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TECHNOLOGY SPECIFIC WORK PLAN FOR NEUTRALIZATION/PRECIPITATION/ DEACTIVATION/STABILIZATION, RESPONSE TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMMENTS

12/16/96

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DOE-FEMP USEPA
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RESPONES

7934

Department of Energy

Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

DEC 1 6 1996
DOE-0291-97

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Saric:

TECHNOLOGY SPECIFIC WORK PLAN FOR NEUTRALIZATION/PRECIPITATION/ DEACTIVATION/STABILIZATION, RESPONSE TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMMENTS

This letter transmits responses to the U.S. Environmental Protection Agency (U.S. EPA) comments on the Fernald Environmental Management Project (FEMP) response to comments for the Neutralization/Precipitation/Deactivation/Stabilization (NPDS) Technology Specific Work Plan. Comment responses and revised pages are provided within Enclosure 1 in order of U.S. EPA presentation.

If you have any questions regarding this matter, please contact Robert Danner at (513) 648-3167.

Sincerely,

Glenn Griffith

for **Jack R. Craig**
Director

FEMP:Danner

Enclosures: As Stated

Recycled and Recyclable

cc w/enc:

S. Fauver, EM-42/GTN
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
F. Bell, ATSDR
D. S. Ward, GeoTrans
R. Vandegrift, ODOH
S. McLellan, PRC
T. Hagen, FDF/65-2
J. Harmon, FDF/90
AR Coordinator/78

cc w/o enc:

C. Little, FDF/2
EDC, FDF/52-7

ENCLOSURE

TECHNICAL REVIEW OF RESPONSE TO COMMENTS ON THE "MIXED WASTE CHEMICAL TREATMENT PROJECT NEUTRALIZATION, PRECIPITATION, DEACTIVATION, AND STABILIZATION TECHNOLOGY SPECIFIC WORK PLAN"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT, FERNALD, OHIO

GENERAL COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.0 Page #: NA Line #: NA
DOE Response #: 1 (Original General Comment #: 1)
Comment: The original general comment requests that Sections 2.0 and 3.0 be revised to address all underlying hazardous constituents (UHC) listed in Table 4-2 of Section 4.0. To address the original comment, the U.S. Department of Energy (DOE) revised Tables 2-1 and 4-2, and Appendix C. However, these tables an the appendix still contain various errors, omissions, and discrepancies that need to be addressed. These errors, omissions, and discrepancies are discussed below.

Table 2-1 was revised to include material evaluation form (MEF) No. 1575 in the list of oxidizer category wastes. Table 2-1 states that MEF No. 1575 has a D001 U.S. EPA waste code. However, Table 4-2 and Appendix C of the project-specific work plan have been revised to list MEF No. 1575 as having a D002 U.S. EPA waste code. This discrepancy should be resolved.

DOE also revised Table 4-2 to address the original general comment. MEF No. 20145 was removed from the list of oxidizer category wastes, presumably because it reportedly contains an organic UHC (acetone). The revised MEF tables in Appendix C list MEF No. 20145 as a corrosive waste. DOE does not discuss this change in its response. A reason for moving MEF No. 20145 from the oxidizer category to the corrosive category should be provided. Also, the revised pages of Table 4-2 in DOE's response package do not include MEF No. 20145 under the corrosive waste category. MEF No. 20145 should be listed in Table 4-2 under the corrosive waste category.

MEF No. 61006 has also been added to Table 4-2 as a corrosive waste. The text under the column labeled "UTS Rationale" for MEF No. 61006 states "See MEF 1949." MEF No. 1949 is listed as an oxidizer category waste and is described as "Draw Temp 275." Because MEF No. 61006 is described as "Magnuspray 205, surplus chemical," the reference to MEF No. 1949 may not be appropriate. Either

the reference to MEF No. 1949 should be explained or the UTS rationale for MEF No. 61006 should be revised.

Table 4-2 lists MEF No. 1425 as a new barium chloride residue category waste with U.S. EPA waste code D005. However, the "UTS Rationale" column states that MEF No. 1425 exhibits toxicity characteristics for both U.S. EPA waste codes D005 and D008. The table should be revised to resolve this discrepancy.

Other changes made to Table 2-1, Table 4-2, and Appendix C are not explained in the responses to the original general comment. For example, several U.S. EPA waste codes were added to MEF No. 1709. All changes to the tables and the appendix should be discussed in the response to the original general comment.

Finally, Section 4.1 states that Table 4-2 was developed "by applying process knowledge to identify those UHCs that would not reasonably be expected to be present in the process or routine operations that generated the mixed wastes that will be treated under the NPDS Project." Based on other text in Section 4.1, the above statement should probably be revised by removing the word "not." Either the text should be revised or an explanation should be provided of why UHCs that would not reasonably be expected to be present were identified.

Response: The various errors, omissions, and discrepancies mentioned above have been corrected. MEF No. 1575 is a corrosive, therefore the D002 code is applicable. Table 2-1, Page 9 has been revised to reflect the change. MEF 20145 was moved to the corrosive category because it is a corrosive and not an oxidizer. MEF 20145 is listed in the corrosive category in Table 4-2, Pg. 70. The UTS rationale for MEF 61006 was added to Table 4-2, Pg. 71. Table 4-2 correctly identifies MEF No. 1425 as barium chloride waste with U.S. EPA waste code D005. The UTS rationale for MEF 1425 presented in Table 4-2, Pg. 72 has been revised to reflect this characterization. The EPA codes for MEF 1709 were not changed and other changes made to the tables were not the result of characterization changes but were caused by updates made to the new waste characterization database and clerical errors. Finally, the word "not" was removed from the text of Section 4.1, Pg. 54.

Action: Change pages showing the requested revisions are attached.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.0 Page #: 2-1 Line #: NA
DOE Response #: 2 (Original Specific Comment #: 1)

Comment: The first bullet of the original specific comment requests that Table 1-1, Table 2-1, and Section 1.1 be revised to present accurate and consistent numbers and volumes of containers for each waste category. In the revised tables, the numbers of containers are presented consistently. Table 2-1 discusses the anticipated volume of each waste category in terms of the number of drums. However, because Section 1.1 has not been revised, the waste containers are still described as ranging from "5-gallon buckets to 112-cubic foot White Metal Boxes (WMB)." This discrepancy has therefore not been resolved. The text and tables should be revised to present consistent descriptions and volumes of containers for each waste category.

The second bullet of the original specific comment requests that discrepancies between Table 2-1 and Appendix C be resolved. DOE revised Tables 2-1 and 4-2 and Appendix C in an attempt to make them consistent, but a few inconsistencies remain. For example, MEF No. 2425 is described as "CTC Corrosive Waste" in Table 2-1 and Appendix C, but in Table 4-2, this waste is described as "TC Corrosive Waste." This discrepancy should be resolved. In addition, Table 2-1 and Appendix C provide two separate descriptions of waste under MEF No. 50089; however, Table 4-2 provides only one description of waste under MEF No. 50089. The same comment applies to MEF No. 60095. Table 4-2 should be revised to provide separate listings for the two descriptions of wastes under MEF No. 50089 and for the two descriptions of wastes under MEF No. 60095.

Response: Appendix C presents the net weight and container size for each container of waste to be treated in the NPDS project. Section 1.1, Pg. 2 was revised by deleting the sentence describing the waste containers. Table 2-1, Pg. 7-9 was also revised to consistently reference the number of drums in each waste category.

The waste description for MEF 2425, Table 4-2,Pg. 70 has been revised to describe this waste as "CTC Corrosive Waste". Table 2-1 and Appendix C provide an accounting of project wastes by container and therefore, two waste descriptions are provided for MEFs 50089 and 60095. Table 4-2 was prepared to identify the UHCs believed to be present in all wastes contained within a specific MEF--regardless of the particular container in which the waste is stored. Therefore, the UTS rationales presented in Table 4-2 are applicable to all waste descriptions listed under a specific

MEF and do not require separate line items to distinguish between discrete waste containers.

Action: Change pages showing the requested revisions are attached.

Commenting Organization: U.S. EPA Commentor: Saric
Figure #: 3-2 Page #: 13 Line #: NA
DOE Response #: 6 (Original Specific Comment #: 5)
Comment: The original specific comment requests that using the compound with the formula $Na_4(SO_4)_2$ for providing pH adjustment of the barium chloride waste be more fully explained. The DOE response indicates that sodium bisulfate ($NaHSO_4$) will actually be used to adjust the pH. Sodium bisulfate is effective for neutralizing basic solutions but not for neutralizing acidic solutions. The text of Section 3.3.2 should be revised to discuss how pH will be adjusted upward if the solution is acidic.

Response: An acidic solution is required to precipitate the barium from the waste, so if the solution is acidic no pH adjustment will be required.

Action: No action required.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3.4 Page #: 15 Line #: NA
DOE Response #: 10 (Original Specific Comment #: 9)
Comment: The original specific comment requests clarification of some of the text in Section 3.3.4. Currently, Section 3.3.4 discusses reducing chromium and precipitating barium using ferrous sulfate. Samples of the ferrous sulfate-treated waste will be extracted and analyzed for barium and chromium to ensure that enough ferrous sulfate has been added and ample reaction time has passed. The text should specify whether hexavalent chromium or trivalent chromium will be analyzed for. Also, if the intent of the treatment process is to reduce hexavalent chromium to trivalent chromium, followed by precipitation of trivalent chromium, ferrous sulfate may serve as an adequate reducing agent but may not serve as an appropriate precipitator because some of forms of chromium sulfate salts are soluble in water. Sodium sulfide may precipitate trivalent chromium. Therefore, it may be more appropriate to extract and analyze the samples for trivalent chromium after the addition of sodium sulfide instead of after the addition of ferrous sulfate.

In addition, Section 3.3.4 has been revised to discuss the use of sodium sulfide to precipitate toxicity characteristic metals and other metals in the oxidizer category. Sodium sulfide may not be the best precipitating agent for all metals (for example, beryllium sulfide decomposes in water). Either Section 3.3.4 should discuss how the use of sodium

sulfide will effectively precipitate all toxicity characteristic metals and other metals (such as beryllium and nickel) in the oxidizer category, or another precipitating agent should be specified .

Response: In the second sentence of paragraph two on Page 15 of the Technology Specific Work Plan, it states that leachable barium and chromium will be precipitated with sulfate. Actually, sodium sulfate will precipitate barium directly, but will not precipitate hexavalent chromium. However, it will reduce hexavalent chromium to trivalent chromium , a necessary first step in chromium precipitation. After reduction the trivalent chromium is precipitated either with the sodium sulfide reagent to produce chromium sulfide or by the hydroxide present in the portland cement to produce chromium hydroxide. Regardless of the mechanism, operating experience with similar wastes has shown that the treatment regime described above will successfully precipitate chromium.

When necessary to perform a field analysis for soluble chromium, the test will be for hexavalent chromium, because this is the form of chromium which will have the maximum solubility in water, and the maximum potential to leach.

Although the treatment recipes anticipated for this project do not specifically target nickel or beryllium we believe that the use of sodium sulfide and portland cement in combination will effectively precipitate and bind these UHCs along with the TC metals. Nickel sulfide has a low solubility in water, and therefore should not leach appreciably. The following reference--"Conner, Jesse R., *Chemical Fixation and Solidification of Hazardous Wastes*, Comparison of Processes, Van Nostrand Reinhold, 1990, pages 318-319.", provides evidence that beryllium can be effectively stabilized using portland cement as a binder.

Action: No action required.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.5.1 Page #: 18 Line #: NA
DOE Response #: 12 (Original Specific Comment #: 11)
Comment: The original specific comment requests that the prefilters and high-efficiency particulate air (HEPA) filters be included as secondary wastes and that the treatment method of these materials be discussed. Section 3.6.7 and Table 3-1 have been revised to address this request. Section 3.6.7 states that prefilters and HEPA filters will be treated "by the same technologies used to treat the waste which contaminated the filters." This text suggests that the prefilters and HEPA filters will be changed each time the treatment of the wastes from one of the four broad categories (corrosive liquids, barium

chloride residues, oxidizers, and reactives) has been completed so that the filters can be shredded and treated with the waste category processed during the filter's use. The method of prefilter and HEPA filter treatment should be clearly stated in the appropriate part of the project-specific work plan (possibly, Section 3.6.7). The project-specific work plan should also discuss how the filters will be used and treated so that contaminants trapped by the filters are not inadvertently mixed with incompatible waste or treated incorrectly.

Response: The statement in question at the end to section 3.6.7 states that the shredded pre-filters and HEPA filters will be treated by the same precipitation/stabilization technology used to treat the wastes. The airborne particulate that will be caught on the pre-filters will be only slightly influenced by constituents of the waste. All wastes are handled wet, and therefore generate very little dust. The primary material that accumulates on the pre-filters is portland cement dust. The traces of TC or UHC metals present on these filters will be effectively precipitated and stabilized using the synergistic recipe of sulfate treatment for barium and chromium, sulfide precipitation for other TC metals and hydroxide precipitation resulting from binding with portland cement. The traces of oxidizer or reactive contamination present on these filters will not be sufficient to make the shredded filter material into an oxidizer or a reactive prior to treatment. Therefore, changing filters to facilitate category-specific treatment or to avoid incompatibility problems will not be necessary.

Action: No action required.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.5.6 Page #: 29 and 30 Line #: NA
DOE Response #: 14 (Original Specific Comment #: 13)
Comment: The original specific comment requests revisions to Section 3.5.6, which discusses the reagents used to treat the wastes. Section 3.5.6 should be further revised to discuss sodium sulfate, which was added to the revised project-specific work plan as a reagent for precipitating barium in the barium chloride category wastes.

Response: The following text has been added to Section 3.5.6, Pg. 32-33 to discuss sodium sulfate: "Sodium sulfate may be used for wastes having barium contamination, but no chromium content. Sodium sulfate will be received as dry crystal in bags on pallets. These chemicals will be stored and handled in the same manner as ferrous sulfate. Sodium sulfate will be added to the waste in dry form directly from the manufacturer's bag.

Action: Changes pages showing the requested revisions are attached.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.6.7 Page #: 34 Line #: NA
DOE Response #: 15 (Original Specific Comment #: 14)
Comment: The original specific comment requests that revisions be made to Section 3.6.7 in order to more clearly and accurately discuss management of secondary waste. The revised text states that contaminated water generated from equipment decontamination activities will be reused for slurrying of waste and hydration of portland cement. It also states that any remaining water "will be precipitated in the same manner as the waste that generated it, and then will be solidified with portland cement, and shipped for disposal as LLRW." Because some of the primary wastes treated under this project will undergo treatment processes other than precipitation or solidification with portland cement, the text should be revised to indicate that the contaminated water generated during treatment will be reused, when applicable, for slurrying of waste and hydration of stabilization reagents (including portland cement, gypsum, and Petroset II). The text should also be revised to state that any remaining water will be treated in the same manner as the waste that generated it, solidified (unless it is derived from corrosive waste) with an appropriate stabilization reagent, and shipped for appropriate disposal. In addition, Table 3-1 should be revised to reflect these changes.

Response: Section 3.6.7, Pg. 37 and Table 3-1, Pg. 20 of the TSWP were revised as suggested.

Action: Change pages showing the requested revisions are attached.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.8 Page #: 41 and 43 Line #: NA
DOE Response #: 16 (Original Specific Comment #: 15)
Comment: The original specific comment requests an updated version of the project schedule. DOE responded that revisions to the project schedule have been made; however, the revised pages are not provided. The revised versions of Section 3.8 and Figure 3-6 should be provided for review.

Response: A revised project schedule and section are provided in Section 3.8 and Figure 3-6 of the NPDS TSWP, Pages 44 - 46.

Action: Change pages showing the requested revisions are attached.

The work to be performed under the NPDS Project involves treatment of characteristic mixed waste solids, sludges, and liquids that contain waste constituents specified in EPA waste codes D001 through D043. These mixed wastes have been generated from former production activities, and in the decontamination and decommissioning of uranium production facilities at the FEMP Site. The project will proceed under RA No. 9, and the FFCAct STP as negotiated between DOE, the U.S. EPA, and the Ohio EPA (OEPA). These regulatory drivers make it possible for the project to proceed on the FEMP site without a hazardous waste treatment, storage and disposal (TSD) permit. The project may also proceed under the radioactive waste processing authority granted to DOE by the *Atomic Energy Act*.

This Technology Specific Work Plan, including the Quality Assurance Plan and the Health and Safety Plan demonstrates that the proposed project will be accomplished in compliance with Applicable or Relevant and Appropriate Requirements (ARAR), mandated under Federal, state, and local regulatory requirements, DOE Orders, and site procedures.

1.1 OBJECTIVES

The objective of the Neutralization, Precipitation, Deactivation and Stabilization (NPDS) Project is to safely treat approximately 360 containers of four waste categories currently being stored at the Fernald Site. ~~The containers range from 5-gallon buckets to 112-cubic foot White Metal Boxes (WMBs).~~ Treatment will consist of NPDS technologies. These four waste categories to be treated are summarized in Table 1-1. Three of the waste categories (barium chloride residues, reactives, and oxidizers) will be treated for land disposal at the Nevada Test Site (NTS) in Beatty, Nevada, using NPDS to meet *Resource Conservation and Recovery Act* (RCRA), Land Disposal Restrictions (LDR) and NTS waste acceptance criteria (WAC) established under the *Nevada Test Site - Defense Waste Acceptance Criteria, Certification, and Transfer Requirements* (NVO-325, Rev. 1). Corrosive liquids will be neutralized to eliminate their corrosive characteristics and bulk shipped for treatment at the TSCA Incinerator through another mixed waste project. Phase I of the project involves project planning activities and approvals by the FEMP, DOE, US EPA, and OEPA. Phase II involves the performance of on-site mixed waste treatment using mobile treatment processes.

On-site waste treatment will be accomplished by personnel from Perma-Fix Environmental Services, Inc. (PESI) and Performance Development Corporation (PDC) working in conjunction with FEMP site personnel. Perma-Fix and PDC personnel will manage the on-site treatment process and will perform all of the mixed waste treatment operations conducted on site for this project.

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TABLE 2-1

SUMMARY OF CORROSIVES Waste Subcategory(EPA Waste Codes)	Number of Drums
MEF 1707 - Lab Generated Waste, Acid Digestates (D002, D007, D008, D018, D019, D028, D029, D039, D043)	12 Drums
MEF 1711 - Metals Extracts and Digestates (D001, D002, D008, D009, D010, D018, D019, D028, D040, D043)	12 Drums
MEF 2362 - Radioactive Acidic Lab Waste (D002, D007, D008, D018, D019, D021, D022, D028, D029, D035, D039, D040, D043)	48 Drums
MEF 1709 - Lab Generated Waste Flammable Organic Extracts D001, D002, D018, D019, D021, D022, D027, D028, D029, D035, D039, D040, D043	4 Drums
MEF 61006 - Magnuspray/surplus chemicals (D002)	1 Drum
MEF 2825 - Nitric Acid (D002, D007)	1 Drum
MEF 1604 - Wastewater Lab Sample Reagents (D001, D002, D006, D007, D009, D011)	1 Drum
MEF 816 - Water Contaminated with oil from Baker Sump (D002, D018, D019, D039, D040)	16 Drum
MEF 2425 - CTC Corrosive Waste (D002)	1 Drum
MEF 2690 - Acidic Extract Waste (D002)	4 Drums
MEF 20145 - Decanted Water from Sump/Filter Cakes (D002, D007)	2 Drums
MEF 2692 - Corrosive, Flammable Lab Waste (D001, D002, D007, D018)	1 Drum
Total	**103 Drums**
SUMMARY OF BARIUM CHLORIDE RESIDUES **Waste Subcategory (EPA Waste Codes)**	**Number of Drums**
MEF 10002 - Scrap Salts (D005, D008)	25 Drums
MEF 10025 - Contaminated Soil & Rocks (D005)	22 Drums
MEF 60306 - Sludges, Salt, Chloride (D005)	50 Drums
MEF 60307 - Furnace Salt, Solidified, Chloride (D005, D008)	4 Drum

MEF 60306 - Hardened Salt Bath Sludge (D005)	7 Drums
MEF 1425 - Contaminated Rags/Paper from RMI (D005)	1 Drum
MEF 60307 - Salt & Furnace Brick (D005, D008)	67 Drums
Total	**176 Drums**

SUMMARY OF REACTIVE CATEGORY WASTE

Waste Subcategory (EPA Waste Codes)	Number of Drums
MEF 50089 - Magnesium Powder and Turnings (D001)	19 Drums
MEF 50089 - Contaminated Magnesium (D001)	4 Drums
MEF 700 - Magnesium Metal Contaminated With Oily Rags (D001)	1 Drum
MEF 40137 - Unfired Reduction Charge Plus Calcium Fluoride - Thorium (D001, D003)	1 Drum
Total	**25 Drums**

SUMMARY OF OXIDIZER CATEGORY WASTE

Waste Subcategory (EPA Waste Codes)	Number of Drums
MEF 1949 - Draw Temp 275 (Clay Wire/Pink/White/Orange) (D001)	1 Drum
MEF 40181 - Thorium Nitrate Solutions (D002, D005, D007, D008)	9 Drums
MEF 60193 - Pure Uranyl or Thorium Nitrate Solution (D002)	1 Drum
MEF 40186 - Impure Thorium Nitrate Solid (D001, D007, D008)	19 Drums
MEF 30080 - Nitric Acid Mixed with Uranyl Nitrate (D002, D004, D007, D008, D011)	1 Drum
MEF 30081 - Discarded Process Residues, Slurries, Etc. (D002)	1 Drum
MEF 40122 - Thorium Trailer Cakes (D002, D005, D009)*	1 Drum
MEF 40152 - Thorium Oxide/Fluorides (D005)*	2 Drums
MEF 40185 - Thorium Nitrate Solid (D001, D005, D007, D008)	6 Drums

MEF 40192 - ThO_2 Powder, Refinery Feed (D008)*	1 Drum
MEF 60095 - UNH Solution Contaminated With Traces of TBP/ Kerosene (D002, D005)	10 Drums
MEF 60095 - Clean-up Material - UNH (D002, D005)	1 Drum
MEF 1575 - UNH, Excess Analysis Byproduct (D002)	2 Drums
MEF 60160 - Impure Uranyl Nitrate - Solid (D001)	3 Drums
Total	**58 Drums**

* Solely due to the presence of thorium.

Table 3-1
Summary of Estimated Waste Volumes for Storage/Disposal

Waste Description	Volume Raw/Treated (Cubic Feet)	Disposal or Storage Site
Primary Mixed Wastes Treated to Eliminate Hazard Characteristic		
Barium Chloride Residues	1,500/2,700	NTS
Corrosives	794/794	Envirocare/TSCA Incin.
Reactives	241/362	NTS
Oxidizers	278/348	NTS
Total Waste Volume	2,813/4,204	----
Secondary Mixed Wastes Generated From Treatment Activities		
Compacted Anti-C Clothing	125	FEMP/NTS
Compacted Respirator Cartridges	260	FEMP/NTS
Used HEPA Filters/Prefilters	30.00	Shredded, Treated and Co-disposed with Primary Wastes
Damaged Respirator	2.00	FEMP/NTS
Wipes & Plastic	75	FEMP/NTS
Excess Water	100	NTS/TSCA Incin.
Totals Mixed Waste	592	----
Off-Site LLRW Disposal		
Used Drums (RCRA Empty)	400/450 Drums	FEMP/NTS
Totals Off-Site LLRW Disposal	400/450 Drums	----
Free Release Solid Waste		
Uncontaminated packaging	20	Off-site landfill

When preparing sodium sulfide solution, high pH water is used to minimize the potential for production of hydrogen sulfide gas in the work area. In the full-scale operation, pH of the reuse water will be checked and adjusted if necessary to ensure that its pH is above 9.0 before sodium sulfide is added. If traces of hydrogen sulfide gas are produced during the dissolving process, they can be easily collected and exhausted from the building by the negative pressure dust/fume collection system, which has an intake in the reagent makeup area.

- **Ferrous Sulfate**

Ferrous sulfate will be used as a precipitation reagent for wastes having high concentrations of barium. It will also be used as a reducing agent in the reduction of hexavalent chromium to the trivalent state and in reducing wastes in the oxidizers waste category. Ferrous sulfate will be received as dry crystal in bags on pallets and will be stored, handled and dosed in the same manner as sodium sulfide. Ferrous sulfate will be added dry to waste drums after sufficient slurry water has been added.

- **pH Adjustment Chemicals**

Some treatment recipes may require pH adjustment steps using acids or caustics. If acid is required to lower pH, it will be added in the form of dry sodium bisulfate, which hydrolyzes with water to form sulfuric acid. If it is necessary to pump the acid, a standard solution of sulfuric acid will be prepared by dissolving sodium bisulfate in water. If additions of base are required to raise pH, sodium hydroxide (caustic soda), portland cement, or lime will be used. All of these materials will be received and stored in dry form in separate locations out of traffic patterns. Dry acids or bases will be dispensed into compatible transfer containers suitable for that purpose, and added to the waste from those transfer containers. If it is necessary to feed liquid acids or bases, standard solutions will be prepared in suitable drums by dissolving the dry material in water. Dry acids will be segregated from dry caustics and sodium sulfide in the storage area by distance, so that reactions between these incompatible dry chemicals can not take place. Acid or base solutions will be stored in drums positioned over spill containment pallets, to ensure that these incompatible liquids do not come into contact.

- **Contaminated Water Storage, and Reuse**

A 5,000 gallon polyethylene storage container will temporarily hold contaminated water from waste preparation and decontamination activities. This water is reused for waste slurrying and reagent hydration. The container will be located inside a plastic spill containment basin capable of holding 100 percent of the largest container, in an area of the building away from fork lift traffic but near points of contaminated water generation and reuse. Water is transferred to and from the tank using small diameter hoses and air-driven pumps. All pumping activities are attended by process operators at the suction and discharge ends of the hose.

- **Sodium Sulfate**

Sodium sulfate may be used for wastes having barium contamination, but no chromium content. Sodium sulfate will be received as dry crystal in bags on pallets. These chemicals

will be stored and handled in the same manner as ferrous sulfate. Sodium sulfate will be added to the waste in dry form directly from the manufacturer's bag.

3.5.7 Process Unit G - Neutralization

Process Unit G encompasses all of the processing steps included in the neutralization technology as it will be applied to the corrosives waste category.

Process Unit G, Neutralization, is the operation in which corrosive liquids are bulked together in an agitated cone-bottom neutralization container, and are treated with acid or base as appropriate to adjust the pH of the waste so that it no longer exhibits the corrosive characteristic. Where possible, waste streams will be mixed to minimize reagent requirements. For the purposes of this project, the pH control range will be 5.0 to 9.0. In most cases, caustic soda will be added to the liquids in the neutralization tank in order to raise the pH of these corrosives. For some alkaline wastes, acid additions may be required.

To minimize potential fume and vapor emissions during neutralization container operation, a submerged fill pipe will be used. Neutralization will be performed based upon titration curves developed for each batch, and in a deliberate and controlled manner, to prevent violent exothermic reactions. When the neutralization end point has been reached, the mixer in the neutralization container will be stopped, and any precipitated solids will be allowed to settle to the bottom of the container. The supernates will be removed and managed according to their physical and chemical characteristics. Organic layers will be packaged and returned to the on-site RCRA Inventory. Inorganic (water) layers will be packaged and returned to FERMCO for RCRA storage until their final disposition is determined. In a similar manner, sludge layers removed from the neutralization container will be managed based on their organic content. Sludges containing organics or F-listed constituents will be packaged and returned to RCRA storage and subsequent disposition. Inorganic sludges will be precipitated and stabilized as previously described for Process Units C and D.

3.5.8 Reprocessing of Previously Treated Waste

In the event that treated waste in a drum (thorium waste) or in a WMB fails WAC testing, the waste monolith must be broken up and reprocessed. The first stage of this reprocessing operation is removal of the waste from its container. Either pneumatic or electric-powered demolition hammers will be used to chisel the monoliths into loose chunks. This operation could be a generator of airborne dust, so it will be performed in an enclosure with negative pressure ventilation with discharge through the HEPA system. If it is available, the C-13 Area inside the Plant 6 Building will be used. If C-13 is not available, an existing or new enclosure in the process area will be used. When the monoliths have been adequately broken up, they will be transported in their containers to the sorting station or the shredder. The chunks of waste will be fed into the shredder, either via the inclined conveyor from the sorting table or directly into the shredder. These process areas are also enclosed and connected to the negative pressure ventilation system. If the shredder must be used to reduce the size of thorium containing waste, the shredder will be completely enclosed and the enclosure will be ventilated through the HEPA filtration system.

3.6.7 Management of Secondary Waste

Secondary wastes listed in Table 3-1 will be segregated into separate containers by category so that they may be managed as efficiently as possible. The most significant secondary waste stream will be used personal protective equipment and protective clothing. At each break, personnel in the Exclusion Zone will pass through a dress-out area where personal protective equipment and clothing will be doffed. Respirators and cartridges will be replaced each time a seal is broken. Separate plastic-lined collection drums for protective clothing, used respirators, outer boots and disposable items (e.g., gloves, tape, cartridge wrappers) will be provided at the egress station. Fernald site personnel will manage these accumulated secondary wastes. Fernald site personnel will also manage the segregation and handling of all personnel protective equipment.

Spent prefilters and HEPA filters removed from the negative pressure ventilation system will be hand fed into the shredder for size reduction. The shredded filters will be treated by the same technologies used to treat the waste which contaminated the filters.

Another important secondary waste stream is the contaminated water generated by equipment decontamination activities. This water will be stored in the Contaminated Water Holding Container and will be reused, when applicable, for ~~in the~~ slurrying of waste and ~~in the~~ hydration of stabilization reagents (including portland cement, gypsm, and Petroset II ~~portland cement~~. We will manage contaminated waters in an attempt to achieve a zero-discharge water balance for the project. Past experience has shown this goal to be achievable, however it is possible that up to 100 cubic feet of excess water could remain after all waste has been processed. Any remaining ~~This~~ water will be treated ~~precipitated~~ in the same manner as the waste that generated it, solidifed (unless it is derived from corrosive waste) with an appropriate stabilization reagent, and shipped for appropriate disposal ~~and then will be solidified with portland cement, and shipped for disposal as LLRW~~.

3.6.8 Management of Miscellaneous Waste Materials

Miscellaneous secondary waste materials include contaminated polymeric sheeting and wipes used for decontamination. Contaminated plastic will be washed and/or vacuumed in place to remove potentially leachable waste constituents before the plastic is removed from the process area. Decontaminated polymeric sheeting will be bundled for disposal by Fernald site personnel. All reagent containers will be completely emptied before being staged for pick-up and disposal by Fernald site personnel.

3.6.9 Materials Management

Non-waste materials such as reagents, equipment spare parts, and consumable supplies will be managed to prevent emergency situations from spills or releases, and to prevent project delays due to shortages of critical supplies. The consumable supplies are vendor-supplied materials necessary to make the production process function. These include fuels, equipment maintenance supplies (e.g.: lubricants, hydraulic fluids, filters, etc.), hand tools, spare parts,

- Laboratory analytical services for process feedback and waste acceptance analyses by the TCLP extraction procedure for comparison against the regulatory levels specified in 40 CFR 261.24, and applicable LDR requirements including the UTS specified under 40 CFR 268.48.

- Specification WMBs for packaging stabilized waste for disposal at the designated disposal site.

- On-site transportation services for incoming waste containers and WMBs filled with stabilized wastes.

- Removal, treatment and discharge of any excess free water or decontamination waters contained in the contaminated water storage tank.

- Removal and disposal of RCRA-empty containers and incompatible macro solids from the empty container staging area, or neutralization tank.

- FERMCO Radiological Control and industrial hygiene monitoring support.

- Removal, on-site management, recycle, and/or ultimate disposal of any project-generated secondary wastes which are not amenable to treatment and co-disposal with the treated primary wastes.

3.8 PROJECT SUMMARY SCHEDULE

A Project Summary Schedule showing major milestones of the project is in Figure 3-6. These milestones are regulatory requirements of the project. The Phase I Work Plan must be approved by the Ohio EPA and U.S. EPA before operations may proceed. Phase II activities cannot begin until the U.S. EPA and Ohio EPA approval is obtained. The project schedule requires DOE's Final CERCLA Technology Specific Work Plan to be submitted to the regulatory agencies by June 14, 1996, and agency approvals by July 10, 1996. This schedule will be maintained for the duration of the project and will provide the basis for progress tracking and reporting.

3.8.1 Project Delivery

The Perma-Fix team will meet all start and end dates specified by FERMCO. A contract was awarded April 26, 1996. The Perma-Fix team provided a draft documentation package to FERMCO. Consisting of the following materials, at a minimum:

- Perma-Fix's Schedule
- Perma-Fix's Quality Assurance Plan

- Perma-Fix's Equipment Operating Procedures

SCHEDULE - Figure 3-6

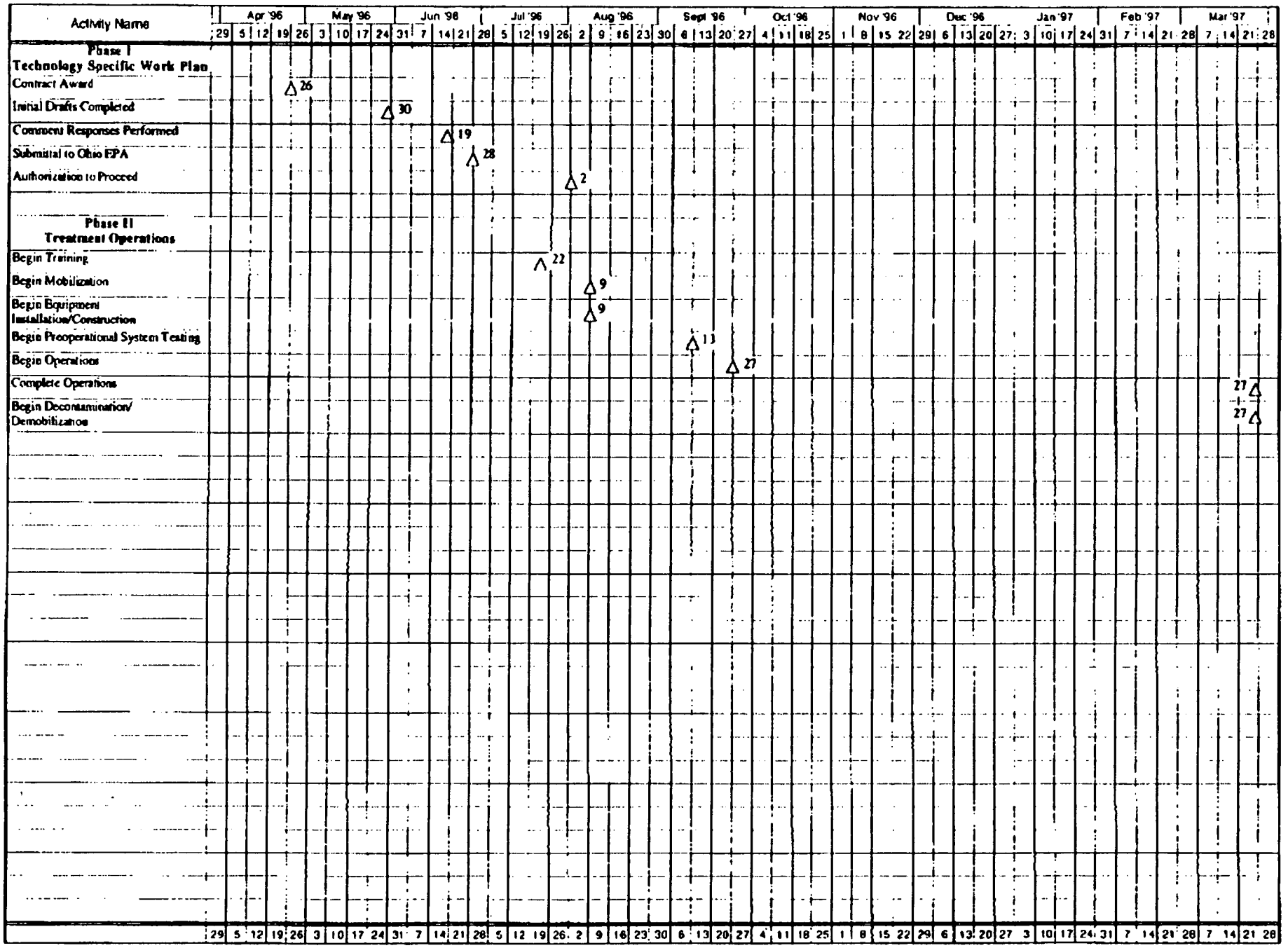

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Figure 3-6
Project Summary Schedule
Fernald Mixed Waste Chemical Treatment Project

- Perma-Fix's equipment layout drawings, including services requirements
- Perma-Fix's Technology Specific Work Plan
- Input for FERMCO's Health and Safety Plan
- Monthly Progress Reports

Following review of the draft documents by FERMCO, Perma-Fix will submit a final OEPA documentation package to FERMCO by June 20, 1996 which will include the following:

- Perma-Fix's Technology Specific Work Plan
- Perma-Fix's Schedule
- Perma-Fix's Quality Assurance Program Plan
- Perma-Fix's input to the Project Specific Health and Safety Plan
- Perma-Fix's equipment layout drawings including services requirements

This second package of documents will address comments received from FERMCO and DOE. When FERMCO provides notice to proceed with Phase II, the Perma-Fix team will proceed immediately with mobilization.

3.9 DECONTAMINATION ACTIVITIES

Decontamination activities are an integral part of this project. The primary method of decontamination will be performing surface wash and rinse of nonporous items using a soapy (dilute detergent solution) water wash followed by a clean water rinse. This method will also be applied to the decontamination of reusable equipment and tools and also will be used for area cleanup and housekeeping as appropriate. Recovered wash and rinse solutions will be reused directly in the preparation and treatment of waste or will be collected and transferred to the contaminated water holding container, for holding until reuse at a later time.

At the end of the project, the Plant 6 process area and all the equipment it contains will be decontaminated for closure. Dry vacuum, solution flush, triple-rinse, and surface wipe procedures will be used as appropriate in final decontamination of the reusable equipment and process area. Accumulated decontamination waters will be held in the contaminated water holding container or collected in the Plant 6 sump for waste characterization by FEMP site personnel. Decontamination activities will be performed in compliance with DOE Order 5400.5, *Radiation Protection of the Public and the Environment,* and FERMCO site procedure RP-0009, *Radiological Requirements for the Release of Materials at the Fernald Environmental Management Project,* and OEPA draft *Closure Plan Review Guidance for RCRA Facilities.*

3.9.1 Decontamination of Equipment Prior to Use

New equipment is considered uncontaminated by hazardous or radioactive waste. No survey or measurements will be made unless requested by FERMCO. Before any previously used

4.0 ENVIRONMENTAL COMPLIANCE, ARARS, AND SPILL RESPONSE

The Neutralization, Precipitation, Deactivation and Stabilization (NPDS) Project involves treatment of characteristic mixed waste solids, sludges, and liquids that contain waste constituents specified in EPA waste codes D001 through D043. The NPDS Project will proceed under RA No. 9 and the FFCAct STP negotiated between DOE and Ohio EPA. As such, the project will be exempt from the requirement to obtain formal permit approval under Section 121(e) of CERCLA and 40 CFR Part 300, provided the project complies with all Applicable or Relevant and Appropriate Requirements (ARARs) established under Federal and State environmental regulations. Table 4-1 of this section lists the ARARs for the NPDS Project and identifies the compliance strategy that will be followed to attain compliance with these requirements. A permit cross-walk, which relates specific RCRA requirements to the sections of this Technology Specific Work Plan where they are addressed, has also been included at the beginning of this document to facilitate agency review.

4.1 RCRA LDR COMPLIANCE REQUIREMENTS - UNIVERSAL TREATMENT STANDARDS

Approximately 360 containers of mixed waste contained within four mixed waste categories (barium chloride residues, reactives, oxidizers, and corrosives) will be treated under the NPDS Project. Three of the mixed waste categories (barium chloride residues, reactives, and oxidizers) will be treated at the Fernald Site to meet RCRA LDR treatment standards promulgated in 40 CFR 268.40 (OAC 3745-59) and the NTS WAC established under the Nevada Test Site - Defense Waste Acceptance Criteria, Certification, and Transfer Requirements (NVO-325. Rev. 1).

Mixed waste contained within the fourth waste category (corrosives) will be deactivated under the NPDS Project to remove the corrosivity characteristic in accordance with the 40 CFR 268.40 (OAC 3745-59) treatment standard for D002 wastes. The deactivated liquid waste will be retained for future bulking, shipment to and treatment at the TSCA incinerator under the Liquid Mixed Waste Project at a later date.

Of the four waste categories that will be treated under the NPDS Project, three (reactives, oxidizers, and corrosives) contain waste streams subject to compliance with Universal Treatment Standards for underlying hazardous constituents (UHCs) promulgated in 40 CFR 268.48. The fourth waste category (barium chloride residues) is only hazardous for TC metals (D005 and D008) and therefore, is not subject to UTS compliance in accordance with the treatment standards promulgated in 40 CFR 268.40 (OAC 3745-59). Table 4-2 lists the UHCs that will be considered for each MEF contained within the four project waste categories.

Table 4-2 was developed by applying process knowledge to identify those UHCs that would not reasonably be expected to be present in the process or routine operations that generated the mixed wastes that will be treated under the NPDS Project. Information on site-specific usage of potential UHCs was obtained from process descriptions, analytical data and source information for constituents analyzed in the OU3 and OU5 Remedial Investigation and Feasibility Studies.

TABLE 4-2
UNDERLYING HAZARDOUS CONSTITUENTS

MEF #	WASTE DESCRIPTION	EPA WASTE CODE	UTS RATIONALE	UNDERLYING HAZARDOUS CONSTITUENT
2425	CTC Corrosive Waste	D002	This waste stream consists of one drum of acid digests from the analysis of samples at the Clemson Technical Center. Analytical results show TC metals and organics are below TCLP and UTS limits. Based on process knowledge and analytical data, acetone is the only other organic constituent expected to be present in the waste at concentrations greater than UTS limits.	Acetone
2690	Acidic Extract Waste	D002	This waste stream consists of acid waste from analysis of FERMCO samples at Ceinture Labs. Analytical results indicate TC metals and inorganics are present in concentrations below TCLP and UTS limits. Based on process knowledge and analytical results, methylene chloride is the only organic constituent present in concentrations greater than the UTS limit.	Methylene Chloride
20145	Decant water from sump/filter cakes	D002, D007	Decant water from drums of sump/filter cake from Hanford. PK indicates filter cake generated from U pickling or cleaning operations. Wastes left to settle; forming a sludge or were treated with an alkali to precipitate uranium compounds. Analytical resuts for TCLP metals indicate that chromium is the only TC metal present in concentrations above TCLP and UTS limits. No other inorganics UHCs should be present, with the exception of beryllium and nickel which could have leached from stainless steel in tanks and lines from pickling operations. Analysis of Total VOAs indicates acetone also present in concentrations above the UTS limit. No other inorganic or organic constituents are expected to be present in concentrations above the UTS limit.	Beryllium Chromium Nickel Acetone

TABLE 4-2
UNDERLYING HAZARDOUS CONSTITUENTS

MEF #	WASTE DESCRIPTION	EPA WASTE CODE	UTS RATIONALE	UNDERLYING HAZARDOUS CONSTITUENT
2692	Corrosive/Flammable Lab Waste	D001, D002, D007, D018	This waste was generated from the analysis of FERMCO samples. Analytical results for TC metals indicate only chromium (D007) was detected in concentrations greater than the TCLP regulatory limit. Benzene (D018) was also detected at a concentration greater than the TCLP regulatory limit. The following constituents exceed their respective UTS limits: vinyl chloride, 1,1-dichloroethylene, methyl ethyl ketone, carbon tetrachloride, benzene, 1,1-dichloroethane, chlorobenzene, trichloroethylene, tetrachloroethylene, methanol, n-butyl alcohol, isobutanol, acetone, carbon disulfide, cyclohexanone, ethyl acetate, ethyl ether, ethylbenzene, methylene chloride, methyl isobutyl ketone, total xylene, 1,1,2-trichloroethane, toluene, 1,1,1-trichloroethane, trichlorofluoromethane, and 1,1,2-trichloro-1,2,2-trifluoroethane.	vinyl chloride, 1,1-dichloroethylene, methyl ethyl ketone, carbon tetrachloride, benzene, 1,1-dichloroethane, chlorobenzene, trichloroethylene, tetrachloroethylene, methanol, n-butyl alcohol, isobutanol, acetone, carbon disulfide, cyclohexanone, ethyl acetate, ethyl ether, ethylbenzene, methylene chloride, methyl isobutyl ketone, total xylene, 1,1,2-trichloroethane, toluene, 1,1,1-trichloroethane, trichlorofluoromethane, and 1,1,2-trichloro-1,2,2-trifluoroethane.
2825	Nitric Acid from Zirnlo Processing Area in Plant 9	D002, D007	This waste stream contains nitric acid from safe-shutdown activities in Plant 9. Analytical results indicated arsenic, cadmium, copper, nickel, barium, chromium, lead, and silver are present in the waste stream. Of these, chromium is the only TC metal present above the TCLP regulatory limit. Based on analytical data nickel and lead are also present in concentrations above UTS limits.	Chromium Lead Nickel
61006	Magnuspray 205, surplus chemical	D002	Unused chemical. Based on MSDS, Magnuspray 205 is a corrosive and does not contain underlying hazardous constitutents (UHCs).	None

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TABLE 4-2
UNDERLYING HAZARDOUS CONSTITUENTS

MEF #	WASTE DESCRIPTION	EPA WASTE CODE	UTS RATIONALE	UNDERLYING HAZARDOUS CONSTITUENT
REACTIVE CATEGORY				
700	Magnesium metal contaminated with oily rags	D001	This waste consists of magnesium metal with oily rags from the blenders in the Plant 5 Metal Reduction Area. No inorganic or organic constituents are expected to be present in concentrations greater than the UTS limit based on process knowledge.	None
40137	Unfired reduction charge plus CaF2	D001, D003	Unfired reduction charge containing thorium fluoride, calcium fluoride, calcium metal, and zinc fluoride. Fluoride is the only underlying hazardous constituent that is reasonably expected to be present; however, per 40 CFR 268.2(I) fluoride not considered for purposes of UTS compliance.	None
50089	Magnesium powder and turnings	D001	MEF indicated waste primarily contains magnesium powder, flasks and turnings. May also contain small quantities of magnesium fluoride, uranium, and uranium tetrafluoride. Historical analysis of similar waste indicates TCLP metals present in concentrations well below regulatory and UTS limits. Process knowledge indicates no organic UTS constituents present.	None
BARIUM CHLORIDE RESIDUE CATEGORY				
1425	Contaminated Rags/Paper from RMI	D005	Waste exhibits toxicity characteristic for TC metal (D005) and therefore, UTS compliance not applicable pursuant to 40 CFR 268.7 and 268.40.	Not Applicable
10002	Scrap Salts	D005, D008	Waste exhibits toxicity characteristic for TC metal (D005 and D008) and therefore, UTS compliance not applicable pursuant to 40 CFR 268.7 and 268.40.	Not Applicable

Appendix C

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SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
REACTIVES	700	W506635	R050 511 P 019 0349	165	085	MG METAL CONTAMINATED WITH OILY RAGS		0.01	0.5	D001
REACTIVES	40137	W506566	R000 320 T 079 0106	2	055	UNFIRED REDUCTION CHARGE PLUS CAF2	STAT = A			D001 D003
REACTIVES	50089	W065214	D690 730 019 0331	231	055	MAGNESIUM POWDER AND TURNINGS		10	0.2	D001
REACTIVES	50089	W079543	S070 107 019 XXX	21	055	MAGNESIUM POWDER AND TURNINGS		0.01	0.7	D001
REACTIVES	50089	W088409	W050 107 P 019 XXX	356	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.5	D001
REACTIVES	50089	W088410	W050 107 P 019 XXX	342	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.5	D001
REACTIVES	50089	W150563	H093 510 019 0408	25	005	MAGNESIUM POWDER AND TURNINGS		10	0.2	D001
REACTIVES	50089	W150954	R060 500 P 019 0370	319	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150955	R060 500 P 019 0370	304	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150956	R060 500 P 019 0370	307	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150957	R060 500 P 019 0370	242	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150958	R060 500 P 019 0370	312	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150959	R060 500 P 019 0370	336	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150960	R060 500 P 019 0370	248	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150961	R060 500 P 019 0370	317	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150962	R060 500 P 019 0370	337	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150963	R060 500 P 019 0370	294	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150964	R060 500 P 019 0370	323	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W150965	R060 500 P 019 0370	317	085	MAGNESIUM POWDER AND TURNINGS		0.01	0.6	D001
REACTIVES	50089	W154354	R050 732 P 019 0378	11	005	MAGNESIUM POWDER AND TURNINGS		.01	0.5	D001
REACTIVES	50089	W509035	H093 510 019 0273	111	085	MAGNESIUM POWDER & TURNINGS	METAL,STAT = A	10	0.2	D001
REACTIVES	50089	W509627	H093 510 019 0267	166	055	MAGNESIUM POWDER & TURNINGS	METAL,STAT = A	7.71	0.2	D001
REACTIVES	50089	W511534	H093 510 019 0267	160	055	MAGNESIUM POWDER & TURNINGS	METAL,STAT = A	7.71	0.2	D001
REACTIVES	50089	W511535	H093 510 019 0267	139	055	MAGNESIUM POWDER & TURNINGS	METAL,STAT = A	7.71	0.2	D001
REACTIVES	50089	W514402	H093 510 019 0379	276	055	MAGNESIUM POWDER & TURNINGS	METAL,STAT = A	0.01	0.5	D001
CORROSIVES	816	W047682	W050 137 P 012 0352	301	055	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048145	W050 137 P 012 0352	273	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048146	W050 137 P 012 0352	612	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048147	W050 137 P 012 0352	631	055	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048151	W050 137 P 012 0352	632	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048152	W050 137 P 012 0352	629	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W048153	W050 137 P 012 0352	603	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091978	W050 137 P 012 0374	280	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091980	W050 137 P 012 0374	412	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091981	W050 137 P 012 0374	411	055	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091982	W050 137 P 012 0374	300	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091983	W050 137 P 012 0374	398	055	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091984	W050 137 P 012 0374	378	055	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091985	W050 137 P 012 0374	352	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W091986	W050 137 P 012 0374	599	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	816	W300702	W050 137 P 012 0374	155	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D018 D019 D039 D040
CORROSIVES	1604	W091533	W050 732 P 013 0365	45	055	WASTEWATER LAB SAMPLE REAGENTS		0.01	0.5	D001 D002 D006 D007 D009 D011
CORROSIVES	1707	W514045	R070 CNL P 012 0371	425	085	LAB GENERATED WASTE, ACID DIGESTATES	FULL BLADDER INSIDE (55 & 85 GAL)	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514046	R070 CNL P 012 0371	440	085	LAB GENERATED WASTE, ACID DIGESTATES	3/4 FULL LIQUID BETWEEN DRUMS (55 & 85 GAL	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514047	R070 CNL P 012 0371	437	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514048	R070 CNL P 012 0371	436	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514049	R070 CNL P 012 0371	446	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514050	R070 CNL P 012 0371	242	085	LAB GENERATED WASTE, ACID DIGESTATES	1/2 FULL BLADDER INSIDE (55 & 85 GAL)	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514051	R070 CNL P 012 0371	452	085	LAB GENERATED WASTE, ACID DIGESTATES	FULL BLADDER (55 & 85 GAL)	0.01	0.7	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514842	R067 CTC P 012 0385	462	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.67	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514843	R067 CTC P 012 0385	462	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.67	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514844	R067 CTC P 012 0385	429	055	LAB GENERATED WASTE, ACID DIGESTATES	3/4 FULL OF FREE LIQUID	0.01	0.67	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W514846	R067 CTC P 012 0385	479	055	LAB GENERATED WASTE, ACID DIGESTATES	FULL OF FREE LIQUID	0.01	0.67	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043
CORROSIVES	1707	W515067	R067 CTC P 013 0391	473	055	LAB GENETAGED WASTE, ACID DIGESTATES	FULL BLADDER INSIDE (30 & 55 GAL)	0.01	0.67	D002 D007 D008 D018 D019 D028 D029 D039 D040 D043

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SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
CORROSIVES	1709	W150546	R067 TCT P 012 0407	458	055	LAB GENERATED WASTE FLAMMABLE ORGANIC E		0.01	0.67	D001 D002 D018 D019 D021 D022 D027 D028 D029 D035 D039 D040 D043
CORROSIVES	1709	W150550	R067 TCT P 012 0407	454	055	LAB GENERATED WASTE FLAMMABLE ORGANIC E		0.01	0.67	D001 D002 D018 D019 D021 D022 D027 D028 D029 D035 D039 D040 D043
CORROSIVES	1709	W150551	R067 TCT P 012 0407	452	055	LAB GENERATED WASTE FLAMMABLE ORGANIC E		0.01	0.67	D001 D002 D018 D019 D021 D022 D027 D028 D029 D035 D039 D040 D043
CORROSIVES	1709	W514036	R050 CNL P 047 0371	70	055	LAB GENERAGED, FLAMMABLE ORGANIC EXTRAC		0.01	0.5	D001 D002 D018 D019 D021 D022 D027 D028 D029 D035 D039 D040 D043
CORROSIVES	1711	W149778	R050 TCT P 012 0375	240	085	METALS,EXTRACTS AND DIGESTS		0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W149779	R050 TCT P 012 0375	399	085	METALS,EXTRACTS AND DIGESTS		0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W306263	R050 TCT P 012 0375	401	085	METALS,EXTRACTS AND DIGESTS		0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514208	R050 TCT P 012 0375	180	055	METALS,EXTRACTS AND DIGESTS	RUBBER TUBE IN LIQUID, 1/4 FULL OF FREE LIQUI	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514210	R050 TCT P 012 0375	410	055	METALS,EXTRACTS AND DIGESTS	FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514211	R050 TCT P 012 0375	363	055	METALS,EXTRACTS AND DIGESTS	3 QUARTER FULL OF FREE LIQUID (55 GAL. DRU	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514212	R050 TCT P 012 0375	410	055	METALS,EXTRACTS AND DIGESTS	FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514213	R050 TCT P 012 0375	406	055	METALS,EXTRACTS AND DIGESTS	3/4 FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514214	R050 TCT P 012 0375	396	055	METALS,EXTRACTS AND DIGESTS	3/4 FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514216	R050 TCT P 012 0375	406	055	METALS,EXTRACTS AND DIGESTS	3/4 FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514218	R050 TCT P 012 0375	355	055	METALS,EXTRACTS AND DIGESTS	3/4 FULL OF FREE LIQUID	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	1711	W514219	R050 TCT P 012 0375	477	055	METALS,EXTRACTS AND DIGESTS	FULL OF FREE LIQUID S/S DRUM	0.01	0.5	D001 D002 D008 D009 D010 D018 D019 D028 D040 D043
CORROSIVES	2362	W306331	R072 710 012 0413	39	055	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.72	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514927	R067 ITA P 012 0387	504	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514928	R067 ITA P 012 0387	500	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514929	R067 ITA P 012 0387	501	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514930	R067 ITA P 012 0387	499	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514931	R067 ITA P 012 0387	470	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514932	R067 ITA P 012 0387	487	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514933	R067 ITA P 012 0387	540	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514934	R067 ITA P 012 0387	493	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514935	R067 ITA P 012 0387	509	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514936	R067 ITA P 012 0387	482	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514937	R067 ITA P 012 0387	457	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514938	R067 ITA P 012 0387	487	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514939	R067 ITA P 012 0387	482	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514940	R067 ITA P 012 0387	458	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514941	R067 ITA P 012 0387	496	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514942	R067 ITA P 012 0387	502	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514943	R067 ITA P 012 0387	476	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514944	R067 ITA P 012 0387	428	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514945	R067 ITA P 012 0387	527	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514946	R067 ITA P 012 0387	515	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514947	R067 ITA P 012 0387	512	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514948	R067 ITA P 012 0387	488	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514949	R067 ITA P 012 0387	507	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514950	R067 ITA P 012 0387	501	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514951	R067 ITA P 012 0387	489	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514952	R067 ITA P 012 0387	468	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514953	R067 ITA P 012 0387	497	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514954	R067 ITA P 012 0387	518	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514955	R067 ITA P 012 0387	534	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514956	R067 ITA P 012 0387	500	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514957	R067 ITA P 012 0387	488	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514958	R067 ITA P 012 0387	505	085	CONTAMINATED WATER OR SUMP LIQUOR, NON-		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514959	R067 ITA P 012 0387	483	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514960	R067 ITA P 012 0387	480	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514961	R067 ITA P 012 0387	486	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514962	R067 ITA P 012 0387	493	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514963	R067 ITA P 012 0387	505	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043

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SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
CORROSIVES	2362	W514964	R067 ITA P 012 0387	503	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514965	R067 ITA P 012 0387	540	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514966	R067 ITA P 012 0387	481	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514967	R067 ITA P 012 0387	512	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514968	R067 ITA P 012 0387	517	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514969	R067 ITA P 012 0387	514	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514970	R067 ITA P 012 0387	497	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514971	R067 ITA P 012 0387	508	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514972	R067 ITA P 012 0387	459	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2362	W514973	R067 ITA P 012 0387	486	085	RADIOACTIVE ACIDIC LAB WASTE		0.01	0.5	D002 D007 D008 D018 D019 D021 D022 D028 D029 D035 D039 D040 D043
CORROSIVES	2425	W514346	R050 CTC P 013 0378	437	055	CTC CORROSIVE WASTE	FULL OF FREE LIQUID	0.01	0.5	D002
CORROSIVES	2690	W148787	R067 QT P 013 0400	444	085	ACIDIC EXTRACT WASTE		0.01	0.67	D002
CORROSIVES	2690	W148788	R067 QT P 013 0400	429	085	ACIDIC EXTRACT WASTE		0.01	0.67	D002
CORROSIVES	2690	W150182	R067 QT P 013 0407	59	055	ACIDIC EXTRACT WASTE		0.01	0.67	D002
CORROSIVES	2690	W306235	R067 QT P 013 0407	464	085	ACIDIC EXTRACT WASTE		0.01	0.67	D002
CORROSIVES	2692	W147631	R067 CTC P 012 0400	60	055	CORROSIVE/FLAMMABLE LAB WASTE		0.01	0.67	D001 D002 D007 D018
CORROSIVES	2825	W162352	R095 987 027 0408	343	055	NITRIC ACID		0.01	0.95	D002 D007
CORROSIVES	20145	W506158	R125 HX 0 068 0338	436	085	DECANTED WATER FROM SUMP/FILTER CAKES		1	1.25	D002 D007
CORROSIVES	20145	W506159	R125 HX 0 068 0338	160	055	DECANTED WATER FROM SUMP/FILTER CAKES		1	1.25	D002 D007
CORROSIVES	61006	W500470	R050 730 P 013 0307	550	085	MAGNUSPRAY/SURPLUS CHEMICALS		0.01	0.5	D002
BARIUM CHLORIDE	1425	W152393	R050 FTA P 027 6346	4	005	CONTAMINATED RAGS/PAPER FROM RMI		0.01	0.5	D005
BARIUM CHLORIDE	10002	W150565	R050 FTA 066 0408	33	005	SCRAP SALTS		1.14	0.5	D005 D008
BARIUM CHLORIDE	10002	W500905	R050 FTA P 066 7414	631	055	SCRAP SALTS	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W500907	R050 FTA P 066 6378	638	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501171	R050 FTA 066 5155	510	055	SCRAP SALTS	VERY DENSE MATERIAL, FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501197	R050 FTA 066 6333	652	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501200	R050 FTA 066 6321	686	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501206	R050 FTA 066 5066	462	085	SCRAP SALTS	FLOOR SWEEPINGS, TRASH SPRAY CAN IN DRU	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501207	R050 FTA 066 5060	511	085	SCRAP SALTS	VERY DENSE MATERIAL METAL AND FLOOR SWE	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501211	R050 FTA 066 6337	656	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501223	R050 FTA 066 5167	474	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501226	R050 FTA 066 5179	515	085	SCRAP SALTS	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501228	R050 FTA 066 6307	666	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501242	R050 FTA 066 6076	460	055	SCRAP SALTS	VERY DENSE MATERIAL, FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501244	R050 FTA 066 BRCH	427	055	SCRAP SALTS	TRASH, FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501271	R050 FTA 066 6294	655	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501282	R050 FTA 066 5061	441	055	SCRAP SALTS	VERY DENSE MATERIAL, FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501283	R050 FTA 066 5078	458	085	SCRAP SALTS	FLOOR SWEEPINGS, TRASH	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501284	R050 FTA 066 5068	636	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501287	R050 FTA 066 5151	564	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT, DRUM	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501288	R050 FTA 066 5100	611	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT, DRUM	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501314	R050 FTA 066 5181	542	085	SCRAP SALTS	FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501315	R050 FTA 066 5169	683	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501316	R050 FTA 066 5182	564	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.5	D005 D008
BARIUM CHLORIDE	10002	W501826	S063 FTA 066 7113	641	055	SCRAP SALTS	VERY DENSE MATERIAL, FURNACE SALT	0.01	0.63	D005 D008
BARIUM CHLORIDE	10002	W501853	S063 FTA 066 7114	610	055	SCRAP SALTS	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	10025	W500125	R050 FTA P 011 8400	706	055	CONTAMINATED SOIL & ROCKS	CONTAMINATED BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W500126	R050 FTA P 011 8400	624	055	CONTAMINATED SOIL & ROCKS	CONTAMINATED BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W500127	R050 FTA P 011 8400	745	055	CONTAMINATED SOIL & ROCKS	CONTAMINATED BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W500128	R050 FTA P 011 8400	660	055	CONTAMINATED SOIL & ROCKS	CONTAMINATED BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W500171	R050 FTA P 011 0271	609	085	CONTAMINATED SOIL & ROCKS	FURNACE SALT AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W500172	R050 FTA P 011 0271	519	055	CONTAMINATED SOIL & ROCKS	FURNACE SALT AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501052	R050 FTA P 011 8629	570	055	CONTAMINATED SOIL & ROCKS	FURNACE SALT AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501073	R095 FTA 011 8664	330	055	CONTAMINATED SOIL & ROCKS	FURNACE SALT AND BRICKS	0.01	0.95	D005

SUBPROJECT	MEF #	INV #	LOT CODE	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
BARIUM CHLORIDE	10025	W501074	R095 FTA 011 8665	449	055	CONTAMINATED SOIL & ROCKS	FURNACE BRICKS	0.01	0.95	D005
BARIUM CHLORIDE	10025	W501173	R050 FTA 011 BRCH	421	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501175	R050 FTA 011 6239	573	085	CONTAMINATED SOIL & ROCKS	CONTAMINATED FURNACE SALT	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501178	R050 FTA 011 BRCH	692	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501190	R050 FTA 011 BRCH	396	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501224	R050 FTA 011 6228	391	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501250	R050 FTA 011 BRCH	528	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501251	R050 FTA 011 BRCH	546	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501252	R050 FTA 011 BRCH	586	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501298	R050 FTA 011 5242	499	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501309	R050 FTA 011 BRCH	486	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501318	R050 FTA 011 BRCH	523	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501319	R050 FTA 011 BRCH	598	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	10025	W501732	R050 FTA 011 BRCH	600	085	CONTAMINATED SOIL & ROCKS	FURNACE SALTS AND BRICKS	0.01	0.5	D005
BARIUM CHLORIDE	60306	W039000	S044 FTA 044 5588	458	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W039001	S044 FTA 044 5588	94	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W039002	S044 FTA 044 5588	462	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W039037	S051 FTA 044 5585	490	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.6	0.51	D005
BARIUM CHLORIDE	60306	W039038	S044 FTA 044 5588	462	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W039039	S044 FTA 044 5588	443	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W039040	S051 FTA 044 5585	547	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.6	0.51	D005
BARIUM CHLORIDE	60306	W039049	S051 FTA 044 5585	490	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.6	0.51	D005
BARIUM CHLORIDE	60306	W039050	S051 FTA 044 5585	489	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.6	0.51	D005
BARIUM CHLORIDE	60306	W039051	S051 FTA 044 5585	462	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.6	0.51	D005
BARIUM CHLORIDE	60306	W039068	S054 FTA 044 0035	481	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.54	D005
BARIUM CHLORIDE	60306	W039073	S044 FTA 044 0035	532	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.44	D005
BARIUM CHLORIDE	60306	W039074	S054 FTA 044 0035	515	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.54	D005
BARIUM CHLORIDE	60306	W039075	S054 FTA 044 0035	473	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.54	D005
BARIUM CHLORIDE	60306	W039076	S053 FTA 044 0035	476	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.53	D005
BARIUM CHLORIDE	60306	W039112	S062 FTA 044 6653	460	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039113	S062 FTA 044 6653	458	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039114	S062 FTA 044 6653	485	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039115	S062 FTA 044 6653	463	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039161	S044 FTA 044 0035	474	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.44	D005
BARIUM CHLORIDE	60306	W039162	S044 FTA 044 0035	505	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.44	D005
BARIUM CHLORIDE	60306	W039163	S053 FTA 044 0035	465	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.53	D005
BARIUM CHLORIDE	60306	W039181	S053 FTA 044 0035	496	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.53	D005
BARIUM CHLORIDE	60306	W039182	S054 FTA 044 0035	506	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.54	D005
BARIUM CHLORIDE	60306	W039184	S053 FTA 044 0035	476	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.53	D005
BARIUM CHLORIDE	60306	W039189	S062 FTA 044 6653	476	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039205	S062 FTA 044 6653	512	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039208	S062 FTA 044 6653	498	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.62	D005
BARIUM CHLORIDE	60306	W039331	S054 FTA 044 0035	520	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.54	D005
BARIUM CHLORIDE	60306	W039334	S053 FTA 044 0035	483	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.53	D005
BARIUM CHLORIDE	60306	W039343	S044 FTA 044 0035	500	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.44	D005
BARIUM CHLORIDE	60306	W052209	S074 FTA 0 044 6295	0	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		8.41	0.74	D005
BARIUM CHLORIDE	60306	W052210	S074 FTA 0 044 6295	372	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		8.41	0.74	D005
BARIUM CHLORIDE	60306	W052211	S074 FTA 0 044 6295	452	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		8.41	0.74	D005
BARIUM CHLORIDE	60306	W065968	S044 FTA 044 5588	456	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		16.7	0.44	D005
BARIUM CHLORIDE	60306	W065969	S023 FTA 044 0046	323	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065970	S023 FTA 044 0046	414	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065971	S023 FTA 044 0046	365	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065972	S068 FTA 044 6294	517	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		14.2	0.68	D005
BARIUM CHLORIDE	60306	W065973	S023 FTA 044 0046	365	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005

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SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
BARIUM CHLORIDE	60306	W065974	S023 FTA 044 0046	467	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065975	S023 FTA 044 0046	430	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065976	S023 FTA 044 0046	390	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065977	S045 FTA 044 6403	463	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		17	0.27	D005
BARIUM CHLORIDE	60306	W065978	S045 FTA 044 6403	221	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		17	0.27	D005
BARIUM CHLORIDE	60306	W065979	S045 FTA 044 6403	439	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		17	0.27	D005
BARIUM CHLORIDE	60306	W065980	S045 FTA 044 6403	467	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		17	0.27	D005
BARIUM CHLORIDE	60306	W065981	S023 FTA 044 0046	482	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065982	S023 FTA 044 0046	450	055	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W065983	S023 FTA 044 0046	371	085	SLUDGES, SALT, SOFT, CHLORIDE (FOR PLANT 8		13.4	0.23	D005
BARIUM CHLORIDE	60306	W501819	S063 FTA 044 7110	792	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL	9.61	0.63	D005
BARIUM CHLORIDE	60306	W501820	S063 FTA 044 7110	886	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL	9.61	0.63	D005
BARIUM CHLORIDE	60306	W501821	S063 FTA 044 7110	732	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL	9.61	0.63	D005
BARIUM CHLORIDE	60306	W501822	S063 FTA 044 7110	642	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL, FURNACE SALT	9.61	0.63	D005
BARIUM CHLORIDE	60306	W501823	S063 FTA 044 7111	646	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL	8.59	0.53	D005
BARIUM CHLORIDE	60306	W501824	S063 FTA 044 7111	694	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL, FURNACE SALT	8.59	0.53	D005
BARIUM CHLORIDE	60306	W501825	S063 FTA 044 7111	734	055	HARDENED SALT BATH SLUDGE FROM RMI	VERY DENSE MATERIAL	8.59	0.53	D005
BARIUM CHLORIDE	60307	W026521	X500 FTA 0 060 0318	215	085	FURNACE SALT, SOLIDIFIED, CHLORIDE (FOR PLA		10	0.95	D005 D008
BARIUM CHLORIDE	60307	W500169	R050 FTA P 060 8564	556	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500170	R050 FTA P 060 6323	679	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500520	R095 FTA 060 8527	369	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500529	R095 FTA 060 8525	453	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500533	R095 FTA 060 7487	562	085	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500534	R095 FTA 060 7471	597	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500573	R095 FTA 060 8519	441	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500576	R095 FTA 060 7445	589	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500585	R095 FTA 060 8509	625	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500625	R095 FTA 060 7317	642	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500626	R095 FTA 060 8528	510	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500627	R095 FTA 060 8514	647	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500634	R095 FTA 060 8579	731	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500635	R095 FTA 060 8573	939	055	SALT & FURNACE BRICK	DENSE	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500664	R095 FTA 060 8543	475	055	SALT & FURNACE BRICK	DENSE	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500672	R095 FTA 060 8533	378	085	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.95	D005 D008
BARIUM CHLORIDE	60307	W500902	R050 FTA P 060 6367	600	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500906	R050 FTA P 060 7431	662	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500909	R050 FTA P 060 7432	688	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500911	R050 FTA P 060 7396	314	085	SALT & FURNACE BRICK	TRASH, FLOOR SWEEPINGS, PLASTIC ON TOP	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500912	R050 FTA P 060 6357	627	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500913	R050 FTA P 060 7430	554	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500918	R050 FTA P 060 6370	694	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500921	R050 FTA P 060 7437	677	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500966	R050 FTA P 060 7433	706	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500967	R050 FTA P 060 7395	488	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500968	R050 FTA P 060 7393	471	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500973	R050 FTA P 060 7434	687	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500974	R050 FTA P 060 6345	684	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500977	R050 FTA P 060 6348	670	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W500979	R050 FTA P 060 7442	566	085	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501172	R050 FTA 060 BRCH	620	085	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501180	R050 FTA 060 6293	638	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501181	R050 FTA 060 6291	647	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501182	R050 FTA 060 5187	394	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501183	R050 FTA 060 6305	654	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008

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SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
BARIUM CHLORIDE	60307	W501198	R050 FTA 060 BRCH	548	085	SALT & FURNACE BRICK	METAL AND TRASH	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501199	R050 FTA 060 6330	627	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501203	R050 FTA 060 6268	662	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501205	R050 FTA 060 5083	343	085	SALT & FURNACE BRICK	METAL AND TRASH	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501245	R050 FTA 060 5103	579	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501276	R050 FTA 060 5124	443	085	SALT & FURNACE BRICK	VERY DENSE FLOOR SWEEPINGS	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501281	R050 FTA 060 5067	559	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501317	R050 FTA 060 6334	297	085	SALT & FURNACE BRICK	DENSE CHUNKS	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501321	R050 FTA 060 5146	698	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501325	R050 FTA 060 BRCH	513	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501327	R050 FTA 060 5108	465	055	SALT & FURNACE BRICK	DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501328	R050 FTA 060 5111	526	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W501677	S053 FTA 060 6903	495	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501700	S053 FTA 060 6903	616	055	SALT & FURNACE BRICK	DENSE MATERIAL	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501729	S052 FTA 060 6905	30	055	SALT & FURNACE BRICK		9.74	0.55	D005 D008
BARIUM CHLORIDE	60307	W501730	S053 FTA 060 6903	15	085	SALT & FURNACE BRICK	5 GAL PAIL INSIDE W/ FREE LIQUID	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501739	S058 FTA 060 6904	251	055	SALT & FURNACE BRICK	DENSE MATERIAL	13.8	0.56	D005 D008
BARIUM CHLORIDE	60307	W501741	S058 FTA 060 6904	339	055	SALT & FURNACE BRICK	DENSE MATERIAL	13.8	0.56	D005 D008
BARIUM CHLORIDE	60307	W501745	S058 FTA 060 6904	582	055	SALT & FURNACE BRICK	DENSE MATERIAL	13.8	0.56	D005 D008
BARIUM CHLORIDE	60307	W501746	S053 FTA 060 6903	574	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL FURNACE SALT	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501747	S053 FTA 060 6903	420	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501748	S053 FTA 060 6903	582	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	22.4	0.53	D005 D008
BARIUM CHLORIDE	60307	W501827	S063 FTA 060 7113	580	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501828	S063 FTA 060 7113	624	055	SALT & FURNACE BRICK	DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501833	S063 FTA 060 7113	637	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501834	S063 FTA 060 7113	328	055	SALT & FURNACE BRICK	DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501835	S063 FTA 060 7113	554	055	SALT & FURNACE BRICK	DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501836	S063 FTA 060 7113	555	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501837	S063 FTA 060 7113	625	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W501838	S063 FTA 060 7113	630	055	SALT & FURNACE BRICK	VERY DENSE MATERIAL	1	0.63	D005 D008
BARIUM CHLORIDE	60307	W506424	R050 733 P 060 0347	249	055	SOLID FURNACE SALT		0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W506425	R050 733 P 060 0347	435	055	SOLID FURNACE SALT		0.01	0.5	D005 D008
BARIUM CHLORIDE	60307	W506426	R050 733 P 060 0347	148	055	SOLID FURNACE SALT		0.01	0.6	D005 D008
BARIUM CHLORIDE	60307	W515146	S052 FTA 060 6905	30	085	SALT & FURNACE BRICK		9.74	0.55	D005 D008
OXIDIZERS	1575	W152224	R107 733 072 0412	476	010	UNH, EXCESS ANALYSIS BYPRODUCT		0.01	1.07	D002
OXIDIZERS	1575	W154933	R107 733 072 0412	410	085	UNH, EXCESS ANALYSIS BYPRODUCT				D002
OXIDIZERS	1949	W514840	R050 730 P 061 0346	203	085	DRAW TEMP 275		10	0.5	D001
OXIDIZERS	30080	W507580	R125 211 0 011 0260	503	110	NITRIC ACID MIXED WITH URANYL NITRATE	JARS	1	1.25	D002 D004 D007 D008 D011
OXIDIZERS	30081	W507545	R095 235 0 001 0254	851	110	DISCARD PROCESS RESIDUES, SLURRIES, ETC.	JARS	0.01	0.95	D002
OXIDIZERS	40122	W513840	R000 732 T 007 0225	402	085	THORIUM TRAILER CAKES	STAT = R			D002 D005 D009
OXIDIZERS	40152	W513838	R000 362 T 101 0279	86	055	THORIUM OXIDE/FLUORIDES				D005
OXIDIZERS	40152	W513839	R000 362 T 101 0279	42	055	THORIUM OXIDE/FLUORIDES				D005
OXIDIZERS	40181	W506539	R000 FAK T 150 0011	554	085	THORIUM NITRATE SOLUTION	STAT = A			D002 D005 D007 D008
OXIDIZERS	40181	W506540	R000 FAK T 150 0011	584	085	THORIUM NITRATE SOLUTION	STAT = A			D002 D005 D007 D008
OXIDIZERS	40181	W507736	R000 718 T 090 D362	3884	301	THORIUM NITRATE SOLUTION	GLASS JARS W/ FREE LIQUID/7 DRUMS IN WMB			D002 D005 D007 D008
OXIDIZERS	40185	W507735	R000 718 T 090 C362	1845	301	THORIUM NITRATE SOLID	6 DRUMS IN WMB			D001 D005 D007 D008
OXIDIZERS	40186	W507732	R000 718 T 090 0362	1658	301	IMPURE THORIUM NITRATE (SOLID)	6 DRUMS IN WMB			D001 D007 D008
OXIDIZERS	40186	W507733	R000 718 T 090 A362	1662	301	IMPURE THORIUM NITRATE (SOLID)	6 DRUMS IN WMB			D001 D007 D008
OXIDIZERS	40186	W507734	R000 718 T 090 B362	1085	301	IMPURE THORIUM NITRATE (SOLID)	7 DRUMS IN WMB			D001 D007 D008
OXIDIZERS	40192	W514206	0000 CB T 167 0045	68	010	THO2 POWDER, REFINERY FEED				D008
OXIDIZERS	60095	W042931	S045 221 022 0275	313	110	UNH SOLUTION WITH TBP/KEROSENE		0.07	0.45	D002 D005
OXIDIZERS	60095	W042934	S045 221 022 0275	346	110	UNH SOLUTION WITH TBP/KEROSENE		0.07	0.45	D002 D005
OXIDIZERS	60095	W501639	S045 221 022 0275	383	110	UNH SOLUTION WITH TBP/KEROSENE		0.07	0.45	D002 D005
OXIDIZERS	60095	W501640	S125 221 4 022 0310	479	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005

11/6/96

SUBPROJECT	MEF #	INV #	LOT C OD	NET WT	SIZE	INVENTORY DESCRIPTION	RTR COMMENTS	U	U235	EPA CODES
OXIDIZERS	60095	W501641	S125 221 4 022 0310	336	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W501642	S125 221 4 022 0310	302	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W501643	S125 221 4 022 0310	358	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W501644	S125 221 4 022 0310	609	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W501645	S125 221 4 022 0310	435	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W501646	S125 221 4 022 0310	486	085	UNH SOLUTION WITH TBP/KEROSENE		0.23	1.25	D002 D005
OXIDIZERS	60095	W506599	S045 221 022 0275	50	055	UNH SOLUTION WITH TBP/KEROSENE		0.07	0.45	D002 D005
OXIDIZERS	60160	W049908	N000 FAL 1 160 0001	38	085	IMPURE URANYL NITRATE - SOLID		55.3	0.71	D001
OXIDIZERS	60160	W060173	S073 CBJ 0 160 0061	13	005	IMPURE URANYL NITRATE - SOLID		61.9	0.73	D001
OXIDIZERS	60160	W060174	S072 CBJ 0 160 0061	9	005	IMPURE URANYL NITRATE - SOLID		73.7	0.72	D001
OXIDIZERS	60193	W049852	S071 732 1 150 0343	25	085	PURE URANYL NITRATE SOLUTION	LIQUID IN VILES & JARS, DRUM MARKES AS DR	30.4	0.71	D002

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Attachment II

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V-5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Saric:

TECHNOLOGY SPECIFIC WORK PLAN FOR NEUTRALIZATION/PRECIPITATION/ DEACTIVATION/STABILIZATION, RESPONSE TO U.S. EPA COMMENTS

This letter transmits the U. S. Department of Energy - Fernald office's response to the comments contained in your November 1, 1996 correspondence regarding the Technology Specific Work Plan for Neutralization/Precipitation/Deactivation/Stabilization Project. Comment responses and revised pages are provided within Attachment I in order of U. S. Environmental Protection Agency (USEPA) presentation.

If you should have any questions regarding this matter, please contact John Sattler at (513) 648-3145 or Bob Danner at (513) 648-3167.

Sincerely,

Jack R. Craig
Director

cc: Steve Beckman, FDF
Robert Danner, DOE-FN
Terence Hagen, FDF
Larry Honigford, FDF
L.E. Parsons, DOE Contract Specialist
James Saric, USEPA
John Sattler, DOE-FN
Michael West, FDF