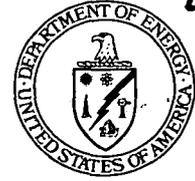




Department of Energy
Ohio Field Office
Fernald Environmental Management Project
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



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APR 10 2003

Mr. Gene Jablonowski, Remedial Project Manager
United States Environmental Protection Agency
Region V, SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0318-03

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Jablonowski and Mr. Schneider:

**TRANSMITTAL OF COMMINGLING OF CATEGORY I WITH CATEGORY A, B, D, AND
INCIDENTALLY GENERATED E FOR BUILDINGS 45A AND 80 OF THE MULTI-COMPLEX
DECONTAMINATION AND DISMANTLEMENT PROJECT**

The purpose of this letter is to transmit to the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (OEPA) the enclosed changes of the Operable Unit 3 Multi-Complex Implementation Plan for Above-Grade Decontamination and Dismantlement (D&D) for your review and approval.

Section 2.3.4 of the referenced document and the Demolition Closure Contract Specifications (01789-TS-0001, Revision 8, Section 01120.3.3.A.4) require that Debris Category I (except for the Administration Complex and Laboratory Complex) shall be segregated and containerized separately from Debris Categories A, B, D, and incidentally generated E. This requirement is based on radiological requirements relating to the stockpiling of Category A, B, D, and E debris prior to placement into the On-Site Disposal Facility (OSDF). ~~On the contrary, Category I debris of the same radiological nature must remain in roll-off boxes (prior to OSDF placement) to prevent insulation and drywall degradation due to wind and weather.~~

As described in the referenced document, Buildings 45A and 80 of the Multi-Complex D&D project do not have significant radiological drivers generally associated with other Fernald Closure Project (FCP) D&D projects. Building 45A and 80 commingled debris will each be staged at their respective footprint and loaded out in roll-off boxes or articulating dump trucks for direct placement into the OSDF based on the availability of the OSDF to accept it. Whenever capacity for placement of non-thorium above grade debris becomes available, priority will be given to staged Building 45A and 80 commingled debris over

APR 10 2003

Mr. Gene Jablonowski
Mr. Tom Schneider

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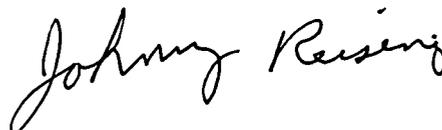
DOE-0318-03

debris located at the On-Site Material Transfer Area (OMTA) for OSDF placement. We request approval to commingle Category I debris with the Category A, B, D, and E debris for Buildings 45A and 80.

Section 2.3.4 and Appendix C (Section 01120 3.3.A.4) of the referenced document have been updated to incorporate this change. A copy of the document pages affected by this change is enclosed for insertion into the Multi-Complex Implementation Plan, Final document. Please remove the existing pages affected by this change and replace them with the enclosure.

If you or your staff have any questions, please contact John Trygier at (513) 648-3132 or Melvin Boyd at (513) 648-3412.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FCP:Boyd

Enclosure: As Stated

cc w/enclosure:

J. McCloskey, EM-31/CLOV
M. Boyd, OH/FCP
J. Trygier, OH/FCP
T. Schneider, OEPA-Dayton (three copies of enclosure)
J. Saric, USEPA-V, SRF-6J
F. Bell, ATSDR
M. Cullerton, Tetra Tech
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:

R. Greenberg, EM-31/CLOV
R. Ector, Fluor Fernald, Inc./MS44-0S
B. Edmondson, Fluor Fernald, Inc./MS52-0
M. Jewett, Fluor Fernald, Inc./MS52-5
R. Nichols, Fluor Fernald, Inc./MS7
M. Stevens, Fluor Fernald, Inc./MS87
ECDC, Fluor Fernald, Inc./MS52-7

MULTI-COMPLEX IMPLEMENTATION PLAN

DOCUMENT NUMBER 1766-PL-0001 (REV. 0) PCN1

PAGE CHANGES

INCLUDES:

COVER PAGE/RECORD OF REVISION

PAGE 17/18

PAGE 21/22

APPENDIX C, REV. 9, COVER PAGES 1 THRU 3

APPENDIX C, SECTION 01120, REV. 4, PAGES 1 THRU 10

OPERABLE UNIT 3

MULTI-COMPLEX IMPLEMENTATION PLAN FOR ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT



MARCH 2003

FERNALD CLOSURE PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

COPY

Final

DOCUMENT CONTROL NO. 1766-PL-0001 (REV. 0) PCN1

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RECORD OF ISSUE/REVISION

<u>DATE</u>	<u>REVISION NO.</u>	<u>DESCRIPTION AND AUTHORITY</u>
10/3/01	Rev. 0	Issued approved Implementation Plan
3/17/03	Rev. 0, PCN1	On Pages 17, 21 and 22 along with Appendix C Specification Section 01120 Paragraph 3.3.A.4, allow for Debris Category I material (Buildings 45A and 80 only) to be commingled with Debris Categories A, B, D and incidental E.

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2.3.3 Estimates of Material Volumes

Materials to be generated during this project have been categorized using the same classification system that was developed for and described in the OU3 RI/FS Report (1996a), and OU3 Integrated RD/RA Work Plan, and are estimated in Tables 2-3, 2-4, and 2-5.

2.3.4 Material Handling, Storage, Treatment, and Disposition

Materials generated from the Multi-Complex D&D project will be reduced in size, segregated, and containerized in accordance with the requirements identified in the MSCC form supplied to the Contractor. Quantities and disposition of specific material categories were documented in the PWID form for internal use. Tables 2-3, 2-4, and 2-5 summarize the MSCC and PWID by identifying quantities, containerization, staging/interim storage, and disposal requirements for each category of material. Debris size requirements are described in Sections 3.3.2.1 and 3.3.6.2 of the OU3 Integrated RD/RA Work Plan.

As stated in Section 3.3.2.2 of the OU3 Integrated RD/RA Work Plan, materials will be identified according to the OU3 debris categories identified in the MSCC. The MSCC for the Multi-Complex D&D project allows for commingling of OU3 debris categories A, B, D, I (for "I" - Buildings 45A and 80 only) and incidental E into the same Roll-Off Boxes (ROBs) since each of these material types conform to OSDF Impacted Material Category 2. The majority of Debris Category E (concrete), however, will be placed in separate ROBs. Commingling of OU3 debris categories A, B, D, I (for "I" - Buildings 45A and 80 only) and incidental E is being done to conform to the OSDF impacted material categories in order to facilitate placement. By allowing the commingling of these types of debris into the same ROB, there will be more efficient use of a limited number of ROBs at the FEMP. Materials will be containerized inside the project boundaries adjacent to structures being dismantled. Should any materials be encountered that do not meet the OSDF waste acceptance criteria (e.g., materials with "visible process residues" such as yellow cake, black oxide, green salt, etc.) as defined in Specification Section 01120, they will be containerized separately from OSDF-bound materials. These materials will follow the same load-out and transportation procedures, and be packaged for off-site disposal at either the Plant 1 Storage Pad or a material packaging area that would be established within the project boundaries.

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TABLE 2-3 Multi-Complex D&D Project Bulked Material Volume Estimates (yd³)
Waste Categories

Component Number	Cat. A Th-C-Cat A	Cat. B Th-C-Cat B	Cat. C	Cat. D	D-Lead	Cat. E Th-C-Cat E	Cat. F Th-C-Cat F	Cat. G Th-C-Cat G	Cat. H Th-C-Cat H	Cat. I2	Cat. I4	Cat. J	TOTALS
2A	5040.0	9225.0	307.4	0.0	42.8	450.0	600.0	1140.0	24.0	1117.2	1012.5	510.0	22800.9
Pl. 2 Pipersack	157.5	877.5	20.7	0.0	3.1	0.0	0.0	0.0	0.0	344.0	0.0	0.0	1403.8
2B	141.5	571.5	14.4	0.0	2.2	0.0	0.0	0.0	0.0	2.4	16.5	30.0	789.5
2C	121.5	810.0	16.6	68.0	2.8	0.0	0.0	24.0	0.0	2.0	1.9	0.0	1050.0
2D	175.5	544.5	14.4	0.0	2.2	0.0	52.0	6.0	0.0	12.0	6.5	1.5	815.5
2E	38.3	1836.0	37.5	0.0	5.6	0.0	0.0	206.0	0.0	6.0	6.5	1.5	2138.3
2F	21.2	87.5	1.8	0.0	0.3	0.0	52.0	150.0	0.0	12.0	7.5	0.0	313.2
2G	180.0	810.0	18.6	0.0	2.8	0.0	0.0	40.2	0.0	0.0	2.0	1.5	899.6
2H	67.5	351.0	10.6	0.0	3.0	112.5	0.0	0.0	740.0	0.0	7.5	6.0	1411.6
2I	103.5	13.5	2.4	8.6	2.4	0.0	0.0	102.0	0.0	0.0	0.5	0.6	198.7
2J	565.0	3532.5	82.4	3.6	2.5	0.0	0.0	150.0	0.0	344.0	0.0	0.0	842.8
2K	247.5	1665.0	50.0	0.0	2.4	1428.5	25.0	4.8	112.5	0.0	80.0	0.0	4373.7
2L	162.0	294.3	9.1	0.0	4.0	0.0	3.3	0.0	0.0	2.0	0.0	0.0	473.7
2M	58.5	238.5	5.9	0.0	3.5	189.0	36.0	18.0	0.0	14.0	0.0	0.0	568.4
2N	128.0	1701.0	38.5	0.0	1.5	0.0	0.0	0.0	0.0	35.2	0.0	0.0	1863.6
2O	0.0	41.0	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.5
2P	89.0	103.5	5.9	0.0	0.9	0.0	29.3	38.0	0.0	52.0	0.5	17.7	435.7
2Q	3703.5	4603.5	185.9	493.5	24.9	654.0	393.0	509.7	260.0	88.8	75.0	108.0	13094.5
2R	28.3	36.3	1.4	5.4	0.5	1548.0	0.0	0.0	2.8	0.0	5.0	3.0	1633.6
2S	2167.0	2970.0	103.1	54.5	15.5	0.0	0.0	0.0	0.0	0.0	90.0	90.0	5510.5
2T	0.0	41.0	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5	2.1	44.5
2U	38.3	54.0	1.8	1.1	0.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	97.5
2V	59.0	369.0	8.6	56.5	1.3	0.0	0.0	0.0	0.0	0.0	13.0	3.0	512.3
2W	387.0	373.5	15.2	69.8	2.3	0.0	0.0	0.0	0.0	0.0	60.0	39.0	848.8
2X	23.4	1002.0	61.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1088.9
2Y	378.0	1500.0	116.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	20.0	2078.0
2Z	25.8	1950.0	120.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.4	2109.1
3A	0.0	78.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.8
3B	10.4	114.0	6.0	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	1.4	149.4
3C	104.0	114.0	6.0	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	1.4	149.4
3D	25.8	114.0	6.0	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	1.4	149.4
3E	0.0	68.4	4.8	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	93.2
3F	0.0	216.0	12.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	234.8
3G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3H	1200.0	546.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2256.0
3I	0.0	930.0	126.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3J	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3L	33.0	34.3	24.0	4.8	0.8	34.0	15.6	6.0	0.0	0.0	0.0	5.6	551.8
3M	192.0	165.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	160.0	50.0	1104.0
3N	609.0	482.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	30.0	717.0
3O	75.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1300.0
3P	125.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79359.4
TOTALS	16532.6	38949.2	880.5	1478.8	782.0	5280.0	640.0	2584.7	876.2	4001.5	1792.4	870.4	105.9

Footnotes:
 (1) QU3 Debris Categories: Cat. A - Accessible Metals; Cat. B - Inaccessible Metals; Cat. C - Process-Related Metals; Cat. D - Painted Light Gauge Metals; Cat. E - Concrete; Cat. F - Brick; Cat. G - Non-Regulated ACM; Cat. H - Regulated ACM; Materials.
 Cat. I - Miscellaneous
 (2) It is assumed that most debris will be decontaminated to remove process residues; however, process equipment/systems that are not amenable to decontamination (e.g., small diameter pipe with process residues) have been estimated based on historical ratios of Cat. C debris to Cat. B debris from other process facilities that have undergone D&D.
 (3) ROB: Roll-Off Box holds 30 cubic yards (810 cubic feet) and/or 16.95 tons of material; TL: Top-Loading (also referred to as a Large White Metal Box) holds 35.9 cubic yards (970 cubic feet) and/or 18 tons of material; ISO: End-Loading Container/Sea Land boxes, holds up to 36 cubic yards (971 cubic feet) and/or 42,000 lbs. of material.
 (4) Excludes gutter cleaner, which will be placed in drums.
 (5) OSDF Transfer: On-site Disposal Facility Transfer area. Refers to direct disposal in the OSDF; however, the ability to deliver debris directly to the OSDF Transfer Area is dependent on whether the OSDF is accepting debris and/or availability of containers (ROBs) for transport. If necessary, Category A, B, D, and E debris may be temporarily stockpiled on available building pads at project completion.
 (6) If debris cannot be decontaminated to meet visible residue criteria then off-site disposal will be necessary.

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The current project strategy for managing debris is to deliver containerized debris directly to the OSDF Transfer Area; however, short-term debris stockpiling (staging) of Category A, B, D, I (for "I" – Buildings 45A and 80 only) and E debris is likely to occur due to the limited number of ROBs at the FEMP during months when the OSDF is not placing debris. Staging of debris in temporary stockpiles, if needed, will follow the strategies provided under Section 3.3.2.3 of the OU3 Integrated RD/RA Work Plan, which requires best available storage configuration for OU3 Debris Categories A, B, D, I (for "I" – Buildings 45A and 80 only) and E. The strategy for staging debris in temporary stockpiles also requires removing or encapsulation of contaminants. Specification Section 01517 debris release criteria requires that gross contamination be removed or encapsulated on debris surfaces prior to their removal from a building enclosure or local containment. To the maximum extent practicable, debris will be containerized following sizing when sufficient containers are available. Should the best available storage configuration (i.e., containers with lids or tarps) be temporarily unavailable, temporary stockpiling of debris on pads with run-off controls would be performed.

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Debris estimates for the Multi-Complex D&D project have been provided to OSDF and waste management integrators for the purpose of optimizing types and quantities of debris that are available or will be generated from all D&D projects for OSDF placement. The OSDF Optimization Plan was developed originally in June 1999 and provided to the U.S. EPA. It is continually updated based on the latest schedules and debris projections. The OSDF Optimization Plan integrates schedules and estimates for soil and debris generation to allow for efficient use of site resources and cell construction. Complicating the scheduling of debris transfers will be the concurrent implementation of other D&D projects (Plant 6/East Warehouse, Administration Complex, Pilot Plant Complex, Plant 1 Complex – Phase II, and Laboratory Complex.)

Material tracking is performed using the Site-Wide Waste Information, Forecasting and Tracking System/Integrated Information Management System (SWIFTS/IIMS) through the FEMP waste management organization. Project-specific reporting on material disposition will be provided by a SWIFTS/IIMS summary in the Project Completion Report. Section 3.3.2.2 (Segregation, Containerization, Tracking) of the OU3 Integrated RD/RA Work Plan describes material tracking and reporting using SWIFTS. OU3 Debris Categories A, B, D, I (for "I" – Buildings 45A and 80 only) and E debris are classified as OSDF Category 2 material.

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Therefore, commingled Debris Categories A, B, D, I (for "I" – Buildings 45A and 80 only) and E quantities will be tracked in SWIFTS/IIMS under a discreet Material Evaluation Form that corresponds to Impacted OSDF Category 2 debris in interim storage. OU3 Debris Category I (Miscellaneous Materials) is also OSDF Category 2 but will not be commingled and therefore actual volumes will be easily obtained. Debris Category G (Transite) and Debris Category H (Regulated ACM) are regarded as OSDF Categories 3 and 5, respectively, and will also be handled separately. Since the volume of commingled debris will represent a combination of waste streams, proportions of OU3 debris categories within that total volume will be derived based on original estimates to identify and track waste volumes by OU3 debris category. These derived quantities will be documented in the Project Completion Report for the Multi-Complex D&D project. Other than tracking debris specifically for the purpose of OSDF placement, project-specific material tracking and reporting strategies for the Multi-Complex D&D project do not differ from the strategies laid out in the OU3 Integrated RD/RA Work Plan and therefore no additional details were developed during the remedial design process.

The disposition strategy for Multi-Complex D&D project materials is consistent with the requirements stated in the OU3 Final Action ROD (1996b) and strategies presented in the OU3 Integrated RD/RA Work Plan. Table 2-2 identifies the debris disposition routes, including either onsite (OSDF) or offsite (which includes either the NTS or a Permitted Commercial Disposal Facility). No treatment will be necessary for those materials destined for on-site disposal since all chemical-based waste acceptance criteria are met based on OU3 RI/FS data.

2.3.5 Material Recycling/Reuse

Accessible metals (Category A) from the Multi-Complex D&D project have been evaluated for potential recycling options and a detailed summary of that evaluation is available in Appendix B. Using the Decision Methodology for Fernald Material Disposition Alternatives (the "Decision Methodology"), 7348 tons of potentially recyclable accessible metals (OU3 Debris Category A) from all Multi-Complex D&D project components were evaluated by comparing the four leading alternatives to on-site disposal. Of the three phases of the Decision Methodology (Threshold Phase, Life Cycle Analysis Phase, and Decision Phase), only the first phase was applied since the comparative evaluation of project costs for each alternative showed that the total costs for each of the recycling options greatly exceed the 25 percent total cost criteria compared to OSDF disposal.



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DEMOLITION CLOSURE PROJECT

SPECIFICATIONS

PROJECT: 01789
SPEC 01789-TS-0001
FLUOR FERNALD ENGINEERING SUPPORT
REVISION 9

PREPARED BY:

A handwritten signature in black ink, appearing to read 'Joseph S. Stoner'.

Joseph S. Stoner

3/17/03

Date

APPROVED BY:

A handwritten signature in black ink, appearing to read 'David G. Balzen'.

David G. Balzen

3/12/03

Date

U. S. DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Fluor Fernald, Inc.
P.O. Box 538704
Cincinnati, Ohio 45253-8704

Title: Demolition Closure Project	Specification No: 01789-TS-0001	
	Date: 03/17/2003	Table of Contents Rev 9

ISSUE AND REVISION SUMMARY

<u>Revision</u>	<u>Date</u>	<u>Description of Issue or Revision</u>
0	09/04/01	Issued CFC Verbiage formats and conflicts with the IFB corrected. Initiated by Joyce Leslie. HEPA Vacuum and /Air Filtration Device specifications updated. Initiated by Joe Stoner.
1	12/10/01	Implemented comment resolutions made on HEPA Vacuum/Air Filtration Device specifications. Initiated by Joe Stoner. Update of Technical References, codes and standards. Initiated by Joyce Leslie and Joe Stoner.
2	1/28/02	Added changes per DCN 1789-001. Initiated by Jerry Fry and Joe Stoner.
3	04/11/02	Added exception to Section 01120 per DCN 1789-002. Initiated by Jerry Fry and Joe Stoner
4	04/25/02	Added condition to 3.2.D.2 of Section 01515 per DCN 1789-003. Initiated by Jerry Fry and Joe Stoner.
5	6/27/02	Added condition to 3.1.B.3.c of Section 01517 per DCN 1789-005. Initiated by Jerry Fry and Joyce Leslie.
6	6/27/02	Added condition to 3.2.B.1. of Section 01515 per DCN 1789-007. Initiated by Jerry Fry and Joyce Leslie.
7	8/21/02	Revised words in 3.2.B.1. of Section 01515 per DCN 1789-008. Initiated by Jerry Fry and Joyce Leslie.
8	2/19/03	Changed "Note" to "Note 1" and added Note 2 to 3.3.A.4 of Section 01120 per DCN 1789-009. Initiated by Jerry Fry and Joe Stoner
9	03/17/2003	Added "Note 3" to Paragraph 3.3.A.4. of Section 01120 per DCN 1789-010. Initiated by Jerry Fry and Joe Stoner.

Title: Demolition Closure Project	Specification No: 01789-TS-0001	
	Date: 03/17/2003	Table of Contents

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<u>Revision</u>	<u>Section</u>	<u>Description of Issue or Revision</u>
1	01010	General Requirements
4	01120	Debris/Waste Handling Criteria
4	01515	Mobilization, Demobilization and General Site Requirements
1	01516	Asbestos Abatement
2	01517	Removing/Fixing Radiological Contamination
1	01519	Decontamination of Contractor Provided Tools, Equipment and Material
1	03315	Concrete/Masonry Removal
1	03920	Concrete Surface Removal
1	05125	New Structural Steel/Metals
2	05126	Structural Steel Dismantlement
2	07415	Transite Removal
0	11010	HEPA Vacuum Cleaner Requirements
1	15065	Equipment/System Dismantlement
1	15067	Ventilation and Containment
0	15860	HEPA Air Filtration Device Requirements

END OF SECTION

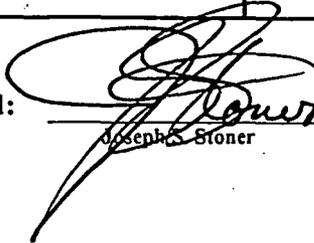
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Title: Demolition Closure Project	Specification No: 01789-TS-0001		
	Date: 03/17/2003	Section 01120	Rev 4

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Approved:

 3/17/03
Joseph S. Stoner Date

SECTION 01120

DEBRIS/WASTE HANDLING CRITERIA

PART I GENERAL

1.1 SUMMARY

This Section provides the requirements for handling, containerization and stockpiling of debris/waste generated during the dismantlement of FEMP processing and support facilities. Debris/waste shall be segregated into established categories and containerized as directed in this Section. This includes, but is not limited to, the following:

- A. Classification of materials by segregation category,
- B. Segregation of materials,
- C. Containerization/loading,
- D. Movement of containers within the construction zone,
- E. Tagging containers,
- F. Debris stockpiling, and
- G. Collection and containerization of controlled area office trash from Contractor-owned office trailers.

1.2 RELATED SECTIONS

- A. Section 01515 - Mobilization, Demobilization, and General Site Requirements
- B. Section 01516 - Asbestos Abatement
- C. Section 01517 - Removing/Fixing Radiological Contamination
- D. Section 01519 - Decontamination of Contractor Provided Tools, Equipment, and Material
- E. Section 03315 - Concrete/Masonry Removal
- F. Section 05126 - Structural Steel Dismantlement
- G. Section 07415 - Transite Removal
- H. Section 15065 - Equipment/System Dismantlement
- I. Section 15067 - Ventilation and Containment

1.3 REFERENCE MATERIALS

See Parts 6 and 7 for the following:

- A. Index of Drawings,
- B. Contractor Safe Work Plan Format Requirements, and
- C. The Material Segregation and Containerization Criteria (MSCC) form identifies anticipated waste streams to be generated and their respective waste categories. In addition, the MSCC identifies containers (where applicable) for the waste streams, size criteria, and special waste handling criteria. Debris is defined as dismantled piping, equipment, systems, components, asbestos-containing materials (ACM), etc., which is contained within the project boundaries.

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1.4 REFERENCES, CODES AND STANDARDS

All work shall be accomplished in accordance with the following code and standards:

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- A. United States Department of Energy
 - 1. DOE Order 460.1A Packaging and Transportation Safety
- B. Code of Federal Regulations (CFR)
 - 1. 10 CFR 835 Energy - Occupational Radiation Protection.

1.5 SUBMITTALS

The Contractor shall submit the following for approval by Fluor Fernald:

- A. Debris/Waste Handling Safe Work Plan

Prior to mobilization, the Contractor shall submit a detailed debris/waste handling Safe Work Plan for approval by Fluor Fernald, in accordance with the Contractor Safe Work Plan Format Requirements contained in Part 7 - ACR-002. The Safe Work Plan shall include the Contractor's:

- 1. Method of cutting to meet debris size requirements (if different from methods used for dismantlement),
- 2. Proposed equipment for loading and handling containers,
- 3. Method to verify that the weight capacity of each container is not exceeded,
- 4. Method for loading containers,
- 5. Method for segregating waste categories,
- 6. Method for moving debris in and around project area (debris flow),
- 7. Proposed container staging areas, as required by this Section, and
- 8. Material inspection area.

- B. Monthly Container Report

A report shall be submitted identifying the current waste container stock listing of drums and all metal boxes delivered to and staged at the project site. This report shall be by inventory number; shall be issued on a monthly basis; and shall describe the usage and/or contents of the waste containers under control by the Contractor.

1.6 PROJECT CONDITIONS

- A. Generation of additional debris/waste shall be minimized. Waste minimization shall include, but not be limited to, unpacking equipment and material prior to entering the Controlled Area. The Contractor shall not bring any hazardous material to the construction zone unless prior approval is received from Fluor Fernald. Alternatives to hazardous materials shall be used whenever possible.
- B. The Contractor shall notify Fluor Fernald immediately when hazardous or mixed wastes are found or, whenever possible, before they are generated. Further management of these wastes shall be coordinated with Fluor Fernald.

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- C. All waste and debris designated for placement in the OSDF from thorium-contaminated areas shall be free of visible material. The Contractor shall high-pressure rinse and lock down these items. The exterior surfaces of roll-off boxes used to transport these items to the OSDF shall be decontaminated as necessary and released from thorium controls prior to their pick-up for movement to the OSDF.
- D. Requests for containers shall be made to Fluor Fernald in writing at least 4 calendar days in advance of need.

PART II PRODUCTS

2.1 EQUIPMENT

- A. The Contractor shall supply all equipment required for:
 - 1. Sizing debris and moving containers within the construction zones [except End Loading Container Sea Land Boxes International Standards Organization (ISO) containers], and
 - 2. Loading containers.
- B. Fluor Fernald will move Roll-off Boxes (ROBs) and ISO containers.

2.2 MATERIALS - FURNISHED BY OWNER (FLUOR FERNALD)

- A. Fluor Fernald will provide appropriate containers for debris/waste categories as identified on the MSCC* (except liquid storage tanks, as noted in Section 01517) and as otherwise specified. These containers include, but are not limited to, the following:

Container Designation	Nominal Exterior Dimensions (H x W x L)	Maximum Gross Weight (lbs.)
Large metal boxes (LMB) (top load)	8' x 8' x 20'	42,000
ISO containers (top load)	8' x 8' x 20'	42,000
ISO containers (end load)	8' x 8' x 20'	42,000
Small metal boxes	Various	8,000
55-gallon drums with lid	---	882
Roll-off boxes (ROB)	6' x 8' x 22'	42,000

- B. Fluor Fernald will deliver empty ("prepped", if required) containers, pallets (possibly radiologically contaminated), dunnage, and miscellaneous materials, as required, to the container staging (also referred to as "queuing") area.

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* NOTE: The MSCC can be found in Part 6, Exhibit E

2.3 MATERIALS - FURNISHED BY CONTRACTOR

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- A. The Contractor shall supply fiber-reinforced polyethylene or polyester sheeting approved for outdoor storage: color, yellow; minimum thickness of 6-mils; ultraviolet resistant; as manufactured by Griffolyn, Herculite or equal.
- B. The Contractor shall furnish 8" x 11" weatherproof removable tags.
- C. The Contractor shall furnish 3.5'- 4' high woven metal fencing consisting of 14 gauge 2 inch x 4 inch galvanized welded mesh with 7 foot painted steel "T" posts embedded to a depth of 2 feet and placed at 10 foot intervals.

PART III EXECUTION

3.1 PREPARATION

A. Roll-Off Box Staging Area:

The Contractor shall establish and maintain a ROB staging area(s), as needed, which shall be proposed by the Contractor unless otherwise specified by Fluor Fernald on reference site drawings. To define and control access to this area, woven metal fencing will be erected around the perimeter of the staging area. One section of the fence will be open for access and egress. The fencing must be maintained in good condition. This area shall be used for temporary staging of empty and full ROB containers. If the staging area is a non-concrete surface, the Contractor shall be responsible for stabilizing and maintaining the areas and routes of access to accommodate container handling requirements.

B. Other Container Staging Areas:

The Contractor shall prepare other container staging areas as needed. Areas will either be used to store empty drums and metal boxes (includes ISO Containers), or will be used for full drums and metal boxes which shall be proposed by the Contractor (unless otherwise specified by Fluor Fernald on reference site drawings). Woven metal fencing will be erected around the perimeter of each staging area. One section of the fence for each area will be open for access and egress. The fencing must be maintained in good condition.

C. Material Inspection Area:

The Contractor shall establish a material inspection area for each contamination area, for access of Fluor Fernald personnel to inspect debris and/or perform radiological surveying. Each material inspection area shall be proposed by the Contractor and approved by Fluor Fernald. The inspection area shall be arranged such that routine access will be prevented by means of fencing and/or barrier tape, with appropriate posting to identify that the items contained are being held for visual inspection or radiological survey. The inspection area will be off-limits to individuals other than Fluor Fernald/Contractor waste technicians and radiological survey personnel.

3.2 APPLICATION

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A. Debris handling requirements are defined by the following Fluor Fernald classifications: 1) non-process debris and 2) process debris. All debris shall be sized, segregated, rinsed with high-pressure water, and containerized in accordance with the MSCC.

1. Non-Process Debris:

Non-process debris will be exempt from the inspection requirement for *visible process residues* as described in Article 3.2.A.3 of this Section. Non-process debris would include, but are not limited to, piping for utility systems (i.e., steam, condensate, drinking water, air, and others), electrical systems (i.e., conduit, motors, electrical panels, and others), and obvious non-process items such as structural steel (Debris Category A), concrete (Debris Category E), transite (Debris Category G), and most miscellaneous materials categorized as Debris Category I.

2. Process Debris:

Process debris is defined as debris that fails the inspection for *visible process residues* per Article 3.2.A.3, and debris listed in the MSCC as Debris Category C.

3. Visible Process Residue Inspection Requirements:

The definition of *visible process residues*, (green salt, yellow cake, black oxide, etc.) including films and precipitates, is "hold-up/materials on the interior or exterior surfaces of debris that is obvious". Dirt, oil, grease, stains, rust, corrosion, and flaking do NOT qualify as visible process residues; however, dirt, oil, grease, stains, rust, corrosion, and flaking require decontamination for radiological control purposes prior to removing the debris from the enclosure or prior to opening a building to the environment, per Technical Specification Section 01517. Regardless of whether or not visible process residues are present, all debris are still considered to be radiologically contaminated unless otherwise specifically identified.

Fluor Fernald visual inspection will take place following dismantlement, sizing, and surface decontamination in accordance with Section 01517 Article 3.1, and relocation to the Fluor Fernald-approved Material Inspection Area referenced in Article 3.1.C of this Section.

a. Debris That Fails Inspection for Visible Process Residues:

Debris that fails the inspection criteria for visible process residues will be identified with yellow paint by Fluor Fernald, and the Contractor shall attempt to remove the visible process residues at least one time in accordance with Section 01517 prior to Fluor Fernald re-inspection. If the debris fails the second inspection for visible process residues, it shall be deemed as "Process Debris" (Debris Category C) and will be identified with red paint by Fluor Fernald.

b. Debris That Passes Inspection for Visible Process Residues:

Debris that passes the Fluor Fernald inspection for visible process residues shall be rinsed with high-pressure water, and containerized or staged according to Article 3.3 of this Section.

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- B. The Contractor shall be responsible for retrieving empty containers from the container staging areas (except for ISO containers), segregating debris/waste, loading, securing containers, tagging for on-site movement, and scheduling the movement of containers back to the designated container staging area. The Contractor shall use the MSCC as the basis of all containerizing activities, and shall be responsible for minimizing debris/waste generation by limiting the amount of material brought on site.
- C. Equipment, material or debris requiring movement outside the enclosed building to be sized, containerized or palletized, must meet the requirements for removal/fixing of radiological contamination per Section 01517. If the removal/fixing requirements cannot be met, the material may be encapsulated or wrapped in fiber-reinforced sheeting and sealed prior to movement to prevent the migration of radioactive contamination as follows:
1. Place fiber-reinforced sheeting over pallet, position material on pallet, and wrap the sheeting over material,
 2. Secure fiber-reinforced sheeting over material to prevent migration of contamination, and
 3. Secure material to pallet with vinyl or metal banding material as needed.

3.3 PERFORMANCE

A. For containerization, the Contractor shall:

1. Ensure that Fluor Fernald personnel are present during the loading and securing of containers identified in the MSCC, and provide notice to Fluor Fernald within 24 hours prior to containerization.
2. Provide a debris/waste-handling supervisor to supervise operations.
3. Segregate and containerize all debris/waste according to the categories defined in the MSCC. Should a debris/waste stream be discovered that is not on the MSCC, work on the handling of this debris/waste shall stop, and Fluor Fernald shall be contacted for further direction.
4. Commingle Debris Categories A, B, D (except for lead), and incidentally generated E in the designated container or stockpile, as directed by the MSCC. Debris Category I shall be segregated and containerized according to two subcategories: I2 - Non-compressible and/or Non-organic Misc. Debris, and I4 - Compressible and/or Organic Misc. Debris.

NOTE 1: An exception shall be taken for the Administration Complex D&D activity that allows commingling Debris Categories A, B, D (except for lead), E and I (during the OSDF's seasonal operating period) in the designated container and disposed of as directed by the MSCC.

NOTE 2: An exception shall be taken for the Lab Complex D&D activity that allows for commingling Debris Categories A, B, D (except for lead), E and I. Lab Complex D&D commingled debris will be staged at the Lab footprint and loaded out in roll-off boxes or dump trucks for direct placement into the OSDF based on availability of the OSDF to accept it. Whenever capacity for placement of non-Thorium above grade debris becomes available, priority will be given to the staged Lab commingled debris over any other debris located at the OMTA for OSDF placement.

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NOTE 3: An exception shall be taken for Buildings 45A and 80 (Multi-complex) D&D activity that allows for commingling Debris Categories A, B, D (except for lead), E and I. Buildings 45A and 80 D&D commingled debris will be staged at the footprint of their respective locations and loaded out in roll-off boxes or dump trucks for direct placement into the OSDF based on availability of the OSDF to accept it. Whenever capacity for placement of non-Thorium above grade debris becomes available, priority will be given to the staged Buildings 45A and 80 commingled debris over any other debris located at the OMTA for OSDF placement.

5. Upon receipt of containers, the Contractor shall perform a visual inspection to ensure that the containers do not contain any of the prohibited items identified in Section 01120.3.3.A.8 Fluor Fernald will remove any free liquids upon removal from the work zone, as necessary.
6. Fill containers, boxes, and drums such that the interior volume is as efficiently and compactly loaded as practical up to the maximum gross weight limit of the container. Fill void space in large piping, equipment, containers, etc., with smaller debris. Any container exceeding maximum allowable gross weight shall have contents removed, as required, to lower the weight to an acceptable range. Contents shall be prepared for containerization in order to minimize load shifting or damage to container during movement.
7. Ensure that empty metal boxes and drums must remain in the established empty container staging area, except during loading activities.
8. Ensure that the following "Prohibited Materials List" is displayed in the containerization area or on each container. Notify Fluor Fernald if any of the prohibited materials are identified for specific material handling directions.

PROHIBITED MATERIALS LIST

- a. Gas cylinders that are able to be pressurized
- b. Explosives
- c. Materials containing free liquids. The intent of the exclusion of free liquids is to prevent contaminated liquid waste (e.g., a drum of solvent) from being directly disposed of in the On-Site Disposal Facility (OSDF). Materials that contain rainwater or that have inherent moisture content (e.g., sludge) are not excluded.
- d. Fine particulates (respirable fines)
- e. ~~Hazardous waste (Characteristic or Listed)~~
- f. Corrosive materials
- g. Etiologic agents
- h. Flammable liquids or combustible solids
- i. Whole or shredded scrap tires
- j. Material from any off-site source, including any other DOE site
- k. Product, residues, and other special materials (Category J materials)
- l. Process-related metals (Category C)
- m. Intact containers (i.e., containers must be empty and crushed)
- n. Acid brick (Category F material)
- o. Transformers, which have not either been crushed or had their void spaces filled with grout
- p. HEPA filters

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- q. Used oils
- r. Materials not accompanied by a manifest
- s. Solvent saturated soils
- t. Material not meeting physical WAC

- 9. Install weatherproof removable tags on each debris/waste container prior to loading. Tags shall identify container contents, using indelible ink, by debris/waste category specified in the MSCC and the debris/waste's building of origin. For Category J Debris, an exact description of the contents is required.
- 10. Containerize Thorium contaminated debris/waste separately from non-Thorium contaminated debris/waste.

B. Security and Movement of Containers:

To ensure security and movement of containers, the Contractor shall:

- 1. Schedule the movement of containers to the specific task location from the container staging area.
- 2. Ensure that the lid, doors, or tarps on debris/waste containers are secured when no containerization is in progress to prevent unauthorized containerization of materials or release of container contents. Containers must be weather protected when lid is not secured, to prevent entry of snow and rain or release of container contents.
- 3. Inspect all containers, double bagged materials, drums, boxes, or double wrapped components for exterior contamination and damage before removing them from the work area. Damaged containers shall be reported to Fluor Fernald. Any container damage beyond normal wear and tear that is Contractor-caused shall be the Contractor's responsibility to repair or to provide compensation for such repairs.
- 4. Secure full containers.
 - a. End-loading ISO containers shall be secured by closing and latching doors, ensuring that all latching mechanisms are engaged.
 - b. Drums shall be secured as follows:
 - 1. Place lid on drum, ensuring that gasket is seated to maintain a tight seal,
 - 2. Install bolt-type lock ring on lid and torque to 45 ± 5 foot-pounds, and
 - 3. Drums shall be securely strapped together on pallets, using at least one strap.
 - c. Top-Loading Metal boxes (large and small) shall be secured as follows:
 - 1. Inspect gasket for damage and repair, if required, and
 - 2. Place gasket and lid on the box and secure with clamping device or pins.
 - d. Roll-Off Boxes (ROBs) shall be secured as follows:
 - 1. Cover ROB with tarp or steel lid,

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2. Secure tarp (with straps) or steel lid (with clamping device or pins),
 3. Secure all gate chains, and
 4. Ensure that containers have not been damaged during loading.
- e. Prior to securing lid or doors on containers holding asbestos-containing materials (ACM), fold fiber-reinforced sheeting over ACM and seal with tape.
 - f. Return full, secured containers to the staging area (except for ISOs, which will be removed by Fluor Fernald).
 - g. Filled ROBs must remain inside the established staging area until they can be removed by Fluor Fernald.
 - h. Filled drums and metal boxes must remain inside the established full container staging area until they can be removed by Fluor Fernald.
 - i. The Contractor shall decontaminate waste containers, equipment, tools, etc., prior to exiting the construction zone or staging area as necessary in accordance with Section 01519.

C. Stockpiling of Materials:

1. The Contractor shall establish/construct and manage debris stockpile area(s) on concrete or asphalt surfaces with run-off controls (as required by Section 01515), and fencing. The Contractor shall ensure that run-off controls are constructed and used in accordance with Section 01515. Stockpiled materials shall be sized and segregated in accordance with the MSCC. A five foot buffer area shall be maintained between the footprint of the stockpile(s) and the perimeter of the pad(s) and the stockpile area fencing. The Contractor shall inspect the stockpile area(s) and report any deficiencies to Fluor Fernald. Inspections shall be documented in the Contractor's Daily Work Activities Report and shall include at least the following:
 - a. Daily and after storm events with heavy rains and/or strong winds to ensure that piles remain in a safe and controlled configuration,
 - b. Covers of catch basins to ensure that they remain unclogged and free of obstructions,
 - c. Diking to ensure that controls are in good condition, permitting easy flow of runoff, and
 - d. Perimeter fencing, gates, and other materials required for maintaining project control of the stockpile area(s).
2. Fluor Fernald will perform routine radiological contamination surveys and airborne radioactivity monitoring, as deemed to be appropriate. If deemed necessary by Fluor Fernald, the Contractor shall take measures to mitigate the spread of contamination to areas outside of the staging area and to maintain airborne radiological levels within allowable limits. These measures may include area decontamination, application of fixatives, or other measures proposed by the Contractor and accepted by Fluor Fernald.
3. Floor Load Capacity:

If the Contractor chooses to stage any debris on a floor other than a slab-on-grade, a

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structural engineering analysis shall be required. It shall be the Contractor's responsibility to perform the analysis to verify the loading capacity of said floor and submit the analysis to Fluor Fernald, signed and stamped by a Professional Engineer (PE) registered in the State of Ohio, to ensure that the load capacity is not exceeded.

D. Collection and Containerization of Controlled Area Office Trash from Contractor-Owned Office Trailers

Office trash from Contractor-owned office trailers shall be collected and managed in accordance with the following requirements:

1. Collect office trash from Contractor-owned office areas for participation in the controlled area Office Trash Program.
2. Prohibited items, items that are suspected to be contaminated, or items not normally discarded into office area trash containers shall be segregated from typical office trash. Prohibited items include, but are not limited to: tools, equipment, mop heads, hose clamps, floor sweepings, aerosol cans, high density material, protective clothing (Anti-C's, gloves, booties, coveralls), yellow maslin, yellow tape/RadCon tape, yellow herculite, yellow shoe covers, radiological smears, radiological safety signs, plastic sample bottles, and instrument survey cords.
3. If any prohibited or suspect materials are found (with the exception of tools and equipment), they shall be disposed of as contaminated material in accordance with the MSCC.
4. If tools or equipment are found in office area trash containers, contact the Fluor Fernald Construction Manager for radiological evaluation and the procedure for decontamination or disposition.
5. Package office trash in green tinted translucent plastic bags provided by Fluor Fernald. Green tinted translucent plastic bags are mutually exclusive to the Controlled Area Office Trash Disposal Program.
6. Seal each clear trash bag and green trash bag with tape (not yellow in color) and indicate the building or area where the trash was generated directly on each trash bag with a paint stick or permanent marker.
7. Place office trash in a designated area agreed upon by Fluor Fernald and the Contractor. Fluor Fernald will collect office trash daily, unless stated otherwise by the Demolition Closure Project Contract.

3.4 QUALITY ASSURANCE

The Contractor and Fluor Fernald shall inspect filled containers upon their return to the container staging area to verify that no damage has occurred during the filling of the container.

END OF SECTION