

# memorandum

Fernald Environmental Management Project

DATE: APR 15 2003

REPLY TO  
ATTN OF: FEMP:White

DOE-0327-03

SUBJECT: **BLANKET EXEMPTION FOR COMMERCIAL DISPOSAL OF LOW-LEVEL WASTE**

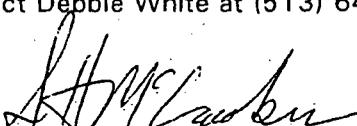
TO: Ward Best, Assistant Manager, OH/OCS

Reference: Memorandum from S. McCracken to W. Best, "Blanket Exemption For Commercial Disposal of Low-Level Waste," dated February 20, 2003

The above referenced memorandum indicated that the Fernald Closure Project (FCP) currently has a blanket exemption in place for low-level wastes approved by the Manager of the Ohio Field Office on February 18, 1999. It also indicated that the quantities of waste identified in the exemption will be monitored and, if necessary, a revision to the exemption to include additional volumes of waste will be submitted for approval.

Operable Unit 1, the Waste Pits Remedial Action Project (WPRAP), has determined that a revision to the quantities identified in the February, 1999 exemption is necessary. Actual excavation and processing of pit waste began in September 1999 and total pit waste processing is approximately 65% complete. Concurrently, site-wide remediation efforts have progressed and as a result, more specific estimates of other project materials to be processed through WPRAP have become available, particularly with regard to above On-site Disposal Facility (OSDF) Waste Acceptance Criteria (WAC) soils. With remediation efforts for the site well over 50% complete, it is appropriate at this time to revise the original estimated volume of materials to be shipped to Envirocare under the current exemption and its amendment. The attached exemption is being submitted for approval to revise the volume from 734,416 cubic yards to 774,416 cubic yards.

If you have any questions, please contact Debbie White at (513) 648-3218.

  
Stephen H. McCracken  
Director

Attachment: As Stated

APR 15 2003  
DOE-0327-03

Mr. Ward Best

-2-

cc w/attachment:

G. Gorsuch, OH/OCS

J. Sattler, OH/FCP

M. Cherry, Fluor Fernald, Inc./MS52-1

B. Giroir, Fluor Fernald, Inc./MS52-3

D. Zdelar-Bush, Fluor Fernald, Inc./MS52-1

cc w/o attachment:

D. Lojek, OH/FCP

V. Taylor, OH/FCP

**DOE ORDER 435.1 EXEMPTION REQUEST**  
**- AMENDMENT TO NOVEMBER 1994 EXEMPTION,**  
**as amended February, 1999 -**  
**FOR COMMERCIAL DISPOSAL AT ENVIROCARE OF UTAH, INC.**

**Background**

Under Department of Energy (DOE) Order 435.1, when capabilities for treatment, storage, or disposal of low level waste (LLW) and mixed low level waste (MLLW) at DOE facilities are not practical, exemptions may be approved to allow use of non-DOE facilities provided provisions delineated in the order are met.

Under DOE Order 5820.2A, superceded by DOE Order 435.1, an exemption was granted to allow the Department of Energy, Fernald Closure Project, to dispose of approximately 640,000 cubic yards of remediation waste from its Operable Unit 1 (OU1), Waste Pits Remedial Action Project (WPRAP) (November 1994).<sup>1</sup> That exemption was further amended in February 1999 to include various materials from other Fernald projects raising the total remediation waste under the exemption to 734,416 cubic yards.<sup>2</sup>

Initiation of operations for OU1/WPRAP, First Loadout, began on February 22, 1999, with the processing of soils and soil-like materials destined for disposal at Envirocare. Actual excavation and processing of pit waste began in September 1999. Through February 2003, the majority of Pits 1 and 3, approximately half of Pit 2 and a portion of Pits 4 and 5 have been excavated; totaling approximately 342,600 cubic yards of material that has been loaded into railcars and shipped to Envirocare for disposal; with total pit waste processing at approximately 65% complete. Concurrently, site-wide remediation efforts have progressed and as a result, more specific estimates of other project materials to be processed through WPRAP have become available, particularly with regard to above Onsite Disposal Facility (OSDF) waste acceptance criteria (WAC) soils. With remediation efforts for the site well over 50% complete, it is appropriate at this time to revise the original estimated volume of materials to be shipped to Envirocare under the current exemption and its amendment.

**Waste Stream Description and Project Management**

The type of wastes and approximate quantity of materials included in both the exemption and its amendment are presented below in Table 1. This request for an amendment to the exemption is to increase the actual volumes of waste to be included in the exemption; the types of wastes have not changed. Attached to this request are the original exemption and its amendment which provide detailed descriptions of the types of waste included. The largest waste stream currently being disposed at Envirocare is from the remediation of the OU1 waste pits, an anticipated total of approximately 640,000 cubic yards. In addition, waste streams similar to pit soils and waste are being generated from remediation of other Fernald projects. These waste streams can be processed through the WPRAP, either as direct loadout or through the treatment process.

The volumes to be processed through WPRAP remain as indicated in Table 1 with the exception of *Above OSDF WAC Soils*, the total volume of these soils is estimated to include an additional 40,000 cubic yards of soil and soil-like material, revising the total for that material to 99,500 cubic yards.

Type of Material	Source	Volume (yd <sup>3</sup> )	NEPA Documentation
Pit Waste	WPRAP	640,000	OU1 ROD (WPRAP)
Above OSDF WAC Soils	FEMP Site	59,500	OU2 ROD (Soils Project) OU1 ROD
		<i>(99,500) - proposed</i>	
	Facility	66	OU5 ROD (AWWT) OU1 ROD
Legacy Waste	Legacy Drummed Process Materials	2,250	OU3 ROD (D&D) OU1 ROD
<b>Total</b>		<b>734,416</b> <b><i>(774,416) - proposed</i></b>	

#### Use of Offsite Disposal Facility

WPRAP has been shipping waste, including materials from other projects, to Envirocare via gondola rail since the onset of operations; with the first shipment initiated on April 1999. Offsite shipment to a commercial disposal facility was an element of the selected remedy established in the OU1 ROD.<sup>3</sup> Details of that selection process are included in the OU1 Feasibility Study and Proposed Plan.<sup>4</sup> Envirocare was chosen for several reasons but most importantly, waste can be transported more cost-effectively by rail versus truck and the waste is determined to meet the waste acceptance criteria of Envirocare without repackaging or further handling of the waste.

Envirocare is a commercial facility fully licensed to accept and dispose of LLW. Envirocare has a contract with the Ohio Field Office, and FCP follows established waste acceptance profiles and parameters that were set based on the waste being shipped.

The Oak Ridge Operations Office performed an audit in January 2002 and no significant deficiencies were found.<sup>5</sup> Envirocare is currently being utilized by several DOE facilities for the disposal of treated MLLW and LLW (e.g., Ohio Field Office, Oakland Field Office, Oak Ridge, Brookhaven, Rocky Flats, etc.).

**EXEMPTION CRITERIA FOR DISPOSAL OF  
FERNALD CLOSURE PROJECT WASTE AT ENVIROCARE OF UTAH, INC.**

Each of the requirements specified in U. S. Department of Energy (DOE) Order 435.1 dealing with approval of exemptions for use of waste disposal services at non-DOE facilities is addressed below.

***The non-DOE facilities shall comply with DOE M 435.1-1 requirements, state, and local requirements***

Envirocare of Utah (Envirocare) is in compliance with all federal, state, and local requirements. Annual DOE audits of Envirocare are conducted as a team effort with representation from Oak Ridge, Fernald, and DOE facilities. The Oak Ridge Operations Office performed an audit in January 2002 and no significant deficiencies were found.

***The non-DOE facilities shall have the necessary permit(s), license(s), and approval(s) for the specific waste(s).***

All of the isotopes and their respective concentrations included on the waste profile for WPRAP are included on Envirocare's radioactive material license issued by the State of Utah.

***The non-DOE facilities shall be determined by the Field Element Manager to be acceptable based on a review conducted annually by DOE.***

The Oak Ridge Operations Office performed an audit in January 2002 and no significant deficiencies were found. WPRAP shipments to Envirocare have continued based on the acceptability of such audits.

***Exemptions for the use of the non-DOE facilities shall be documented to be cost effective and in the best interest of DOE, including consideration for alternatives for onsite disposal, an alternative DOE site, and available non-DOE facilities; consideration of life-cycle cost and potential liability; and be protective of public health and the environment.***

The 1994 OU1 Feasibility Study/Proposed Plan – Environmental Assessment (FS/PP-EA) provided an analysis of several alternatives for the remediation of OU1, including on-site disposal, disposal at NTS, and disposal at a commercial facility. Appendix E of the FS/PP-EA provided detailed cost estimates for each alternative evaluated. In addition, other site OUs evaluated disposal on-site, at other DOE sites, and at non-DOE sites. The conclusion, as documented in the OU1 ROD, was the most cost-effective approach for remediation included off-site disposal at a commercial facility.

***DOE waste shall be sufficiently characterized and certified to meet the facility's waste acceptance criteria (WAC).***

The OU1 Remedial Investigation (RI) provided documentation on the characterization of the OU1 pit waste, including process knowledge and sampling and analysis. The characterization documented in the OU1 RI was used to determine the design for remediation of the waste pit area.

Envirocare has an established WAC that is consistent with their license requirements.<sup>7</sup> The OU1 Remedial Action Package, Sampling and Analysis Plan demonstrates how the waste will be sampled to verify that it meets the Envirocare WAC and the waste profile established to comply with the WAC.

***Appropriate National Environmental Policy Act (NEPA) review must be completed.***

The 1994 OU1 Feasibility Study/Proposed Plan-Environmental Assessment satisfied the requirement to incorporate all the requirements of an environmental assessment under NEPA into the CERCLA process. The document included an assessment of the potential impacts and risks associated with transportation of the OU1 waste between Fernald and Envirocare, in addition to the inherent assessment of the potential environmental impacts and risks associated with remediating OU1.

***Headquarters shall be notified of any exemption allowing use of a non-DOE facility and the Office of the Assistant Secretary for Environment, Safety, and Health (EH-1) shall be consulted of the exemption being executed.***

DOE Headquarters was intimately involved in processing the original exemption request; and was notified and included on its amendment reviews. The exemption request is being provided to EH-41 by DOE-Ohio Field Office. If a response is not received in 15 days it will be assumed that there are no environmental objections and further consultation with EH-41 is not required.

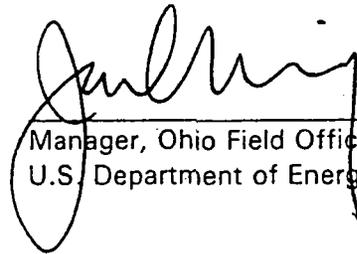
***Host States and State Compacts where non-DOE facilities are located shall be consulted prior to approval of an exemption to use such facilities and notified prior to shipments being made.***

The OU1 Proposed Plan (PP) was submitted to the Tooele County, Utah commissioners and to the State of Utah for review and comment. No comments were received. In addition, prior to shipments, FCP contacted state emergency response organizations along the transportation route.

References

1. Memorandum from J.E. Lytle to J. Baublitz, Approval for Disposal of Fernald Low-Level Radioactive Waste From Operable Unit 1 at a Commercial Disposal Facility dated November 8, 1994.
2. Memorandum from J. Craig to G. Leah Dever, Request for Department of Energy, Ohio Field Office Approval to Include Various Material from Other Fernald Environmental Management Projects Under the OU1 Exemption dated December 30, 1998 and signed by G. Leah Dever on February 18, 1999.
3. Record of Decision for Remedial Actions at Operable Unit 1, Final, January 1995, U.S. Department of Energy, Fernald Field Office.
4. Operable Unit 1 Feasibility Study/Proposed Plan Report, Final, October 1994. U.S. Department of Energy, Fernald Field Office.
5. Department of Energy, Office of Environmental Management, Oak Ridge Operations, "FY 2002 Offsite Treatment/Storage/Disposal Facility Audit, Envirocare of Utah, Clive, Utah", January 8-11, 2002.
6. Proposed Plan for Remedial Actions at Operable Unit 1, DOE/EA-0938, Final, August 1994.
7. Waste Acceptance Guidelines, Envirocare of Utah, Inc., May 2001.

APPROVAL:

*for*   
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Manager, Ohio Field Office  
U.S. Department of Energy

4/16/03  
Date