) for OU1. Bulk transportation of the LLW by rail from the FEMP directly to a disposal facility will save DOE a considerable sum of money, versus the containerized disposal of such waste at the Nevada Test Site, which has no rail service. Disposal at a commercial facility located, for example, at Clive, Utah is estimated to save $400 million for the FEMP's OU1 alone. The draft FS/PP/EA was delivered to the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (OEPA) per the FEMP's Amended Consent Agreement (ACA) on March 4, 1994.

Background

DOE Order 5820.2A (Chapter III, Section 2.C) requires that DOE low-level waste be disposed of on site or, if off site, "at another DOE disposal facility." Exemptions to the Order for mixed waste have been approved, notably:

1) April 9, 1993 memo from J. E. Lytle approving disposal of FEMP (RMI) barium chloride mixed waste at Envirocare; and

2) October 12, 1993 memo from T. P. Grumbly issuing a blanket exemption for mixed waste from Environmental Management activities.

In the current environment of ever-scarcer funds for restoration and waste management, it is crucially important to seek out and adopt practices which reduce overall programmatic costs. The management of large volumes of LLW from remediation is a good candidate for cost reduction/cost avoidance. The FEMP has identified an opportunity for major savings for the ER program through the use of a commercial disposal facility for low-level remediation waste.

Selection of Preferred Alternative for OU1

DOE's Fernald Site is a former uranium processing facility whose activities supported the nuclear weapons mission. Under current DOE policy, DOE defence LLW is to be disposed of (if off site) at the Nevada Test Site (NTS). The FEMP has a successful track record is disposing of its LLW at the NTS.

OU1 (one of the five OU's at Fernald) comprises the process waste pits and adjacent areas. The unit contains an estimated 640,000 cu yd of LLW. The FEMP is undergoing a rigorous CERCLA program for characterization and remediation of the site, in accordance with terms of the Amended Consent Agreement with the Environmental Protection Agency Region V, and the Amended Consent Decree with the OEPA. Under the terms of these binding agreements, the FEMP has produced and delivered to the regulators the Feasibility Study/Proposed Plan - Environmental Assessment for OU1.

Analysis of the alternatives for remediation of OU1 (including waste disposition) determined that excavation, drying, and transportation of the pit wastes and associated soils to an off site commercial disposal facility will meet all selection criteria and will be the most cost effective approach for the waste pit contents, berms, liners and associated soils (estimated to total 640,000 cu yd of LLW). The OU1 Feasibility Study cost estimate indicates that DOE will spend $400 million less by disposing of the material at a commercial facility, than it would if the material were shipped to the Nevada Test Site for burial.

The LLW from OU1 remediation is anticipated to be shipped at a fairly constant rate during a five-year-period beginning in 1997. A small portion could be shipped as early as FY96 under a proposed OU1 Pilot Study demonstration for Pit 6.

Documentation

Detailed documentation of the Preferred Alternative is contained in the Feasibility Study/Proposed Plan - Environmental Assessment for OU1. This document includes detailed technical and cost analysis, regulatory assessments, stakeholder and institutional considerations, and documentation for compliance with the National Environmental Policy Act (NEPA). The most relevant portions of this document include:

1) Volume 1, Section 4, "Detailed Analysis of Alternatives," consists of a detailed description of the remedial alternatives considered and a detailed evaluation against criteria established under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Section 4 also included the NEPA impact analysis for each of the alternatives.

2) Volume 2, Appendix D, "Public Health and Occupational Risk Consideration for the OU1 Feasibility Study," contains a quantitative evaluation of residual risks and short-term risks during remediation for each of the alternatives considered in detail. Of particular note is the risk analysis associated with transportation of the wastes to a permitted commercial facility located in Clive, Utah. The results of the analysis indicate that the wastes can be transported within risk levels considered acceptable by the USEPA.

3) Volume 3, Appendix E, "Cost Estimates," documents the cost estimates for each of the alternatives considered in detail.

4) Volume 3, Appendix G, "NEPA Cumulative Impact Analysis," provides the NEPA cumulative impact analysis associated with implementing cleanup actions for each of the five operable units.

5) The Proposed Plan documents the basis for DOE's selection of the Preferred Alternative.

Summary and Recommendation

Your approval, in consultation with the Assistant Secretary for Environment, Safety and Health (EH-1), is requested for an exemption to DOE Order 5820.2A for the disposal at a commercial facility of the low-level waste resulting from remediation of Fernald's OU1. Your approval is requested by May 27, 1994. Under the terms of Fernald's Amended Consent Agreement, the Final OU1 FS/PP/EA is scheduled for submission to the regulators for their approval by June 4, 1994.

If you should have any questions, please contact Dave Lojek at (513) 648-3127.

J. Phil Hamric
Manager