

**FLUOR FERNALD CLOSURE PLAN
BASIS OF ESTIMATE**

**PBS-10
WASTE TREATMENT**

SEPTEMBER 2001

**80000-PL-0006
REVISION 1**

Section 1: KBWT – Waste Treatment Program Management

- 1.0 Narrative
 - 1.1 Overview
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 KBWT1 – Waste Treatment Program Management
 - 1.2.1.2 General
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.3.1 KBWT1 – Waste Treatment Program Management
 - 1.4 Project Plan/Technical Scope and Quantification
 - 1.4.1 KBWT – Waste Treatment Project Management
 - 1) Task #1 – General Administration
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Management Approvals
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Oversight and Inspections
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Inventory Planning
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Work Package Development
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Technical Program Support
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Travel
 - 7.1) Plan/Scope
 - 7.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Waste Treatment Project Management
- 4.0 Estimate
- 5.0 Risk Plan

Section 2: KBRT – Organic Treatment

- 1.0 Narrative
 - 1.1 Overview
 - 1.1.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.1.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.2.1.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.2.1.3 General
 - 1.2.2 Exclusions
 - 1.2.2.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.2.2.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.2.3.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.2.3.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.3 Drivers
 - 1.3.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.3.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.4 Project Physical Description
 - 1.4.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1.4.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KBRT1 – Organic Soil/Sludge/Debris
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Off-Site Treatment
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Disposal
 - 7.1) Plan/Scope
 - 7.2) Quantification

Section 2: KBRT – Organic Treatment (Continued)

- 1.5.2 KBRT2 – Organic Aerosol Can Puncturing
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Organic Soil/Sludge/Debris
 - 3.2 Organic Aerosol Can Puncturing
- 4.0 Estimate
- 5.0 Risk Plan

Section 3: KBNR – Inorganic Treatment

- 1.0 Narrative
 - 1.1 Overview
 - 1.1.1 KBNR1 – Inorganic Mercury
 - 1.1.2 KBNR2 – Inorganic Macroencapsulation/Decontamination (Macro/Decon)
 - 1.1.3 KBNR3 – Inorganic Soil/Sludge/Debris
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 KBNR1 – Inorganic Mercury
 - 1.2.1.2 KBNR2 – Macro/Decon
 - 1.2.1.3 KBNR3 – Inorganic Soil/Sludge/Debris
 - 1.2.1.4 General
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.3.1 KBNR1 – Inorganic Mercury
 - 1.3.2 KBNR2 – Macro/Decon
 - 1.3.3 KBNR3 – Inorganic Soil/Sludge/Debris
 - 1.4 Project Physical Description
 - 1.4.1 KBNR1 – Inorganic Mercury
 - 1.4.2 KBNR2 – Macro/Decon
 - 1.4.3 KBNR3 – Inorganic Soil/Sludge/Debris
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KBNR1 – Inorganic Mercury
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Off-Site Treatment
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Disposal
 - 7.1) Plan/Scope
 - 7.2) Quantification

Section 3: KBNR – Inorganic Treatment (Continued)

- 1.5.2 KBNR2 – Macro/Decon
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Off-Site Treatment
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Disposal
 - 7.1) Plan/Scope
 - 7.2) Quantification
- 1.5.3 KBNR3 – Inorganic Soil/Sludge/Debris
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Off-Site Treatment
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Disposal
 - 7.1) Plan/Scope
 - 7.2) Quantification

Section 3: KBNR – Inorganic Treatment (Continued)

- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Inorganic Mercury
 - 3.2 Inorganic Decon-Macro
 - 3.3 Inorganic Soil/Sludge/Debris
- 4.0 Estimate
- 5.0 Risk Plan

Section 4: KBSD – Sample Disposition

- 1.0 Narrative
 - 1.1 Overview
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 KBSD1 – Sample Disposition
 - 1.2.1.2 General
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.3.1 KBSD1 – Sample Disposition
 - 1.3.2 Regulatory
 - 1.4 Project Physical Description
 - 1.4.1 KBSD1 – Sample Disposition
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KBSD1 – Sample Disposition
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Mixed Waste Sample Disposition Project
- 4.0 Estimate
- 5.0 Risk Plan

Section 5: KBTS – Mixed Waste Incineration

- 1.0 Narrative
 - 1.1 Overview
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 KBTS1 – Mixed Waste Incineration
 - 1.2.1.2 General
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.3.1 KBTS1 – Mixed Waste Incineration
 - 1.3.2 Regulatory
 - 1.4 Project Physical Description
 - 1.4.1 KBTS1 – Mixed Waste Incineration
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KBTS1 – Mixed Waste Incineration
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Mixed Waste Incineration
- 4.0 Estimate
- 5.0 Risk Plan

Section 6: KBHW – Hazardous Waste

- 1.0 Narrative
 - 1.1 Overview
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.3.1 KBHW1 – Hazardous Waste
 - 1.4 Project Physical Description
 - 1.4.1 KBHW1 – Hazardous Waste
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KBHW1 – Hazardous Waste
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.3) Plan/Scope
 - 2.4) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
 - 6) Task #6 – Off-Site Treatment
 - 6.1) Plan/Scope
 - 6.2) Quantification
 - 7) Task #7 – Disposal
 - 7.1) Plan/Scope
 - 7.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Hazardous Waste
- 4.0 Estimate
- 5.0 Risk Plan

Section 7: KBLA – AWWT Liquids

- 1.0 Narrative
 - 1.1 Overview
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.2 Exclusions
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.3 Drivers
 - 1.4 Project Physical Description
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 KLBA1 – AWWT Liquids
 - 1) Task #1 – Planning and Management Activities
 - 1.1) Plan/Scope
 - 1.2) Quantification
 - 2) Task #2 – Characterization Activities
 - 2.1) Plan/Scope
 - 2.2) Quantification
 - 3) Task #3 – Processing Activities
 - 3.1) Plan/Scope
 - 3.2) Quantification
 - 4) Task #4 – Packaging
 - 4.1) Plan/Scope
 - 4.2) Quantification
 - 5) Task #5 – Shipping
 - 5.1) Plan/Scope
 - 5.2) Quantification
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 AWWT Liquids
- 4.0 Estimate
- 5.0 Risk Plan

**Waste Treatment
Program Management**

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 70
5. WBS ELEMENT CODE 1.1.K	6. WBS ELEMENT TITLE PBS 10 MIXED WASTE
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODC's</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This element provides for the administrative management of programmatic requirements associated with mixed and hazardous waste treatment and disposition at the FEMP. It includes the project specific scope for: planning, contract management and technical buyers representation, characterization, treatment, packaging, and shipping activities associated with the disposal of mixed waste. The waste inventory includes all mixed waste in storage at the FEMP as of 12/01/00 and newly generated mixed and hazardous wastes from Project Support (PBS01) and Program Support and Oversight (PBS12) and D&D of Plants 5 and 6 (PBS02). Projects within this element include: Hazardous Waste, Advanced Waste Water Treatment (AWWT) Liquids, Inorganic Treatment, Organic Treatment, Sample Disposition, and Mixed Waste Incineration.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>Administrative and project specific work scope contained within this element includes:</p> <p>Administration This scope covers the management and administration of the Waste Treatment Project until the end of FY2006. The specific projects/activities within the Waste Treatment Project include: Organic Treatment Project, Inorganic Treatment Project, Hazardous Waste Project, Advanced Waste Water Treatment Project, Mixed Waste Incineration Project, and Sample Disposition Project.</p>	

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 70
5. WBS ELEMENT CODE 1.1.K	6. WBS ELEMENT TITLE PBS 10 MIXED WASTE
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION	
<p>Hazardous Waste This element provides for the planning, management/administration, packaging/repackaging, and off-site disposition (treatment and disposal) of non-radiologically contaminated hazardous wastes which may be recycled, treated or disposed. This scope includes non-radiologically contaminated, non-hazardous chemicals that are prohibited from disposition at the FEMP Advanced Wastewater Treatment Facility and/or off-site sanitary landfills. This element also includes the disposition, as waste, unused chemicals with radiological contamination to an off-site contractor.</p> <p>AWWT Liquids The purpose of this element is to segregate, consolidate, and treat aqueous wastes through the FEMP Advanced Wastewater Treatment Facility (AWWT).</p> <p>Inorganic Treatment This element involves the planning, management, administration, processing, packaging/repackaging, and disposition of mercury contaminated waste, lead debris and broken lead acid batteries, and inorganically contaminated soils, sludges and debris. All wastes and/or recyclable materials will be processed through an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.</p> <p>Organic Treatment This element provides for the planning, management, administration, packaging/repackaging, treatment and disposal of contaminated waste including soils, sludge and debris, and discarded aerosol cans resulting from historical, current and future operations at the Fernald Environmental Management Project (FEMP).</p> <p>Sample Disposition The purpose of this element is to inspect, consolidate, sample and direct the disposition of analytical samples that have been generated at the FEMP or received from off-site laboratories.</p> <p>Mixed Waste Incineration The purpose of this element is to consolidate (bulk), sample and transport ignitable and combustible waste mixtures that are presently stored at the FEMP to the Department of Energy's (DOE) Toxic Substance Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.</p>	

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 71	
5. WBS ELEMENT CODE 1.1.K.A		6. WBS ELEMENT TITLE MANAGEMENT	
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3100	
11. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODC's</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This element provides for Waste Treatment Project planning and management activities related to general administration, project controls, project meetings, training, safety activities, medical activities, technology programs support, inspections, general inventory planning and other activities that can not be directly attributed to the various projects in an accurate manner. Also included in this account is the modification and annual update of the FEMP Site Treatment Plan (STP) as required by Department of Energy and Fluor Fernald, Inc. reporting obligations.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>This scope covers the management and administration of the Waste Treatment Project until the end of FY2006. The specific projects/activities within the Waste Treatment Project include: Organic Treatment Project, Inorganic Treatment Project, Hazardous Waste Project, Advanced Waste Water Treatment Project, Mixed Waste Incineration Project, and Sample Disposition Project.</p>			

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBWT	13. TASK DESCRIPTION (ONE LINE) WASTE TREATMENT PROGRAM MANAGEMENT		

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

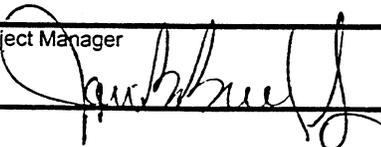
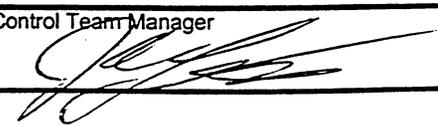
b. TECHNICAL CONTENT:

This control account provides for Waste Treatment Project planning and management activities related to general administration, project controls, project meetings, training, safety activities, medical activities, technology programs support, inspections, general inventory planning and other activities that can not be directly attributed to the various projects in an accurate manner. Also included in this account is the modification and annual update of the FEMP Site Treatment Plan (STP) and RCRA Part B permit application as required by Department of Energy and Fluor Fernald, Inc. reporting obligations.

c. SCOPE OF WORK:

This scope covers the management and administration of the Waste Treatment Project until the end of FY2006. The specific projects/activities within the Waste Treatment Project include Organic Treatment Project, Inorganic Treatment Project, Hazardous Waste Project, Advanced Waste Water Treatment Project, Mixed Waste Incineration Project, and Sample Disposition Project.

Scope for this control account is further defined at the Work Package - Charge number level (KBWT1)

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 2
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT	
---------------------------------------	--	--

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE	
--	---------------------------------------	--

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006
---	---

12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBWT	13. TASK DESCRIPTION (ONE LINE) WASTE TREATMENT PROGRAM MANAGEMENT	
--	--	--

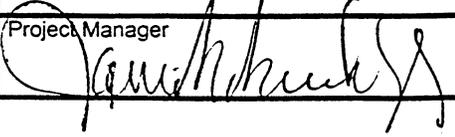
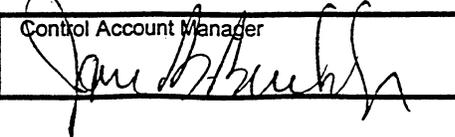
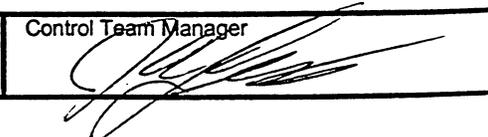
14. ELEMENT TASK DESCRIPTION

d. WORK SPECIFICALLY EXCLUDED:

Exclusions: Project specific materials labor and subcontract support.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE) KBWT1	13. TASK DESCRIPTION (ONE LINE) WASTE TREATMENT PROGRAM MANAGEMENT		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This work package provides for Waste Treatment Project planning and management activities related to general administration, project controls, project meetings, training, safety activities, medical activities, technology programs support, inspections, general inventory planning and other activities that can not be directly attributed to the various projects in an accurate manner. This work package also includes the modification and annual update of the FEMP Site Treatment Plan (STP) and RCRA Part B permit application as required by Department of Energy and Fluor Fernald, Inc. reporting obligations.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>This scope provides for the management and administration of the Waste Treatment Project until the end of FY2006. The specific projects/activities within the Waste Treatment Project include: Hazardous Waste Project, Advanced Waste Water Treatment Project, Inorganic Treatment Project, Organic Treatment Project, Sample Disposition Project, and Mixed Waste Incineration Project.</p> <p>This work package includes the following sub-tasks: General Administration - Activities within this area are focused on the general administration of the Waste Treatment projects. This covers weekly cost estimate and estimates to complete reviews between the respective Waste</p>			

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE		2. DATE	Page 2
FEMP (DEFENSE)		12/01/2000	
3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME		
1.1.K.A	MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER	
51	JOEL DULING - EXT. 4030	JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE		
EW05H3100	MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?		11. ESTIMATED START / COMPLETION DATE	
ORIGINAL SCOPE PER CP# FY01-0115-0010-00		12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE)	13. TASK DESCRIPTION (ONE LINE)		
KBWT1	WASTE TREATMENT PROGRAM MANAGEMENT		
14. ELEMENT TASK DESCRIPTION			
<p>Engineering Manager and the assigned Project Controls Manager as well as weekly schedule reviews. It also covers any general meetings with the DOE and Fluor Fernald, Inc. senior managers related to project costs and trends. The general administration function covers two weekly and one monthly project status review meetings with the DOE related to project issues and schedule. General administration also covers all costs and manpower associated with attending training activities related to the Waste Generator Services (WGS) Training and Qualification Program (TQP-087) and training to maintain technical competence for personnel in the Waste Treatment Project. It also covers medical activities for personnel in the Waste Treatment project and facilitation of the weekly POW meetings. The annual review, update and submittal of the FEMP STP is covered within this activity, as well as general review of site documents such as plans, procedures and correspondence is included in this activity.</p> <p>Management Approvals - Activities within this area are related to Waste Engineering Manager support for Management Assessments (MA's) of waste treatment projects and attendance at TRB and Independent Safety Review Committee (ISRC) meetings.</p> <p>Oversight and Inspections - Activities in this area include support to site inspection activities from outside regulators such as the Defense Nuclear Facility Safety Board (DNFSB), the State and Federal Environmental Protection Agencies (EPA) and DOE Ohio Field Office Personnel. It also includes safety walkthroughs by the Waste Treatment Project Management Team.</p> <p>Inventory Planning - This activity covers the general management of the SWIFTS database for project/activities within the waste treatment project. This includes the production of inventory reports for project tracking, earned value reporting, DOE requests and inventory tracking for waste treatment project management.</p> <p>Work Package Development - This activity covers the independent review of Waste Treatment Project Task Orders (T.O.s), characterization packages and waste profiles by the waste treatment Waste Engineering Manager.</p> <p>Technical Program Support - This work activity covers support to Technology Programs at the FEMP for DOE Environmental Management (EM) 50 office activities.</p>			

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.K.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE) KBWT1	13. TASK DESCRIPTION (ONE LINE) WASTE TREATMENT PROGRAM MANAGEMENT		

14. ELEMENT TASK DESCRIPTION

This includes participation in EM-50 Mixed Waste Focus Area activities, site technology deployment initiatives, DOE alternatives to incineration discussions, site technology coordination group meetings and waste elimination team meetings.

Travel - This activity covers hours used for travel associated with training, meetings and/or presentations not held at the FEMP site in Fernald, Ohio.

Scope for this work package (charge number) is further defined in greater detail in Volume X of the FEMP Closure Plan Basis of Estimate.

d. WORK SPECIFICALLY EXCLUDED:

Exclusions: Project specific materials labor and subcontract support

SECTION 1

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.A.	5. WBS ELEMENT TITLE: WASTE TREATMENT PROGRAM MGMT.	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: KBWT	

SECTION 1: KBWT – WASTE TREATMENT PROGRAM MANAGEMENT

1.0 NARRATIVE

1.1 OVERVIEW

The scope of this control account includes Waste Treatment Project planning and management activities related to general administration, project controls, project meetings, training, safety activities, medical activities, technology programs support, inspections, general inventory planning and other activities that can not be directly attributed to the various projects in an accurate manner. Also included in this account is the modification and annual update of the FEMP Site Treatment Plan (STP) and RCRA Part B Permit Application as required by Department of Energy and Fluor Fernald, Inc. reporting obligations.

R1-
F10-
005

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 KBWT1 – Waste Treatment Program Management

- 1) The scope of work activities performed by the Waste Treatment and Storage group will not change for the life of the FEMP Remediation Project.
- 2) Internal and external reporting requirements will not change.
- 3) This account will provide manpower at level of effort for the scope of work identified in this Control Account (CA).
- 4) The scope of work in this CA will continue to the end of Fiscal Year (FY) 2006 to provide general support to other site projects for hazardous and mixed waste disposal for wastes generated after December 1, 2000. After FY2006, PBS11 control account MMMA1 will support any remaining Mixed Waste activities.
- 5) The scope of work in this CA will continue to the end of FY2006 to support hazardous waste disposal activities identified in CA KBHW1.

R1-D-
640

R1-D-
586

R1-D-
559

R1-D-
640

R1-D-
586

R1-D-
559

F1-
F10-
005

- 6) The FEMP Site Treatment Plan and Part B Permit RCRA will continue to require one annual update until 2006. After 2006 PBS11 Control Account MMMA1 will fund annual updates until FY2010.

R1-D-
640

- 7) SWIFTS tracking/input will continue to be handled by the project for project assigned waste.

R1-D-
586

- 8) Project controls resources end after second quarter of 2004, but will continue to support CA's KBWT1 and KBHW1 as a centralized function in PBS 11 control Account MMMA1.

R1-D-
559

R1-
F10-
004

- 9) ~~Administration support drops to 0.5 Full Time Equivalent (FTE's) after FY2003. (Remove)~~

- 10) Site-wide Information Tracking System (SWIFTS) support ceases after FY2003.

- 11) Training, Task Order reviews, staff and Transportation Review Board (TRB) meetings, medical activities and meetings with the Department of Energy (DOE) reduce after FY2003.

- 12) No Standard Start-up Reviews (SSR's) will be performed for any activity within the Waste Treatment Project.

- 13) The CA will continue to support the Plan-of-the-week (POW) meeting until the end of FY2006.

- 14) After the end of FY2006, all mixed and hazardous waste management activities will be conducted by the FEMP site project that generates the waste.

- 15) One Full-time-equivalent (FTE) is equal to 1,747 work hours per year.

1.1.1.2 General

- 1) The scope of work is based upon execution Scenario 6.
- 2) Site priorities support meeting the Waste Treatment Project schedule.

1.2.2 Exclusions

No specific exclusions, other than the presented scope of work, are presented in the Control Account.

1.2.3 Government-Furnished Equipment/Services

No specific government furnished equipment or services is presented in this Control Account.

1.3 DRIVERS

1.3.1 KBWT1 – Waste Treatment Program Management

- 1) Fernald Environmental Management Project STP
- 2) DOE Order 435.1, "Radioactive Waste Management"

1.4 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

R1-
D-
559

R1-
D-
586

R1-
D-
640

This scope provides for the management and administration of the Waste Treatment Project until the end of FY2006. After the end of FY2006, this function will be handled by PBS11, Control Account MMMA1. The specific projects/activities within the Waste Treatment Project are as follows:

- Organic Treatment Project
 - Organic Soil/Sludge/Debris (KBRT1)
 - Aerosol Can Puncturing (KBRT2)
- Inorganic Treatment Project
 - Inorganic Mercury (KBNR1)
 - Macro-encapsulation/Decontamination (KBNR2)
 - Inorganic Soil/Sludge/Debris (KBNR3)
- Hazardous Waste Project (KBHW1)
- Advanced Waste Water Treatment Project (KBLA1)
- Mixed Waste Incineration Project (KBTS1)
- Sample Disposition Project (KBSD1)

1.4.1 KBWT1 – Waste Treatment Program Management

1) Task #1 – General Administration

1.1) Plan/Scope – General Administration

R1-
F10-
006

Activities within this area are focused on the general administration of the Waste Treatment projects. This covers weekly cost estimate and estimates to complete reviews between ~~the Project Manager~~, the respective Waste Engineering Manager and the assigned Project Controls Manager as well as weekly schedule reviews. It also covers any general meetings with the DOE and Fluor Fernald, Inc. senior managers related to project costs and trends. The general administration function covers two weekly and one monthly project status review meetings with the DOE related to project issues and schedule. General administration also covers all costs and manpower associated with attending training activities related to the Waste Generator Services (WGS) Training and Qualification Program (TQP-087) and training to maintain technical competence for personnel in the Waste Treatment Project. It also covers medical activities for personnel in the Waste Treatment project and facilitation of the weekly POW meetings. The annual review,

update and submittal of the FEMP STP and **RCRA Part B Permit** is covered within this activity, as well as general review of site documents such as plans, procedures and correspondence is included in this activity.

1.2) Quantification – General Administration

General Administration	(continues until the end of FY2006 unless specified)
<div style="border: 1px solid black; padding: 2px;">R1-E-728</div> <div style="border: 1px solid black; padding: 2px;">R1-F10-006</div> <div style="border: 1px solid black; padding: 2px;">R1-F10-006</div> <div style="border: 1px solid black; padding: 2px;">R1-F10-006</div> <div style="border: 1px solid black; padding: 2px;">R1-F10-006</div>	<p>Project Manager</p> <p>Review cost/budget — 1 time/wk/yr. for 4 hrs = 1,248 hours Project schedules — 1/wk/yr for 1 hr until 2003 = 156 hours DOE monthly review — 1 time/mo/yr until 2003 = 144 hours DOE project meetings — 2/wk/yr for 3 hrs until 2003 = 936 hours Staff meetings — 1/wk/yr for 2 hrs until 2003 = 312 hours Safety meetings — 1/mo/yr for 2 hrs until 2003 = 72 hours POW — 1/wk/yr/for 3 hrs = 936 hours RCRA Training — every other year @ 30 hrs/yr = 90 hours TQP/PEP Training — 40 hr/yr = 240 hours Medical required activities — 40 hr/yr = 240 hours</p>
Waste Engineering Mgr	<p>Review cost/budget — 1 time/wk/yr for 4 hrs = 1,248 hours Staff meetings — 1/wk/yr for 2 hrs until 2003 = 312 hours Safety meetings — 1/mo/yr for 2 hrs until 2003 = 72 hours POW — 1/wk/yr/for 3 hrs = 936 hours Project schedules — 1/wk/yr for 1 hr until 2003 = 156 hours RCRA Training — every other year @ 30 hrs/yr = 90 hours TQP/PEP Training — 40 hr/yr = 240 hours Medical required activities — 40 hr/yr = 240 hours <u>LOE estimate for general WT&S administration — 376 hr/yr = 2,256 hours.</u></p>
Waste Engineers (5 1/2) <u>7 1/2</u>	<p>Staff meetings — 1/wk/yr for 2 hrs until 2003 = <u>2,184</u> hours Safety meetings — 1/mo/yr for 2 hrs until 2003 = <u>504</u> hours POW — 1/wk/yr/for 3 hrs until 2003 = 2,574 hours RCRA Training — every other year @ 30 hrs/yr until 2003 = <u>420</u> hours TQP/PEP Training — 40 hr/yr until 2003 = <u>840</u> hours Medical required activities — 40 hr/yr until 2003 = <u>840</u> hours</p>
Project Controls Mgr.	<p>Level of effort (LOE) at 0.9 FTE's until end of FY2003, then 0.5 FTE's in first quarter FY2004, then reduced to 0.3 FTE's in second quarter FY2004.</p>
Information Records Rep.	<p>Staff meetings — 1/wk/yr for 2 hrs until 2003 = 312 hours Safety meetings — 1/mo/yr for 2 hrs until 2003 = 72 hours Program Training — every other year @ 30 hrs/yr until 2003 = 60 hours TQP/PEP Training — 40 hr/yr until 2003 = 120 hours Medical required activities — 40 hr/yr until 2003 = 120 hours</p>
Clerk (administrative)	<p>LOE at <u>0.5</u> FTE's until the end of FY2003, then 0.5 FTE's until end of FY2006.</p>
Intern	<p>LOE at .5 FTE's <u>until 2,003 = 2,620 Mhrs.</u></p>
Subcontracts	None required

R1-F10-004

R1-F10-014

Other Direct Costs	
Off-site Training	18 training events at \$1,500 per training = \$27,000.00.
Office Supplies	Calculated at \$0.34 per man-hour for all Waste Treatment projects per year. FY2001 = 9 FTE's x 1747 x 0.34 = \$5,346.00 FY2002 = 9 FTE's x 1747 x 0.34 = \$5,346.00 FY2003 = 9 FTE's x 1747 x 0.34 = \$5,346.00 FY2004 = 2.1 FTE's x 1747 x 0.34 = \$1,247.00 FY2005 = 1.6 FTE's x 1747 x 0.34 = \$950.00 FY2006 = 1.1 FTE's x 1747 x 0.34 = \$653.00

R1-
F10-
006

R1-
F10-
004

2) Task #2 – Management Approvals

2.1) Plan/Scope – Management Approvals

R1-
F10-
006

Activities within this area are related to **Waste Engineering Manager** support for Management Assessments (MA's) of waste treatment projects and attendance at TRB and Independent Safety Review Committee (ISRC) meetings.

2.2) Quantification – Management Approvals

Management Approvals	(continues until the end of FY2006 unless specified)
Project Manager	ISRC meetings – 4 meetings/yr @ 4 hrs each = 96 hours TRB meetings – 4 meetings/yr @ 4 hrs each = 96 hours 1 MA on 6 projects – Organic Soil/Sludge/Debris, Inorganic Soil/Sludge/Debris, Inorganic Mercury, Macro-encapsulation/decontamination, Sample Disposition, and Mixed Waste for Incineration @ 40 hrs each = 240 hrs
Waste Engineering Mgr.	ISRC meetings - 4 meetings/yr @ 4 hrs each = 96 hours TRB meetings - 4 meetings/yr @ 4 hrs each = 96 hours 1 MA on 6 projects – Organic Soil/Sludge/Debris, Inorganic Soil/Sludge/Debris, Inorganic Mercury, Macro-encapsulation/decontamination, Sample Disposition, and Mixed Waste for Incineration @ 30 hrs each = 180 hrs
Subcontracts	None Required
Other Direct Costs	None

R1-
F10-
006

R1-
F10-
006

3) Task #3 – Oversight and Inspections

3.1) Plan/Scope – Oversight and Inspections

R1-
F10-
006

Activities in this area include support to site inspection activities from outside regulators such as the Defense Nuclear Facility Safety Board (DNFSB), the State and Federal Environmental Protection Agencies (EPA) and DOE Ohio Field Office Personnel. It also includes safety walkthroughs by the Waste Treatment Waste Engineer Manager.

3.2) Quantification – Oversight and Inspections

R1-
F10-
006

Oversight/Inspections	(continues until the end of FY2006 unless specified)
<u>Waste Engineer Manager</u>	Safety walkthrough – 1 time/wk @ 4 hours each = 1,248 hours DNFSB Visits – 1 time/year @20 hours each = 120 hours EPA inspections – 2 times/yr @27 hours each = 324 hours
Subcontracts	None Required
Other Direct Costs	None

4) Task #4 – Inventory Planning

4.1) Plan/Scope – Inventory Planning

This activity covers the general management of the SWIFTS database for project/activities within the waste treatment project. This includes the production of inventory reports for project tracking, earned value reporting, DOE requests and inventory tracking for waste treatment project management.

4.2) Quantification – Inventory Planning

R1-
F10-
006

Inventory Planning	
Information Records Rep	LOE at 0.9 <u>1.0</u> FTE's until the end of FY2003 = <u>4,976 MHRS</u>
Subcontracts	None Required
Other Direct Costs	None

~~5) Task #5 – Work Package Development~~

R1-
F10-
006

~~5.1) Plan/Scope – Work Package Development~~

~~This activity covers the independent review of Waste Treatment Project Task Orders (TO's), characterization packages and waste profiles by the waste treatment PM.~~

5.2) Quantification Work Package Development

R1-
 F10-
 006

Work Package Development	(continues until the end of FY2003)
Project Manager	Review of profiles @ 3 hrs each = 99 hours — AWWT (KBLA) — 9 Profiles — Organic Treatment (KBRT) — 9 Profiles — Inorganic Treatment (KBNR) — 4 Profiles — Mixed Waste for Incineration (KBTS) — 5 Profiles — Hazardous Waste (KBHW) — 6 Profiles Review of campaign release letters @ 2 hrs each = 140 hours — AWWT (KBLA) — 9 Release letters — Organic Treatment (KBRT) — 13 release letters — Inorganic Treatment (KBNR) — 8 release letters — Mixed Waste for Incineration (KBTS) — 20 release letters — Hazardous Waste (KBHW) — 20 release letters Review of Task Orders @ 2 hours each = 350 hours — AWWT (KBLA) — 9 Task Orders — Organic Treatment (KBRT) — 30 Task Orders — Inorganic Treatment (KBNR) — 52 Task Orders — Mixed Waste for Incineration (KBTS) — 40 Task Orders — Hazardous Waste (KBHW) — 20 Task Orders — Sample Disposition (KBSD) — 24 Task Orders
Subcontracts	None Required
Other Direct Costs	None

6) Task #6 – Technical Program Support

6.1) Plan/Scope – Technical Program Support

This work activity covers support to Technology Programs at the FEMP for DOE Environmental Management (EM) 50 office activities. This includes participation in EM-50 Mixed Waste Focus Area activities, site technology deployment initiatives, DOE alternatives to incineration discussions, site technology coordination group meetings and waste elimination team meetings.

6.2) Quantification – Technical Program Support

R1-
F10-
006

Tech. Programs Support	(continues until the end of FY2006 unless specified)
Project Manager Waste Engineering Mgr.	LOE estimated to be 2,270 hours by Technology Programs
Waste Engineering Mgr	LOE estimated to be 1,135 hours by Technology Programs
Subcontracts	None Required
Other Direct Costs	
Travel costs	\$28,000.00 in travel expenses as identified by Technology Programs

7) Task #7 – Travel

7.1) Plan/Scope – Travel

This activity covers hours used for travel associated with training, meetings and/or presentations not held at the FEMP site in Fernald, Ohio.

7.2) Quantification - Travel

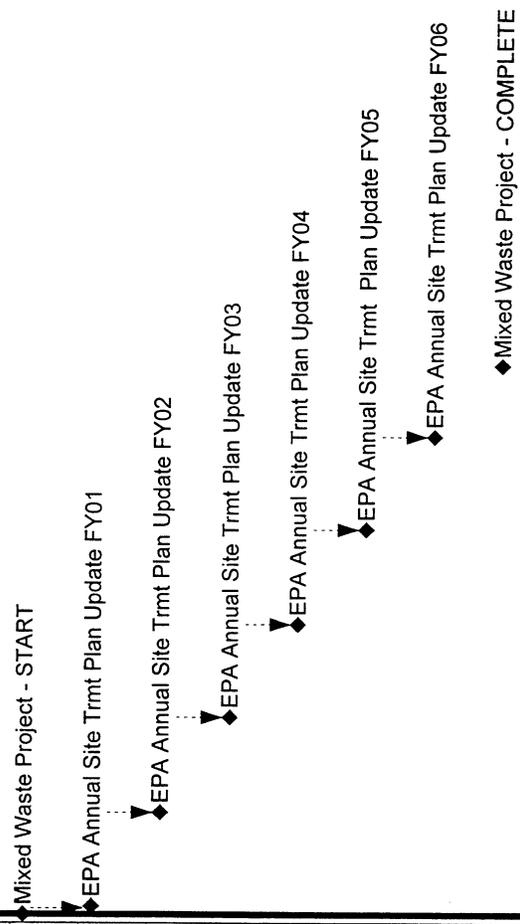
R1-
F10-
006

Travel	(continues to end of FY2006 unless noted)
Project Manager Waste Engineer Mgr.	Travel to four off-site training/meetings per year with one day of travel each way = 480 hours
Waste Engineers (7)	Travel to two off-site meeting/training's per year with one-half day travel each way until end of FY2003 = 420 hours
Subcontracts	None Required
Other Direct Costs	None

SECTION 1

2.0 SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
K PBS 10 - MIXED WASTE															
1.1.K.A MANAGEMENT															
KBWT1 Waste Treatment Program Management															
K1BWT10000	Mixed Waste Project - START	04DEC00*		0											
K1BWT1MS01	EPA Annual Site Trmt Plan Update FY01		28DEC00*	0											
K1BWT1MS02	EPA Annual Site Trmt Plan Update FY02		28DEC01*	0											
K1BWT1MS03	EPA Annual Site Trmt Plan Update FY03		30DEC02*	0											
K1BWT1MS04	EPA Annual Site Trmt Plan Update FY04		30DEC03*	0											
K1BWT1MS05	EPA Annual Site Trmt Plan Update FY05		30DEC04*	0											
K1BWT1MS06	EPA Annual Site Trmt Plan Update FY06		30DEC05*	0											
K1BWT1MS98	Mixed Waste Project - COMPLETE		28SEP06*	0											



FLUOR FERNALD	Start Date	01DEC00	BLCF - K101	Sheet 1 of 1	MIXED WASTE 1.1.K.A MANAGEMENT	<table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td></td> <td>R1-D-559</td> <td></td> <td></td> </tr> <tr> <td></td> <td>R1-D-586</td> <td></td> <td></td> </tr> <tr> <td></td> <td>R1-D-640</td> <td></td> <td></td> </tr> <tr> <td></td> <td>R1-D-653</td> <td></td> <td></td> </tr> <tr> <td></td> <td>R1-D-876</td> <td></td> <td></td> </tr> <tr> <td></td> <td>F10-007</td> <td></td> <td></td> </tr> </table>	Date	Revision	Checked	Approved		R1-D-559				R1-D-586				R1-D-640				R1-D-653				R1-D-876				F10-007		
	Date	Revision	Checked	Approved																														
	R1-D-559																																	
	R1-D-586																																	
	R1-D-640																																	
	R1-D-653																																	
	R1-D-876																																	
	F10-007																																	
Finish Date	28SEP06			<table border="1"> <tr> <th>Legend</th> <th>Activity</th> </tr> <tr> <td>█</td> <td>Early Bar</td> </tr> <tr> <td>█</td> <td>Progress Bar</td> </tr> <tr> <td>█</td> <td>Critical Activity</td> </tr> </table>	Legend	Activity	█	Early Bar	█	Progress Bar	█	Critical Activity																						
Legend	Activity																																	
█	Early Bar																																	
█	Progress Bar																																	
█	Critical Activity																																	
Data Date	01DEC00																																	
Run Date	12SEP01 10:50																																	

SECTION 1

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KA01 WASTE TREATMENT ADMIN

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
				Q1	Q2	Q3	Q4																				
1002 SSD MW DISPOSITION	10/02/2000	09/30/2002		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX																
1003 Thorium Stabilization	10/02/2000	01/09/2001		XXX	X																						
1004 Neutralization Precipitation Deactivation	10/02/2000	01/25/2001		XXX	X																						
1005 Char/Pack/Ship Hazardous Waste	10/02/2000	09/28/2001		XXX	XXX	XXX	XXX																				
1006 Organic Treatment Project (PCB)	10/02/2000	07/02/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	X												
1007 Thorium Mixed Waste	10/02/2000	07/15/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	X												
1008 Mixed Waste Admin	10/02/2000	09/30/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX												
1009 Inorganic Small Quantity	10/01/2001	07/18/2002						XXX	XXX	XXX	X																
1010 DECONTAMINATION/MACROENCAPULATIO	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																			
1011 INORGANIC SAMPLE DISPOSITION	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																			
1012 LIQUID AWWT	10/02/2000	11/16/2000		XX																							
1013 LIQUID TSCA	10/02/2000	03/28/2002		XXX	XXX	XXX	XXX	XXX	XXX																		
Project Management			0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste Management			24.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Information Management			12.00	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Waste Management			12.00	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Project Controls			0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative			12.00	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sheet Totals:				60.00	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

SECTION 1

4.0 ESTIMATE

KBWT1

WASTE TREATMENT ADMIN

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.A
CTRL ACCT: KBWT
CHARGE NO: KBWT1
COMMENT NO: F10-004, F10-006.

Resource: CLERKS **LABOR**
Res Dept: 951 **EOC:** SAL

	CLERKS		EOC:		LABOR	
	Over:	Time:	Class:	SAL	Class:	SAL
Yr Hours:	726.0	873.5	2,473.0	873.5	5,093.5	5,093.5
Cum Hours:	17,344	21,985	23,265	26,098	27,883	27,883
Yr Total Cost:	17,344	39,309	62,575	113,310	141,192	141,192
Cum Total Cost:						

Resource: INRREP **LABOR**
Res Dept: 951 **EOC:** SAL

	INFO RECORDS REP		EOC:		LABOR	
	Over:	Time:	Class:	SAL	Class:	SAL
Yr Hours:	1,452.0	1,747.0	4,946.0	4,946.0	4,946.0	4,946.0
Cum Hours:	43,095	54,577	57,808	0	0	0
Yr Total Cost:	43,095	97,673	155,481	155,481	155,481	155,481
Cum Total Cost:						

Resource: MAT300 **MATERIAL**
Res Dept: 951 **EOC:** MAT

	MATERIAL OBJCLASS300		EOC:		MATERIAL	
	Over:	Time:	Class:	MAT	Class:	MAT
Yr Units:	2,694.6	3,238.7	9,172.0	3,238.7	18,888.0	18,888.0
Cum Units:	2,695	5,933.3	9,172.0	12,423.6	15,662.3	15,662.3
Yr Total Cost:	2,695	3,326	3,416	3,526	3,610	3,610
Cum Total Cost:	2,695	6,021	9,437	12,962	16,572	16,572

Resource: ODC600	EOC: ODC												
Res Dept: 951	Class: ODC												
ODC 600	EOC: ODC												
Overtime:	Class: ODC												
		Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10		
Yr Units:		0.0	9,000.0	6,000.0	4,500.0	4,500.0	3,000.0	0.0	0.0	0.0	0.0		
Cum Units:		0.0	9,000.0	15,000.0	19,500.0	24,000.0	27,000.0	27,000.0	27,000.0	27,000.0	27,000.0		
Yr Total Cost:		0	9,243	6,328	4,879	5,016	3,441	0	0	0	0		
Cum Total Cost:		0	9,243	15,571	20,451	25,466	28,907	28,907	28,907	28,907	28,907		

Resource: ODC700	EOC: ODC												
Res Dept: 951	Class: ODC												
ODC 700	EOC: ODC												
Overtime:	Class: ODC												
		Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10		
Yr Units:		4,000.0	8,000.0	4,000.0	4,000.0	4,000.0	4,000.0	0.0	0.0	0.0	0.0		
Cum Units:		4,000.0	12,000.0	16,000.0	20,000.0	24,000.0	28,000.0	28,000.0	28,000.0	28,000.0	28,000.0		
Yr Total Cost:		4,000	8,216	4,219	4,337	4,458	4,588	0	0	0	0		
Cum Total Cost:		4,000	12,216	16,435	20,772	25,230	29,818	29,818	29,818	29,818	29,818		

Resource: SUBS	EOC: SUB												
Res Dept: 951	Class: SUB												
SUBS	EOC: SUB												
Overtime:	Class: SUB												
		Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10		
Yr Units:		18,410.8	14,339.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cum Units:		18,410.8	32,750.0	32,750.0	32,750.0	32,750.0	32,750.0	32,750.0	32,750.0	32,750.0	32,750.0		
Yr Total Cost:		18,411	14,726	0	0	0	0	0	0	0	0		
Cum Total Cost:		18,411	33,137	33,137	33,137	33,137	33,137	33,137	33,137	33,137	33,137		

Resource: WSTENG	EOC: SAL												
Res Dept: 951	Class: SAL												
WASTE ENGINEER	EOC: SAL												
Overtime:	Class: SAL												
		Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10		
Yr Hours:		1,452.0	1,747.0	1,747.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cum Hours:		1,452.0	3,199.0	4,946.0	4,946.0	4,946.0	4,946.0	4,946.0	4,946.0	4,946.0	4,946.0		
Yr Total Cost:		74,096	93,837	99,392	0	0	0	0	0	0	0		
Cum Total Cost:		74,096	167,932	267,324	267,324	267,324	267,324	267,324	267,324	267,324	267,324		

Resource: WSTMGR WASTE ENGINEER MGR EOC: LABOR
 Res Dept: 951 Overtime: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	1,452.0	1,747.0	1,747.0	1,747.0	1,747.0	1,747.0	0.0	0.0	0.0	0.0
Cum Hours:	1,452.0	3,199.0	4,946.0	6,693.0	8,440.0	10,187.0	10,187.0	10,187.0	10,187.0	10,187.0
Yr Total Cost:	79,889	101,174	107,163	113,482	120,209	128,430	0	0	0	0
Cum Total Cost:	79,889	181,063	288,226	401,708	521,917	650,347	650,347	650,347	650,347	650,347

GRAND TOTALS:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	5,082.0	6,114.5	6,114.5	2,620.5	2,620.5	2,620.5	0.0	0.0	0.0	0.0
Cum Hours:	5,082.0	11,196.5	17,311.0	19,931.5	22,552.0	25,172.5	25,172.5	25,172.5	25,172.5	25,172.5
Yr Total Cost:	239,529	307,065	301,592	150,861	159,391	168,041	0	0	0	0
Cum Total Cost:	239,529	546,594	848,187	999,047	1,158,438	1,326,479	1,326,479	1,326,479	1,326,479	1,326,479

John B. ...

Anna May

CAM

CONTROL TEAM

SECTION 1

5.0 RISK PLAN

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 72
5. WBS ELEMENT CODE 1.1.K.B	6. WBS ELEMENT TITLE ORGANIC TREATMENT
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100

11. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
 Materials
 Subcontracts
 ODC's

b. TECHNICAL CONTENT:

This element provides for the planning, management, administration, packaging/repackaging, treatment and disposal of contaminated waste including soils, sludge and debris, and discarded aerosol cans resulting from historical, current and future operations at the Fernald Environmental Management Project (FEMP).

c. SCOPE OF WORK:

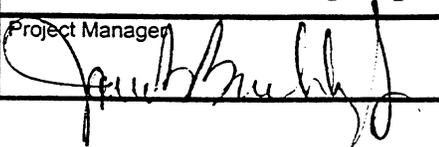
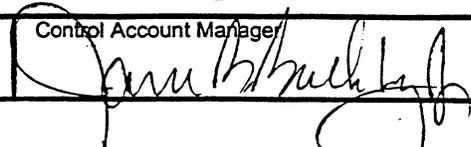
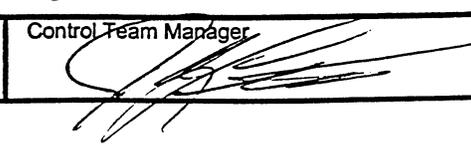
This element includes a broad range of wastes with similar hazardous chemical characteristics. It is organized into two work packages (charge numbers): Organic Soil, Sludge, and Debris, and Organic Aerosol Can Puncturing. The activities involved in the final disposal of these wastes include the planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this element.

Organic Soil/Sludge/Debris (KBRT1) - This work package includes the on-site characterization, decanting, sampling and packaging for shipment of 1,421 containers of soil, sludge and debris waste contaminated with organic solvents, Polychlorinated Biphenyls (PCB's), heavy metals and radiological constituents. These wastes will then be shipped to an approved broad-spectrum contractor for treatment in accordance with applicable federal, state and local laws and regulations. Treated waste will be shipped by the broad-spectrum contractor to Envirocare of Utah (Envirocare) for disposal.

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 72
5. WBS ELEMENT CODE 1.1.K.B	6. WBS ELEMENT TITLE ORGANIC TREATMENT
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <p>Organic Aerosol Can Puncturing (KBRT2) - This activity includes the on-site sorting, puncturing and off-site disposal of 63 containers of legacy (generated and containerized prior to 12/01/00) unpunctured aerosol cans, as well as any newly-generated containers of unpunctured aerosol cans. After containers of aerosol cans have been sorted to remove prohibited items, liquids, or other wastes requiring treatment, and subsequent puncturing, the empty cans will be crushed in drums and shipped for disposal at the On-site Disposal Facility (OSDF).</p>	

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBRT	13. TASK DESCRIPTION (ONE LINE) ORGANIC TREATMENT		
14. ELEMENT TASK DESCRIPTION			
<p>a. ELEMENTS OF COST:</p> <p>Labor Material Subcontracts ODCs</p> <p>b. TECHNICAL CONTENT:</p> <p>This control account provides for the planning, management, administration, packaging/repackaging, treatment and disposal of contaminated waste including soils, sludge and debris, and discarded aerosol cans resulting from historical, current and future operations at the Fernald Environmental Management Project (FEMP).</p> <p>c. SCOPE OF WORK:</p> <p>This control account includes a broad range of wastes with similar hazardous chemical characteristics. It is organized into two work packages (charge numbers): Organic Soil, Sludge, and Debris, and Organic Aerosol Can Puncturing. The activities involved in the final disposal of these wastes include the planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.</p> <p>Organic Soil/Sludge/Debris (KBRT1) - This work package includes the on-site characterization, decanting, sampling and packaging for shipment of 1,421 containers of soil, sludge and debris waste contaminated with organic solvents, Polychlorinated Biphenyls (PCB's), heavy metals and radiological constituents.</p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBRT	13. TASK DESCRIPTION (ONE LINE) ORGANIC TREATMENT		

14. ELEMENT TASK DESCRIPTION

These wastes will then be shipped to an approved broad-spectrum contractor for treatment in accordance with applicable federal, state and local laws and regulations. Treated waste will be shipped by the broad-spectrum contractor to Envirocare of Utah (Envirocare) for disposal.

Organic Aerosol Can Puncturing (KBRT2) - This activity includes the on-site sorting, puncturing and off-site disposal of 63 containers of legacy (generated and containerized prior to 12/01/00) unpunctured aerosol cans, as well as any newly-generated containers of unpunctured aerosol cans. After containers of aerosol cans have been sorted to remove prohibited items, liquids, or other wastes requiring treatment, and subsequent puncturing, the empty cans will be crushed in drums and shipped for disposal at the On-site Disposal Facility (OSDF).

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	-----------------------	--------

3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2003
---	---

12. TASK IDENTIFICATION (WORK PACKAGE) KBRT1	13. TASK DESCRIPTION (ONE LINE) ORGANIC SOIL/SLUDGE/DEBRIS
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

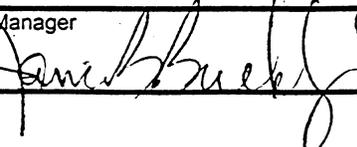
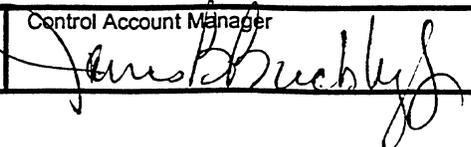
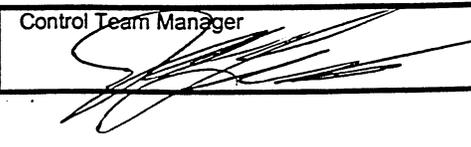
b. TECHNICAL CONTENT:

This work package provides for the planning, management, administration, packaging/repackaging, treatment and disposal of contaminated waste including soils, sludge and debris, resulting from historical operations at the Fernald Environmental Management Project (FEMP).

c. SCOPE OF WORK:

This work package includes the on-site characterization, decanting, sampling and packaging for shipment of 1,421 containers of soil, sludge and debris waste contaminated with organic solvents, Polychlorinated Biphenyls (PCB's), heavy metals and radiological constituents. These wastes will then be shipped to an approved broad spectrum contractor for treatment in accordance with applicable federal, state and local laws and regulations. Treated waste will be shipped by the approved broad spectrum contractor to Envirocare of Utah (Envirocare) for disposal.

This work package includes the following sub-tasks:
Planning and Management - Development of project flow/logic diagrams, schedules, statements of work, and contractual agreements with the broad-spectrum contractor. Development of safety basis documents, applicable procedures, task orders, work orders and requisitions as needed.

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBRT1	13. TASK DESCRIPTION (ONE LINE) ORGANIC SOIL/SLUDGE/DEBRIS		

14. ELEMENT TASK DESCRIPTION

Characterization - Material evaluation/process knowledge review, sampling and analysis plan development, waste sampling, data review, statistical analysis (radiological and chemical) and field validation of material description and process knowledge. Compatibility reviews, absorbent determinations, EPA waste code assignments and LDR verifications.

Processing - Processing activities for the organic soil/sludge/debris include RTR of waste containers, overpacking or repacking of 1,421 containers, decanting of 643 containers and associated container movements.

Packaging - Includes container movements, radiological monitoring and surveys, container labeling in accordance with DOT requirements and the M&EC WAC, placement of containers on pallets for shipping, and banding of containers to the pallet for shipment.

Shipping - Includes loading of conveyance onto transport vehicle, performance of regulatory review per characterization data and completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.). Also include performance of incoming and outgoing vehicle inspections, vehicle release survey and release checklist.

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE) KBRT2	13. TASK DESCRIPTION (ONE LINE) ORGANIC AEROSOL CAN PUNCTURING		

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

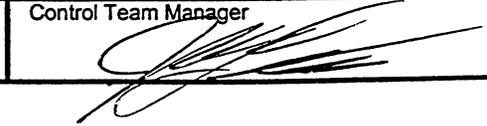
b. TECHNICAL CONTENT:

This work package provides for the planning, management, administration, packaging/repackaging, treatment and disposal of discarded aerosol cans resulting from historical, current and future operations at the Fernald Environmental Management Project (FEMP).

c. SCOPE OF WORK:

This work package includes on-site sorting and puncturing and off-site disposal of 63 containers of legacy (generated and containerized prior to 12/01/00) unpunctured aerosol cans, as well as any newly generated containers of unpunctured aerosol cans. After containers of aerosol cans have been sorted to remove prohibited items, liquids, or other wastes requiring treatment, and subsequent puncturing, the empty cans will be crushed in drums and shipped for disposal at the On-site Disposal Facility (OSDF).

This work package includes the following sub-tasks:
Management and Planning - Development of project flow/logic diagrams, schedules, and statements of work. Development of safety basis documents, applicable procedures, task orders, work orders and requisitions as needed. It also includes the tracking and incorporation of secondary wastes into appropriate Waste Generator Services control accounts for subsequent handling and disposal.

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.B	4. WBS ELEMENT TITLE/NAME ORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE) KBRT2	13. TASK DESCRIPTION (ONE LINE) ORGANIC AEROSOL CAN PUNCTURING		

14. ELEMENT TASK DESCRIPTION

Characterization - Material evaluation/process knowledge review, sampling and analysis plan development, waste sampling, data review, statistical analysis (radiological and chemical) and field validation of material description and process knowledge. Compatibility reviews, absorbent determinations, EPA waste code assignments and LDR verifications.

Processing - Includes sorting and segregation of 63 containers of aerosol cans containerized prior to 12/01/00, and 40 containers per year of newly generated unpunctured aerosol cans until the end of fiscal year 2006. It also includes associated container movements for processing activities.

Packaging - Includes container movements, radiological monitoring and surveys, container labeling in accordance with DOT requirements, placement of containers on pallets for shipping as applicable, and banding of containers to the pallet for shipment.

Shipping - After sorting to remove prohibited items (non-aerosol cans), liquids, or other wastes requiring treatment, the empty cans will be crushed in drums and transferred for disposal at the OSDF. The separated liquids and prohibited items will be shipped to a pre-determined Treatment/Storage/Disposal Facility (TSDF).

d. WORK SPECIFICALLY EXCLUDED:

No specific exclusions are applicable to this activity.

SECTION 2

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.B.	5. WBS ELEMENT TITLE: ORGANIC TREATMENT	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: KBRT	

SECTION 2: KBRT – ORGANIC TREATMENT

1.0 NARRATIVE

1.1 OVERVIEW

This scope of work includes the planning, management, administration, packaging/repackaging, treatment and disposal of contaminated waste including soils, sludge and debris, and discarded aerosol cans resulting from historical operations at the Fernald Environmental Management Project (FEMP). Two distinct project activities will be performed within this control account.

1.1.1 KBRT1 – Organic Soil/Sludge/Debris

This charge number includes the on-site characterization, decanting, sampling and packaging for shipment of ~~1,149 containers of~~ 1,383 (240,663 kg) legacy containers (containerized prior to 12/01/00) and 38 containers of forecasted waste from PBS 01 and Plant 5 & 6 D&D Activities containing soil, sludge and debris waste contaminated with organic solvents, Polychlorinated Biphenyls (PCB's), heavy metals and radiological constituents. These wastes will then be shipped to ~~the Materials and Energy Corporation (M&EC) in Oak Ridge Tennessee~~ a broad spectrum contractor for treatment in accordance with applicable federal, state and local laws and regulations. Treated waste will be shipped by ~~M&EC~~ The Broad Spectrum Contractor to Envirocare of Utah (Envirocare) for disposal.

R1-
F10-
007

R1-D-
568

R1-D-
582

R1-D-
583

1.1.2 KBRT2 – Organic Aerosol Can Puncturing

This activity includes the on-site sorting, puncturing and off-site disposal of 63 containers of legacy (generated and containerized prior to 12/01/00) unpunctured aerosol cans, as well as any newly-generated containers of unpunctured aerosol cans. After containers of aerosol cans have been sorted to remove prohibited items, liquids, or other wastes requiring treatment, and subsequent puncturing, the empty cans will be crushed in drums and shipped for disposal. ~~at the On-site Disposal Facility (OSDF).~~

R1-
D-
582

R1-
D-
583

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 KBRT1 – Organic Soil/Sludge/Debris

R1-D-
640

R1-D-
586

R1-D-
559

- 1) The organic soil/sludge/debris scope of work will be complete at the end of fiscal year 2003 ~~4~~. After that time, FEMP generators of organic soil/sludge/debris wastes will fund any treatment, storage or disposal activities from the generators Project Baseline Summary (PBS), with administrative coordination from PBS 10, Control Account KBWT1 until the end of FY2006. After that, administrative coordination will be funded by PBS-11, Control Account MMMA1.
- 2) Organic Soil/Sludge/Debris waste will be accepted and treated by the M&EC facility in Oak Ridge, Tennessee under the Department of Energy's (DOE) Broad Spectrum Contract. Additionally the facility becomes and remains operational by attaining and complying with required certifications and the current Waste Acceptance Criteria (WAC), as of 12/01/00, remains in use.
- 3) Broad Spectrum Contract and current pricing will remain in place for the life of the Organic Treatment project.
- 4) The M&EC treatment schedule will accommodate Fernald's OTP schedule.
- 5) All paperwork for treated waste disposal at Envirocare will be completed and submitted by M&EC and transportation for disposal at Envirocare will be paid for by M&EC. Actual disposal costs at Envirocare will be paid for by a direct funds transfer from DOE-FN to Envirocare.
- 6) Treated waste will remain acceptable at Envirocare under Envirocare's current WAC.
- 7) Sampling and sample analysis of treated waste ~~will~~ will be arranged and paid for by M&EC and will occur at the M&EC facility.
- 8) On-site sampling at the FEMP will be conducted on a maximum of fifty-four (54) containers to support shipping activities from the FEMP to M&EC.
- 9) Sampling analysis to support shipping activities from the FEMP to M&EC will occur at an off-site laboratory and be paid for by Fluor Fernald.
- 10) No sampling of the organic soil/sludge/debris waste is required for receipt and acceptance for treatment at M&EC.

11) No prohibited items, as defined by M&EC, are present in the organic soil/sludge/debris waste that would require sorting at the FEMP or M&EC with subsequent return of prohibited items from M&EC to the FEMP.

R1-
F10-
007

12) The legacy organic soil/sludge/debris inventory as of December 1, 2000 will not change in container number or type for the duration of the organic soil/sludge/debris scope of work, and estimated wastes from PBS01 and the Plant 5 & 6 project remains at an additional 38 containers of waste.

13) A maximum of 30 days of weather delay has been built into the project schedule for FEMP on-site organic soil/sludge/debris container movements, packaging/repackaging and loading activities.

R1-
D-
582

14) Broad Spectrum Contractor M&EC's shipping vehicles (including carriers) will be available and will retain certification for transporting FEMP wastes to M&EC and treated waste from M&EC to Envirocare.

R1-
D-
583

15) M&EC's The broad spectrum contractors shipping vehicles will meet the transportation schedules defined for the organic soil/sludge/debris scope of work.

16) No special packaging/repackaging will be required for shipment of sludge materials.

17) No consolidation of the organic soil/sludge/debris waste stream will be performed to minimize containers for shipment.

R1-
F10-

18) For determination of shipping preparation activities and loading at the FEMP, it is assumed that there will be an average of three containers four 55-gallon, two 85-gallon or one 110-gallon drum per pallet for shipping.

19) Each container in the organic soil/sludge/debris scope of work will undergo Real Time Radiography (RTR) at the FEMP prior to shipment.

R1-
F10-
007

20) It is assumed that ~~600~~ 643 containers in the organic soil/sludge/debris inventory will require decanting activities to remove free-standing water prior to shipment.

R1-
F10-
007

21) It is assumed that ~~4,032~~ 1,133 containers will require overpacking and ~~117-288~~ containers will require repackaging.

22) Overpack containers will be no larger than 110 gallons, meaning that any containers 110 gallons or larger will require repackaging.

23) Repackaged white metal boxes will result in ten 55-gallon drums for shipment.

24) There will be no Standard Startup Review or Operational Readiness Review for organic soil/sludge/debris project activities. However, there may be a Management

Assessment (MA) completed by Waste Generator Services (WGS) at the project's discretion.

- 25) One mock-up of on-site project activities will be performed for the MA, if it is required.
- 26) On-site project activities will take place in Building 79.
- 27) Shipping costs to M&EC and costs from M&EC to Envirocare are included in the Broad Spectrum Contract costs.
- 28) Secondary wastes (such as PPE and trash) can be disposed of as compactible trash to the Nevada Test Site (NTS) and funded directly as a funds transfer by DOE-FN to DOE-NV.

R1-
F10-
007

29) ~~One forecasted container is equal to 174.0 killograms-kilograms~~

30) EPA approves disposal of 137 drums containing soils from Fire Training Facility (FTF) at the On-site Disposal Facility (OSDF.)

1.2.1.2 KBRT2 – Organic Aerosol Can Puncturing

R1-
D-
640

1) The unpunctured aerosol can scope of work will be complete at the end of fiscal year 2006. After that time, FEMP generators of unpunctured aerosol can wastes will fund any treatment, storage or disposal activities from the generators PBS, with administrative coordination from PBS 40 11, Control Account ~~MMMAT~~

R1-
D-
586

2) Approximately forty (40) 55-gallon drums of unpunctured aerosol cans will be generated per year through fiscal year 2006.

R1-
D-
559

3) The aerosol can sorting and puncturing activity will be located in the Building 68 warehouse. This facility will remain in operation until all planned waste processing activities are completed

1.2.1.3 General

1) Support from functional areas such as Operations, Maintenance, Radiation Safety, Inventory Control, Industrial Hygiene, Characterization and Transportation will be available to meet the Organic Treatment Project (OTP) schedules.

2) The current safety analysis will not change to impact this project, nor will any other project safety basis impact this scope of work.

3) No special equipment other than that currently at the FEMP is required to perform OTP activities.

R1-
D-
583

R1-
D-
583

- 4) Empty containers that previously held OTP wastes can be crushed on-site and disposed of in the OSDF or Nevada Test Site without any further treatment activities (such as triple rinsing).
- 5) Any residual liquid waste(s) in the containers will be removed and transferred to the Mixed Waste for Incineration Project or the AWWT Project, and is included in this scope of work.

1.2.2 Exclusions

1.2.2.1 KBRT1 – Organic Soil/Sludge/Debris

- 1) The organic soil/sludge/debris scope of work does not include any waste containerized after December 1, 2000, with the exception of Plant 5 and Plant 6 wastes.

1.2.2.2 KBRT2 – Organic Aerosol Can Puncturing

No specific exclusions are applicable to this activity.

1.2.3 Government-Furnished Equipment/Services

1.2.3.1 KBRT1 – Organic Soil/Sludge/Debris

- 1) The Broad Spectrum Contract as administered by the Department of Energy Oak Ridge Operations Office (DOE-ORO) will remain in effect through the end of FY2003, and be fully available for the waste types and schedule identified in this Control Account.
- 2) The DOE disposal contract with Envirocare of Utah will remain in place until at least the end of FY2004, and be fully available for the waste types and schedule identified in this Control Account.

1.2.3.2 KBRT2 – Organic Aerosol Can Puncturing

No government furnished equipment or services is required for this activity.

1.3 DRIVERS

1.3.1 KBRT1 – Organic Soil/Sludge/Debris

- 1) Waste acceptance profiles accepted by M&EC.
- 2) Approval of M&EC Readiness to receive waste by Fluor Fernald. Legal (CERCLA off-site authority).
- 3) Acceptance of the waste for disposal at Envirocare.

R1-
F10-
007

- 4) Broad Spectrum contract and M&EC WAC.
- 5) Envirocare contract and WAC.
- 6) Waste Acceptance Criteria for OSDF

1.3.2 KBRT2 – Organic Aerosol Can Puncturing

- 1) Delivery of cans from Plant 5 and Plant 6 demolition activities, and other site-wide generators until the end of fiscal year 2006.

1.4 PROJECT PHYSICAL DESCRIPTION

The organic treatment project includes a broad range of wastes with similar hazardous chemical characteristics. The activities involved in the final disposal of these wastes include the planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

1.4.1 KBRT1 – Organic Soil/Sludge/Debris

- 1) Planning and Management Activities

Development of project flow/logic diagrams, schedules, statements of work, and contractual agreements with Broad Spectrum contractor. Development of safety basis documents, applicable procedures, task orders, work orders and requisitions as needed.

- 2) Characterization Activities

Material evaluation/process knowledge review, sampling and analysis plan development, data review, statistical analysis (radiological and chemical) and field validation characterization (RTR) of material description and process knowledge. Compatibility reviews, absorbent determinations, EPA waste code assignments and LDR verifications. Prepare waste disposal request of FTF soils at OSDF for EPA approval.

R1-
F10-
010

- 3) Processing Activities

Processing activities for the organic soil/sludge/debris include ~~RTR of waste containers~~, overpacking or repacking of 1,149 ~~1,421~~ containers, decanting of 600 643 containers, staging of FTF soils for transport to OSDF, and associated container movements.

R1-
F10-
007

R1-
F10-
010

- 4) Packaging

Packaging activities includes container movements, radiological monitoring and surveys, container labeling in accordance with DOT requirements and the M&EC WAC, placement of containers on pallets for shipping, and banding of containers to the pallet for shipment.

5) Shipping

Includes loading of conveyance onto transport vehicle, performance of regulatory review per characterization data and completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.). Also include performance of incoming and outgoing vehicle inspections, vehicle release survey and release checklist, and disposal of FIF soils at OSDF.

R1-
F10-
007

1.4.2 KBRT2 – Organic Aerosol Can Puncturing

1) Management and Planning Activities

Development of project flow/logic diagrams, schedules and statements of work. Development of safety basis documents, applicable procedures, task orders, work orders and requisitions as needed. It also includes the tracking and incorporation of secondary wastes into appropriate Waste Generator Services control accounts for subsequent handling and disposal.

2) Characterization Activities

Material evaluation/process knowledge review, sampling and analysis plan development, data review, statistical analysis (radiological and chemical) and field validation of material description and process knowledge. Compatibility reviews, absorbent determinations, EPA waste code assignments and LDR verifications.

3) Processing Activities

Processing activities for aerosol can puncturing include sorting and segregation of 63 containers of aerosol cans containerized prior to 12/01/00, and 40 containers per year of newly generated unpunctured aerosol cans until the end of fiscal year 2006. It also includes associated container movements for processing activities.

4) Packaging

Packaging activities includes container movements, radiological monitoring and surveys, container labeling in accordance with DOT requirements, placement of containers on pallets for shipping as applicable, and banding of containers to the pallet for shipment.

5) Shipping

After sorting to remove prohibited items (non-aerosol cans), liquids, or other wastes requiring treatment, the empty cans will be crushed in drums and transferred for disposal at the OSDF.

R1-
D-
582

R1-
D-
583

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBRT1 – Organic Soil/Sludge/Debris

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

R1-
F10-
007

R1-D-
586

R1-D-
559

- Identify approximately 1,149 ~~1,149~~ 1,421 containers of organic soil/sludge/debris waste generated and containerized prior to 12/01/00 and combine into campaign packages.
- Integrate secondary waste containers of soil/sludge/debris generated from the Advanced Wastewater Treatment (AWWT) Facility project (KBLA), Mixed Waste for Incineration Project (KBTS), and the Sample Disposition Project (KBSD), into the project for disposal. The quantity of waste to be integrated is estimated to be an additional 380 containers.
- Develop schedules for on-site characterization, processing, and packaging.
- Develop procedures.
- Develop task orders for Broad Spectrum Technical Contract.
- Develop schedules with M&EC for off-site shipment.
- Submit and approve M&EC waste acceptance profile.
- Track treatment, disposal, and invoicing.
- Develop task orders and/or work plans for on-site processing.
- Develop task orders for movements, addition of absorbent, and labeling.
- Develop task order for staging of containers and loading.
- Make two visits to Oak Ridge, two people for three days per person for initial operations and project closeout.
- Make five visits to Oak Ridge, one person for two days per visit to observe treatment and storage operations and packaging for disposal at Envirocare.
- Submittal of waste acceptance request of FTF soils for disposal at OSDF to EPA.

R1-
F10-
007

1.2) Quantification – Planning and Management Activities

Manhours (Mhrs) and Full Time Equivalents (FTE's) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE's required to complete the task within it's scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 2,228 Mhrs. One full FTE for the life of the project (about 3 years) is 5,241 Mhrs. 2,228 Mhrs is approximately 0.4 FTE's for the life of the project, whereas under management approvals, a Waste Engineer is needed for 100 Mhrs over ten days. This equates to one full FTE for that activity. This logic is applied to the remaining quantification sections in this Control Account.

1. Planning and Management	
<p>General Administration</p> <p>Supervisor– 167.1 226.2 Mhrs. (0.03 FTE) Quality Assurance– 167.1 Mhrs. (0.03 FTE) Safety Analysis– 55.7 75.4 Mhrs. (0.01 FTE) Waste Engineer– 2,228 3,016 Mhrs. (0.4 FTE) Acquisitions– 389.9 Mhrs. (0.07 FTE) Waste Engineer Mgr– 1,140 Mhrs. (0.2 FTE) Admin. Support– 389.9 Mhrs. (0.07 FTE)</p>	<p>Waste Engineer involvement includes general project oversight and program maintenance, monitoring subcontractor administration, invoicing, treatment and disposal tracking, procedure reviews and revisions, training, and scheduling.</p> <p>QA will provide 1 hr/wk on oversight issues for life of project.</p> <p>Acquisitions will need to develop and issue 6 delivery orders at 10 hrs/delivery order), manage invoicing, project close-out (100 hrs)</p> <p>Admin Specialist will provide 2 hrs/wk for general support</p> <p>Waste Engineer Manager will provide 8 hrs/wk for meeting, coordination, and DOE internal coordination.</p>
<p>Mgt. Approvals</p> <p>Hazwat – 90 Mhrs. (0.9 FTE) Supervisor– 50 Mhrs. (0.5 FTE) Rad Tech– 30 Mhrs. (0.3 FTE) Quality Assurance– 50 Mhrs. (0.5 FTE) Safety Tech– 20 Mhrs. (0.2 FTE) Rad Engineer– 20 Mhrs. (0.2 FTE) Safety Engineer– 40 Mhrs. (0.4 FTE) Safety Analysis– 20 Mhrs. (0.2 FTE) Waste Engineer– 100 Mhrs. (1.0 FTE) MC&A– 20 Mhrs. (0.2 FTE) TO Writer– 20 Mhrs. (0.2 FTE) Waste Engineer Mgr– 100 Mhrs. (1.0 FTE)</p>	<p>One (1) Management Assessment may need to be performed for potential radioactive liquid shipment (10 days)</p>

R1-
F10-
008

R1-
F10-
006

R1-
F10-
008

R1-
F10-
006

1. Planning and Management	
<p>Oversight/Inspections</p> <p>Supervisor- 30 Mhrs. (0.2 FTE) Rad Tech- 30 Mhrs. (0.2 FTE) Quality Assurance- 75 Mhrs. (0.5 FTE) Waste Engineer- 150 Mhrs. (1.0 FTE) Waste Engineer Mgr- 150 Mhrs. (1.0 FTE)</p>	<p>Five (5) days/year for life of project for project oversight</p>
<p>Inventory Planning</p> <p>Waste Engineer- 280 Mhrs. (2.0 FTE) MC&A- 420 Mhrs. (3.0 FTE) TO Writer- 140 Mhrs. (1.0 FTE)</p>	<p>A total of seven (7) campaigns: First Article, Organic Soil, Organic and PCB Soil, , Organic Sludge, Organic and PCB Sludge, Organic Debris, and Organic and PCB Debris</p> <p><u>Inventory Planning per campaign:</u> Project Engineer - 4 days/campaign Inventory Records Specialist (MCA) - 6 days/campaign TPSREP - 2 days/campaign</p>
<p>Work Package Development</p> <p>Hazwat - 176 Mhrs. (0.05 FTE) Supervisor- 176 Mhrs. (0.05 FTE) Rad Tech- 35.2 Mhrs. (0.01 FTE) Quality Assurance- 105.6 Mhrs. (0.03 FTE) Safety Tech- 70.4 Mhrs. (0.02 FTE) Rad Engineer- 70.4 Mhrs. (0.02 FTE) Safety Engineer- 70.4 Mhrs. (0.02 FTE) Safety Analysis- 105.6 Mhrs. (0.03 FTE) Waste Engineer- 1,056 Mhrs. (0.3 FTE) MC&A- 105.6 Mhrs. (0.03 FTE) TO Writer- 1,056 Mhrs. (0.3 FTE) Waste Engineer Mgr- 35.2 Mhrs. (0.01 FTE)</p>	<p>Assuming only 100 containers per Task Order per discrete activity (RTR, repack, overpack, stage for shipping and loading), a total of 44 task orders are estimated to be required. In addition, one (1) task order for the handling of secondary waste will be required.</p> <p><u>Per task order:</u> Project Engineer Task order permits written by ops/Supervisor. Task Order Writer & Waste Engineer 20 hours/task order PE - 10/hrs delivery order, 100 containers/Task Order QA above line 4 hrs/TO Ops Supervisor/Hazwat 2 hrs/ each QA to review 2 hrs/Task Order Safety Analysis Waste Engineer Manager - 1 hr task order</p>
<p>Tech. Programs Support</p> <p>Waste Engineer- 120 Mhrs. (1.0 FTE) Waste Engineer Mgr- 120 Mhrs. (1.0 FTE)</p>	<p>Includes Waste Engineer and Waste Engineer Manager participation during Technology Programs coordination meeting related to the OTP and DOE Mixed Waste focus area meetings related to OTP.</p>
<p>Travel</p> <p>Waste Engineer- 160 Mhrs. (1.0 FTE) Waste Engineer Mgr- 160 Mhrs. (1.0 FTE)</p>	<p>During the life of the project, there are a total of seven (7) trips planned. Initial trip: 3 days for Waste 5 Cam. Trips: each 2 days (10 days) for Waste Engineer Close Out - 3 days for Waste Engineer and Waste Engineer Manager</p>

R1-
F10-
008

R1-
F10-
006

R1-
F10-
008

R1-
F10-
006

R1-
F10-
006

2) Task #2 - Characterization Activities

2.1) Plan/Scope – Characterization Activities

R1-
F10-
007

R1-
F10-
009

R1-D-
582

R1-D-
583

- Perform material evaluation/process knowledge review. (Waste Characterization, PBS-11)
- Determine potential Inventory control and lot code modifications. (WC-PBS11)
- Perform data review and radiological and chemical statistical analysis. (WC-PBS11)
- Perform compatibility assessment for packaging. (WC-PBS11)
- Field validate material description and process knowledge. (WC-PBS11)
- Perform sampling on 54 containers, with one sample per container, for confirmation analysis.
- Move ~~1,49~~ 1,421 containers from storage to Building 30A for RTR (WC-PBS10)
- Confirmation analysis will consist of radiological analysis (for total uranium and U-235) and analysis for volatile organic compounds, semi-volatile organic compounds, metals, pH and flashpoint.
- Photograph contents of approximately 150 containers of secondary waste that may be generated from project activities. (WC-PBS11)
- Determine EPA waste code assignments and LDR verifications. (WC-PBS11)
- Prepare radiological characterization checklist on ~~4,788~~ 2,008 containers. (WC-PBS11)
- Prepare one absorbent determination for each waste type (soil, sludge or debris). (WC-PBS11)
- Prepare a release letter for each campaign package (including subcampaigns), estimated to be seven campaigns. (WC-PBS11)
- Prepare M&EG waste acceptance profiles. (WC-PBS11)

2.2) Quantification – Characterization Activities

The quantification for the specific waste “characterization” characterization activities other than field characterization activities have task has been removed from this section. Costs associated with these activities waste characterization will be carried in the detailed estimates for Control Account MMMB within PBS11.

R1-
F10-
006

R1-
F10-
007

R1-
F10-
009

2. Characterization	
Field Verification-Characterization	All containers will require RTR.
Supervisor- 38 100 Mhrs. (.2 FTE)	4,332 1,195 drums
Quality Assurance	89 drums boxes
(RTR Operator)- 380 1,000-Mhrs. (2.0 FTE)	The throughput rate of the RTR is:
Waste Engineer- 209 550 Mhrs. (1.1 FTE)	Drums = 60 per day 30/day
Waste Engineer Mgr- 3.8 10.0 Mhrs. (0.02 FTE)	Boxes = 20 per day 15/day
Safety Tech - 500 Mhrs. (1.0 FTE)	

2. Characterization	
<p>Sampling & Analysis</p> <p>Hazwat – 324 <u>325</u> Mhrs. (3.0 FTE) Supervisor – 108 <u>110</u> Mhrs. (1.0 FTE) Rad Tech – 108 <u>110</u> Mhrs. (1.0 FTE) Safety Tech – 108 <u>110</u> Mhrs. (1.0 FTE) Rad Engineer – 10.8 Mhrs. (0.1 FTE) Waste Engineer – 151.2 Mhrs. (1.4 FTE) Acquisitions – 10.8 Mhrs. (0.1 FTE) Waste Engineer Mgr – 2.16 Mhrs. (0.02 FTE)</p>	<p>The sample line will be available to perform sampling activities.</p> <p>It is estimated that 54 samples from a minimum of 54 containers will be required. It is also estimated that five (5) drums/day or three (3) boxes/day can be sampled at the sample line.</p> <p>Off-Site analysis with FF support: 24 hours waste engineer off-site (SPL) activities total (54)</p>
<p>Movement</p>	<p>Only one (1) move to RTR/Sampling Line will be required since RTR and sampling work will coincide with one another.</p> <p>Only netting will be required for movement - No vent install.</p>
<p>ISO's</p>	<p>No ISOs are included in this project</p>
<p>Boxes</p> <p>Hazwat – 77 <u>96.5</u> Mhrs. (1.0 FTE) MVO – 77 <u>96.5</u> Mhrs. (1.0 FTE) Supervisor – 15.38 <u>19.0</u> Mhrs. (0.2 FTE) Rad Tech – 19.23 <u>24.0</u> Mhrs. (0.25 FTE) Safety Tech – 38.46 <u>48.0</u> Mhrs. (0.5 FTE) Waste Engineer – 7.69 <u>10.0</u> Mhrs. (0.1 FTE) MC&A – 15.38 <u>19.0</u> Mhrs. (0.2 FTE) TO Writer – 3.85 Mhrs. (0.05 FTE) Admin Support – 3.85 Mhrs. (0.05 FTE)</p>	<p>A total of 71 <u>89</u> boxes will be moved twice (to the RTR and back to storage or to Building 71 for repackaging).</p> <p>No boxes will weigh over 9,000 so HEOs are not required.</p> <p>Operations throughput for the movement of boxes is: 24 boxes per day</p>
<p>Drums</p> <p>Hazwat – 299.98 <u>433.0</u> Mhrs. (1.0 FTE) MVO – 299.98 <u>433.0</u> Mhrs. (1.0 FTE) Supervisor – 60 <u>87.0</u> Mhrs. (0.2 FTE) Rad Tech – 74.99 <u>108</u> Mhrs. (0.25 FTE) Safety Tech – 175.18 <u>216</u> Mhrs. (0.5 FTE) Waste Engineer – 35.04 <u>43</u> Mhrs. (0.1 FTE) MC&A – 70.07 <u>87.0</u> Mhrs. (0.2 FTE) TO Writer – 17.52 Mhrs. (0.05 FTE) Admin Support – 17.52 Mhrs. (0.05 FTE)</p>	<p>A total of 1,078 <u>1,332</u> 1,195 drums will be moved twice (to the RTR and back to storage for overpacking or to Building 71 for repackaging).</p> <p>Operations throughput for the movement of drums is: 80 drums per day.</p>
<p>Characterization*</p>	<p>Incorporated into Control Account MMMB.</p>

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

R1-
F10-
006

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Move ~~600~~ 643 containers from storage to building 79 for decanting.

R1-
F10-
007

- Perform industrial hygiene monitoring and survey on Material Description Codes (MDC's) as required by Safety Assessment SA-1016.
- Decontaminate exterior of containers, if needed.
- Decant liquids as necessary.
 - Organics will be transferred to Mixed Waste for Incineration Project (approximately 40 containers) into a consolidation tank.
 - Aqueous wastes will be transferred to Advanced Wastewater Treatment Liquids Project (approximately 90 containers) into an interim bulk tank.
- Dispose of approximately 20 containers of contact waste as follows:
 - 10 containers to M&EC ~~Broad Spectrum Container~~ Contractor
 - 10 containers to the NTS
- Crush ~~46~~ 62 empty 110-gallon drums for shipment to NTS and shear ~~74~~ 89 empty boxes to be placed in the OSDF.
- **Consolidation of 137 drums of FTF soils to interim stockpile.**

R1-
D-
582

R1-
Dd-
583

R1-
F1-
007

3.2) Quantification – Processing Activities

3. Processing	
Decanting Hazwat – 600 Mhrs. (3.0 FTE) Supervisor– 200 Mhrs. (1.0 FTE) Rad Tech– 200 Mhrs. (1.0 FTE) Safety Tech– 200 Mhrs. (1.0 FTE) Waste Engineer– 209 <u>200</u> Mhrs. (1.1 FTE) MC&A– 50 Mhrs. (0.25 FTE)	600 <u>643</u> containers will require decanting. The operations throughput rate for decanting is 30 containers/day. Also include Waste Characterization representative taking digital pictures of remaining contents of container after decanting. No further characterization on decant waters/oils is necessary

R1-
F10-
009

3. Processing	
<p>Venting/Puncturing</p> <p>Hazwat – 540 Mhrs. (3.0 FTE) MVO– 180 Mhrs. (1.0 FTE) Supervisor– 180 Mhrs. (1.0 FTE) Rad Tech– 90 Mhrs. (0.5 FTE) Safety Tech– 180 Mhrs. (1.0 FTE) Waste Engineer– 45 Mhrs. (0.25 FTE) Waste Engineer Mgr– 18Mhrs. (0.1 FTE)</p>	<p>No puncturing required</p> <p>All containers can be netted and moved per SA-1016</p> <p>Required venting for MDC's 001 (5), 009 (4), 010 (3), 25% of 011 (51), 25% of 012 (6), 039 (151), 041 (60), 042 (26), 046 (23), and 10% of 003 (27) = total of 356 containers requiring venting.</p> <p>50% of 356 do not contain vents and will require vents to be installed</p> <p>No container will be above the 10% LEL after venting.</p> <p>The operations throughput rate for venting/puncturing is 20 drums/day or 3 boxes/day.</p>
<p>Drum Crushing</p> <p>Hazwat– 59.8 312 Mhrs. (2.0 FTE) Supervisor– 2.99 16 Mhrs. (0.1 FTE) Rad Tech– 14.95 78 Mhrs. (0.5 FTE) Safety Tech– 14.95 78 Mhrs. (0.5 FTE) MC&A – 2.99 16 Mhrs. (0.1 FTE)</p>	<p>46 240 drums drum equivalents will be generated during repacking operations and will require crushing.</p>
<p>Liquid Bulking</p> <p>Hazwat – 138.67 Mhrs. (4.0 FTE) MVO – 34.67 Mhrs. (1.0 FTE) Supervisor – 34.67 Mhrs. (1.0 FTE) Rad Tech – 34.67 Mhrs. (1.0 FTE) Safety Tech – 34.67 Mhrs. (1.0 FTE) Waste Engineer – 3.47 Mhrs. (0.1 FTE) MC&A – 34.67 Mhrs. (1.0 FTE)</p>	<p>Secondary Wastes – TSCA Only accounts for the cost of bulking the liquids. All other costs (such as inerting and shipping) will be covered by the Mixed Waste Requiring Incineration Project.</p>
<p>On-site Treatment</p>	<p>No Other On-site Treatment will be performed</p>
<p>Sorting & Consolidation</p>	
<p>ISO's</p>	<p>No ISOs are included in this project</p>
<p>Boxes</p>	<p>There will be no sorting or consolidation of boxes.</p>
<p>Drums</p>	<p>There will be no sorting or consolidation of drums.</p>
<p>Movement</p>	
<p>ISO's</p>	<p>No ISOs are included in this project</p>

R1-
F10-
006

R1-
F10-
007

R1-
F10-
018

3. Processing	
<div style="border: 1px solid black; padding: 2px;"> R1- F10- 007 R1- F10- 006 </div>	<p style="text-align: right;">Boxes</p> <p>Hazwat -- 61.75 <u>114.0</u> Mhrs. (1.0 FTE) MVO -- 61.75 <u>114</u> Mhrs. (1.0 FTE) Supervisor -- 12.35 <u>23.0</u> Mhrs. (0.2 FTE) Rad Tech -- 15.44 <u>29.0</u> Mhrs. (0.25 FTE) Safety Tech -- 30.88 <u>57.0</u> Mhrs. (0.5 FTE) Waste Engineer -- 6.18 <u>11.0</u> Mhrs. (0.1 FTE) MC&A -- 12.35 <u>23.0</u> Mhrs. (0.2 FTE) TO Writer -- 3.09 <u>3.09</u> Mhrs. (0.05 FTE) Admin Support -- 3.09 <u>3.09</u> Mhrs. (0.05 FTE)</p> <p>43 61 boxes will be moved twice (for decanting at Building 79 then to Building 71 for repackaging and back to Storage)</p> <p>In addition, another 28 boxes not needing decanting will be moved from Storage to Building 71 for repackaging.</p> <p><u>Box movements total = 211</u></p> <p>No boxes will weigh over 9,000 so HEOs are not required.</p> <p>Operations throughput for the movement of boxes is: 24 boxes per day</p>
<div style="border: 1px solid black; padding: 2px;"> R1- F10- 006 R1- F10- 007 R1- F10- 019 </div>	<p style="text-align: right;">Drums</p> <p>Hazwat -- 593.45 <u>417</u> Mhrs. (1.0 FTE) MVO -- 593.45 <u>417</u> Mhrs. (1.0 FTE) Supervisor -- 118.69 <u>83</u> Mhrs. (0.2 FTE) Rad Tech -- 148.36 <u>104</u> Mhrs. (0.25 FTE) Safety Tech -- 296.73 <u>209</u> Mhrs. (0.5 FTE) Waste Engineer -- 59.35 <u>42</u> Mhrs. (0.1 FTE) MC&A -- 118.69 <u>83</u> Mhrs. (0.2 FTE) TO Writer -- 29.67 <u>29.67</u> Mhrs. (0.05 FTE) Admin Support -- 29.67 <u>29.67</u> Mhrs. (0.05 FTE)</p> <p>554 539 drums will be moved twice (for decanting at Building 79 and back to Storage) or to Building 71 for repackaging. <u>(539 x 3 = 1617)</u></p> <p>Plus 710 890 drums generated from box repackaging and 46 62 drums generated from 110 gallon drum repackaging will be moved from Building 71 to Storage.</p> <p><u>(2569 movements total)</u></p> <p>In addition, all of the drums (1,788) will need to be moved from Storage to another staging/loading area for shipment.</p> <p>Operations throughput for the movement of drums is: 80 drums per day</p>

4) Task #4 - Packaging

4.1) Plan/Scope - Packaging

- R1-
F10-
007

R1-D-
582

R1-D-
583

R1-D-
568
- Overpack ~~1,023~~ 1,270 1,133 drums into, at largest, 85-gallon and 110-gallon containers.
 - Repackage approximately 46 ~~62~~ 110-gallon drums and 74 ~~89~~ boxes into 55-gallon containers.
 - Add "Radsorb" absorbent materials to ~~1,788~~ 2,222 2,085 containers, at an average of two ~~28.4~~ pounds per container.
 - Label containers in accordance with DOT and M&EC's Broad Spectrum Contractors WAC.
 - Perform radiation monitoring and surveying for shipment.
 - Place overpacked/repacked containers on ~~596~~ 669 pallets and band for shipment.
 - Purchase ~~1,788~~ 55-gallon 2,222 2,085 containers.

4.2) Quantification – Packaging

4. Packaging	
<i>Repack/Overpack</i>	Container delivered from CDF to project Overpack operations will occur in TS-6, Repack operations will occur in 71
ISO's	No ISOs are included in this project
Boxes	71- 89 boxes will require repackaging into 55 gallon drums. It is estimated that one (1) box will repack into ten (10) 55 gallon drums.
Hazwat—461.5- 579 Mhrs. (2.0 FTE) MVO—230.75- 289 Mhrs. (1.0 FTE) Supervisor—115.38- 145 Mhrs. (0.5 FTE) Rad Tech—230.75- 289 Mhrs. (1.0 FTE) Quality Assurance—11.54 Mhrs. (0.05 FTE) Safety Tech—46.15- 58 Mhrs. (0.2 FTE) Rad Engineer—11.54- 14 Mhrs. (0.05 FTE) Safety Engineer—11.54- 14 Mhrs. (0.05 FTE) Waste Engineer—46.15- 58 -Mhrs. (0.2 FTE) MC&A—46.15- 58 -Mhrs. (0.2 FTE) TO Writer—11.54 Mhrs. (0.05 FTE) Admin Support—11.54 Mhrs. (0.05 FTE)	
Drums	1,032- 1,270 1,133 drums will require overpacking for shipment.
Hazwat—1401.4- 1732 Mhrs. (2.0 FTE) MVO—700.7- 866 Mhrs. (1.0 FTE) Supervisor—350.35- 433 Mhrs. (0.5 FTE) Rad Tech—700.7- 866 Mhrs. (1.0 FTE) Quality Assurance—35.04 Mhrs. (0.05 FTE) Safety Tech—140.14- 173 Mhrs. (0.2 FTE) Rad Engineer—35.04- 43 Mhrs. (0.05 FTE) Safety Engineer—35.04- 43 Mhrs. (0.05 FTE) Waste Engineer—140.14- 173 Mhrs. (0.2 FTE) MC&A—140.14- 173 Mhrs. (0.2 FTE) TO Writer—35.04 Mhrs. (0.05 FTE) Admin Support—35.04 Mhrs. (0.05 FTE)	46- 62 110 gallon drums will require repackaging into 55 gallon drums. It is estimated at one (1) drum will repack into one (1) 55 gallon drum.
<i>Container Purchase</i>	
ISO's	No ISOs are included in this project
Boxes	No box shipments

R1-
F10-
006

R1-
F10-
007

R1-
F10-
008

R1-
F10-
006

R-
F10-
007

R1-
F10-
008

R1-
F10-
007

4. Packaging	
	Drums
	Includes the purchase of 1,788 2,222 2,085 drums for the overpacking and repackaging
Hazwat—290.55 364 339 Mhrs. (1.0 FTE)	
MVO—145.28 181 170 Mhrs. (0.5 FTE)	
HEO—145.28 Mhrs. (0.5 FTE)	
Supervisor—58.11 72 68 Mhrs. (0.2 FTE) Rad	
Tech—290.55 364 339 Mhrs. (1.0 FTE)	
Rad Engineer—14.53 Mhrs. (0.05 FTE)	
Safety Engineer—14.53 Mhrs. (0.05 FTE)	
Waste Engineer—29.06 36 34 Mhrs. (0.1 FTE)	
MC&A—29.06 36 34 Mhrs. (0.1 FTE)	
TO Writer—14.53 Mhrs. (0.05 FTE)	
Admin Support—14.53 Mhrs. (0.05 FTE)	

5) Task #5 – Shipping

5.1) Plan/Scope – Shipping

- Perform DOT review per chemical and radiological characterization data.
- Load for transportation to M&EC (Oak Ridge, Tenn).
- Complete all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.).
- Perform incoming and outgoing vehicle inspections.
- Perform vehicle release survey and release checklist.
- Disposal of FTF soils at OSDF

R1-
F10-
007

5.2) Quantification – Shipping

R1-
F10-
007

5. Shipping	
Shipping Preparation	A total of 163 MEF's will be combined to form 6 shipping preparation campaigns Each shipping campaign will require a SC&PCRD and regulatory path Transporter paid by MEC Garage Inspection is Free
Waste Engineer—560.0 480 Mhrs. (1.0 FTE)	
<i>Loading</i>	Average of 48 79 drums/shipment Four (4) shipments per day
	ISO's No ISOs are included in this project
	Boxes No box shipments

R1-
F10-
007

R1-
F10-
008

5. Shipping	
Drums	1,788 2,222 2,085 drums are to be loaded for shipment to Broad Spectrum.
Hazwat—1,549.60 1,926	1,807 Mhrs. (4.0 FTE)
MVO—774.8 963	904 Mhrs. (2.0 FTE)
Transp. Laborer—464.88 578	542 Mhrs. (1.2 FTE)
Supervisor—619.84 770	723 Mhrs. (1.6 FTE)
Rad Tech—774.8 963	904 Mhrs. (2.0 FTE)
Quality Assurance—619.84	Mhrs. (1.6 FTE)
Waste Engineer—193.7 241	226 Mhrs. (0.5 FTE)
MC&A—77.48 96	90 Mhrs. (0.2 FTE)
<i>Shipping Administration</i>	
ISO Shipments	No ISOs are included in this project
Box Shipments	No box shipments
Drum Shipments	38 28 shipments of drums to Broad Spectrum
Waste Engineer—228 168	Mhrs. (3.0 FTE)

6) Task #6 – Off-Site Treatment

6.1) Plan/Scope – Off-Site Treatment

R1-D-
582

R1-D-
583

- M&EC ~~Broad Spectrum Contractor~~ will perform treatment for organic and inorganic constituents, at the M&EC facility in Oak Ridge, Tennessee.
- Price is based upon Broad Spectrum unit cost of \$30/kg which includes transportation to treatment facility, treatment, post-processing container, and transport to Envirocare.

6.2) Quantification – Off-Site Treatment

R1-
F10-
007

Subcontracts	Unit	Quantity	Rate	Total
Lab Analysis	Sample	54	\$1,675	\$90,450
Broad Spectrum	Kg	221,223 247,276 217,442	\$30	\$6,636,689 \$7,418,260 6,523,260
Container Purchase	Container	2,222 2,085	\$82.00	\$182,204 170,970

7) Task #7 – Disposal

7.1) Plan/Scope – Disposal

R1-
F10-
007

- Costs for disposal at Envirocare are based on 1,788 ~~2,222~~ 2,085 containers for treatment with an estimated 150 percent increase in volume due to treatment activities.

- This results in ~~2,682~~ ~~3,333~~ 3,128 55-gallon drum equivalents (21,188 ~~26,330~~ 25,020 cubic feet) for disposal at Envirocare at \$23.00 per cubic feet.

7.2) Quantification – Disposal

R1-
F10-
007

Burial Fees	Unit	Quantity	Rate	Total
Envirocare MW Fee	Cu. Ft.	21,188 26,330 25,020	\$23	\$487,324 \$606,590 575,460
LLW	Container	10	\$520	\$5,200
AWWT	Container	90	\$133	\$11,990
TSCA	Container	40	\$1,000	\$40,000
HAZ/BSA	Container	13	\$6,500	\$65,000

1.5.2 KBRT2 – Organic Aerosol Can Puncturing

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

R1-D-
582

R1-D-
583

- Identify inventory and waste forecast, develop task orders and procedures to guide the work activities and incorporate requirements and safety goals.
- Procure supplies such as filters, puncture pins, bags and tape.
- Perform project planning support activities, including training, safety analyses and readiness activities.
- Maintain performance/status tracking tools for the project activity and perform project oversight.
- Prepare, submit and obtain full approval of NTS- ~~Waste~~ Profiles.

1.2) Quantification – Planning and Management Activities

R1-
F10-
008

1. Planning and Management	
General Administration Waste Engineer– 709.2 Mhrs. (0.06 FTE) Waste Engineer Mgr– 118.2 Mhrs. (0.01 FTE)	General project oversight and program maintenance, procedure reviews and revisions, training, and scheduling.
Mgt. Approvals	The aerosol can puncturing activity is an ongoing, on-demand project and as such will not require any management approvals to continue operations.
Oversight/Inspections Hazwat – 6.0 Mhrs. (0.05 FTE) Supervisor– 12.0 Mhrs. (0.1 FTE) Rad Tech– 6.0 Mhrs. (0.05 FTE) Quality Assurance– 12.0 Mhrs. (0.1 FTE)	Two (2) days/year for six (6) years for project oversight

1. Planning and Management	
Waste Engineer– 12.0 Mhrs. (0.1 FTE)	
Inventory Planning Waste Engineer– 48.0 Mhrs. (0.1 FTE) MC&A– 48.0 Mhrs. (0.1 FTE) TO Writer– 48.0 Mhrs. (0.1 FTE)	There will be two (2) week of inventory planning per year for six (6) years. A total of 253 containers will be campaigned.
Work Package Development Hazwat – 14.4 Mhrs. (0.03 FTE) Supervisor–14.4 10 Mhrs. (0.03 FTE) Rad Tech–9.6 4.8 Mhrs. (0.02 FTE) Quality Assurance–9.6 Mhrs. (0.02 FTE) Rad Engineer–9.6 10 Mhrs. (0.02 FTE) Safety Engineer–9.6 10 Mhrs. (0.02 FTE) Waste Engineer– 72 Mhrs. (0.15 FTE) TO Writer– 72 Mhrs. (0.15 FTE) Waste Engineer Mgr– 4.8 Mhrs. (0.01 FTE)	One (1) task order will be issued per year for six (6) years It is estimated that the first task order will require full time and the subsequent task orders will only required 50% since they are duplicates of the first task order First Task Order (eight (8) days): Hazwat – 4 hrs Supervisor – 4 hrs Rad Tech – 2 hrs QA– 2 hrs Rad Engineer – 2 hrs Safety Engineer – 2 hrs Waste Engineer – 20 hrs TO Writer – 20 hrs Waste Engineer Mgr – 1 hr
Tech. Programs Support	No technical programs support under this project
Travel	No travel will occur under this project

R1-
F10-
007

R1-
F10-
008

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

- ~~Sort waste containers to remove prohibited items and items requiring other processing (non aerosol cans).~~
- Verify that empty and crushed aerosol cans and crushed drum wastes meet the NTS WAC. **(WC-PBS11)**
- Perform six (6) characterizations of secondary wastes (contact wastes, prohibited items/requiring processing) and verify they meet intended off-site disposal facility WAC. **(WC-PBS11)**
- Characterization analysis will consist of radiological analysis (for total uranium and U-235) and analysis for volatile organic compounds, semi-volatile organic compounds, metals, pH and flashpoint. **(WC-PBS11)**
- Identify absorbent requirements. **(WC-PBS11)**
- ~~Perform real-time radiography if required.~~

R1-
F10-
009

R1-
F10-
011

R1-
F10-
012

2.1) Quantification – Characterization Activities

R1-
F10-
009

*The quantification listed in the detailed characterization section is for project planning purposes. Costs associated with these Waste Characterization activities will be carried in the detailed estimates for Control Account MMMB within PBS11.

R1-
F10-
008

R1-
F10-
009

R1-
F10-
006

2. Characterization	
Field Verification	No field verification will be required under this project.
<u>Field Characterization</u>	
Sampling & Analysis	No sampling and analysis will be required under this project.
Movement	No movements for characterization will be required under this project.
Characterization*	Characterization of the drained aerosol can contents will be required.
Quality Assurance 144.0 Mhrs. (0.3 FTE) Rad Engineer 48.0 Mhrs. (0.1 FTE) Waste Engineer 480.0 Mhrs. (1.0 FTE) MC&A 72.0 Mhrs. (0.15 FTE) Waste Engineer Mgr 48.0 Mhrs. (0.1 FTE) Admin. Support 120.0 Mhrs. (0.25 FTE)	An estimated six (6) drum for life of project will be generated.
<u>Characterization</u>	<u>Covered in PBS-11, MMMB</u>

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Prepare building 68 to perform sorting, and puncturing operations.
- Collect containers and/or move containers from storage location(s) to building 68.
- Move containers of punctured cans to crushing area.
- All of the waste in drums will require inspection for prohibited items.
- Remove prohibited items; five percent of the containers will contain prohibited items that will require further processing.
- Puncture aerosol cans.
- Crush empty aerosol cans in drums for disposal at the OSDF.
 - 63 containers generated prior to 12/01/00.
 - Approximately 190 newly-generated drums (representing approximately 40 drums per year for six years).

R1-D-
582

R1-D-
583

- Consolidate liquids, secondary wastes and prohibited items.
 - Two drums of liquids for disposal through Mixed Waste for incineration project.
 - Two drums of liquids for disposal through Advanced Wastewater Treatment Project.
 - Two drums of prohibited items for disposal through the Hazardous Waste Project (LabPack) or the organic soil/sludge/debris activity in the OTP.

3.2) Quantification – Processing Activities

3. Processing	
Decanting	There will be no decanting activities under this project.
Aerosol Can Puncturing Hazwat – 7,590 Mhrs. (3.0 FTE) MVO – 253.0 Mhrs (0.1 FTE) Supervisor– 506.0 Mhrs. (0.2 FTE) Rad Tech– 1,265.0 Mhrs. (0.5 FTE) Safety Tech– 253.0 Mhrs. (0.1 FTE) Waste Engineer– 253.0 Mhrs. (0.1 FTE) MC&A– 126.5 Mhrs. (0.05 FTE)	One (1) drum of aerosol cans can be punctured per day
Drum Crushing Hazwat – 328.90 Mhrs. (2.0 FTE) Supervisor– 16.45 Mhrs. (0.1 FTE) Rad Tech– 82.23 Mhrs. (0.5 FTE) Safety Tech– 82.23 Mhrs. (0.5 FTE) MC&A– 16.45 Mhrs. (0.1 FTE)	253 drums containing punctured and drained aerosol cans will require crushing for disposal.
Liquid Bulking	There will be no liquid bulking activities under this project.
On-site Treatment	No additional on-site treatment will be required under this project.
Sorting & Consolidation	There will be no additional sorting or consolidation of containers under this project. The sorting will occur simultaneously as part of the aerosol can puncturing process.
<i>Movement</i>	
ISO's	No ISOs are included under this project.
Boxes	No boxes are included under this project.
Drums Hazwat – 82.23 Mhrs. (1.0 FTE) MVO – 82.23 Mhrs (1.0 FTE) Supervisor– 16.45 Mhrs. (0.2 FTE) Rad Tech– 20.56 Mhrs. (0.25 FTE) Safety Tech– 41.11 Mhrs. (0.5 FTE) Rad Engineer– 4.11 Mhrs. (0.05 FTE)	253 drums will be moved to Building 68 for aerosol can puncturing activities. The drums containing punctured and drained aerosol cans will be moved from Building 68 to Building 71 for drum crushing.

R1-
 F10-
 006

3. Processing	
Safety Engineer– 4.11 Mhrs. (0.05 FTE)	
Waste Engineer– 8.22 Mhrs. (0.1 FTE)	
MC&A– 8.22 Mhrs. (0.1 FTE)	
TO Writer– 4.11 Mhrs. (0.05 FTE)	
Admin. Support– 4.11 Mhrs. (0.05 FTE)	

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

- Containerize/label prohibited items and/or items requiring other processing.

4.2) Quantification – Packaging

4. Packaging	
Repack/Overpack	No containers will require repackaging or overpacking under this project.
<i>Container Purchase</i>	
ISO's	No ISOs are required to be purchased under this project
Boxes	No boxes are required to be purchased under this project
Drums	One (1) drum per year for six (6) years to accumulate the drained contents of the aerosol cans.
Hazwat– .98 Mhrs. (1.0 FTE)	
MVO– .49 Mhrs. (0.5 FTE)	
HEO– .49 Mhrs. (0.5 FTE)	
Supervisor– .2 Mhrs. (0.2 FTE)	
Rad Tech– .98 Mhrs. (1.0 FTE)	
Rad Engineer– .05 Mhrs. (0.05 FTE)	
Safety Engineer– .05 Mhrs. (0.05 FTE)	
Waste Engineer– .10 Mhrs. (0.1 FTE)	
MC&A– .10 Mhrs. (0.1 FTE)	
TO Writer– .05 Mhrs. (0.05 FTE)	
Admin Support– .05 Mhrs. (0.05 FTE)	

R1-
 F10-
 006

5) Task #5 – Shipping

5.1) Plan/Scope – Shipping

- Move/load containers and ship to the OSDF ~~the disposal facility.~~ by the approved route.
- Move containerized wastes (prohibited items and other wastes for further processing) to storage.

R1-
 D-
 582

R1-
 D-
 583

5.2) Quantification – Shipping

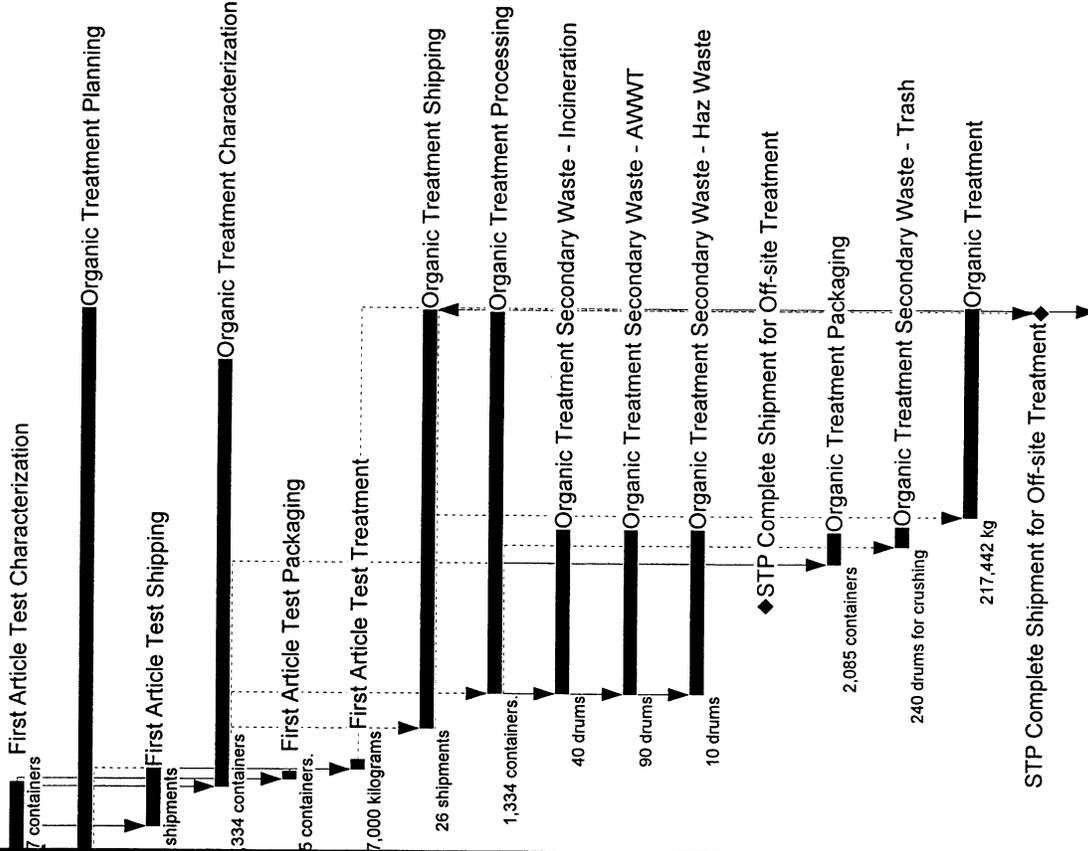
5. Shipping	
Shipping Preparation	There will be no shipping preparation under this project.
Loading	No containers will require loading under this project.
Shipping Administration	No containers will be shipped under this project.

SECTION 2

2.0 SCHEDULE

K PBS 10 - MIXED WASTE
1.1.K.B ORGANIC TREATMENT
KBRT1 Organic Soils/Sludges/Debris

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BRT14020	First Article Test Characterization	04DEC00	30AUG01	151
K1BRT14010	Organic Treatment Planning	04DEC00	18SEP06	1,163
K1BRT14050	First Article Test Shipping	12MAR01	23OCT01	127
K1BRT14120	Organic Treatment Characterization	15AUG01	28FEB06	910
K1BRT14040	First Article Test Packaging	13SEP01	09OCT01	15
K1BRT14060	First Article Test Treatment	24OCT01	26NOV01	17
K1BRT14150	Organic Treatment Shipping	02APR02*	18SEP06	898
K1BRT14130	Organic Treatment Processing	13AUG02*	05SEP06	817
K1BRT15670	Organic Treatment Secondary Waste - Incineration	20AUG02	17MAY04	349
K1BRT15770	Organic Treatment Secondary Waste - AWWT	20AUG02	17MAY04	349
K1BRT15970	Organic Treatment Secondary Waste - Haz Waste	20AUG02	17MAY04	349
K1BRT1MEPA	STP Complete Shipment for Off-site Treatment		30JUL03*	0
K1BRT14140	Organic Treatment Packaging	05JAN04*	06MAY04	71
K1BRT16270	Organic Treatment Secondary Waste - Trash	17MAR04*	03JUN04	45
K1BRT14160	Organic Treatment	12JUL04*	28SEP06	449
K1BRT1MS01	STP Complete Shipment for Off-site Treatment		18SEP06*	0



Start Date: 01DEC00, Finish Date: 28SEP06, Data Date: 01DEC00, Run Date: 12SEP01 10:52

BLCF - K101

MIXED WASTE

1.1.K.B ORGANIC TREATMENT

Sheet 1 of 2

FLUOR FERNALD

© Primavera Systems, Inc.

Date	Revision	Checked	Approved
R1-D-559			
R1-D-586			
R1-D-640			
R1-D-653			
R1-D-876			
F10-007			

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
KBRT1	Organic Soils/Sludges/Debris														
K1BRT1MS90	Final Closeout for Organic Treatment		28SEP06*	0											

Final Closeout for Organic Treatment

Sheet 2 of 2

FLUOR FERNALD © Primavera Systems, Inc.	Start Date: 01DEC00 Finish Date: 28SEP06 Data Date: 01DEC00 Run Date: 12SEP01 10:52	BLCF - K101 MIXED WASTE 1.1.K.B ORGANIC TREATMENT	Early Bar Progress Bar Critical Activity	<table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked/Approved</th> </tr> <tr> <td></td> <td>R1-D-559</td> <td></td> </tr> <tr> <td></td> <td>R1-D-586</td> <td></td> </tr> <tr> <td></td> <td>R1-D-640</td> <td></td> </tr> <tr> <td></td> <td>R1-D-653</td> <td></td> </tr> <tr> <td></td> <td>R1-D-876</td> <td></td> </tr> <tr> <td></td> <td>F10-007</td> <td></td> </tr> </table>	Date	Revision	Checked/Approved		R1-D-559			R1-D-586			R1-D-640			R1-D-653			R1-D-876			F10-007	
Date	Revision	Checked/Approved																							
	R1-D-559																								
	R1-D-586																								
	R1-D-640																								
	R1-D-653																								
	R1-D-876																								
	F10-007																								

SECTION 2

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KB01 ORGANIC SOIL/SLUDGE/DEBRIS

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Processing	Environmental Safety & H Rad Tech		0.70	0	0	0	0.1	0	0	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Environmental Safety & H Industrial Hygienist Tech.		1.70	0	0	0	0.1	0	0	0.8	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Waste Management Waste Engineer		0.70	0	0	0	0.1	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	General Labor Hazwat		9.60	0	0	0	0.3	1	0	0	2	0	1	1	0.1	0.1	1	1.6	1.5	0	0	0	0	0	0	0	0
Packaging	Transportation Labor Motor Vehicle Operator		4.10	0	0	0	0.1	0	0	0	1.5	1.5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Packaging	Maintenance Project Support Manager		0.90	0	0	0	0.1	0	0	0	0.3	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Environmental Safety & H Rad Tech		5.90	0	0	0	0.2	0	0	0	1.7	1.7	0	0	0	0	0.6	1	0.6	0	0	0	0	0	0	0	0
Packaging	Environmental Safety & H Industrial Hygienist Tech.		1.60	0	0	0	0.1	0	0	0	0.3	0.3	0	0	0	0	0.4	0.4	0.1	0	0	0	0	0	0	0	0
Packaging	Waste Management Waste Engineer		5.40	0	0	0	0.1	0	0	0	0.3	0.3	0	0	1.1	0.9	0.6	0.8	0.8	0.5	0	0	0	0	0	0	0
Shipping	General Labor Hazwat		12.20	0	0	0	0.3	0	0	0	0	0	0.9	1.9	0	0	3	3	3	0.1	0	0	0	0	0	0	0
Shipping	Procurement Material Property Control Rep.		1.20	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0.4	0.3	0.2	0.1	0	0	0	0	0	0	0
Shipping	Transportation Labor Motor Vehicle Operator		6.20	0	0	0	0.1	0	0	0	0	0	1.1	1.1	0	0	1.4	1	1.5	0	0	0	0	0	0	0	0
Shipping	Maintenance Project Support Manager		5.00	0	0	0	0.1	0	0	0	0	0	0.8	0.9	0	0.1	0.7	1	1.3	0.1	0	0	0	0	0	0	0
Shipping	Environmental Safety & H Rad Tech		5.20	0	0	0	0.1	0	0	0	0	0	1	1	0	0	1	1.1	1	0	0	0	0	0	0	0	0
Shipping	Transportation Labor Transportation Laborer		2.90	0	0	0	0.1	0	0	0	0	0	0.6	0.7	0	0	0	0.2	0.9	0	0	0	0	0	0	0	0
Shipping	Waste Management Waste Engineer		1.70	0	0	0	0.1	0	0	0	0	0	0.8	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0

Sheet Totals: 96.10 0.40 2.60 2.20 4.20 4.90 5.10 4.00 9.90 5.50 7.30 8.30 1.40 4.30 12.20 11.70 11.00 1.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Manpower Planning Sheet (CR2)

MPS # 1KB03 ORGANIC AEROSOL CANS

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
				Q1	Q2	Q3	Q4																				
1002 SSD MW DISPOSITION	10/02/2000	09/30/2002		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX												
1003 Thorium Stabilization	10/02/2000	01/09/2001		XXX	X																						
1004 Neutralization Precipitation Deactivation	10/02/2000	01/25/2001		XXX	X																						
1005 Char/Pack/Ship Hazardous Waste	10/02/2000	09/28/2001		XXX	XXX	XXX	XXX																				
1006 Organic Treatment Project (PCB)	10/02/2000	07/02/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX												
1007 Thorium Mixed Waste	10/02/2000	07/15/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX												
1008 Mixed Waste Admin	10/02/2000	09/30/2003		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX												
1009 Inorganic Small Quantity	10/01/2001	07/18/2002						XXX	XXX	XXX	XXX																
1010 DECONTAMINATION/MACROENCAPULATIO	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	XXX	X																		
1011 INORGANIC SAMPLE DISPOSITION	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	XXX	X																		
1012 LIQUID AWWT	10/02/2000	11/16/2000		XX																							
1013 LIQUID TSCA	10/02/2000	03/28/2002		XXX	XXX	XXX	XXX	XXX	XXX																		
Planning	Waste Management	Waste Engineer	1.80	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0.1
Planning	Procurement	Material Property Control Rep.	0.30	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0
Planning	Environmental Safety & H	Rad Tech	0.10	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Environmental Safety & H	Industrial Hygienist Tech.	0.10	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	General Labor	Hazwat	11.90	0.3	0.3	1	1	1	1	0	0	0.5	0	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0	0.5	0	0.5	0	0.5	0
Processing	Transportation Labor	Motor Vehicle Operator	0.80	0	0	0.1	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0
Processing	Maintenance	Project Support Manager	1.10	0	0.1	0.1	0	0	0.1	0	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	0	0.1	0	0
Processing	Environmental Safety & H	Rad Tech	1.60	0	0	0.2	0.1	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0	0.1	0
Processing	Environmental Safety & H	Industrial Hygienist Tech.	0.60	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0

Sheet Totals: 18.00 0.30 0.60 1.60 1.20 1.30 0.30 0.10 0.70 0.30 0.80 1.10 1.10 1.10 1.20 1.10 1.00 0.30 0.70 0.10 0.70 0.30 0.70 0.10

SECTION 2

4.0 ESTIMATE

KBRT1

ORGANIC SOIL/SLUDGE/DEBRIS

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.B
CTRL ACCT: KBRT
CHARGE NO: KBRT1
COMMENT NO F10-006, F10-007, F10-018, F10-019, E726, E727

Resource:	HAZWAT	HAZWAT	Class:		EOC:		LABOR									
			Overline:	951	HOU	HOU	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
Yr Hours:	178.0	178.0	178.0	178.0	1,283.0	312.0	325.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	178.0	178.0	1,440.0	2,423.0	6,924.0	7,236.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0	7,561.0
Yr Total Cost:	5,125	29,152	41,181	152,990	11,234	12,502	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	5,125	34,277	75,458	228,448	239,682	252,184	252,184	252,184	252,184	252,184	252,184	252,184	252,184	252,184	252,184	252,184

Resource:	INHTEC	INDUST HYGIENIST TEC	Class:		EOC:		LABOR									
			Overline:	951	SAL	SAL	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
Yr Hours:	23.0	23.0	804.0	462.0	412.0	107.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	23.0	23.0	1,289.0	1,701.0	1,808.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0	1,920.0
Yr Total Cost:	867	31,896	19,413	18,333	5,044	5,640	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	867	32,763	52,176	70,509	75,553	81,193	81,193	81,193	81,193	81,193	81,193	81,193	81,193	81,193	81,193	81,193

Resource:	MAT300	MATERIAL OBJCLASS300	Class:		EOC:		MATERIAL									
			Overline:	951	MAT	MAT	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
Yr Units:	7,340.8	12,080.2	67,224.1	294,414.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	7,340.8	19,421.0	86,645.1	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0	381,060.0
Yr Total Cost:	7,341	12,406	70,903	319,223	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	7,341	19,747	90,650	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873	409,873

Resource:	MPCREP	MATL PROP CTRL REP	Class:		EOC:		LABOR									
			Overline:	951	SAL	SAL	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
Yr Hours:	168.0	280.0	182.0	453.0	54.0	59.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	168.0	448.0	630.0	1,137.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0	1,196.0
Yr Total Cost:	5,430	9,525	6,558	17,286	2,183	2,548	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	5,430	14,955	21,513	38,799	40,981	43,529	43,529	43,529	43,529	43,529	43,529	43,529	43,529	43,529	43,529	43,529

INCLUDES ESCALATION COSTS

S:\EST_FORMS\kfortlesw

Resource: MVOOPR
Res Dept: 951
Class: LABOR

MOTOR VEHICLE OPER
OverTime: EOC: HOU

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	66.0	446.0	382.0	2,130.0	221.0	224.0	0.0	0.0	0.0	0.0
Cum Hours:	66.0	512.0	894.0	3,024.0	3,245.0	3,469.0	3,469.0	3,469.0	3,469.0	3,469.0
Yr Total Cost:	1,905	13,548	12,291	72,575	7,976	8,638	0	0	0	0
Cum Total Cost:	1,905	15,453	27,744	100,320	108,296	116,934	116,934	116,934	116,934	116,934

Resource: PJSMGR
Res Dept: 951
Class: LABOR

PROJECT SUPPORT MGR
OverTime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	153.0	520.0	443.0	1,332.0	104.0	116.0	0.0	0.0	0.0	0.0
Cum Hours:	153.0	673.0	1,116.0	2,448.0	2,552.0	2,668.0	2,668.0	2,668.0	2,668.0	2,668.0
Yr Total Cost:	6,995	25,024	22,581	71,899	5,947	7,086	0	0	0	0
Cum Total Cost:	6,995	32,020	54,601	126,500	132,446	139,532	139,532	139,532	139,532	139,532

Resource: QACENG
Res Dept: 951
Class: LABOR

QA ENGINEER
OverTime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	1,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Yr Total Cost:	0	48,377	0	0	0	0	0	0	0	0
Cum Total Cost:	0	48,377	48,377	48,377	48,377	48,377	48,377	48,377	48,377	48,377

Resource: RADENG
Res Dept: 951
Class: LABOR

RAD ENGINEER
OverTime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	23.0	36.0	15.0	71.0	5.0	6.0	0.0	0.0	0.0	0.0
Cum Hours:	23.0	59.0	74.0	145.0	150.0	156.0	156.0	156.0	156.0	156.0
Yr Total Cost:	1,086	1,789	789	3,957	295	378	0	0	0	0
Cum Total Cost:	1,086	2,874	3,663	7,620	7,915	8,294	8,294	8,294	8,294	8,294

Resource: RADTEC
Res Dept: 951
Class: LABOR

Resource:	RADTEC	Res Dept:	951	Class:	LABOR	EOC:	
						SAL	SAL
Yr Hours:	94.0	336.0	331.0	2,256.0	107.0	114.0	0.0
Cum Hours:	94.0	430.0	761.0	3,017.0	3,124.0	3,238.0	3,238.0
Yr Total Cost:	3,204	12,053	12,577	90,772	4,560	5,191	0
Cum Total Cost:	3,204	15,256	27,833	118,605	123,165	128,356	128,356

Resource: S&HENG
Res Dept: 951
Class: LABOR

Resource:	S&HENG	Res Dept:	951	Class:	LABOR	EOC:	
						SAL	SAL
Yr Hours:	82.0	101.0	40.0	110.0	16.0	20.0	0.0
Cum Hours:	82.0	183.0	223.0	333.0	349.0	369.0	369.0
Yr Total Cost:	4,076	5,285	2,217	6,456	995	1,328	0
Cum Total Cost:	4,076	9,361	11,578	18,034	19,028	20,357	20,357

Resource: TPSREP
Res Dept: 951
Class: LABOR

Resource:	TPSREP	Res Dept:	951	Class:	LABOR	EOC:	
						SAL	SAL
Yr Hours:	286.0	360.0	140.0	242.0	78.0	100.0	0.0
Cum Hours:	286.0	656.0	796.0	1,038.0	1,116.0	1,216.0	1,216.0
Yr Total Cost:	15,380	19,689	8,110	14,846	5,089	6,943	0
Cum Total Cost:	15,380	35,069	43,179	58,025	63,094	70,036	70,036

Resource: TRNLAB
Res Dept: 951
Class: LABOR

Resource:	TRNLAB	Res Dept:	951	Class:	LABOR	EOC:	
						HOU	HOU
Yr Hours:	0.0	0.0	0.0	488.0	26.0	28.0	0.0
Cum Hours:	0.0	0.0	0.0	488.0	514.0	542.0	542.0
Yr Total Cost:	0	0	0	14,219	802	923	0
Cum Total Cost:	0	0	0	14,219	15,022	15,945	15,945

Resource: USUBS
Res Dept: 951
Class: SUB

UNESCALATED SUBS
Overline:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Units:	4,000.0	320,000.0	0.0	4,250,895.0	1,394,815.0	644,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	4,000.0	324,000.0	324,000.0	4,574,895.0	5,969,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0	6,613,710.0
Yr Total Cost:	4,000	320,000	0	4,250,895	1,394,815	644,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	4,000	324,000	324,000	4,574,895	5,969,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710	6,613,710

Resource: WSTENG
Res Dept: 951
Class: SUB

WASTE ENGINEER
Overline:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	1,417.0	2,343.0	1,477.0	1,332.0	228.0	277.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	1,417.0	3,760.0	5,237.0	6,569.0	6,797.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0
Yr Total Cost:	72,310	125,850	84,031	80,250	14,551	18,887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	72,310	198,159	282,190	362,440	376,991	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877

Resource: LABOR
Res Dept: 951
Class: SUB

LABOR
Overline:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	782,312	1,062,964	1,062,964	6,176,663	7,630,133	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198
Cum Hours:	782,312	1,845,276	2,908,240	9,084,903	16,715,036	25,059,234	33,403,432	41,747,630	50,091,828	58,436,026	66,780,224	75,124,422	83,468,620	91,812,818	100,157,016	108,501,214	116,845,412	125,189,610	133,533,808	141,878,006	150,222,204
Yr Total Cost:	782,312	1,062,964	1,062,964	6,176,663	7,630,133	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198	8,344,198
Cum Total Cost:	782,312	1,845,276	2,908,240	9,084,903	16,715,036	25,059,234	33,403,432	41,747,630	50,091,828	58,436,026	66,780,224	75,124,422	83,468,620	91,812,818	100,157,016	108,501,214	116,845,412	125,189,610	133,533,808	141,878,006	150,222,204

GRAND TOTALS:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	1,417.0	2,343.0	1,477.0	1,332.0	228.0	277.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	1,417.0	3,760.0	5,237.0	6,569.0	6,797.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0	7,074.0
Yr Total Cost:	72,310	125,850	84,031	80,250	14,551	18,887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	72,310	198,159	282,190	362,440	376,991	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877	395,877

CAM _____ CONTROL TEAM *Carina Wang*

KBRT2

ORGANIC AEROSOL CANS

Resource: MVOOPR
Res Dept: 951

MOTOR VEHICLE OPER
OverTime: EOC: HOU

	Class:		Class:		Class:		Class:		Class:		Class:	
	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 08-	Oct 09-
Yr Hours:	56.2	55.8	55.8	56.0	55.8	55.5	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	56.2	112.0	167.7	223.7	279.5	335.0	335.0	335.0	335.0	335.0	335.0	335.0
Yr Total Cost:	1,339	1,694	1,794	1,907	2,012	2,142	0	0	0	0	0	0
Cum Total Cost:	1,339	3,033	4,827	6,734	8,747	10,888	10,888	10,888	10,888	10,888	10,888	10,888

Resource: PJSMGR
Res Dept: 951

PROJECT SUPPORT MGR
OverTime: EOC: SAL

	Class:		Class:		Class:		Class:		Class:		Class:	
	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 08-	Oct 09-
Yr Hours:	94.0	93.2	93.2	93.6	92.8	92.8	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	94.0	187.2	280.4	374.0	467.2	560.0	560.0	560.0	560.0	560.0	560.0	560.0
Yr Total Cost:	3,546	4,486	4,751	5,051	5,330	5,671	0	0	0	0	0	0
Cum Total Cost:	3,546	8,031	12,782	17,834	23,163	28,834	28,834	28,834	28,834	28,834	28,834	28,834

Resource: RADENG
Res Dept: 951

RAD ENGINEER
OverTime: EOC: SAL

	Class:		Class:		Class:		Class:		Class:		Class:	
	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 08-	Oct 09-
Yr Hours:	2.0	2.4	2.4	2.4	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	2.0	4.4	6.8	9.2	11.6	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Yr Total Cost:	94	119	126	134	142	151	0	0	0	0	0	0
Cum Total Cost:	94	214	340	474	616	767	767	767	767	767	767	767

Resource: RADTEC
Res Dept: 951

RAD TECH
OverTime: EOC: SAL

	Class:		Class:		Class:		Class:		Class:		Class:	
	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 08-	Oct 09-
Yr Hours:	238.6	236.7	236.7	237.6	236.7	235.7	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	238.6	475.3	711.9	949.6	1,186.3	1,422.0	1,422.0	1,422.0	1,422.0	1,422.0	1,422.0	1,422.0
Yr Total Cost:	6,711	8,490	8,993	9,561	10,088	10,734	0	0	0	0	0	0
Cum Total Cost:	6,711	15,201	24,194	33,756	43,843	54,578	54,578	54,578	54,578	54,578	54,578	54,578

Resource: S&HENG
Res Dept: 951

SAFETY ENGINEER
OverTime: EOC: SAL

	Class:		Class:		Class:		Class:		Class:		Class:	
	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 08-	Oct 09-
Yr Hours:	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	2.3	4.7	7.0	9.3	11.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Yr Total Cost:	96	122	129	137	145	154	0	0	0	0	0	0
Cum Total Cost:	96	218	347	485	630	784	784	784	784	784	784	784

Resource: TFSREP
Res Dept: 951
TECHIPROG SUPT REP
Overtime: Class: EOC: SAL
LABOR

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	20.1	20.0	20.0	20.1	20.0	19.9	0.0	0.0	0.0	0.0
Cum Hours:	20.1	40.1	60.1	80.1	100.1	120.0	120.0	120.0	120.0	120.0
Yr Total Cost:	863	1,092	1,157	1,230	1,298	1,381	0	0	0	0
Cum Total Cost:	863	1,956	3,113	4,343	5,641	7,022	7,022	7,022	7,022	7,022

Resource: WSTENG
Res Dept: 951
WASTE ENGINEER
Overtime: Class: EOC: SAL
LABOR

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	157.2	189.0	189.0	189.7	189.0	188.2	0.0	0.0	0.0	0.0
Cum Hours:	157.2	346.2	535.1	724.8	913.8	1,102.0	1,102.0	1,102.0	1,102.0	1,102.0
Yr Total Cost:	8,023	10,150	10,750	11,430	12,059	12,832	0	0	0	0
Cum Total Cost:	8,023	18,172	28,922	40,352	52,411	65,243	65,243	65,243	65,243	65,243

GRAND TOTALS:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	1,796.9	2,073.4	2,073.4	2,081.7	2,073.4	2,065.1	0.0	0.0	0.0	0.0
Cum Hours:	1,796.9	3,870.3	5,943.7	8,025.4	10,098.9	12,164.0	12,164.0	12,164.0	12,164.0	12,164.0
Yr Total Cost:	59,957	75,748	80,097	85,025	89,568	95,132	0	0	0	0
Cum Total Cost:	59,957	135,705	215,802	300,827	390,396	485,528	485,528	485,528	485,528	485,528

CAM
[Signature]

CONTROL TEAM
[Signature]

SECTION 2

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Organic Treatment		PBS Number: 10		Total Baseline Dollars (Minimum Case):		\$8,833,294			
Evaluator: K. Crosson		Date: Mar. 23, 2001		WBS Number: 1.1.K.B		Control Account Number: KBRT			
CAM: J. Duling		Date: Mar. 23, 2001		Risk and/or Opportunity		* R1-D-693			
Project Task	Potential Impact	Internal Or External Driver	Impact Cost \$ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost \$ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Planning and Management (KBRT) Organic Treatment	Delay in subcontractor readiness/operational ability	Internal	\$3,000,000	3	40	3	\$1,200,000	3	Accept
Characterization	Increased sampling activities	Internal	\$500,000	2	25	2	\$125,000	2	Accept
Processing	Subcontractor inability to meet treatment criteria	Internal	\$1,000,000	3	30	2	\$300,000	3	Accept
Packaging	FAT&LC operations personnel not available	Internal	\$325,000	2	50	3	\$162,500	2	Accept
Packaging	Need to procure container for liquid shipments	Internal	\$250,000	2	50	3	\$125,000	2	Accept
Shipping	Delay in subcontractor readiness/operational schedule	Internal	\$500,000	2	50	3	\$250,000	2	Accept
Total:			\$5,575,000			Total:	\$2,162,500		

Processing - R1-D-693	EMISO funding for VTD	External	\$6,000,000	N/A	50	3	\$3,000,000	3	Accept
-----------------------	-----------------------	----------	-------------	-----	----	---	-------------	---	--------

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 73
5. WBS ELEMENT CODE 1.1.K.C	6. WBS ELEMENT TITLE INORGANIC TREATMENT
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODC's</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This element involves the planning, management, administration, processing, packaging/repackaging, and disposition of mercury contaminated waste, lead debris and broken lead acid batteries, and inorganically contaminated soils, sludges and debris. All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>This element includes a broad range of wastes, bound together by virtue of the chemical characteristics of their hazardous waste constituents. It is organized into three work packages (charge numbers): Inorganic Mercury, Inorganic Macroencapsulation/Decontamination, and Inorganic Soils, Sludges, and Debris. The activities involved in the process of final disposition of these wastes includes the planning, management, administration, decanting, sorting/segregation, decontamination, packaging/repackaging, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this element.</p> <p>Inorganic Mercury (KBNR1) - The current inventory of inorganically contaminated mixed waste containing mercury resulted from operations at the FEMP. As of 12/01/00, there are twenty-two (22) containers of inorganic mercury (1,492 kg) that require treatment to meet Land Disposal Restrictions in accordance with 40</p>	

**U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION**

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000		
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 73	
5. WBS ELEMENT CODE 1.1.K.C	6. WBS ELEMENT TITLE INORGANIC TREATMENT		
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100		
11. ELEMENT TASK DESCRIPTION CFR Part 268. Inorganic Macroencapsulation/Decontamination (KBNR2) - The current inventory of contaminated lead debris and contaminated lead acid batteries resulted from operations and D&D activities at the FEMP. As of 12/01/00, there are 125 containers of broken lead acid batteries and lead debris (43,738 kg) which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268. Inorganic Soils, Sludges and Debris (KBNR3) - The current inventory of inorganically contaminated mixed waste sludges, soils, and debris resulted from operations at the FEMP. As of 12/01/00 there are 555 containers (162,356 kg) which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.			

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 05/2001 - 09/2003
---	---

12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBNR	13. TASK DESCRIPTION (ONE LINE) INORGANIC TREATMENT
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

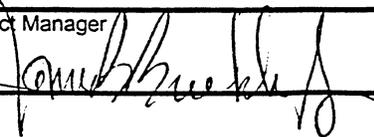
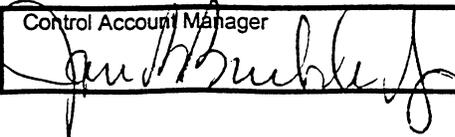
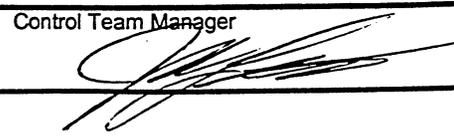
Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

This control account involves the planning, management, administration, processing, packaging/repackaging, and disposition of mercury contaminated waste, lead debris and broken lead acid batteries, and inorganically contaminated soils, sludges and debris. All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.

c. SCOPE OF WORK:

This control account includes a broad range of wastes, bound together by virtue of the chemical characteristics of their hazardous waste constituents. It is organized into three work packages (charge numbers): Inorganic Mercury, Inorganic Macroencapsulation/Decontamination, and Inorganic Soils, Sludges, and Debris. The activities involved in the process of final disposition of these wastes includes the planning, management, administration, decanting, sorting/segregation, decontamination, packaging/repackaging, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 05/2001 - 09/2003	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBNR	13. TASK DESCRIPTION (ONE LINE) INORGANIC TREATMENT		

14. ELEMENT TASK DESCRIPTION

Inorganic Mercury (KBNR1) - The current inventory of inorganically contaminated mixed waste containing mercury resulted from operations at the FEMP. As of 12/01/00, there are twenty-two (22) containers (1,492 kg) that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.

Inorganic Macroencapsulation/Decontamination (KBNR2) - The current inventory of contaminated lead debris and contaminated lead acid batteries resulted from operations and D&D activities at the FEMP. As of 12/01/00, there are 125 containers (43,738 kg) of broken lead acid batteries and lead debris which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.

Inorganic Soils, Sludges and Debris (KBNR3) - The current inventory of inorganically contaminated mixed waste sludges, soils, and debris resulted from operations at the FEMP. As of 12/01/00 there are 555 containers (162,356 kg) which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.

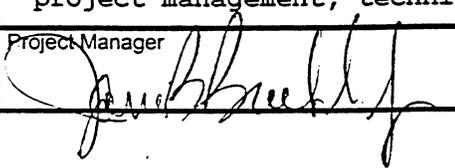
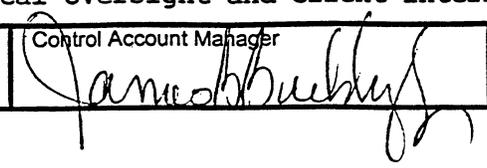
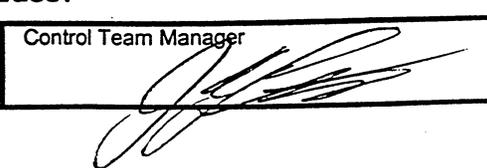
Scope for this control account is further defined at the Work Package - Charge Number level (KBNR1, KBNR2, KBNR3).

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

- 1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 09/2001 - 09/2002	
12. TASK IDENTIFICATION (WORK PACKAGE) KBNR1	13. TASK DESCRIPTION (ONE LINE) INORGANIC MERCURY		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This work package involves the planning, management, administration, processing, packaging/repackaging, and disposition of Mercury-contaminated wastes. All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The current inventory of inorganically contaminated mixed waste containing mercury resulted from operations at the FEMP. As of 12/01/00, there are twenty-two (22) containers (1,492 kg) that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.</p> <p>This work package includes the following sub-tasks: Planning and Management - Includes work plan development, task order and safety briefing development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, management assessments, contract negotiation, project management, technical oversight and client interface.</p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 09/2001 - 09/2002	

12. TASK IDENTIFICATION (WORK PACKAGE) KBNR1	13. TASK DESCRIPTION (ONE LINE) INORGANIC MERCURY
--	---

14. ELEMENT TASK DESCRIPTION

Characterization - Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, waste sampling, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.

Processing - Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.

Packaging - Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and record management.

Shipping - Includes loading conveyance onto transport vehicle, performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and record management.

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 3
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

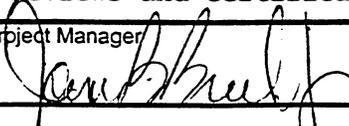
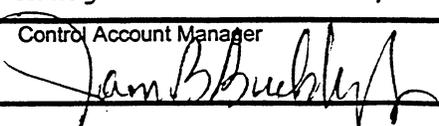
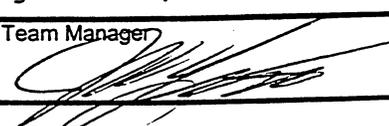
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 09/2001 - 09/2002
---	---

12. TASK IDENTIFICATION (WORK PACKAGE) KBNR1	13. TASK DESCRIPTION (ONE LINE) INORGANIC MERCURY
--	---

14. ELEMENT TASK DESCRIPTION

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 05/2001 - 09/2002	
12. TASK IDENTIFICATION (WORK PACKAGE) KBNR2	13. TASK DESCRIPTION (ONE LINE) INORGANIC MACROENCAPSULATION/DECONTAMINATION		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This work package involves the planning, management, administration, processing, packaging/repackaging, and disposition broken lead acid batteries and lead debris, a process known as "Macro Decon." All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The current inventory of contaminated lead debris and contaminated lead acid batteries resulted from operations and D&D activities at the FEMP. As of 12/01/00, there are 125 containers (43,738 kg) which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.</p> <p>This work package includes the following sub-tasks: Management and Planning - Includes work plan development, task order and safety briefing development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, Management Assessments, contract negotiation,</p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.C		4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT	
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100		9. BUDGET TITLE MIXED WASTE	
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 05/2001 - 09/2002	

12. TASK IDENTIFICATION (WORK PACKAGE) KBNR2	13. TASK DESCRIPTION (ONE LINE) INORGANIC MACROENCAPSULATION/DECONTAMINATION
--	--

14. ELEMENT TASK DESCRIPTION

project management, technical oversight and client interface.
 Characterization - Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, waste sampling, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.
 Processing - Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.
 Packaging - Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and records management.
 Shipping - Includes loading conveyance onto transport vehicle and performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and records management.

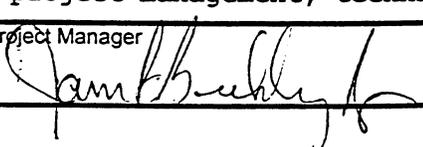
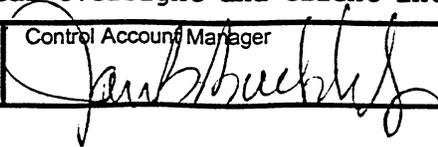
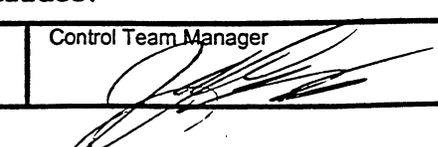
d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 05/2001 - 09/2002	
12. TASK IDENTIFICATION (WORK PACKAGE) KBNR2	13. TASK DESCRIPTION (ONE LINE) INORGANIC MACROENCAPSULATION/DECONTAMINATION		
14. ELEMENT TASK DESCRIPTION 1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.			

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2001 - 09/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBNR3	13. TASK DESCRIPTION (ONE LINE) INORGANIC SOILS, SLUDGES, AND DEBRIS		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This work package involves the planning, management, administration, processing, packaging/repackaging, and disposition of inorganically contaminated soils, sludges, and debris. All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The current inventory of inorganically contaminated mixed waste sludges, soils, and debris resulted from operations at the FEMP. As of 12/01/00 there are 555 containers (162,356 kg) which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.</p> <p>This work package includes the following sub-tasks: Management and Planning - Includes work plan development, task order and safety briefing development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, Management Assessments, contract negotiation, project management, technical oversight and client interface.</p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2001 - 09/2003	

12. TASK IDENTIFICATION (WORK PACKAGE) KBNR3	13. TASK DESCRIPTION (ONE LINE) INORGANIC SOILS, SLUDGES, AND DEBRIS
--	--

14. ELEMENT TASK DESCRIPTION

Characterization - Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, waste sampling, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.

Processing - Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.

Packaging - Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and records management.

Shipping - Includes loading conveyance onto transport vehicle and performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and record management.

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.K.C	4. WBS ELEMENT TITLE/NAME INORGANIC TREATMENT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2001 - 09/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBNR3	13. TASK DESCRIPTION (ONE LINE) INORGANIC SOILS, SLUDGES, AND DEBRIS		

14. ELEMENT TASK DESCRIPTION

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

SECTION 3

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.C.	5. WBS ELEMENT TITLE: INORGANIC TREATMENT	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: KBNR	

SECTION 3: KBNR – INORGANIC TREATMENT PROJECT

1.0 NARRATIVE

1.1 OVERVIEW

This scope of work involves the planning, management, administration, processing, packaging/repackaging, and disposition of inorganically contaminated soils, sludges, and debris. It involves the planning, management, administration, sorting/segregation, decontamination, processing, packaging, and disposition of broken lead acid batteries; a process known as "Macro Decon." It involves the planning, management, administration, processing, packaging/repackaging, and disposition of lead debris, also known as Macro Decon. It also includes the planning, management, administration, processing, packaging/repackaging, and disposition of Mercury-contaminated wastes known as Inorganic Mercury. All wastes and/or recyclable materials will be shipped off site to an authorized Treatment, Storage, and Disposal and/or Recycle facility for final treatment/processing and disposal in accordance with all applicable federal, state and local regulations and DOE orders.

1.1.1 KBNR1 – Inorganic Mercury

The current inventory of inorganically contaminated mixed waste containing mercury resulted from operations at the FEMP. As of 12/01/00, there are ~~seventeen (17)~~ 22 containers (1,492 kg) of inorganic mercury, ~~with a volume of 325.8 cubic feet~~ and zero (0) containers of forecasted waste from PB01 and Plant 5 & 6 D&D Activities, that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268. Activities required to complete this scope of work include:

- Sampling and analysis in support of waste characterization, and preparation of documentation required for Department of Transportation (DOT), Resource Conservation and Recovery Act (RCRA), and Treatment, Storage and Disposal Facility (TSDF) waste acceptance criteria, as well as for administration of the Broad Spectrum Contract.
- Identification, movement, decanting, sorting/segregation, decontamination, repackaging and/or overpacking, and loading of drums and boxes of inorganically

R1-D-
568

R1-
F10-
007

contaminated wastes from their staging locations onto commercial transportation vehicles.

- Transportation of the wastes from the FEMP to the treatment facility. Treatment of waste at Broad Spectrum facilities and disposal of the treated waste at Envirocare.
- Sampling and analysis in support of waste characterization, and preparation of documentation required for DOT, RCRA, and TSDF waste acceptance criteria, for all secondary wastes generated as a result of the primary objective of this project. These secondary wastes will include liquids and solids. Both forms of secondary wastes could contain low-level waste and mixed waste fractions.

1.1.2 KBNR2 – Inorganic Macroencapsulation/Decontamination (Macro/Decon)

The current inventory of contaminated lead debris and contaminated lead acid batteries resulted from operations and D&D activities at the FEMP. As of 12/01/00, there are ~~402 115~~ 125 containers (40,230 kg) (43,738) of broken lead acid batteries and lead debris, ~~with a volume of 2,100 cubic feet~~ and 10 containers of forcasted lead/lead debris from PBS01 and Plant 5 and 6 D&D which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268. Activities required to complete this scope of work include:

R1-D-
568
R1-
F10-
007

- Sampling and analysis in support of waste characterization, and preparation of documentation required for DOT, RCRA and TSDF waste acceptance criteria, as well as for administration of the Broad Spectrum Contract. Treatment of waste, and disposal of the treated waste at Envirocare.
- Segregation, disassembly, and/or decontamination to meet recycling and/or TSD waste acceptance criteria.
- Repackaging of waste/recycle material as necessary to meet DOT and receiving facility requirements.
- Identification, movement, and loading of containers of contaminated lead wastes from their staging locations to commercial transporters.
- Transportation of the wastes from the FEMP to the treatment/recycle facility.
- Treatment of waste and disposal of the treated waste at Envirocare.
- Recycle of free released lead acid batteries and lead metal.

Sampling and analysis in support of waste characterization, and preparation of documentation required for DOT, RCRA and TSDF waste acceptance criteria, for all secondary wastes generated as a result of the primary objective of this project. These

secondary wastes will include liquids and solids. Both forms of secondary wastes could contain low-level waste and mixed waste fractions.

1.1.3 KBNR3 – Inorganic Soils, Sludges and Debris

The current inventory of inorganically contaminated mixed waste sludges, soils, and debris, resulted from operations at the FEMP. As of 12/01/00 there are ~~15~~ 555 containers of (162,356 kg's) inorganic soils, ~~405~~ containers of inorganic sludges, and ~~55~~ containers of inorganic debris, representing a total volume of ~~7,600~~ cubic feet and zero (0) containers of forecasted waste from PBS01 and Plant 5 & 6 D&D activities, which require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268. Activities required to complete this scope of work include:

R1-D-
568
R1-
F10-
007

- Sampling and analysis in support of waste characterization, and preparation of documentation required for DOT, RCRA and TSDF waste acceptance criteria, as well as for administration of the Broad Spectrum Contract.
- Identification, movement, decanting, sorting/segregation, decontamination, repackaging and/or overpacking, and loading of containers of inorganic soil, sludges and debris from their staging locations onto commercial transportation vehicles.
- Transportation of the wastes from the FEMP to the treatment facility. Treatment of waste at Broad Spectrum facilities and disposal of the treated waste at Envirocare.
- Sampling and analysis in support of waste characterization, and preparation of documentation required for DOT, RCRA, and TSDF waste acceptance criteria, for all secondary wastes generated as a result of the primary objective of this project. These secondary wastes will include liquids and solids. Both forms of secondary wastes could contain low-level waste and mixed waste fractions.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 ~~KBNT1~~KBNR1 – Inorganic Mercury

- 1) As of 12/01/00, there are ~~seventeen (17)~~ 22 containers of (1,492 kg) inorganic mercury contaminated waste, with a volume of ~~325.8~~ cubic feet, that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268
- 2) To complete this scope of work it will require the development and execution of eleven task orders.
- 3) To complete this scope of work it will require one characterization campaign.

R1-D-
568
R1-F10-
007
R1-F10-
013

- 4) To complete this scope of work it will require one waste profile.
- 5) To complete this scope of work it will require one SC&PCRD.
- 6) All containers will be run through the Real Time Radiography Unit (RTR)
- 7) Nine drums and one box will require decanting based on RTR inspection results.
- 8) One container will require sampling and analysis.
- 9) The type and volume of secondary waste generated as a result of this activity is as follows:

- Empty Drums – 0
- Organic Liquids – 0
- LLW Trash – 1 Drum
- Aqueous Liquids – 1 Drum
- Empty Boxes - 2

- 10) There are no hydrogen generating materials associated with the inventory.
- 11) To complete this scope of work the project will need to purchase the following shipping containers:

R1-
F10-
007

- ~~Twenty-two~~ Twenty-five 55-gallon drums
- ~~Eight~~ Ten 85-gallon drums
- ~~One~~ Five 110-gallon drum

- 12) To complete this scope of work the project will need to make one over the road waste shipment.

R1-
D-
565

- 13) Over the road shipments will use ~~normal transportation routes~~ currently established transportation routes.

R1-
F10-
013

- 14) The project team will make one site visit to the TSDf receiving the mercury waste.
1.2.1.2 ~~KBNT2-KBNR2~~ – Macro/Decon

R1-D-
568
R1-F10-
007

- 1) As of 12/01/00, there are ~~one hundred two (102)~~ ~~115~~ 125 containers of (40,238 43,738 -kg) inorganic lead debris, elemental lead and broken lead acid batteries, ~~with a volume of 2051.2 cubic feet,~~ and ten (10) containers of forecasted waste from PBS01 and Plant 5 & 6 D&D activities, that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.
- 2) To complete this scope of work it will require the development and execution of sixteen task orders.

- 3) To complete this scope of work it will require two characterization campaigns.
- 4) To complete this scope of work it will require two waste profiles.
- 5) To complete this scope of work it will require two SC&PCRD's.
- 6) All containers will be run through the Real Time Radiography Unit (RTR)
- 7) Fifty-two drum's and eight boxes will require decanting based on RTR inspection results.
- 8) Five containers will require sampling and analysis.
- 9) The type and volume of secondary waste generated as a result of this activity is as follows:
 - Empty Drums – 2
 - Organic Liquids – 0
 - LLW Trash – 10 Drum
 - Aqueous Liquids – 14 Drum
 - Empty Boxes – 14
- 10) The lead acid battery sorting and segregation activity will be located in Building 79 warehouse. This facility will remain in operation until all waste processing activities are completed in accordance with the approved baseline performance period.
- 11) To complete this scope of work the project will need to purchase the following shipping containers:
 - ~~One hundred ninety one~~ One hundred seventy-one 55-gallon drums
 - ~~Fifty nine~~ Eighty-three 85-gallon drums
 - ~~Twenty~~ Twenty-four 110-gallon drum
- 12) To complete this scope of work the project team will need to make six over the road waste shipments.
- 13) Over the road shipments will ~~use normal transportation routes~~ currently established transportation routes.
- 14) The project team will make one site visit to the TSDf receiving the lead waste.

R1-
F10-
007

R1-
D-
565

R1-
F10-
013

1.2.1.3 ~~KBNT3~~ KBNR3 – Soils, Sludges and Debris

R1-D-
568

R1-
F10-
007

- 1) As of 12/01/00, there are ~~four hundred seventy six (476)~~ 555 containers (162,356 kg) of inorganic soils, sludge's, and debris waste, ~~with a volume of 7600 cubic feet,~~ that require treatment to meet Land Disposal Restrictions in accordance with 40 CFR Part 268.
- 2) To complete this scope of work it will require the development and execution of twenty-five task orders.
- 3) To complete this scope of work it will require three characterization campaigns.
- 4) To complete this scope of work it will require three waste profiles.
- 5) To complete this scope of work it will require three SC&PCRD's.
- 6) All containers will be run through the Real Time Radiography Unit (RTR)
- 7) Two hundred seventy three drum's and twelve boxes will require decanting based on RTR inspection results.
- 8) Twenty-four containers will require sampling and analysis.
- 9) The type and volume of secondary waste generated as a result of this activity is as follows:
 - Empty Drums – 9
 - Organic Liquids – 0
 - LLW Trash – 10 Drum
 - Aqueous Liquids – 48 Drum
 - Empty Boxes – 20
- 10) To complete this scope of work the project will need to purchase the following shipping containers:
 - ~~Two hundred seventy~~ Five Hundred Thirteen 55-gallon drums
 - ~~Three hundred seventy five~~ Three hundred ninety six 85-gallon drums
 - ~~Seventy-Ninety six~~ 110-gallon drum
- 11) To complete this scope of work the project team will need to make ~~fourteen~~ eighteen over the road waste shipments.
- 12) Over the road shipments will use ~~normal~~ currently established transportation routes.
- 13) The project team will make one site visit to the TSDF receiving the lead waste.

R1-
F10-
007

R1-D-
565

1.2.1.4 General

- 1) Field operations will be performed by FAT&LC represented personnel.
- 2) Adequate support from functional areas like Operations, Maintenance, Radiation Safety, Inventory Control, Industrial Hygiene, Characterization and Transportation will be available and will support the approved schedule.
- 3) Funding will support approved project scope and schedule.
- 4) Approved containers will be manufactured and delivered by vendors to support the approved schedule.
- 5) Regulatory and administrative requirements remain static during the approved baseline performance period.
- 6) Wastes in these categories do not require criticality controls.
- 7) Prohibited articles and wastes that require treatment prior to disposition included in the work package can be effectively dispositioned through other processes included in the closure baseline, such as by using existing planned RCRA treatment contracts and/or LLW disposal options.
- 8) All the Inorganic Mixed Waste streams represented in this estimate will be accepted and treated by the consortium represented under the Broad Spectrum Agreement. All facilities under the Broad Spectrum Agreement, providing mixed waste treatment, will attain and maintain certifications, licenses, and permits, and the Waste Acceptance Criteria (WAC) used to provide cost estimates remains in use during the approved baseline performance period.
- 9) Disposal costs are covered under a separate contract with Envirocare.
- 10) Acceptance for disposal of the treated mixed waste will be the vendor's responsibility in accordance with the Broad Spectrum Agreement.
- 11) The current applicable safety analysis envelope will not change to impact this project, nor will any other project safety envelope impact this scope of work, (i.e., Kingman incident, Thorium Warehouse Metal Fire).
- 12) Waste sampling, sample analysis, and waste characterization will be in accordance with the approved project schedule. ~~Waste Characterization will provide sufficient resources to perform needed analysis as required, on time, within budget.~~
- 13) Waste currently contained in 55-gallon or 85-gallon containers will be overpacked prior to shipment.

R1-
F10-
008

R1-D-
573

- 14) Waste currently contained in 110-gallon containers or metal boxes will be repackaged into 55-gallon drums prior to shipment.
- 15) Weather conditions during the packaging/repackaging, sorting/segregation, consolidation, sampling/characterization and shipment loading and transportation will allow field operations resources to support the approved project schedule.
- 16) Costs associated with the disposition of analytical sample residues will be covered in Control Account KBSD, "Sample Disposition Project."
- 17) The vendor's shipping vehicles, (i.e., dedicated pan trailers) and carriers are available, and will retain certification to be used in transporting the waste to the vendor's site of operations/treatment.
- 18) The vendor's shipping vehicle will meet the transport schedule defined or to be developed for this scope of work. DOE and Fluor Fernald reporting obligations do not exceed current levels of adherence.
- 19) There will be no Standard Startup Review/Operational Readiness Review for waste packaging/repackaging, sorting or segregation, or loading and shipment. However, there will be a Management Assessment (MA) completed by Waste Generator Services (WGS) at the project's discretion.
- 20) This scope of work includes drum crushing/drum disposal.
- 21) Liquid phase waste in inorganic waste containers will be removed and transferred to the Mixed Waste for Incineration Project or the Advanced Wastewater Treatment Project. Funding for processing and disposition of these secondary waste streams is part of this scope of work.
- 22) Secondary wastes, (i.e., used PPE, decontamination waste, muslin cloth or paper towels, spill clean up wastes, floor sweepings, aerosol cans, etc.) will be transferred to the most appropriate waste disposition project, (i.e., Low-Level Waste or Waste Treatment & Storage Projects). Funding for processing and disposition of these secondary waste streams is part of this scope of work.
- 23) Work activities are based on the following Operations Throughputs:
 - Overpack/Repack – 2 HAZWATS, 1 MVO, 1 RCT, .5 Super
20 drums/day
4 boxes/day
1 ISO
 - Movement – 1 HAZWAT, 1 MVO, .25 RCT, .2 Super
80 drums/day
24 boxes/day

- 3 ISO's/day
- Sort/Consol. – 3 HAZWAT, 1 MVO, .2 RCT, .2 Super
4 drums/day
1.5 boxes/day
.5 ISO's/day
- Sampling – 2 HAZWAT, 1 MVO, 1 RCT, 1 Super
5 drums/day
3 boxes/day
- Vent/Punch – 3 HAZWAT, 1MVO, 1 RCT, 1 IHT, 1 Super
20 drums/day
3 boxes/day
- Bulking – 3 HAZWAT, 1 MVO, 1 RCT, 1 IHT, 1 Super
15 drums/day
- Crushing – 2 HAZWAT, .5 RCT, .1 Super
20 drums/day
- Loading – 4 HAZWAT, 2 MVO, 2 TRNLAB, 2 RCT, 1.6 Super
60 drums/day
10 boxes/day
3 ISO's/day
- Decanting – 3 HAZWAT, 1 MVO, .5 RCT, 1 Super
Metals – 2 drums/day
Non-metal – 30 drums/day

1.2.2 Exclusions

- 1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000.
- 2) This scope of work does not include any demolition work. However, decontamination of utilized facilities will include one rinse of floors and removal of any spill materials from the facility only.

1.2.3 Government-Furnished Equipment/Services

- 1) The Broad Spectrum Contract as administered by the Department of Energy Oak Ridge Operations Office (DOE-ORO) will remain in effect through 2003, and will be fully available for the waste types and schedules identified in this Control Account.
- 2) The DOE disposal contract with Envirocare of Utah will remain in place until at least the end of FY2004, and will be fully available for the waste types and schedules identified in this Control Account.

1.3 DRIVERS

Drivers include events or activities that must occur as predecessor or contemporary to the project, as well as significant requirements that must be met in the execution of the project.

1.3.1 KBNR1 – Inorganic Mercury

- | | |
|------------------|---|
| R1-
D-
582 | 1) Waste Characterization approves waste campaigns for disposal. |
| R1-
D-
583 | 2) Waste profiles will be approved by M&EC or WCS broad spectrum contractor. |
| | 3) Contract for purchase of waste containers will be established and maintained for the duration of the project |
| | 4) WCS TSDF receives all inorganic mercury that meet the WAC in a timely manner. |

1.3.2 KBNR2 – Inorganic Macro/Decon

- | | |
|------------------|--|
| R1-
D-
582 | 1) Waste Characterization approves waste campaigns for disposal. |
| R1-
D-
583 | 2) Waste profiles will be approved by M&EC or WCS broad spectrum contractor. |
| | 3) Contract for purchase of waste containers will be established and maintained for the duration of the project. |
| | 4) Regulatory path for disposal of contaminated lead acid batteries will be in place by 12/11/01. |
| | 5) WCS TSDF receives all inorganic macro decon waste that meets WAC in a timely manner. |

1.3.3 KBNR3 – Inorganic Soils, Sludges and Debris

- | | |
|------------------|--|
| R1-
D-
583 | 1) Waste Characterization approves waste campaigns for disposal. |
| R1-
D-
583 | 2) Waste profiles will be approved by M&EC or WCS broad spectrum contractor. |
| | 3) Contract for purchase of waste containers will be established and maintained for the duration of the project. |
| | 4) WCS TSDF receives all inorganic macro decon waste that meet the WAC in a timely manner. |

1.4 PROJECT PHYSICAL DESCRIPTION

The inorganic treatment project includes a broad range of wastes, bound together by virtue of the chemical characteristics of their hazardous waste constituents. The activities involved in the process of final disposition of these wastes includes the planning, management, administration, decanting, sorting/segregation, decontamination, packaging/repackaging, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

1.4.1 KBNR1 – Inorganic Mercury

1) Planning and Management Activities

Includes work plan development, task order and safety briefings development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, management assessments, contract negotiation, project management, technical oversight and client interface.

2) Characterization Activities

Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.

3) Processing Activities

Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.

4) Packaging

Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and record management.

5) Shipping

Includes loading conveyance onto transport vehicle, performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and record management.

1.4.2 KBNR2 – Macro/Decon

1) Management and Planning Activities

Includes work plan development, task order and safety briefings development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, Management Assessments, contract negotiation, project management, technical oversight and client interface.

2) Characterization Activities

Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.

3) Processing Activities

Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.

4) Packaging

Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and records management.

5) Shipping

Includes loading conveyance onto transport vehicle and performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and records management.

1.4.3 KBNR3 – Soils, Sludges and Debris

1) Management and Planning Activities

Includes work plan development, task order and safety briefings development, procedure development and validation, quality assurance, safety walk downs and safety meetings, self assessments, training, document control and records management. Also includes performance of quality assurance reviews and certifications, Management Assessments, contract negotiation, project management, technical oversight and client interface.

2) Characterization Activities

Includes campaign package development and completion, absorbent determinations, compatibility determination, sampling and analysis plan development, data review, statistical analysis, (radiological and chemical), container movement, RTR of all containers, visual inspection of containers as well as digital photographs as a means of documenting container contents. In addition it includes radiological characterization and the completion of LDR determinations and the preparation of waste profiles.

3) Processing Activities

Includes work area set up, task order and safety briefings, procedure validation, quality assurance, container movements, waste sorting and segregation, decontamination, decanting, venting, radiation monitoring and survey, industrial hygiene monitoring and survey, facility housekeeping, safety walk downs and safety meetings, self assessments, log keeping, training, facility maintenance, spare parts. Also includes performance of quality assurance and Conduct of Operations reviews, document control and records management.

4) Packaging

Includes procurement of approved shipping containers, waste packaging and repackaging, container overpacking, container weighing, waste characterization and/or shipping services oversight, quality assurance oversight, container closure and labeling in accordance with DOT regulations and disposal facility WAC. Also includes performance of all quality assurance reviews and certifications, document control, and records management.

5) Shipping

Includes loading conveyance onto transport vehicle and performance of regulatory review per characterization data. Also includes completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, Exclusive Use Statements, etc.), performance of incoming and outgoing vehicle inspections, performance of vehicle release survey and release checklists. Includes performance of all quality assurance reviews and certifications, document control, and record management.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBNR1 – Inorganic Mercury

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

F1-
F10-
007

- ~~Duration of the activity is 197 workdays.~~
- The scope involves ~~17~~ 22 containers of waste.
- The scope includes 1 independent management assessment for the initial package and shipment activity.
- The scope includes the development of 11 Task Orders and 1 Work Plan.
- The scope includes development and execution of a “Broad-Spectrum Agreement” work order.
- From a project specific point of view, the plan includes oversight and involvement from support organizations including: QA, H&S, Safety Analysis, Acquisitions, MC&A, and Operations.
- The scope includes 1 site visit to the approved TSDF.

1.2) Quantification – Planning and Management Activities

Manhours (Mhrs) and Full Time Equivalents (FTE’s) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE’s required to complete the task within it’s scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 788 Mhrs. One full FTE for the life of the project (1 year) is 1,747 Mhrs. 788 Mhrs is approximately 0.45 FTE’s for the life of the project, whereas under management approvals, a Waste Engineer is needed for 40 Mhrs over four days. This equates to one full FTE for that activity. This logic is applied to the remaining quantification sections in this Control Account.

R1-
F10-
008

R1-
F10-
006

1. Planning and Management	
General Administration	
QA 59.0 Mhrs. (0.03 FTE)	Draft 1 RFP, program maintenance, procedure reviews and revisions, training, schedule, invoicing, subcontractor activities, etc 1 BSA (Broad Spectrum Agreement) task order for waste treatment and invoicing and general project oversight
Waste Engineering Engineer – 788.0 Mhrs. (0.45 FTE)	
Acquisitions 137.9 Mhrs. (0.08 FTE)	
Waste Eng. Mgr. 394 Mhrs. (0.20 FTE)	

1. Planning and Management	
R1-F10-006	<p>Supervisor – 59.1 Mhrs. (0.03 FTE) Admin. Spt. – 137.9 Mhrs. (0.08 FTE)</p> <p>Procedure and task order review General clerical support</p>
R1-F10-008	<p>Mgt. Approvals</p> <p>Waste Engineer – 40.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 40.0 Mhrs. (1.0 FTE) Rad. Engineering – 8.0 Mhrs. (0.2 FTE) Safety Engineering – 16.0 Mhrs. (0.4 FTE) Safety Tech – 8.0 Mhrs. (0.2 FTE) Safety Analysis – 8.0 Mhrs. (0.2 FTE) MC&A – 8.0 Mhrs. (0.2 FTE) TO Writer – 8.0 Mhrs. (0.2 FTE) HazWat – 36.0 Mhrs. (0.9 FTE) Supervisor – 20.0 Mhrs. (0.5 FTE) Rad Tech – 12.0 Mhrs. (0.3 FTE) QA – 20.0 Mhrs. (0.5 FTE)</p> <p>1 Management Assessment for initial packaging and shipment (estimated to take 4 days)</p>
R1-F10-008	<p>Oversight/Inspections</p> <p>QA – 30.0 Mhrs. (0.5 FTE) Supervisor – 12.0 Mhrs. (0.2 FTE) Rad Tech – 12.0 Mhrs. (0.2 FTE) Waste Engineer – 60.0 Mhrs. (1.0 FTE)</p> <p>Oversight of 1 shipment.</p>
R1-F10-007	<p>Inventory Planning</p> <p>Waste Engineer – 120.0 Mhrs. (1.0 FTE) MC&A – 180.0 Mhrs. (3.0 FTE) TO Writer – 60.0 Mhrs. 1.0 FTE</p> <p>Review of inventory estimated to be 17 22 containers of mercury contaminated debris and mercury switched. Review of inventory for inclusion in program.</p>
R1-F10-008 R1-F10-006	<p>Work Package Development</p> <p>Hazwat – 44.0 Mhrs. (0.05 FTE) Supervisor – 44.0 Mhrs. (0.1 FTE) Rad Tech – 8.8 Mhrs. (0.005 FTE) Safety Tech – 17.6 Mhrs. (0.01 FTE) Rad Engineer – 17.6 Mhrs. (0.01 FTE) Safety Engineer – 17.6 Mhrs. (0.01 FTE) Safety Analysis – 26.4 Mhrs. (0.01 FTE) Waste Engineer – 264.0 Mhrs. (0.3 FTE) MC&A – 26.4 Mhrs. (0.01 FTE) TO Writer – 264.0 Mhrs. (0.3 FTE)</p> <p>1 work plan and 11 task Orders (TO). 1 TO for RTR, 1 for decanting, 1 for waste processing, 1 for waste sampling, 1 for drum overpacking, 1 for box repackaging, 1 for package preparation, 1 for shipment preparation, 1 for shipment loading, 1 for AWWT liquids, 1 for LLW trash processing.</p> <p><u>Per Task Order:</u> Waste Engineer/TO writer - 20 hrs, Ops Sup/Hazwat – 4 hrs, QA Review – 2 hrs, QA above the line Safety – 2 hrs, Project Manager – Waste Engineering Mgr. – 1 hr Development: 2 wks time/task order for development = 8 days</p>
R1-F10-006	<p>Tech. Programs Support</p> <p>Waste Engineer – 50.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 50.0 Mhrs. (1.0 FTE)</p> <p>Support EM50 Technology Initiatives (5 days)</p>
R1-F10-006	<p>Travel</p> <p>Waste Engineer – 50.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 50.0 Mhrs. (1.0 FTE)</p> <p>Pre- or post-award site visit estimated to take 5 days.</p>

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

- The Scope includes 1 characterization campaign. (Waste Characterization – PBS11)
- The scope includes 1 waste profile. (Waste Characterization – PBS11)
- The scope includes the characterization of secondary wastes. (Waste Characterization – PBS11)
- The scope includes the movement of containers.
- The scope includes RTR of ~~17~~ 22 containers. (Field Characterization – PBS10)
- The scope includes sampling and analysis of 1 container. (Field Characterization – PBS10)
- The scope includes digital photography of the contents of the waste containers. (Waste Characterization – PBS11)

R1-
F10-
007

R1-
F10-
009

2.2) Quantification – Characterization Activities

*The quantification ~~listed in the detailed characterization section~~ is for project planning purposes activities other than field characterization have been removed from this section. Costs associated with ~~these~~ waste characterization activities will be carried in the detailed estimates for Control Account MMMB within PBS11. This information is applicable to the remaining characterization activities in this Control Account.

R1-
F10-
009

2. Characterization	
Field Verification Characterization Supervisor – 8.0 Mhrs. (0.2 FTE) QA – 8.0 20 Mhrs. (2.0 FTE) Safety Tech – 40.0 10 Mhrs. (1.0 FTE) Waste Engineer – 56.0 10 Mhrs. (1.4 FTE) Acquisitions – 4.0 Mhrs. (0.10 FTE) Waste Eng Mgr – 0.8 1.0 Mhrs. (0.02 FTE)	RTR 17- 22 Containers, perform visual inspections, take digital photo's.
Sampling & Analysis Safety Engineer – 10 Mhrs (1.0 FTE) Hazwat – 30.0 Mhrs. (3.0 FTE) Supervisor – 10.0 Mhrs. (1.0 FTE) Rad Tech – 10.0 Mhrs. (1.0 FTE) Rad Engineer – 20.0 Mhrs. (2.0 FTE)	1 containers require sampling and analysis.
Movement	
ISO's	No ISOs included in project
Skids	No skid movements
Boxes	2-4 box movements (2x2)
Hazwat – 15.15 2.0 Mhrs. (1.0 FTE) MVO – 15.15 2.0 Mhrs. (1.0 FTE) Supervisor – 3.03 0.5 Mhrs. (0.2 FTE)	

R1-
F10-
007

R1-
F10-
009

R1-
F10-
006

R1-
F10-
006

R1-
F10-
006

2. Characterization					
R1- F10- 006 R1- F10- 007 006 R1- F10- 007	<table border="1"> <tr> <td> Rad Tech --3.79 0.5 Mhrs. (0.25 FTE) Safety Tech -- 7.58 1.0 Mhrs. (0.5 FTE) Waste Engineer --1.52 0.50 Mhrs. (01 FTE) MC&A --3.03 0.50 Mhrs. (0.1FTE) TO Writer -- 0.76 Mhrs. (0.1 FTE) Admin. Clerk -- 0.76 Mhrs. (0.1 FTE) </td> <td></td> </tr> <tr> <td> Hazwat --28.6 6.5 Mhrs. (1.0 FTE) MVO --28.6 6.5 Mhrs. (1.0 FTE) Supervisor --5.72 1.0 Mhrs. (0.2 FTE) Rad Tech --7.15 1.5 Mhrs. (0.25 FTE) Safety Tech --14.30 3.0 Mhrs. (0.5 FTE) Waste Engineer --2.86 0.5 Mhrs. (01 FTE) MC&A --5.72 1.0 Mhrs. (0.1FTE) TO Writer -- 1.43 Mhrs. (0.1 FTE) Admin. Clerk -- 1.43 Mhrs. (0.1 FTE) </td> <td> 15 drum 40 drum movements (20 x 2) </td> </tr> </table>	Rad Tech --3.79 0.5 Mhrs. (0.25 FTE) Safety Tech -- 7.58 1.0 Mhrs. (0.5 FTE) Waste Engineer --1.52 0.50 Mhrs. (01 FTE) MC&A --3.03 0.50 Mhrs. (0.1FTE) TO Writer -- 0.76 Mhrs. (0.1 FTE) Admin. Clerk -- 0.76 Mhrs. (0.1 FTE)		Hazwat --28.6 6.5 Mhrs. (1.0 FTE) MVO --28.6 6.5 Mhrs. (1.0 FTE) Supervisor --5.72 1.0 Mhrs. (0.2 FTE) Rad Tech --7.15 1.5 Mhrs. (0.25 FTE) Safety Tech --14.30 3.0 Mhrs. (0.5 FTE) Waste Engineer --2.86 0.5 Mhrs. (01 FTE) MC&A --5.72 1.0 Mhrs. (0.1FTE) TO Writer -- 1.43 Mhrs. (0.1 FTE) Admin. Clerk -- 1.43 Mhrs. (0.1 FTE)	15 drum 40 drum movements (20 x 2)
Rad Tech --3.79 0.5 Mhrs. (0.25 FTE) Safety Tech -- 7.58 1.0 Mhrs. (0.5 FTE) Waste Engineer --1.52 0.50 Mhrs. (01 FTE) MC&A --3.03 0.50 Mhrs. (0.1FTE) TO Writer -- 0.76 Mhrs. (0.1 FTE) Admin. Clerk -- 0.76 Mhrs. (0.1 FTE)					
Hazwat --28.6 6.5 Mhrs. (1.0 FTE) MVO --28.6 6.5 Mhrs. (1.0 FTE) Supervisor --5.72 1.0 Mhrs. (0.2 FTE) Rad Tech --7.15 1.5 Mhrs. (0.25 FTE) Safety Tech --14.30 3.0 Mhrs. (0.5 FTE) Waste Engineer --2.86 0.5 Mhrs. (01 FTE) MC&A --5.72 1.0 Mhrs. (0.1FTE) TO Writer -- 1.43 Mhrs. (0.1 FTE) Admin. Clerk -- 1.43 Mhrs. (0.1 FTE)	15 drum 40 drum movements (20 x 2)				
R1- F10- 009	<table border="1"> <tr> <td> Characterization* QA --9.60 Mhrs. (0.04 FTE) Waste Engineer --528.0 Mhrs. (2.20 FTE) MC&A --96.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. --12.0 Mhrs. (0.02 FTE) Admin. Spt. --19.20 Mhrs. (0.05 FTE) </td> <td> Characterization of 1 campaign, PLUS 1 waste profile <u>Characterization per rad campaign:</u> (Absorbent Determination) Waste Engineer -- 2 days Project Manager -- 1 hour (Compatibility Assessment) Waste Engineer -- 4 days Project Manager -- 1 hour (Characterization) Waste Engineer -- 12 days MC&A -- 1 day QA -- ½ day Project Manager -- 2 hours Clerk -- 1 day (Profile) Waste Engineer -- 8 days Project Manager -- 2 hours </td> </tr> </table>	Characterization* QA --9.60 Mhrs. (0.04 FTE) Waste Engineer --528.0 Mhrs. (2.20 FTE) MC&A --96.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. --12.0 Mhrs. (0.02 FTE) Admin. Spt. --19.20 Mhrs. (0.05 FTE)	Characterization of 1 campaign, PLUS 1 waste profile <u>Characterization per rad campaign:</u> (Absorbent Determination) Waste Engineer -- 2 days Project Manager -- 1 hour (Compatibility Assessment) Waste Engineer -- 4 days Project Manager -- 1 hour (Characterization) Waste Engineer -- 12 days MC&A -- 1 day QA -- ½ day Project Manager -- 2 hours Clerk -- 1 day (Profile) Waste Engineer -- 8 days Project Manager -- 2 hours		
Characterization* QA --9.60 Mhrs. (0.04 FTE) Waste Engineer --528.0 Mhrs. (2.20 FTE) MC&A --96.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. --12.0 Mhrs. (0.02 FTE) Admin. Spt. --19.20 Mhrs. (0.05 FTE)	Characterization of 1 campaign, PLUS 1 waste profile <u>Characterization per rad campaign:</u> (Absorbent Determination) Waste Engineer -- 2 days Project Manager -- 1 hour (Compatibility Assessment) Waste Engineer -- 4 days Project Manager -- 1 hour (Characterization) Waste Engineer -- 12 days MC&A -- 1 day QA -- ½ day Project Manager -- 2 hours Clerk -- 1 day (Profile) Waste Engineer -- 8 days Project Manager -- 2 hours				

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers
- The scope includes decanting of 10 containers.
- The scope includes crushing 2 empty boxes.
- The scope includes generation of 2 drums aqueous liquid waste.
- The scope includes generation of 1 drum of LLW trash.

3.2) Quantification – Processing Activities

3. Processing	
Decanting HazWat – 20.0 Mhrs (2.0 FTE) Supervisor – 10.0 Mhrs. (1.0 FTE) Rad Tech – 10.0 Mhrs. (1.0 FTE) Safety Tech – 10.0 Mhrs. (1.0 FTE) Waste Engineer – 5.0 Mhrs. (0.5 FTE)	9 drums and 1 box require decanting.
Venting/Puncturing	No venting or puncturing
Drum Crushing HazWat – 2.6 Mhrs (2.0 FTE) Supervisor – 0.13 Mhrs. (0.1 FTE) Rad Tech – 0.65 Mhrs. (0.5 FTE) Safety Tech – 0.65 Mhrs. (0.5 FTE) MC&A – 0.13 Mhrs. (0.1 FTE)	1 box requires crushing/shearing.
Liquid Bulking	No liquid bulking
On-site Treatment	No other on-site treatment
Sorting & Consolidation – Drums & Boxes Combined Waste Engineer Mgr. – 20.5 Mhrs. (.25 FTE) HazWat – 156.0 147.0 Mhrs (6.0 FTE) MVO – 52.0 82.0 Mhrs. (2.0 FTE) Supervisor – 5.2 8.0 Mhrs. (0.2 FTE) Rad Tech – 5.2 8.0 Mhrs. (0.2 FTE) QA – 52.0 Mhrs. (2.0 FTE) Safety Tech – 13.0 20.0 Mhrs. (0.6 FTE) Rad Engineer – 5.2 8.0 Mhrs. (0.2 FTE) Safety Engineer – 26.0 41.0 Mhrs. (1.0 FTE) Safety Analysis – 26.0 Mhrs. (1.0 FTE) Waste Engineer – 52.0 82.0 Mhrs. (2.0 FTE) MC&A – 10.4 16.5 Mhrs. (0.4 FTE) TO Writer – 10.4 Mhrs. (0.4 FTE) Acquisitions – 5.2 Mhrs. (0.2 FTE) Admin Spt. – 10.4 Mhrs. (0.2 FTE)	Segregate mercury waste into 2 categories, rad added, and no rad added. The goal here is to disposition as much waste as possible as Hazardous waste only, not mixed waste.
	ISO's No ISOs included in project
Movement	
	ISO's No ISOs included in project

R1-
F10-
006

R1-
F10-
007

R1-
F10-
008

3. Processing		
R1-F10-007 R1-F10-006	Boxes HazWat -- 2.7 2.0 Mhrs (1.0 FTE) MVO -- 2.7 2.0 Mhrs. (1.0 FTE) Supervisor --0.43 Mhrs. (0.2 FTE) Rad Tech -- 0.54 Mhrs. (0.25 FTE) Safety Tech -- 1.80 1.0 Mhrs. (0.5 FTE) Rad Engineer -- 0.1 Mhrs. (0.05 FTE) Safety Engineer -- 0.11 Mhrs. (0.05 FTE) Waste Engineer -- 0.22 Mhrs. (0.11 FTE) TO Writer -- 0.11 Mhrs. (0.05 FTE) Admin Sup. -- 0.11 Mhrs. (0.05 FTE)	Move boxes from storage to processing, then back to storage. Based on 2 boxes.
R1-F10-007 R1-F10-006	Drums HazWat -- 4.88 6.5 Mhrs (1.0 FTE) MVO -- 4.88 6.5 Mhrs. (1.0 FTE) Supervisor -- 0.98 1.5 Mhrs. (0.2 FTE) Rad Tech -- 0.22 1.5 Mhrs. (0.25 FTE) Safety Tech -- 2.44 3.25 Mhrs. (0.5 FTE) Rad Engineer -- 0.24 0.5 Mhrs. (0.05 FTE) Safety Engineer -- 0.24 0.5 Mhrs. (0.05 FTE) Waste Engineer -- 0.22 0.5 Mhrs. (0.11 FTE) TO Writer -- 0.24 Mhrs. (0.05 FTE) Admin Sup. -- 0.24 Mhrs. (0.05 FTE)	Move drums from storage to processing, then back to storage. Based on 15 20 drums.

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers.
- The scope includes repackaging 2 metal boxes into 55-gallon drums.
- The scope includes overpacking ~~15~~ 20 containers into overpack drums.
- The scope includes marking and labeling each waste package in accordance with applicable DOT regulations.
- The scope includes the purchase of ~~23~~ 40 approved shipping containers (drums).

4.2) Quantification – Packaging

4. Packaging	
<i>Repack/Overpack</i>	
ISO's	No ISOs included in project
Skids	No Skids included in project.
Boxes	Includes repackaging the 2 boxed into 20 drums.
HazWat – 5.2 13 Mhrs (2.0 FTE) MVO – 2.6 6.5 Mhrs. (1.0 FTE) Supervisor – 4.3 3.25 Mhrs. (0.5 FTE) Rad Tech – 2.6 6.5 Mhrs. (1.0 FTE) QA – 0.13 Mhrs. (0.05 FTE) Safety Tech – 0.52 1.3 Mhrs. (0.2 FTE) Rad Engineer – 0.13 0.5 Mhrs. (0.05 FTE) Safety Engineer – 0.13 0.5 Mhrs. (0.05 FTE) Waste Engineer – 0.2 1.3 Mhrs. (0.1 FTE) MC&A – 0.52 1.3 Mhrs. (0.2 FTE)	
Drums	Includes overpacking the 45 20 drums.
HazWat – 6.50 26 Mhrs (2.0 FTE) MVO – 3.25 13 Mhrs. (1.0 FTE) Supervisor – 1.63 6.5 Mhrs. (0.5 FTE) Rad Tech – 3.25 13.0 Mhrs. (1.0 FTE) QA – 0.16 Mhrs. (0.05 FTE) Safety Tech – 0.65 2.5 Mhrs. (0.2 FTE) Rad Engineer – 0.16 0.5 Mhrs. (0.05 FTE) Safety Engineer – 0.16 0.5 Mhrs. (0.05 FTE) Waste Engineer – 0.65 2.5 Mhrs. (0.2 FTE) MC&A – 0.65 2.5 Mhrs. (0.2 FTE)	
<i>Container Purchase</i>	
ISO's	No ISOs included in project
Skids	No skids included in project.
Boxes	No boxes included in project.
Drums	Includes the purchase of 35 drums for the packaging of mercury waste being sent to Broad Spectrum for treatment
HazWat – 3.74 6.5 Mhrs (1.0 FTE) MVO – 3.74 6.5 Mhrs. (1.0 FTE) Supervisor – 0.75 1.3 Mhrs. (0.2 FTE) Rad Tech – 3.74 6.5 Mhrs. (1.0 FTE) Rad Engineer – 0.19 Mhrs. (0.05 FTE) Safety Engineer – 0.19 Mhrs. (0.05 FTE) Waste Engineer – 0.37 0.5 Mhrs. (0.1 FTE) Admin. Spt. – 0.2 Mhrs. (0.05 FTE)	

R1-
F10-
007

R1-
F10-
008

R1-
F10-
007

R1-
F10-
007

R1-
F10-
006

5) Task #5 – Shipping

5.1) Plan/Scope – Shipping

- The scope includes 1 over the road waste shipment from the FEMP to the WCS facility located in Andrews, Texas.

- The scope includes banding and strapping the containers to pallets
- The scope includes loading the waste containers into the transport vehicle.
- The scope includes all vehicle and container inspections and surveys.
- The scope includes completion, review and approval of all shipping paperwork.

5.2) Quantification – Shipping

5. Shipping	
Shipping Preparation Waste Engineer – 80.0 Mhrs. (1.00 FTE)	Assumed that the shipping preparation for the mercury waste will involve assessing/characterization / shipping documentation, coordination with the offsite TSDF, coordination with onsite logistics, etc...
<i>Loading</i>	
ISO's	No ISOs included in project
Skids	No skids included in project.
Boxes	No boxes included in project.
Drums Hazwat – 19.93 35.0 Mhrs. (4.0 FTE) MVO – 9.97 17.0 Mhrs. (2.0 FTE) Tran. Laborer – 5.98 10.5 Mhrs. (1.20 FTE) Supervisor – 7.97 14.0 Mhrs. (1.60 FTE) Rad Tech – 9.97 17.5 Mhrs. (2.00 FTE) QA – 7.97 Mhrs. (2.00 FTE) Waste Engineer – 2.49 4.5 Mhrs. (0.50 FTE) MC&A – 1.0 2.0 Mhrs. (0.20 FTE)	Loading of 35 40 drums of mercury waste.
<i>Shipping Administration</i>	
ISO Shipments	No ISOs included in project
Skid Shipments	No skids included in project.
Box Shipments	No boxes included in project.
Drum Shipments Waste Engineer – 6.00 Mhrs. (3.00 FTE)	1 shipment of drums to Broad Spectrum (WCS)

R1-
F10-
007

R1-
F10-
008

6) Task #6 – Off-Site Treatment

6.1) Plan/Scope – Off-Site Treatment

- The scope includes off-sight treatment of waste at WCS.

6.2) Quantification – Off-Site Treatment

R1-
F00-
007

6. Off-Site Treatment			
Subcontract	Material Costs	Other Direct Costs	Total Cost
Lab Analysis	\$1,650.00	N/A	
Containers	\$1,400.00 \$3,280	N/A	
Treatment @ BSA	\$20,288.00 \$23,872.00	N/A	\$23,338.00 \$28,802.00

7) Task #7 – Disposal

7.1) Plan/Scope – Disposal

R1-
D-
382

R1-
D-
583

- The scope includes disposal of the treated waste at Envirocare of Utah.
- Disposal of Liquid waste at AWWT.
- Disposal of LLW Trash at OSDF.

7.2) Quantification – Disposal

R1-
F10-
007

7. Disposal			
Subcontract	Material Costs	Other Direct Costs	Total Cost
LLW Trash	\$580.00	N/A	
AWWT Liquids	\$266.00	N/A	
Envirocare	\$6,256.00 \$8,556.00	N/A	\$7,102.00 \$9,402.00

1.5.2 KBNR2 – Inorganic Macro/Decon

1) Task #1 – Planning and Management

1.1) Plan/Scope – Planning and Management

R1-
F10-
007

- ~~Duration of the activity is 197 258 workdays.~~
- The scope involves 402 125 containers of waste.
- The scope includes 1 independent management assessment for the initial package and shipment activity.
- The scope includes the development of 16 Task Orders and 1 Work Plan.
- The scope includes the development of a regulatory position paper to delineate and define the Fluor Fernald position on treatment and disposal of radiologically contaminated, lead acid batteries.

- The scope includes development and execution of a "Broad-Spectrum Agreement" work order.
- From a project specific point of view, the plan includes oversight and involvement from support organizations including; QA, H&S, Safety Analysis, Acquisitions, MC&A, and Operations.
- The scope includes 1 site visit to the approved TSDF.

1.2) Quantification – Planning and Management

1. Planning and Management	
R1-F10-006 R1-F10-007 R1-F10-008	<p>General Administration</p> <p>QA – 59.0 Mhrs. (0.03 FTE) Waste Engineering Engineer – 788.0 1,008 Mhrs. (0.45 FTE) Acquisitions – 137.9 Mhrs. (0.08 FTE) Waste Eng. Mgr. – 394 504 Mhrs. (0.2 FTE) Supervisor – 59.1 76 Mhrs. (0.03 FTE) Admin. Spt. – 137.9 Mhrs. (0.08 FTE)</p> <p>Draft 1 RFP, program maintenance, procedure reviews and revisions, training, schedule, invoicing, subcontractor activities, etc 1 BSA task order for waste treatment and invoicing and general project oversight. Procedure and task order review General clerical support</p>
R1-F10-008 R1-F10-006	<p>Mgt. Approvals</p> <p>Waste Engineer – 40.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 40.0 Mhrs. (1.0 FTE) Rad. Engineering – 8.0 Mhrs. (0.2 FTE) Safety Engineering – 16.0 Mhrs. (0.4 FTE) Safety Tech – 8.0 Mhrs. (0.2 FTE) Safety Analysis – 8.0 Mhrs. (0.2 FTE) MC&A – 8.0 Mhrs. (0.2 FTE) TO Writer – 8.0 Mhrs. (0.2 FTE) HazWat – 36.0 Mhrs. (0.9 FTE) Supervisor – 20.0 Mhrs. (0.5 FTE) Rad Tech – 12.0 Mhrs. (0.3 FTE) QA – 20.0 Mhrs. (0.5 FTE)</p> <p>1 Management Assessment for initial packaging and shipment (estimated to take 4 days)</p>
R1-F10-008	<p>Oversight/Inspections</p> <p>QA – 30.0 Mhrs. (0.5 FTE) Supervisor – 12.0 Mhrs. (0.2 FTE) Rad Tech – 12.0 Mhrs. (0.2 FTE) Waste Engineer – 60.0 Mhrs. (1.0 FTE)</p> <p>General oversight of project activities.</p>

1. Planning and Management		
R1- F10- 007 R1- F10- 015	Inventory Planning Waste Engineer – 120.0 Mhrs. (1.0 FTE) MC&A – 180.0 Mhrs. (3.0 FTE) TO Writer – 60.0 Mhrs. (1.0 FTE)	
	Review of inventory estimated @ 17-115 125 containers of mercury-contaminated debris and mercury switches . Lead Contaminated Waste Review of general inventory for inclusion in program.	
R1- F10- 008 R1- F10- 006	Work Package Development Hazwat – 64.0 Mhrs. (0.05 FTE) Supervisor – 64.0 Mhrs. (0.1 FTE) Rad Tech – 12.8 Mhrs. (0.005 FTE) Safety Tech – 25.6 Mhrs. (0.01 FTE) Rad Engineer – 25.6 Mhrs. (0.01 FTE) Safety Engineer – 25.6 Mhrs. (0.01 FTE) Safety Analysis – 38.4 Mhrs. (0.01 FTE) Waste Engineer – 384.0 Mhrs. (0.3 FTE) MC&A – 38.4 Mhrs. (0.01 FTE) TO Writer – 384.0 Mhrs. (0.3 FTE) Waste Eng. Mgr. – 12.8 Mhrs. (0.01 FTE)	1 work plan and 16 task orders as defined: 2 for RTR, 1 for decanting, 1 for waste processing, 1 for waste sampling, 2 for drum overpacking, 1 for box repackaging, 2 for package preparation, 3 for shipment preparation, 1 for shipment loading, 1 for AWWT liquids, 1 for LLW trash processing. <u>Per Task Order:</u> Waste Engineer/TO writer - 20 hrs, Ops Sup/Hazwat – 4 hrs, QA Review – 2 hrs, QA above the line Safety – 2 hrs, Project Waste Engineering Manager – 1 hr Development: 2 wks time/task order for development = 8 days
R1- F10- 006	Tech. Programs Support Waste Engineer – 50.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 50.0 Mhrs. (1.0 FTE)	Support EM50 Technology Initiatives (5 days)
	Travel Waste Engineer – 50.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 50.0 Mhrs. (1.0 FTE)	Pre or post award site visit estimated to take 5 days.

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

- The Scope includes 2 characterization campaigns. (Waste Characterization - PBS11)
- The scope includes 2 waste profiles. (Waste Characterization - PBS11)
- The scope includes the characterization of secondary wastes. (Waste Characterization - PBS11)
- The scope includes the movement of containers. (Field Characterization – PBS10)
- The scope includes RTR of ~~402~~ 125 containers. (Field Characterization – PBS10)
- The scope includes sampling and analysis of 5 containers. (Field Characterization – PBS10)
- The scope includes digital photography of container contents. (Waste Characterization - PBS11)

2.2) Quantification – Characterization Activities

2. Characterization																					
R1-F10-006 R1-F10-007	<table border="1"> <tr> <td>Field Verification Characterization</td> <td>RTR 102- 125 Containers, perform visual inspections, take digital photo's. 17 boxes and 108 containers</td> </tr> <tr> <td>Supervisor – 8.0 10.0 Mhrs. (0.2 FTE)</td> <td></td> </tr> <tr> <td>QA – 80.0 100.0 Mhrs. (2.0 FTE)</td> <td></td> </tr> <tr> <td>Safety Tech – 40.0 50 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>Waste Engineer – 56.0 70 Mhrs. (1.4 FTE)</td> <td></td> </tr> <tr> <td>Acquisitions – 4.0 Mhrs. (0.10 FTE)</td> <td></td> </tr> <tr> <td>Waste Eng Mgr – 0.8 Mhrs. (0.02 FTE)</td> <td></td> </tr> </table>	Field Verification Characterization	RTR 102- 125 Containers, perform visual inspections, take digital photo's. 17 boxes and 108 containers	Supervisor – 8.0 10.0 Mhrs. (0.2 FTE)		QA – 80.0 100.0 Mhrs. (2.0 FTE)		Safety Tech – 40.0 50 Mhrs. (1.0 FTE)		Waste Engineer – 56.0 70 Mhrs. (1.4 FTE)		Acquisitions – 4.0 Mhrs. (0.10 FTE)		Waste Eng Mgr – 0.8 Mhrs. (0.02 FTE)							
Field Verification Characterization	RTR 102- 125 Containers, perform visual inspections, take digital photo's. 17 boxes and 108 containers																				
Supervisor – 8.0 10.0 Mhrs. (0.2 FTE)																					
QA – 80.0 100.0 Mhrs. (2.0 FTE)																					
Safety Tech – 40.0 50 Mhrs. (1.0 FTE)																					
Waste Engineer – 56.0 70 Mhrs. (1.4 FTE)																					
Acquisitions – 4.0 Mhrs. (0.10 FTE)																					
Waste Eng Mgr – 0.8 Mhrs. (0.02 FTE)																					
R1-F10-006 R1-F10-007	<table border="1"> <tr> <td>Sampling & Analysis</td> <td>5 containers require sampling and analysis.</td> </tr> <tr> <td>Hazwat – 30.0 Mhrs. (3.0 FTE)</td> <td></td> </tr> <tr> <td>Supervisor – 10.0 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>Rad Tech – 10.0 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>Rad Engineer – 20.0 10.0 Mhrs. (2.0 1.0 FTE)</td> <td></td> </tr> <tr> <td>Safety Engineer – 10.0 Mhrs. (1.0 FTE)</td> <td></td> </tr> </table>	Sampling & Analysis	5 containers require sampling and analysis.	Hazwat – 30.0 Mhrs. (3.0 FTE)		Supervisor – 10.0 Mhrs. (1.0 FTE)		Rad Tech – 10.0 Mhrs. (1.0 FTE)		Rad Engineer – 20.0 10.0 Mhrs. (2.0 1.0 FTE)		Safety Engineer – 10.0 Mhrs. (1.0 FTE)									
Sampling & Analysis	5 containers require sampling and analysis.																				
Hazwat – 30.0 Mhrs. (3.0 FTE)																					
Supervisor – 10.0 Mhrs. (1.0 FTE)																					
Rad Tech – 10.0 Mhrs. (1.0 FTE)																					
Rad Engineer – 20.0 10.0 Mhrs. (2.0 1.0 FTE)																					
Safety Engineer – 10.0 Mhrs. (1.0 FTE)																					
<i>Movement</i>																					
	ISO's No ISOs included in project																				
	Skids No skid movements																				
R1-F10-007 R1-F10-006	<table border="1"> <tr> <td>Boxes</td> <td>14- 34 box movements (2x17 = 34)</td> </tr> <tr> <td>Hazwat – 15.15 18.5 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>MVO – 15.15 18.5 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>Supervisor – 3.03 4 Mhrs. (0.2 FTE)</td> <td></td> </tr> <tr> <td>Rad Tech – 3.79 5 Mhrs. (0.25 FTE)</td> <td></td> </tr> <tr> <td>Safety Tech – 7.58 9 Mhrs. (0.5 FTE)</td> <td></td> </tr> <tr> <td>Waste Engineer – 1.52 2 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>MC&A – 3.03 4 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>TO Writer – 0.76 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>Admin. Clerk – 0.76 Mhrs. (0.1 FTE)</td> <td></td> </tr> </table>	Boxes	14- 34 box movements (2x17 = 34)	Hazwat – 15.15 18.5 Mhrs. (1.0 FTE)		MVO – 15.15 18.5 Mhrs. (1.0 FTE)		Supervisor – 3.03 4 Mhrs. (0.2 FTE)		Rad Tech – 3.79 5 Mhrs. (0.25 FTE)		Safety Tech – 7.58 9 Mhrs. (0.5 FTE)		Waste Engineer – 1.52 2 Mhrs. (0.1 FTE)		MC&A – 3.03 4 Mhrs. (0.1 FTE)		TO Writer – 0.76 Mhrs. (0.1 FTE)		Admin. Clerk – 0.76 Mhrs. (0.1 FTE)	
Boxes	14- 34 box movements (2x17 = 34)																				
Hazwat – 15.15 18.5 Mhrs. (1.0 FTE)																					
MVO – 15.15 18.5 Mhrs. (1.0 FTE)																					
Supervisor – 3.03 4 Mhrs. (0.2 FTE)																					
Rad Tech – 3.79 5 Mhrs. (0.25 FTE)																					
Safety Tech – 7.58 9 Mhrs. (0.5 FTE)																					
Waste Engineer – 1.52 2 Mhrs. (0.1 FTE)																					
MC&A – 3.03 4 Mhrs. (0.1 FTE)																					
TO Writer – 0.76 Mhrs. (0.1 FTE)																					
Admin. Clerk – 0.76 Mhrs. (0.1 FTE)																					
R1-F10-007 R1-F10-006	<table border="1"> <tr> <td>Drums</td> <td>88- 216 drum movements (2x108 = 216)</td> </tr> <tr> <td>Hazwat – 28.6 18 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>MVO – 28.6 18 Mhrs. (1.0 FTE)</td> <td></td> </tr> <tr> <td>Supervisor – 5.72 4 Mhrs. (0.2 FTE)</td> <td></td> </tr> <tr> <td>Rad Tech – 7.15 5 Mhrs. (0.25 FTE)</td> <td></td> </tr> <tr> <td>Safety Tech – 14.30 9 Mhrs. (0.5 FTE)</td> <td></td> </tr> <tr> <td>Waste Engineer – 2.86 2 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>MC&A – 5.72 4 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>TO Writer – 1.43 Mhrs. (0.1 FTE)</td> <td></td> </tr> <tr> <td>Admin. Clerk – 1.43 Mhrs. (0.1 FTE)</td> <td></td> </tr> </table>	Drums	88- 216 drum movements (2x108 = 216)	Hazwat – 28.6 18 Mhrs. (1.0 FTE)		MVO – 28.6 18 Mhrs. (1.0 FTE)		Supervisor – 5.72 4 Mhrs. (0.2 FTE)		Rad Tech – 7.15 5 Mhrs. (0.25 FTE)		Safety Tech – 14.30 9 Mhrs. (0.5 FTE)		Waste Engineer – 2.86 2 Mhrs. (0.1 FTE)		MC&A – 5.72 4 Mhrs. (0.1 FTE)		TO Writer – 1.43 Mhrs. (0.1 FTE)		Admin. Clerk – 1.43 Mhrs. (0.1 FTE)	
Drums	88- 216 drum movements (2x108 = 216)																				
Hazwat – 28.6 18 Mhrs. (1.0 FTE)																					
MVO – 28.6 18 Mhrs. (1.0 FTE)																					
Supervisor – 5.72 4 Mhrs. (0.2 FTE)																					
Rad Tech – 7.15 5 Mhrs. (0.25 FTE)																					
Safety Tech – 14.30 9 Mhrs. (0.5 FTE)																					
Waste Engineer – 2.86 2 Mhrs. (0.1 FTE)																					
MC&A – 5.72 4 Mhrs. (0.1 FTE)																					
TO Writer – 1.43 Mhrs. (0.1 FTE)																					
Admin. Clerk – 1.43 Mhrs. (0.1 FTE)																					

2. Characterization	
Characterization*	Characterization of 2 campaign, PLUS 2 waste profile
QA — 9.60 Mhrs. (0.04 FTE)	Characterization per rad campaign:
Waste Engineer — 528.0 Mhrs. (2.20 FTE)	(Absorbent Determination)
MC&A — 96.0 Mhrs. (0.25 FTE)	Waste Engineer — 2 days
Waste Eng. Mgr. — 12.0 Mhrs. (0.02 FTE)	Project Manager — 1 hour
Admin. Spt. — 19.20 Mhrs. (0.05 FTE)	(Compatibility Assessment)
	Waste Engineer — 4 days
	Project Manager — 1 hour
	(Characterization)
	Waste Engineer — 12 days
	MC&A — 1 day
	QA — ½ day
	Project Manager — 2 hours
	Clerk — 1 day
	(Profile)
	Waste Engineer — 8 days
	Project Manager — 2 hours

R1-
F10-
009

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

R1-
F10-
007

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers
- The scope includes decanting of 60 containers.
- The scope includes draining residual electrolyte from batteries.
- The scope includes sorting and segregating broken lead acid batteries into two categories, (i.e., rad added, and no rad added).
- The scope includes crushing 44 17 empty boxes.
- The scope includes generation of 14 drums aqueous liquid waste.
- The scope includes generation of one drum of sulfuric acid (battery electrolyte)
- The scope includes generation of 10 drums of LLW trash.

3.2) Quantification – Processing Activities

3. Processing	
Decanting	53 52 drums and 8 box require decanting.
HazWat – 40.0 Mhrs (2.0 FTE)	
Supervisor – 20.0 Mhrs. (1.0 FTE)	
Rad Tech – 20.0 Mhrs. (1.0 FTE)	
Safety Tech – 20.0 Mhrs. (1.0 FTE)	
Waste Engineer – 10.0 Mhrs. (0.5 FTE)	

R1-
F00-
007

3. Processing	
Venting/Puncturing	No venting or puncturing
Drum Crushing HazWat – 2.6 44 Mhrs (2.0 FTE) Supervisor – 0.13 2 Mhrs. (0.1 FTE) Rad Tech – 0.65 11 Mhrs. (0.5 FTE) Safety Tech – 0.65 11 Mhrs. (0.5 FTE) MC&A – 0.13 2 Mhrs. (0.1 FTE)	14 17 boxes require crushing. (1 box = 2 drums for crushing)
Liquid Bulking	No liquid bulking
On-site Treatment	No other on-site treatment
Sorting & Consolidation – Drums & Boxes Combined HazWat – 959.0 1,173 Mhrs (6.0 FTE) MVO – 319.80 391 Mhrs. (2.0 FTE) Supervisor – 32.0 50 Mhrs. (0.2 FTE) Rad Tech – 32.0 50 Mhrs. (0.2 FTE) QA – 319.80 Mhrs. (2.0 FTE) Safety Tech – 80.0 125 Mhrs. (0.6 FTE) Rad Engineer – 32.0 50 Mhrs. (0.2 FTE) Safety Engineer – 160.0 196 Mhrs. (1.0 FTE) Safety Analysis – 160.0 196 Mhrs. (1.0 FTE) Waste Engineer – 319.80 391 Mhrs. (2.0 FTE) MC&A – 64.0 100 Mhrs. (0.4 FTE) TO Writer – 64.0 Mhrs. (0.4 FTE) Acquisitions – 32.0 Mhrs. (0.2 FTE) Admin Spt. – 64.0 Mhrs. (0.2 FTE)	Segregate 14 17 boxes and 88 108 drums of broken lead acid batteries and elemental lead into 2 categories, rad added, and no rad added. Decontaminate if possible. The goal here is to disposition as much waste as possible as Hazardous waste only. Free released batteries and elemental lead will be recycled through the Hazardous Waste Project.
	ISO's No ISOs included in project
Movement	
	ISO's No ISOs included in project
Boxes HazWat – 4.88 11 Mhrs (1.0 FTE) MVO – 4.88 11 Mhrs. (1.0 FTE) Supervisor – 0.98 2 Mhrs. (0.2 FTE) Rad Tech – 1.22 3 Mhrs. (0.25 FTE) Safety Tech – 2.44 6 Mhrs. (0.5 FTE) Rad Engineer – 0.24 1 Mhrs. (0.05 FTE) Safety Engineer – 0.24 1 Mhrs. (0.05 FTE) Waste Engineer – 0.22 2 Mhrs. (0.11 FTE) TO Writer – 0.24 Mhrs. (0.05 FTE) Admin Sup. – 0.24 Mhrs. (0.05 FTE)	Move boxes from storage to processing, then back to storage. Based on 14 17 boxes. (2 x 17 = 34 movements)

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

R1-
F10-
008

R1-
F10-
006

R1-
F10-
007

3. Processing	
Drums	Move drums from storage to processing, then back to storage. Based on 88 108 drums. (2 x 108 = 216 movements)
HazWat -- 18.0 49 Mhrs. (1.0 FTE)	
MVO -- 18.0 49 Mhrs. (1.0 FTE)	
Supervisor -- 3.50 9 Mhrs. (0.2 FTE)	
Rad Tech -- 4.39 12 Mhrs. (0.25 FTE)	
Safety Tech -- 8.78 23 Mhrs. (0.5 FTE)	
Rad Engineer -- 0.88 2 Mhrs. (0.05 FTE)	
Safety Engineer -- 0.88 2 Mhrs. (0.05 FTE)	
Waste Engineer -- 01.76 5 Mhrs. (0.11 FTE)	
TO Writer -- 0.88 Mhrs. (0.05 FTE)	
Admin Sup. -- 0.88 Mhrs. (0.05 FTE)	

R1-
F10-
006

R1-
F10-
007

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers.
- The scope includes repackaging ~~44~~ 17 metal boxes into 55-gallon drums.
- The scope includes overpacking ~~88~~ 107 containers into overpack drums.
- The scope includes repacking one 110 gallon container into one 55 gallon drum.
- The scope includes marking and labeling each waste package in accordance with applicable DOT regulations.
- The scope includes the purchase of ~~252~~ 278 approved shipping containers (drums).

R1-
F10-
006

R1-
F10-
007

4.2) Quantification – Packaging

4. Packaging	
<i>Repack/Overpack</i>	
ISO's	No ISOs included in project
Skids	No Skids included in project.
Boxes	Includes repackaging the 14-17 boxed into 140 170 drums.
HazWat -- 40.0 50 Mhrs. (2.0 FTE)	
MVO -- 40.0 55 Mhrs. (1.0 FTE)	
Supervisor -- 10.0 28 Mhrs. (0.5 FTE)	
Rad Tech -- 20.0 50 Mhrs. (1.0 FTE)	
QA -- 1.0 Mhrs. (0.05 FTE)	
Safety Tech -- 3.64 11 Mhrs. (0.2 FTE)	
Rad Engineer -- 1.0 3 Mhrs. (0.05 FTE)	
Safety Engineer -- 1.0 3 Mhrs. (0.05 FTE)	
Waste Engineer -- 3.64 11 Mhrs. (0.1 FTE)	
MC&A -- 3.64 11 Mhrs. (0.2 FTE)	

R1-
F10-
007

R1-
F10-
008

4. Packaging		
	Drums	Includes overpacking the 88 108 drums.
	HazWat - 40.0 49 Mhrs (2.0 FTE)	
	MVO - 40.0 70 Mhrs. (1.0 FTE)	
	Supervisor - 40.0 35 Mhrs. (0.5 FTE)	
	Rad Tech - 20.0 25 Mhrs. (1.0 FTE)	
	QA - 1.0 Mhrs. (0.05 FTE)	
	Safety Tech - 3.64 14 Mhrs. (0.2 FTE)	
	Rad Engineer - 1.0 3 Mhrs. (0.05 FTE)	
	Safety Engineer - 1.0 3 Mhrs. (0.05 FTE)	
	Waste Engineer - 3.64 14 Mhrs. (0.1 FTE)	
	MC&A - 3.64 14 Mhrs. (0.2 FTE)	
	<i>Container Purchase</i>	
	ISO's	No ISOs included in project
	Skids	No skids included in project.
	Boxes	No boxes included in project.
	Drums	Includes the purchase of 252 278 drums for the packaging of Lead waste being sent to Broad Spectrum for treatment and secondary waste generated during waste processing and packaging operations.
	HazWat - 47.13 45 Mhrs (1.0 FTE)	
	MVO - 47.13 45 Mhrs. (1.0 FTE)	
	Supervisor - 9.43 9 Mhrs. (0.2 FTE)	
	Rad Tech - 47.13 45 Mhrs. (1.0 FTE)	
	Rad Engineer - 2.36 Mhrs. (0.05 FTE)	
	Safety Engineer - 2.36 Mhrs. (0.05 FTE)	
	Waste Engineer - 4.71 5 Mhrs. (0.1 FTE)	
	Admin. Spt. - 2.5 Mhrs. (0.05 FTE)	

R1-
F10-
007

R1-
F10-
008

R1-
F10-
006

R1-
F10-
007

5) Task #5 - Shipping

5.1) Plan/Scope - Shipping

- The scope includes 6 over the road waste shipment from the FEMP to the WCS facility located in Andrews, Texas.
- The scope includes banding and strapping the containers to pallets
- The scope includes loading ~~228~~ 278 waste containers into the transport vehicle.
- The scope includes all vehicle and container inspections and surveys.
- The scope includes completion, review and approval of all shipping paperwork.

R1-
F10-
007

5.2) Quantification – Shipping

5. Shipping	
Shipping Preparation Waste Engineer – 160.0 Mhrs. (1.00 FTE)	Assumed that the shipping preparation for the lead waste will involve assembling characterization / shipping documentation, coordination with the offsite TSDF, coordination with onsite logistics, etc...
<i>Loading</i>	
ISO's	No ISOs included in project
Skids	No skids included in project.
Boxes	No boxes included in project.
Drums Hazwat – 251.33 241 Mhrs. (4.0 FTE) MVO – 125.67 120 Mhrs. (2.0 FTE) Tran. Laborer – 75.4 72 Mhrs. (1.20 FTE) Supervisor – 100.0 96 Mhrs. (1.60 FTE) Rad Tech – 125.67 120 Mhrs. (2.00 FTE) QA – 100.5 Mhrs. (2.00 FTE) Waste Engineer – 31.4 30 Mhrs. (0.50 FTE) MC&A – 12.57 12 Mhrs. (0.20 FTE)	Loading of 228 278 drums of lead waste.
<i>Shipping Administration</i>	
ISO Shipments	No ISOs included in project
Skid Shipments	No skids included in project.
Box Shipments	No boxes included in project.
Drum Shipments Waste Engineer – 35.0 Mhrs. (3.00 FTE)	6 shipments of drums to Broad Spectrum

R1-
F10-
007

R100-
F10-
008

6) Task #6 – Off-Site Treatment

6.1) Plan/Scope – Off-Site Treatment

- The scope includes off-sight treatment of waste at WCS.

6.2) Quantification – Off-Site Treatment

6. Off-Site Treatment			
Subcontract	Material Costs	Other Direct Costs	Total Cost
Lab Analysis	\$8,250.00	N/A	
Containers	\$10,080.00 \$22,796	N/A	
Treatment @ BSA	\$558,768.00 \$699,808	N/A	\$577,098.00 \$730,854

R1-
F10-
007

7) Task #7 – Disposal

7.1) Plan/Scope – Disposal

R1-D-582
 R1-D-583

- The scope includes disposal of the treated waste at Envirocare of Utah.
- Disposal of Liquid waste at AWWT.
- Disposal of LLW Trash at OSDF.

7.2) Quantification – Disposal

R1-F0-007

7. Disposal			
Subcontract	Material Costs	Other Direct Costs	Total Cost
LLW Trash	\$5,800.00	N/A	
AWWT Liquid	\$1,862.00	N/A	
Envirocare	\$72,450.00 \$101,016	N/A	\$80,112.00 \$108,678

1.5.3 KBNR3 – Inorganic Soils, Sludges and Debris

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

R1-F10-007

- ~~Duration of the activity is 432 workdays.~~
- The scope involves ~~476~~ 555 containers of waste.
- The scope includes 1 independent management assessment for the initial package and shipment activity.
- The scope includes the development of 25 Task Orders and 1 Work Plan.
- The scope includes development and execution of a "Broad-Spectrum Agreement" work order.
- From a project specific point of view, the plan includes oversight and involvement from support organizations including: QA, H&S, Safety Analysis, Acquisitions, MC&A, and Operations.
- The scope includes 1 site visit to the approved TSDF.

1.2) Quantification – Planning and Management Activities

1. Planning and Management	
R1- F10- 008 R1- F10- 006	<p>General Administration</p> <p>QA – 129.6 Mhrs. (0.03 FTE) Waste Eng. – 1,728.0 Mhrs. (0.45 FTE) Acquisitions – 302.4 Mhrs. (0.08 FTE) Waste Eng. Mgr. – 864.0 Mhrs. (0.20 FTE) Supervisor – 429.6 (130) Mhrs. (0.03 FTE) Admin. Spt. – 302.4 Mhrs. (0.08 FTE)</p> <p>Draft 1 RFP, program maintenance, procedure reviews and revisions, training, schedule, invoicing, subcontractor activities, etc 1 BSA task order for waste treatment and invoicing General project oversight Procedure and task order review General clerical support</p>
R1- F10- 008 R1- F10- 006	<p>Mgt. Approvals</p> <p>Waste Engineer – 80.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 80.0 Mhrs. (1.0 FTE) Rad. Engineering – 16.0 Mhrs. (0.2 FTE) Safety Engineering – 32.0 Mhrs. (0.4 FTE) Safety Tech – 16.0 Mhrs. (0.2 FTE) Safety Analysis – 16.0 Mhrs. (0.2 FTE) MC&A – 16.0 Mhrs. (0.2 FTE) TO Writer – 16.0 Mhrs. (0.2 FTE) HazWat – 72.0 Mhrs. (0.9 FTE) Supervisor – 40.0 Mhrs. (0.5 FTE) Rad Tech – 24.0 Mhrs. (0.3 FTE) QA – 40.0 Mhrs. (0.5 FTE)</p> <p>1 Management Assessment for initial packaging and shipment (estimated to take 8 days)</p>
R1- F10- 007 R1- F10- 008	<p>Oversight/Inspections</p> <p>QA – 60.0 Mhrs. (0.5 FTE) Supervisor – 24.0 Mhrs. (0.2 FTE) Rad Tech – 24.0 Mhrs. (0.2 FTE) Waste Engineer – 120.0 Mhrs. (1.0 FTE)</p> <p>General oversight of project activities. (12 days)</p>
	<p>Inventory Planning</p> <p>Waste Engineer – 220.0 Mhrs. (1.0 FTE) MC&A – 330.0 Mhrs. (3.0 FTE) TO Writer – 110.0 Mhrs. 1.0 FTE)</p> <p>Review of inventory estimated @ 476- 555 containers of inorganically contaminated soils, sludge's, and debris. Review of general inventory for inclusion in program. 11 days</p>

1. Planning and Management	
Work Package Development Hazwat – 100.0 Mhrs. (0.05 FTE) Supervisor – 100.0 Mhrs. (0.1 FTE) Rad Tech – 20.0 Mhrs. (0.005 FTE) QA – 60.0 Mhrs. (0.01 FTE) Safety Tech – 40.0 Mhrs. (0.01 FTE) Rad Engineer – 40.0 Mhrs. (0.01 FTE) Safety Engineer – 40.0 Mhrs. (0.01 FTE) Safety Analysis – 60.0 Mhrs. (0.01 FTE) Waste Engineer – 600.0 Mhrs. (0.3 FTE) MC&A – 60.0 Mhrs. (0.01 FTE) TO Writer – 600.0 Mhrs. (0.3 FTE) Waste Eng. Mgr. – 20.0 Mhrs. (0.01 FTE)	1 work plan and 25 task orders as defined: 5 for RTR, 3 for decanting, , 1 for waste sampling, 4 for drum overpacking, 2 for box repackaging, 7 for package preparation, 1 for shipment loading, 1 for AWWT liquids, 1 for LLW trash processing. Each task order = 100 containers. Per Task Order: Waste Engineer/TO writer - 20 hrs, Ops Sup/Hazwat – 4 hrs, QA Review – 2 hrs, Safety – 2 hrs, Project Manager - 1 hr Development: 2 wks time/task order for development = 8 days ——— = 8 days 200 days
Tech. Programs Support Waste Engineer – 100.0 Mhrs. (1.0 FTE) Waste Engineer Mgr – 100.0 Mhrs. (1.0 FTE)	Support EM50 Technology Initiatives (10 Days)
Travel Waste Eng. – 120.0 Mhrs. (1.0 FTE) Waste Eng. Mgr. – 120.0 Mhrs. (1.0 FTE)	Pre or post award site visit estimated to take 12 days.

R1-F10-006
 R1-F10-007
 R1-F10-008

R1-F10-006

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

- The Scope includes 5 characterization campaigns. (Waste Characterization – PBS11)
- The scope includes 3 waste profiles. (Waste Characterization – PBS11)
- The scope includes the characterization of secondary wastes. (Waste Characterization – PBS11)
- The scope includes the movement of containers. (Field Characterization – PBS10)
- The scope includes RTR of 476 containers. (Field Characterization – PBS10)
- The scope includes sampling and analysis of 24 containers. (Field Characterization – PBS10)
- The scope includes digital photography of container contents. (Waste Characterization – PBS11)

R1-F10-007
 R1-F10-009

2.2) Quantification – Characterization Activities

2. Characterization	
Field Verification Characterization Supervisor – 26.0 42.0 Mhrs. (0.2 FTE) QA – 260.0 420.0 Mhrs. (2.0 FTE) Safety Tech – 130.0 210.0 Mhrs. (1.0 FTE) Waste Engineer – 182.0 Mhrs. (1.4 FTE) Acquisitions – 13.0 Mhrs. (0.10 FTE) Waste Eng Mgr – 2.6 4.0 Mhrs. (0.02 FTE)	RTR 476 555 containers, perform visual inspections, take digital photo's.
Sampling & Analysis Safety Eng. - 30 Mhrs. (1.0 FTE) Hazwat – 90.0 Mhrs. (3.0 FTE) Supervisor – 30.0 Mhrs. (1.0 FTE) Rad Tech – 30.0 Mhrs. (1.0 FTE) Rad Engineer – 60.0 30.0 Mhrs. (2.0 FTE)	24 29 containers require sampling and analysis.
<i>Movement</i>	
ISO's	No ISOs included in project
Skids	No skid movements
Boxes Hazwat – 21.67 54.0 Mhrs. (1.0 FTE) MVO – 21.67 54.0 Mhrs. (1.0 FTE) Supervisor – 4.33 11.0 Mhrs. (0.2 FTE) Rad Tech – 5.42 14.0 Mhrs. (0.25 FTE) Safety Tech – 10.83 27.0 Mhrs. (0.5 FTE) Waste Engineer – 2.17 5.0 Mhrs. (0.1 FTE) MC&A – 4.33 11 Mhrs. (0.1 FTE) TO Writer – 1.0 Mhrs. (0.1 FTE) Admin. Clerk – 1.0 Mhrs. (0.1 FTE)	40 100 boxes movements 50 x 2 = 100
Drums Hazwat – 148.85 164.0 Mhrs. (1.0 FTE) MVO – 148.85 164.0 Mhrs. (1.0 FTE) Supervisor – 29.77 33.0 Mhrs. (0.2 FTE) Rad Tech – 37.21 41.0 Mhrs. (0.25 FTE) Safety Tech – 74.43 16.0 Mhrs. (0.5 FTE) Waste Engineer – 14.89 16.0 Mhrs. (0.1 FTE) MC&A – 29.77 33.0 Mhrs. (0.1 FTE) TO Writer – 7.44 Mhrs. (0.1 FTE) Admin. Clerk – 7.44 Mhrs. (0.1 FTE)	916 drum movements 1,010 drum movements

R1-
F10-
009

R1-
F10-
007

R1-
F10-
006

R1-
F10-
006

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

2. Characterization			
R1-F10-008 R1-F10-006	<table border="1"> <tr> <td> Characterization* QA — 24.0 Mhrs. (0.04 FTE) Waste Engineer — 1140.0 Mhrs. (2.20 FTE) MC&A — 240.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. — 30.0 Mhrs. (0.02 FTE) Admin. Spt. — 48.0 Mhrs. (0.05 FTE) </td> <td> Characterization of 2 campaign, PLUS 2 waste profile Characterization per rad campaign: (Absorbent Determination) Waste Engineer — 2 days Project Manager — 1 hour (Compatibility Assessment) Waste Engineer — 4 days Project Manager — 1 hour (Characterization) Waste Engineer — 12 days MC&A — 1 day QA — ½ day Project Manager — 2 hours Clerk — 1 day (Profile) Waste Engineer — 8 days Project Manager — 2 hours </td> </tr> </table>	Characterization* QA — 24.0 Mhrs. (0.04 FTE) Waste Engineer — 1140.0 Mhrs. (2.20 FTE) MC&A — 240.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. — 30.0 Mhrs. (0.02 FTE) Admin. Spt. — 48.0 Mhrs. (0.05 FTE)	Characterization of 2 campaign, PLUS 2 waste profile Characterization per rad campaign: (Absorbent Determination) Waste Engineer — 2 days Project Manager — 1 hour (Compatibility Assessment) Waste Engineer — 4 days Project Manager — 1 hour (Characterization) Waste Engineer — 12 days MC&A — 1 day QA — ½ day Project Manager — 2 hours Clerk — 1 day (Profile) Waste Engineer — 8 days Project Manager — 2 hours
Characterization* QA — 24.0 Mhrs. (0.04 FTE) Waste Engineer — 1140.0 Mhrs. (2.20 FTE) MC&A — 240.0 Mhrs. (0.25 FTE) Waste Eng. Mgr. — 30.0 Mhrs. (0.02 FTE) Admin. Spt. — 48.0 Mhrs. (0.05 FTE)	Characterization of 2 campaign, PLUS 2 waste profile Characterization per rad campaign: (Absorbent Determination) Waste Engineer — 2 days Project Manager — 1 hour (Compatibility Assessment) Waste Engineer — 4 days Project Manager — 1 hour (Characterization) Waste Engineer — 12 days MC&A — 1 day QA — ½ day Project Manager — 2 hours Clerk — 1 day (Profile) Waste Engineer — 8 days Project Manager — 2 hours		

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers
- The scope includes decanting of 286 containers.
- The scope includes crushing 20 empty boxes and 9 5 105 empty drums.
- The scope includes generation of 48 drums aqueous liquid waste.
- The scope includes generation of 10 drum of LLW trash.

3.2) Quantification – Processing Activities

3. Processing	
Decanting HazWat – 200.0 Mhrs (2.0 FTE) Supervisor – 100.0 Mhrs. (1.0 FTE) Rad Tech – 100.0 Mhrs. (1.0 FTE) Safety Tech – 100.0 Mhrs. (1.0 FTE) Waste Engineer – 50.0 Mhrs. (0.5 FTE)	274 drums and 12 box require decanting.

3. Processing	
Venting/Puncturing HazWat – 120.0 Mhrs (2.0 FTE) MVO – 40.0 Mhrs. (1.0 FTE) Supervisor – 40.0 Mhrs. (1.0 FTE) Rad Tech – 20.0 Mhrs. (1.0 FTE) Safety Tech – 40.0 Mhrs. (1.0 FTE) Waste Engineer – 10.0 Mhrs. (0.5 FTE)	83 containers require venting or puncturing.
Drum Crushing HazWat – 37.70 137.0 Mhrs (2.0 FTE) Supervisor – 1.89 7.0 Mhrs. (0.1 FTE) Rad Tech – 9.43 34.0 Mhrs. (0.5 FTE) Safety Tech – 9.43 34.0 Mhrs. (0.5 FTE) MC&A – 1.89 7.0 Mhrs. (0.1 FTE)	20 50 boxes And five 110 gal drums require crushing.
Liquid Bulking	No liquid bulking
On-site Treatment	No other on-site treatment
Sorting & Consolidation – Drums & Boxes Combined	No sorting / segregation included in project
ISO's	No ISOs included in project
<i>Movement</i>	
ISO's	No ISOs included in project
Boxes Hazwat – 21.67 27.0 Mhrs. (1.0 FTE) MVO – 21.67 27.0 Mhrs. (1.0 FTE) Supervisor – 4.33 5.0 Mhrs. (0.2 FTE) Rad Tech – 5.42 7.0 Mhrs. (0.25 FTE) Safety Tech – 10.83 14.0 Mhrs. (0.5 FTE) Waste Engineer – 2.17 3.0 Mhrs. (0.1 FTE) MC&A – 4.33 3.0 Mhrs. (0.1 FTE) TO Writer – 1.0 Mhrs. (0.1 FTE) Admin. Clerk – 1.0 Mhrs. (0.1 FTE)	Move boxes from storage to processing, then back to storage. Based on 20 50 boxes.
Drums Hazwat – 148.85 321.0 Mhrs. (1.0 FTE) MVO – 148.85 321.0 Mhrs. (1.0 FTE) Supervisor – 29.77 64.0 Mhrs. (0.2 FTE) Rad Tech – 37.21 81.0 Mhrs. (0.25 FTE) Safety Tech – 74.43 160.0 Mhrs. (0.5 FTE) Waste Engineer – 14.89 31.0 Mhrs. (0.1 FTE) MC&A – 29.77 64.0 Mhrs. (0.1 FTE) TO Writer – 7.44 Mhrs. (0.1 FTE) Admin. Clerk – 7.44 Mhrs. (0.1 FTE)	Move drums from storage to processing, then back to storage. Based on 576 1,510 drums.

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

R1-
F10-
006

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

- The scope includes work area set up.
- The scope includes the use of PPE.
- The scope includes the movement of containers.
- The scope includes repackaging ~~20~~ 50 metal boxes into 55-gallon drums.
- The scope includes overpacking ~~456~~ 505 containers into overpack drums.
- The scope includes marking and labeling each waste package in accordance with applicable DOT regulations.
- The scope includes the purchase of ~~745~~ 1,005 approved shipping containers (drums).

R1-
F10-
007

4.2) Quantification – Packaging

4. Packaging		
<i>Repack/Overpack</i>		
	ISO's	No ISOs included in project
	Skids	No Skids included in project.
	Boxes	Includes repackaging the 20 50 boxed into 200 500 drums.
	HazWat – 52.0 325.0 Mhrs (2.0 FTE)	
	MVO – 26.0 163.0 Mhrs. (1.0 FTE)	
	Supervisor – 13.0 81.0 Mhrs. (0.5 FTE)	
	Rad Tech – 26.0 163.0 Mhrs. (1.0 FTE)	
	QA – 1.30 Mhrs. (0.05 FTE)	
	Safety Tech – 5.20 33.0 Mhrs. (0.2 FTE)	
	Rad Engineer – 4.30 8.0 Mhrs. (0.05 FTE)	
	Safety Engineer – 4.30 8.0 Mhrs. (0.05 FTE)	
	Waste Engineer – 5.20 33.0 Mhrs. (0.1 FTE)	
	MC&A – 5.20 33.0 Mhrs. (0.2 FTE)	
	Drums	Includes overpacking the 456 505 drums.
	HazWat – 197.0 657.0 Mhrs (2.0 FTE)	
	MVO – 98.80 328.0 Mhrs. (1.0 FTE)	
	Supervisor – 49.40 164.0 Mhrs. (0.5 FTE)	
	Rad Tech – 98.80 328.0 Mhrs. (1.0 FTE)	
	QA – 4.94 Mhrs. (0.05 FTE)	
	Safety Tech – 19.76 66.0 Mhrs. (0.2 FTE)	
	Rad Engineer – 4.94 16.0 Mhrs. (0.05 FTE)	
	Safety Engineer – 4.94 16.0 Mhrs. (0.05 FTE)	
	Waste Engineer – 19.76 66.0 Mhrs. (0.1 FTE)	
	MC&A – 19.76 66.0 Mhrs. (0.2 FTE)	
<i>Container Purchase</i>		
	ISO's	No ISOs included in project
	Skids	No skids included in project.
	Boxes	No boxes included in project.

R1-
F10-
007

R1-
F10-
008

R1-
F10-
007

R1-
F10-
008

4. Packaging	
Drums	Includes the purchase of 715 1,005 drums for the packaging of waste being sent to Broad Spectrum for treatment and secondary waste generated during waste processing and packaging operations.
HazWat - 416.13 163.0 Mhrs (1.0 FTE)	
MVO - 416.13 163.0 Mhrs. (1.0 FTE)	
Supervisor - 23.43 33.0 Mhrs. (0.2 FTE)	
Rad Tech - 416.13 163.0 Mhrs. (1.0 FTE)	
Rad Engineer - 5.81 Mhrs. (0.05 FTE)	
Safety Engineer - 5.81 Mhrs. (0.05 FTE)	
Waste Engineer - 11.62 16.0 Mhrs. (0.1 FTE)	
Admin. Spt. - 6.16 Mhrs. (0.05 FTE)	

R1-
F10-
006

R1-
F10-
007

5) Task #5 - Shipping

5.1) Plan/Scope - Shipping

- The scope includes 44 18 over the road waste shipment from the FEMP to the WCS facility located in Andrews, Texas.
- The scope includes banding and strapping the containers to pallets
- The scope includes loading the waste containers into the transport vehicle.
- The scope includes all vehicle and container inspections and surveys.
- The scope includes completion, review and approval of all shipping paperwork.

R1-
F10-
007

5.2) Quantification - Shipping

5. Shipping	
Shipping Preparation	Assumed that the shipping preparation for the soils, sludge's and debris waste will involve assembling characterization / shipping documentation, coordination with the offsite TSDF, coordination with onsite logistics, etc...
Waste Engineer - 240.0 Mhrs. (1.00 FTE)	
<i>Loading</i>	
ISO's	No ISOs included in project
Skids	No skids included in project.
Boxes	No boxes included in project.
Drums	Loading of 715 1,005 drums of lead waste.
Hazwat - 619.33 871.0 Mhrs. (4.0 FTE)	
MVO - 309.67 436.0 Mhrs. (2.0 FTE)	
Tran. Laborer - 185.4 261.0 Mhrs. (1.20 FTE)	
Supervisor - 247.0 348.0 Mhrs. (1.60 FTE)	
Rad Tech - 309.67 436.0 Mhrs. (2.00 FTE)	
QA - 247.5 Mhrs. (2.00 FTE)	
Waste Engineer - 77.4 109.0 Mhrs. (0.50 FTE)	
MC&A - 30.57 44.0 Mhrs. (0.20 FTE)	

R1-
F10-
007

R1-
F10-
008

R1-
F10-
007

5. Shipping	
<i>Shipping Administration</i>	
ISO Shipments	No ISOs included in project
Skid Shipments	No skids included in project.
Box Shipments	No boxes included in project.
Drum Shipments	14-18 shipments of drums to Broad Spectrum
Waste Engineer – 85.0 108 Mhrs. (3.00 FTE)	

6) Task #6 – Off-Site Treatment

6.1) Plan/Scope – Off-Site Treatment

- The scope includes off-sight treatment of waste at WCS.

6.2) Quantification – Off-Site Treatment

R1-
F10 -
007

6. Off-Site Treatment			
Subcontract	Material Costs	Other Direct Costs	Total Cost
Lab Analysis	\$39,600.00 \$47,850	N/A	
Containers	\$28,600.00 \$82,410	N/A	
Treatment @ BSA	\$1,892,240.00 \$2,597,696.00	N/A	\$1,960,440.00 \$2,727,956.00

7) Task #7 – Disposal

7.1) Plan/Scope – Disposal

R1-
D-
582

R1-
D-
583

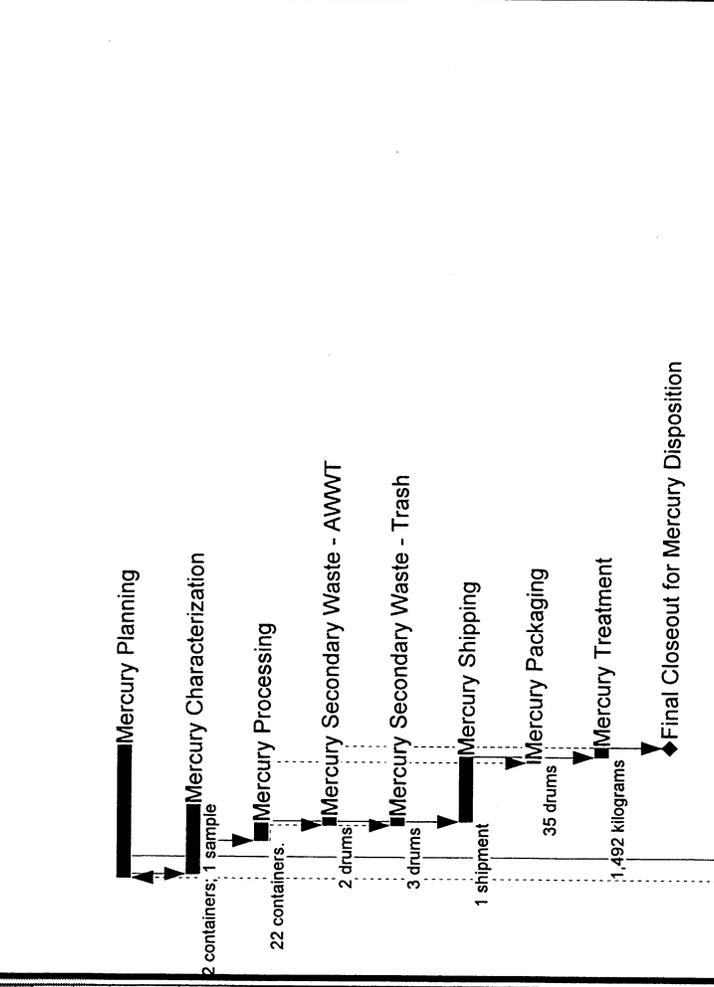
- The scope includes disposal of the treated waste at Envirocare of Utah
- Disposal of Liquid waste at AWWT.
- Disposal of LLW Trash at OSDF.

7.2) Quantification – Disposal

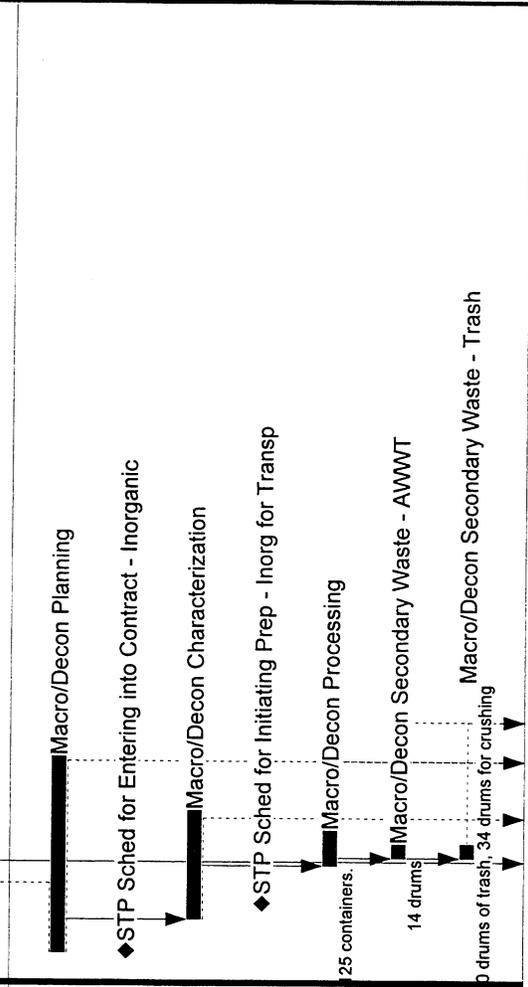
7. Disposal			
Subcontract	Material Costs	Other Direct Costs	Total Cost
LLW Trash	\$5,800.00	N/A	
AWWT Liquid	\$6,384.00	N/A	
Envirocare	\$262,200.00 \$365,217.00	N/A	\$274,384.00 \$377,401.00

SECTION 3

2.0 SCHEDULE



Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BNR14710	Mercury Planning	19DEC01*	20MAY03	283
K1BNR14720	Mercury Characterization	03JAN02	30SEP02	150
K1BNR14730	Mercury Processing	16MAY02	24JUL02	38
K1BNR15770	Mercury Secondary Waste - AWWT	18JUL02*	12AUG02	14
K1BNR16270	Mercury Secondary Waste - Trash	18JUL02*	12AUG02	14
K1BNR14750	Mercury Shipping	01AUG02	08APR03	136
K1BNR14740	Mercury Packaging	19MAR03*	25MAR03	4
K1BNR14760	Mercury Treatment	09APR03	20MAY03	24
K1BNR1MS90	Final Closeout for Mercury Disposition		20MAY03*	0



Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BNR24810	Macro/Decon Planning	28MAR01*	23APR03	415
K1BNR2SEPA	STP Sched for Entering into Contract - Inorganic		31MAR01*	0
K1BNR24820	Macro/Decon Characterization	08AUG01	02OCT02	231
K1BNR2EPA	STP Sched for Initiating Prep - Inorg for Transp		01OCT01*	0
K1BNR24830	Macro/Decon Processing	25FEB02	17JUL02	81
K1BNR25770	Macro/Decon Secondary Waste - AWWT	03APR02	21MAY02	28
K1BNR26270	Macro/Decon Secondary Waste - Trash	03APR02	21MAY02	28

MIXED WASTE
1.1.K.C INORGANIC TREATMENT

Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:54

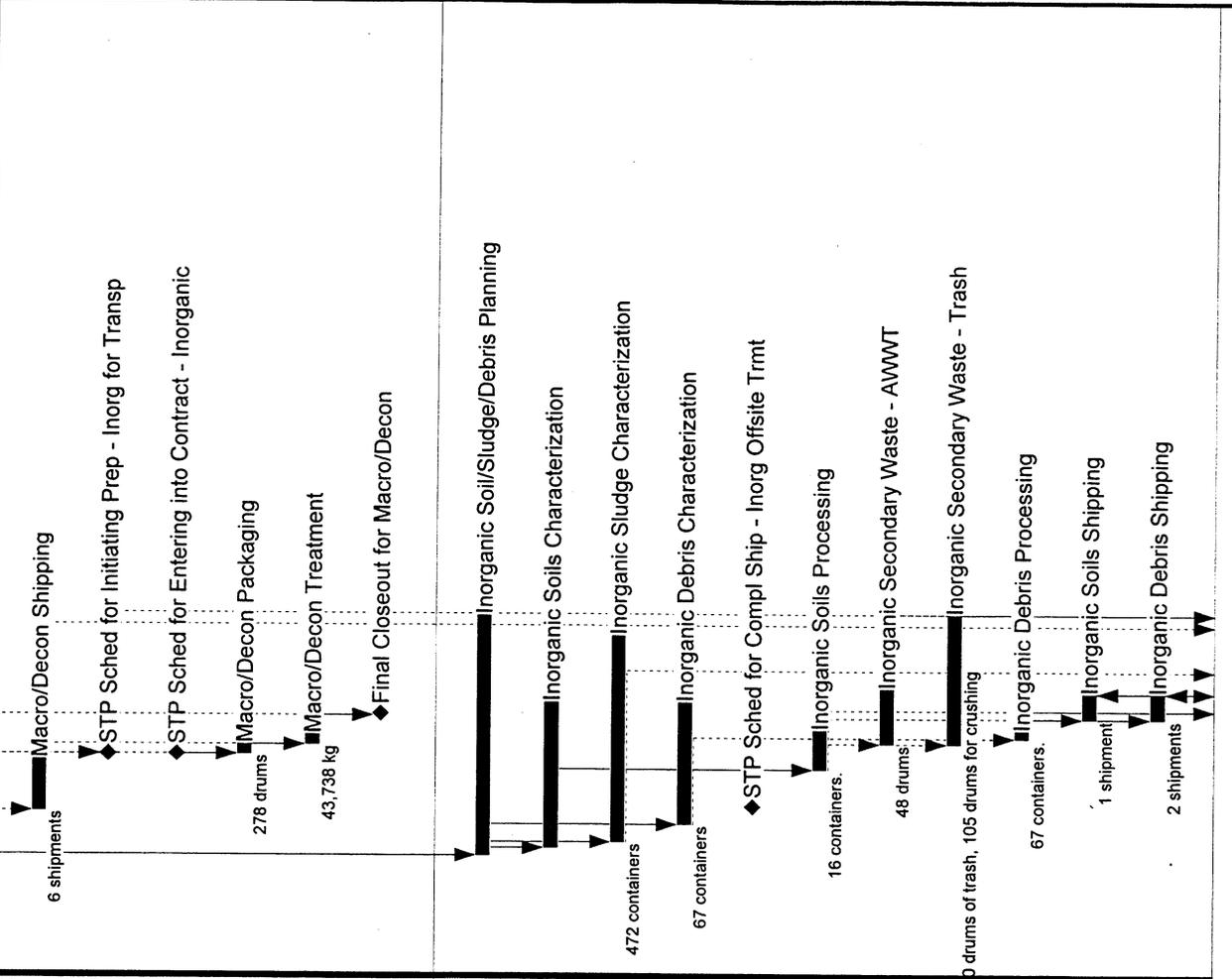
01DEC00 BLCF - K101

Sheet 1 of 3

Early Bar
 Progress Bar
 Critical Activity

Revision
 RT-D-559
 RT-D-586
 RT-D-640
 RT-D-653
 RT-D-876
 F10-007

FLUOR FERNALD
 © Primavera Systems, Inc.



Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
KBNR2 Inorganic Macro/Decon				
K1BNR24850	Macro/Decon Shipping	29AUG02*	18MAR03	108
K1BNR2STP	STP Sched for Initiating Prep - Inorg for Transp		09APR03*	0
K1BNR2STP1	STP Sched for Entering into Contract - Inorganic		09APR03*	0
K1BNR24840	Macro/Decon Packaging	10APR03	21MAY03	24
K1BNR24860	Macro/Decon Treatment	22MAY03	26JUN03	20
K1BNR2MS90	Final Closeout for Macro/Decon		16SEP03*	0
KBNR3 Inorganic Soils/Sludges/Debris				
K1BNR34910	Inorganic Soil/Sludge/Debris Planning	14MAR02	05OCT04	515
K1BNR34920	Inorganic Soils Characterization	18APR02	03NOV03	311
K1BNR35020	Inorganic Sludge Characterization	09MAY02	26JUL04	443
K1BNR35120	Inorganic Debris Characterization	16JUL02	03NOV03	263
K1BNR3EPA	STP Sched for Compl Ship - Inorg Offsite Trmt		20SEP02*	0
K1BNR34930	Inorganic Soils Processing	19FEB03	24JUL03	89
K1BNR35770	Inorganic Secondary Waste - AWWT	27MAY03*	31DEC03	150
K1BNR36270	Inorganic Secondary Waste - Trash	27MAY03*	19OCT04	283
K1BNR35130	Inorganic Debris Processing	23JUN03*	24JUL03	20
K1BNR34950	Inorganic Soils Shipping	02SEP03*	11DEC03	57
K1BNR35150	Inorganic Debris Shipping	02SEP03	11DEC03	57

Sheet 2 of 3

MIXED WASTE

1.1.K.C INORGANIC TREATMENT

BLCF - K101

Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:54

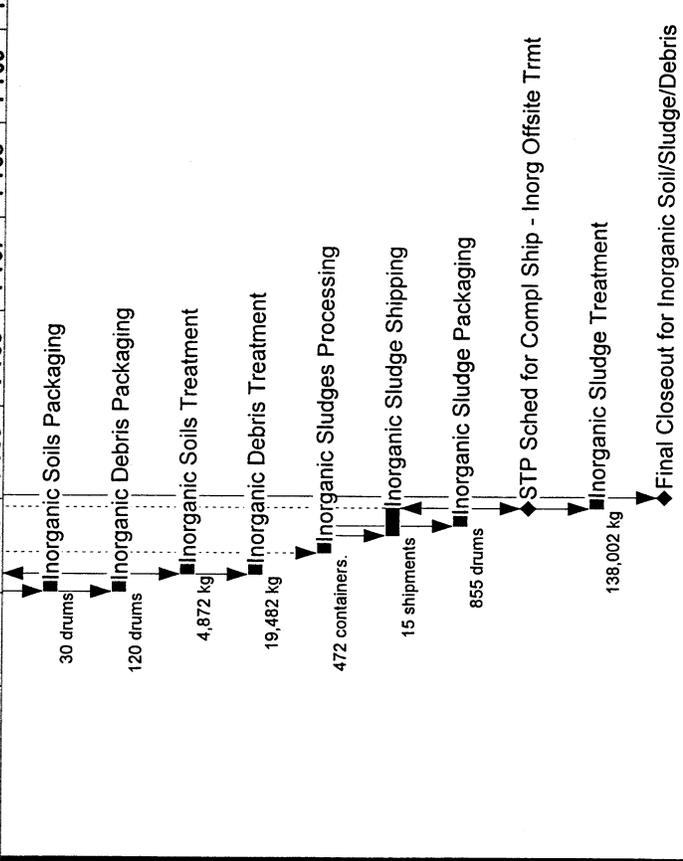
Legend:
 Early Bar
 Progress Bar
 Critical Activity

Revision: R1-D-559, R1-D-586, R1-D-640, R1-D-653, R1-D-876, F10-007

FLUOR FERNALD

© Primavera Systems, Inc.

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	Fiscal Year										
					FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
KBNR3 Inorganic Soils/Sludges/Debris															
K1BNR34940	Inorganic Soils Packaging	07OCT03*	10NOV03	20											
K1BNR35140	Inorganic Debris Packaging	07OCT03	10NOV03	20											
K1BNR34960	Inorganic Soils Treatment	15DEC03*	21JAN04	20											
K1BNR35160	Inorganic Debris Treatment	15DEC03	21JAN04	20											
K1BNR35030	Inorganic Sludges Processing	11MAR04*	14APR04	20											
K1BNR35050	Inorganic Sludge Shipping	20MAY04	30AUG04	56											
K1BNR35040	Inorganic Sludge Packaging	22JUN04	02AUG04	23											
K1BNR35060	STP Sched for Compl Ship - Inorg Offsite Trmt		30AUG04*	0											
K1BNR35060	Inorganic Sludge Treatment	31AUG04	05OCT04	25											
K1BNR3MS90	Final Closeout for Inorganic Soil/Sludge/Debris		19OCT04*	0											



Sheet 3 of 3

FLUOR FERNALD	MIXED WASTE	1.1.K.C INORGANIC TREATMENT
© Primavera Systems, Inc.	01DEC00 BLCF - K101	
Start Date: 01DEC00	Finish Date: 26SEP06	
Data Date: 01DEC00	Run Date: 12SEP01 10:54	

Date	Revision	Checked/Approved
R1-D-559		
R1-D-566		
R1-D-640		
R1-D-653		
R1-D-876		
F10-007		

SECTION 3

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KC03 INORGANIC SOIL/SLUDGE/DEBRIS

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006							
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																
1002 SSD MW DISPOSITION	10/02/2000	09/30/2002		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX																
1003 Thorium Stabilization	10/02/2000	01/09/2001		XXX	X																										
1004 Neutralization Precipitation Deactivation	10/02/2000	01/25/2001		XXX	X																										
1005 Char/Pack/Ship Hazardous Waste	10/02/2000	09/28/2001		XXX	XXX	XXX	XXX																								
1006 Organic Treatment Project (PCB)	10/02/2000	07/02/2003		XXX	XXX	XXX	XXX																								
1007 Thorium Mixed Waste	10/02/2000	07/15/2003		XXX	XXX	XXX	XXX																								
1008 Mixed Waste Admin	10/02/2000	09/30/2003		XXX	XXX	XXX	XXX																								
1009 Inorganic Small Quantity	10/01/2001	07/18/2002						XXX	XXX	XXX	XXX	XXX	X																		
1010 DECONTAMINATION/MACROENCAPULATIO	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																							
1011 INORGANIC SAMPLE DISPOSITION	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																							
1012 LIQUID AWWT	10/02/2000	11/16/2000		XX																											
1013 LIQUID TSCA	10/02/2000	03/28/2002		XXX	XXX	XXX	XXX	XXX	XXX																						
Planning	Waste Management	Waste Engineer	3.50	0	0	0	0	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Project Management	Tech/Program Support Rep.	1.80	0	0	0	0	0.2	0.2	0	0.2	0.2	0	0	0.2	0.2	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Planning	General Labor	Hazwat	0.10	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Procurement	Material Property Control Rep.	1.00	0	0	0	0	0	0.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Maintenance	Project Support Manager	0.20	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Environmental Safety & H	Rad Engineer	0.20	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Environmental Safety & H	Rad Tech	0.20	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Environmental Safety & H	Safety Engineer	0.10	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planning	Environmental Safety & H	Industrial Hygienist Tech.	0.10	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Characterization	General Labor	Hazwat	0.30	0	0	0	0	0	0.1	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Characterization	Procurement	Material Property Control Rep.	0.10	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Characterization	Transportation Labor	Motor Vehicle Operator	0.40	0	0	0	0	0	0.1	0.1	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Characterization	Maintenance	Project Support Manager	0.20	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Characterization	Environmental Safety & H	Rad Tech	0.20	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Characterization	Environmental Safety & H	Safety Engineer	0.30	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	
Processing	General Labor	Hazwat	2.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Procurement	Material Property Control Rep.	0.10	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Processing	Transportation Labor	Motor Vehicle Operator	0.80	0	0	0	0	0	0	0	0	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Processing	Maintenance	Project Support Manager	0.40	0	0	0	0	0	0	0.1	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Processing	Environmental Safety & H	Rad Tech	0.30	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Manpower Planning Sheet (CR2)

MPS # 1KC03 INORGANIC SOIL/SLUDGE/DEBRIS

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Processing	Environmental Safety & H	Industrial Hygienist Tech.	0.80	0	0	0	0	0	0	0	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Waste Management	Waste Engineer	0.20	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	General Labor	Hazwat	2.60	0	0	0	0	0	0	0	0	1.3	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Procurement	Material Property Control Rep.	0.20	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Transportation Labor	Motor Vehicle Operator	1.60	0	0	0	0	0	0	0	0	0.7	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Maintenance	Project Support Manager	0.60	0	0	0	0	0	0	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Environmental Safety & H	Rad Tech	0.60	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Environmental Safety & H	Industrial Hygienist Tech.	1.60	0	0	0	0	0	0	0	0	0.1	0.1	0	0.2	0.1	0.3	0.5	0.2	0	0	0	0	0	0	0	0
Packaging	Waste Management	Waste Engineer	0.30	0	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shipping	General Labor	Hazwat	7.70	0	0	0	0	0	0	0	0	0	0	0.1	0.4	0.8	0.7	1.5	4.1	0.1	0	0	0	0	0	0	0
Shipping	Procurement	Material Property Control Rep.	1.00	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.3	0.4	0	0	0	0	0	0	0	0
Shipping	Transportation Labor	Motor Vehicle Operator	4.50	0	0	0	0	0	0	0	0	0	0	0.5	0.2	0.4	0.4	0.9	2.1	0	0	0	0	0	0	0	0
Shipping	Maintenance	Project Support Manager	2.90	0	0	0	0	0	0	0	0	0	0	0.4	0.2	0.3	0.3	0.4	1.3	0	0	0	0	0	0	0	0
Shipping	Environmental Safety & H	Rad Tech	3.80	0	0	0	0	0	0	0	0	0	0	0.5	0.1	0.4	0.2	0.5	2.1	0	0	0	0	0	0	0	0
Shipping	Transportation Labor	Transportation Laborer	0.60	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.5	0	0	0	0	0	0	0	0	0
Shipping	Waste Management	Waste Engineer	4.80	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.7	1	1.3	0	0	0	0	0	0	0	0

Sheet Totals: 45.90 0.00 0.00 0.00 0.00 1.00 2.10 1.10 1.80 5.80 5.30 2.50 2.40 3.10 2.90 6.00 11.80 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00

SECTION 3

4.0 ESTIMATE

KBNR1

INORGANIC MERCURY

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.C
CTRL ACCT: KBNR1
CHARGE NO: KBNR1
COMMENT NO: F-006. E728

Resource:	HAZWAT	HAZWAT	Class:		EOC:	LABOR	
Res Dept:	951	Overtime:	Oct 01-	Oct 02-	HOU	Oct 03-	Oct 04-
Yr Hours:	0.0	0.0	360.0	117.0	0.0	0.0	0.0
Cum Hours:	0.0	0.0	360.0	477.0	477.0	477.0	477.0
Yr Total Cost:	0	0	10,909	3,755	0	0	0
Cum Total Cost:	0	0	10,909	14,665	14,665	14,665	14,665

Resource:	INHTEC	INDUST HYGIENIST TEC	Class:		EOC:	LABOR	
Res Dept:	951	Overtime:	Oct 01-	Oct 02-	SAL	Oct 03-	Oct 04-
Yr Hours:	0.0	0.0	64.0	16.0	0.0	0.0	0.0
Cum Hours:	0.0	0.0	64.0	80.0	80.0	80.0	80.0
Yr Total Cost:	0	0	2,539	672	0	0	0
Cum Total Cost:	0	0	2,539	3,211	3,211	3,211	3,211

Resource:	MAT300	MATERIAL OBJCLASS300	Class:		EOC:	MATERIAL	
Res Dept:	951	Overtime:	Oct 01-	Oct 02-	MAT	Oct 03-	Oct 04-
Yr Units:	0.0	0.0	1,860.1	7,231.9	0.0	0.0	0.0
Cum Units:	0.0	0.0	1,860.1	9,092.0	9,092.0	9,092.0	9,092.0
Yr Total Cost:	0	0	1,910	7,628	0	0	0
Cum Total Cost:	0	0	1,910	9,538	9,538	9,538	9,538

Resource:	MPCREP	MATL PROP CTRL REP	Class:		EOC:	LABOR	
Res Dept:	951	Overtime:	Oct 01-	Oct 02-	SAL	Oct 03-	Oct 04-
Yr Hours:	0.0	0.0	137.0	101.0	0.0	0.0	0.0
Cum Hours:	0.0	0.0	137.0	238.0	238.0	238.0	238.0
Yr Total Cost:	0	0	4,661	3,639	0	0	0
Cum Total Cost:	0	0	4,661	8,300	8,300	8,300	8,300

Resource: MVOOPR MOTOR VEHICLE OPER LABOR
Res Dept: 951 Overtime: Class: EOC: HOU

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	100.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	100.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0
Yr Total Cost:	0	3,038	1,384	0	0	0	0	0	0	0
Cum Total Cost:	0	3,038	4,421	4,421	4,421	4,421	4,421	4,421	4,421	4,421

Resource: PJSMGR PROJECT SUPPORT MGR LABOR
Res Dept: 951 Overtime: Class: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	116.0	84.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	116.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
Yr Total Cost:	0	5,582	4,282	0	0	0	0	0	0	0
Cum Total Cost:	0	5,582	9,864	9,864	9,864	9,864	9,864	9,864	9,864	9,864

Resource: QACENG QA ENGINEER LABOR
Res Dept: 951 Overtime: Class: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Yr Total Cost:	0	968	0	0	0	0	0	0	0	0
Cum Total Cost:	0	968	968	968	968	968	968	968	968	968

Resource: RADENG RAD ENGINEER LABOR
Res Dept: 951 Overtime: Class: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	32.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	32.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Yr Total Cost:	0	1,590	684	0	0	0	0	0	0	0
Cum Total Cost:	0	1,590	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274

Resource: RADTEC
Res Dept: 951
Class: LABOR

EOC: SAL

LABOR

Resource:	Res Dept:	Class:	EOC:	Yr Hours:	Cum Hours:	Yr Total Cost:	Cum Total Cost:
		Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
		0.0 57.0	0.0 53.0	0.0 0.0	0.0 110.0	0.0 110.0	0.0 110.0
		0 2,045	0 4,058	0 4,058	0 4,058	0 4,058	0 4,058
		0 2,045	0 4,058	0 4,058	0 4,058	0 4,058	0 4,058

Resource: S&HENG
Res Dept: 951
Class: LABOR

EOC: SAL

LABOR

Resource:	Res Dept:	Class:	EOC:	Yr Hours:	Cum Hours:	Yr Total Cost:	Cum Total Cost:
		Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
		0.0 89.0	0.0 31.0	0.0 120.0	0.0 120.0	0.0 120.0	0.0 120.0
		0 4,657	0 1,718	0 6,375	0 6,375	0 6,375	0 6,375
		0 4,657	0 6,375	0 6,375	0 6,375	0 6,375	0 6,375

Resource: TPSREP
Res Dept: 951
Class: LABOR

EOC: SAL

LABOR

Resource:	Res Dept:	Class:	EOC:	Yr Hours:	Cum Hours:	Yr Total Cost:	Cum Total Cost:
		Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
		0.0 184.0	0.0 148.0	0.0 332.0	0.0 332.0	0.0 332.0	0.0 332.0
		0 10,063	0 8,574	0 18,637	0 18,637	0 18,637	0 18,637
		0 10,063	0 18,637	0 18,637	0 18,637	0 18,637	0 18,637

Resource: TRNLAB
Res Dept: 951
Class: LABOR

EOC: HOU

LABOR

Resource:	Res Dept:	Class:	EOC:	Yr Hours:	Cum Hours:	Yr Total Cost:	Cum Total Cost:
		Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
		0.0 0.0	10.0 10.0	0.0 10.0	0.0 10.0	0.0 10.0	0.0 10.0
		0 0	275 275	0 275	0 275	0 275	0 275
		0 0	0 275	0 275	0 275	0 275	0 275

Resource: USUBS
Res Dept: 951
Class: SUB

UNESCALATED SUBS
OverTime: 0

Subcontractors
OverTime: 0

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-			
	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost	Yr	Total Cost		
Yr Units:	0.0	1,650.0	0.0	1,650.0	23,872.0	23,872.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0
Cum Units:	0.0	1,650.0	0.0	1,650.0	23,872.0	23,872.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0	0.0	25,522.0
Yr Total Cost:	0	1,650	0	1,650	23,872	23,872	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522
Cum Total Cost:	0	1,650	0	1,650	23,872	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522	0	25,522

Resource: WSTENG
Res Dept: 951
Class: SAL

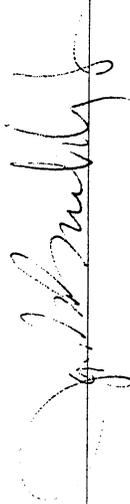
WASTE ENGINEER
OverTime: 0

LABOR
OverTime: 0

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-			
	Yr	Total Cost																				
Yr Hours:	0.0	941.0	0.0	941.0	626.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0
Cum Hours:	0.0	941.0	0.0	941.0	626.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0	0.0	1,567.0
Yr Total Cost:	0	50,544	0	50,544	35,615	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159
Cum Total Cost:	0	50,544	0	50,544	86,159	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159	0	86,159

GRAND TOTALS:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-			
	Yr	Total Cost																				
Yr Hours:	0.0	2,100.0	0.0	2,100.0	1,242.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0
Cum Hours:	0.0	2,100.0	0.0	2,100.0	1,242.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0	0.0	3,342.0
Yr Total Cost:	0	100,156	0	100,156	94,112	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268
Cum Total Cost:	0	100,156	0	100,156	194,268	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268	0	194,268

CAM  CONTROL TEAM 

KBNR2

INORGANIC MACRO/DECON

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN10 DATE: 05-Sep-01
 WBS: 1.1.K.C PROJECT MGR: J. BUCKLEY
 CTRL-ACCT: KBNR2 CAM: J. BUCKLEY
 CHARGE NO: KBNR2 PREPARED BY: A. MURPHY
 COMMENT NO F: 10,006, E728 FISCAL YEAR: 2001-2010

Resource:	HAZWAT	HAZWAT	Class:	EOC:	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR							
Res Dept:	951	Overline:		HOU																	
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10										
Cum Hours:		24.0	1,434.0	412.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
Yr Total Cost:		24.0	1,458.0	1,870.0	1,870.0	1,870.0	1,870.0	1,870.0	1,870.0	1,870.0	1,870.0										
Cum Total Cost:		691	43,456	13,224	0	0	0	0	0	0	0										
		691	44,147	57,371	57,371	57,371	57,371	57,371	57,371	57,371	57,371										

Resource:	INHTEC	INDUST HYGIENIST TEC	Class:	EOC:	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR							
Res Dept:	951	Overline:		SAL																	
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10										
Cum Hours:		10.0	267.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
Yr Total Cost:		377	10,592	1,471	0	0	0	0	0	0	0										
Cum Total Cost:		377	10,969	12,440	12,440	12,440	12,440	12,440	12,440	12,440	12,440										

Resource:	MAT300	MATERIAL OBJCLASS300	Class:	EOC:	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MATERIAL							
Res Dept:	951	Overline:		MAT																	
Yr Units:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10										
Cum Units:		0.0	11,375.6	46,791.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
Yr Total Cost:		0.0	11,375.6	58,167.3	58,167.3	58,167.3	58,167.3	58,167.3	58,167.3	58,167.3	58,167.3										
Cum Total Cost:		0	11,683	49,353	0	0	0	0	0	0	0										
		0	11,683	61,035	61,035	61,035	61,035	61,035	61,035	61,035	61,035										

Resource:	MPCREP	MATL PROP CTRL REP	Class:	EOC:	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR	LABOR							
Res Dept:	951	Overline:		SAL																	
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10										
Cum Hours:		57.0	220.0	96.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
Yr Total Cost:		1,842	7,484	3,459	0	0	0	0	0	0	0										
Cum Total Cost:		1,842	9,327	12,786	12,786	12,786	12,786	12,786	12,786	12,786	12,786										

Resource: MVOOPR 951
Res Dept: 951
Class: LABOR

MOTOR VEHICLE OPER
Overline: EOC: HOU

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	488.0	291.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	488.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0
Yr Total Cost:	0	14,824	9,363	0	0	0	0	0	0	0
Cum Total Cost:	0	14,824	24,187	24,187	24,187	24,187	24,187	24,187	24,187	24,187

Resource: PJSMGR 951
Res Dept: 951
Class: LABOR

PROJECT SUPPORT MGR
Overline: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	46.0	191.0	213.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	46.0	237.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0
Yr Total Cost:	2,103	9,192	10,857	0	0	0	0	0	0	0
Cum Total Cost:	2,103	11,295	22,152	22,152	22,152	22,152	22,152	22,152	22,152	22,152

Resource: QACENG 951
Res Dept: 951
Class: LABOR

QA ENGINEER
Overline: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	8.0	92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	8.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yr Total Cost:	368	4,451	0	0	0	0	0	0	0	0
Cum Total Cost:	368	4,818	4,818	4,818	4,818	4,818	4,818	4,818	4,818	4,818

Resource: RADENG 951
Res Dept: 951
Class: LABOR

RAD ENGINEER
Overline: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	12.0	76.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	12.0	88.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
Yr Total Cost:	566	3,776	737	0	0	0	0	0	0	0
Cum Total Cost:	566	4,342	5,079	5,079	5,079	5,079	5,079	5,079	5,079	5,079

Resource: RADTEC
Res Dept: 951
Class: LABOR

RADTEC		LABOR		EOC:	
Resource:	Res Dept:	Class:	EOC:	SAL	
Yr Hours:	10.0	132.0	249.0	0.0	0.0
Cum Hours:	10.0	142.0	391.0	391.0	391.0
Yr Total Cost:	341	4,735	9,460	0	0
Cum Total Cost:	341	5,076	14,536	14,536	14,536

Resource: S&HENG
Res Dept: 951
Class: LABOR

S&HENG		LABOR		EOC:	
Resource:	Res Dept:	Class:	EOC:	SAL	
Yr Hours:	23.0	447.0	30.0	0.0	0.0
Cum Hours:	23.0	470.0	500.0	500.0	500.0
Yr Total Cost:	1,143	23,389	1,663	0	0
Cum Total Cost:	1,143	24,532	26,195	26,195	26,195

Resource: TPSREP
Res Dept: 951
Class: LABOR

TPSREP		LABOR		EOC:	
Resource:	Res Dept:	Class:	EOC:	SAL	
Yr Hours:	114.0	218.0	120.0	0.0	0.0
Cum Hours:	114.0	332.0	452.0	452.0	452.0
Yr Total Cost:	5,923	11,923	6,952	0	0
Cum Total Cost:	5,923	17,846	24,798	24,798	24,798

Resource: TRNLAB
Res Dept: 951
Class: LABOR

TRNLAB		LABOR		EOC:	
Resource:	Res Dept:	Class:	EOC:	HOU	
Yr Hours:	0.0	0.0	72.0	0.0	0.0
Cum Hours:	0.0	0.0	72.0	72.0	72.0
Yr Total Cost:	0	0	1,981	0	0
Cum Total Cost:	0	0	1,981	1,981	1,981

Resource: USUBS
Res Dept: 951
Class: SUB

UNESCALATED SUBS
Overtime: EOC: SUB

		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
		Oct 01-	Sep 02	Oct 02-	Sep 03	Oct 03-	Sep 04	Oct 04-	Sep 05	Oct 05-	Sep 06	Oct 06-	Sep 07	Oct 07-	Sep 08	Oct 08-	Sep 09	Oct 09-	Sep 10
Yr Units:		0.0	8,250.0	0.0	699,808.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:		0.0	8,250.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0	708,058.0
Yr Total Cost:		0	8,250	699,808	699,808	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		0	8,250	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058	708,058

Resource: WSTENG
Res Dept: 951
Class: SAL

WASTE ENGINEER
Overtime: EOC: SAL

		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
		Oct 01-	Sep 02	Oct 02-	Sep 03	Oct 03-	Sep 04	Oct 04-	Sep 05	Oct 05-	Sep 06	Oct 06-	Sep 07	Oct 07-	Sep 08	Oct 08-	Sep 09	Oct 09-	Sep 10
Yr Hours:		432.0	1,466.0	550.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		432.0	1,898.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0	2,448.0
Yr Total Cost:		22,045	78,743	31,291	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		22,045	100,788	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080	132,080

GRAND TOTALS:

		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
		Oct 01-	Sep 02	Oct 02-	Sep 03	Oct 03-	Sep 04	Oct 04-	Sep 05	Oct 05-	Sep 06	Oct 06-	Sep 07	Oct 07-	Sep 08	Oct 08-	Sep 09	Oct 09-	Sep 10
Yr Hours:		736.0	5,031.0	2,082.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		736.0	5,767.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0	7,849.0
Yr Total Cost:		35,400	232,498	839,620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		35,400	267,897	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518	1,107,518

CAM  CONTROL TEAM 

KBNR3

INORGANIC SOILS/SLUDGE/DEBRIS

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.KC
CTRL ACCT: KBNR3
CHARGE NO: KBNR3
COMMENT NO: 10-006, E728

Resource:	HAZWAT	HAZWAT	Class:	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR
Res Dept:	951	951		HOU		HOU		HOU		HOU	
Yr Hours:	0.0	37.0	37.0	248.0	2,996.0	20.0	3,301.0	3,301.0	3,301.0	3,301.0	3,301.0
Cum Hours:	0.0	37.0	285.0	7,960	101,835	720	0	0	0	0	0
Yr Total Cost:	0	1,121	9,081	110,916	111,636	111,636	111,636	111,636	111,636	111,636	111,636
Cum Total Cost:	0	1,121	110,916	111,636	111,636	111,636	111,636	111,636	111,636	111,636	111,636

Resource:	INHTEC	INDUST HYGIENIST TEC	Class:	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR
Res Dept:	951	951		SAL		SAL		SAL		SAL	
Yr Hours:	0.0	223.0	99.0	495.0	4.0	821.0	821.0	821.0	821.0	821.0	821.0
Cum Hours:	0.0	223.0	322.0	817.0	821.0	189	0	0	0	0	0
Yr Total Cost:	0	8,847	4,160	22,026	35,033	35,222	35,222	35,222	35,222	35,222	35,222
Cum Total Cost:	0	8,847	13,007	35,033	35,222	35,222	35,222	35,222	35,222	35,222	35,222

Resource:	MAT300	MATERIAL OBJCLASS300	Class:	EOC:	MATERIAL	EOC:	MATERIAL	EOC:	MATERIAL	EOC:	MATERIAL
Res Dept:	951	951		MAT		MAT		MAT		MAT	
Yr Units:	0.0	0.0	8,204.3	202,257.1	213.6	210,675.0	210,675.0	210,675.0	210,675.0	210,675.0	210,675.0
Cum Units:	0.0	0.0	8,204.3	210,461.4	210,675.0	238	0	0	0	0	0
Yr Total Cost:	0	0	8,653	219,300	228,191	228,191	228,191	228,191	228,191	228,191	228,191
Cum Total Cost:	0	0	8,653	227,953	228,191	228,191	228,191	228,191	228,191	228,191	228,191

Resource:	MFCREP	MATL PROP CTRL REP	Class:	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR	EOC:	LABOR
Res Dept:	951	951		SAL		SAL		SAL		SAL	
Yr Hours:	0.0	87.0	175.0	397.0	6.0	665.0	665.0	665.0	665.0	665.0	665.0
Cum Hours:	0.0	87.0	262.0	659.0	665.0	243	0	0	0	0	0
Yr Total Cost:	0	2,960	6,306	15,149	24,657	24,657	24,657	24,657	24,657	24,657	24,657
Cum Total Cost:	0	2,960	9,286	24,414	24,657	24,657	24,657	24,657	24,657	24,657	24,657

INCLUDES ESCALATION COSTS

Resource: MVOOPR
Res Dept: 951

MOTOR VEHICLE OPER		Class:		EOC:		LABOR				
Overtime:		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		0.0	93.0	1,604.0	0.0	0.0	0.0	0.0	0.0	0.0
Yr Hours:		0.0	93.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0
Cum Hours:		0.0	93.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0	1,697.0
Yr Total Cost:		0	2,992	54,653	0	0	0	0	0	0
Cum Total Cost:		0	2,992	57,645	57,645	57,645	57,645	57,645	57,645	57,645

Resource: PJSMGR
Res Dept: 951

PROJECT SUPPORT MGR		Class:		EOC:		LABOR				
Overtime:		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		105.0	164.0	979.0	3.0	0.0	0.0	0.0	0.0	0.0
Yr Hours:		105.0	269.0	1,248.0	1,251.0	1,251.0	1,251.0	1,251.0	1,251.0	1,251.0
Cum Hours:		105.0	269.0	1,248.0	1,251.0	1,251.0	1,251.0	1,251.0	1,251.0	1,251.0
Yr Total Cost:		5,053	8,360	52,845	172	0	0	0	0	0
Cum Total Cost:		5,053	13,413	66,257	66,429	66,429	66,429	66,429	66,429	66,429

Resource: QACENG
Res Dept: 951

QA ENGINEER		Class:		EOC:		LABOR				
Overtime:		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		420.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yr Hours:		420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0
Cum Hours:		420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0
Yr Total Cost:		20,318	0	0	0	0	0	0	0	0
Cum Total Cost:		20,318	20,318	20,318	20,318	20,318	20,318	20,318	20,318	20,318

Resource: RADENG
Res Dept: 951

RAD ENGINEER		Class:		EOC:		LABOR				
Overtime:		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		13.0	27.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0
Yr Hours:		13.0	40.0	111.0	111.0	111.0	111.0	111.0	111.0	111.0
Cum Hours:		13.0	40.0	111.0	111.0	111.0	111.0	111.0	111.0	111.0
Yr Total Cost:		646	1,421	3,957	0	0	0	0	0	0
Cum Total Cost:		646	2,067	6,023	6,023	6,023	6,023	6,023	6,023	6,023

Resource: RADTEC
Res Dept: 951

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 00- Sep 01	0.0	0.0	0.0	0.0
Oct 01- Sep 02	14.0	79.0	1,386.0	6.0
Yr Hours:	0.0	93.0	1,479.0	1,485.0
Cum Hours:	0	3,002	55,767	256
Yr Total Cost:	0	3,504	59,526	59,526
Cum Total Cost:	0	3,504	59,526	59,526

Resource: S&HENG
Res Dept: 951

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 00- Sep 01	0.0	0.0	0.0	0.0
Oct 01- Sep 02	31.0	62.0	109.0	1.0
Yr Hours:	0.0	93.0	202.0	203.0
Cum Hours:	0	3,436	6,397	62
Yr Total Cost:	0	5,058	11,455	11,517
Cum Total Cost:	0	5,058	11,455	11,517

Resource: TPSREP
Res Dept: 951

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 00- Sep 01	0.0	0.0	0.0	0.0
Oct 01- Sep 02	158.0	283.0	282.0	3.0
Yr Hours:	0.0	441.0	723.0	726.0
Cum Hours:	0	16,394	17,289	195
Yr Total Cost:	0	25,035	42,335	42,530
Cum Total Cost:	0	25,035	42,335	42,530

Resource: TRNLAB
Res Dept: 951

Class:	EOC:		LABOR	
	HOU	HOU		
Oct 00- Sep 01	0.0	0.0	0.0	0.0
Oct 01- Sep 02	0.0	0.0	261.0	0.0
Yr Hours:	0.0	0.0	261.0	261.0
Cum Hours:	0	0	7,605	0
Yr Total Cost:	0	0	7,605	7,605
Cum Total Cost:	0	0	7,605	7,605

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 05- Sep 06	0.0	0.0	0.0	0.0
Oct 06- Sep 07	1,485.0	1,485.0	1,485.0	1,485.0
Yr Hours:	0	0	0	0
Cum Hours:	0	59,526	59,526	59,526
Yr Total Cost:	0	59,526	59,526	59,526
Cum Total Cost:	0	59,526	59,526	59,526

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 05- Sep 06	0.0	0.0	0.0	0.0
Oct 06- Sep 07	203.0	203.0	203.0	203.0
Yr Hours:	0	0	0	0
Cum Hours:	0	11,517	11,517	11,517
Yr Total Cost:	0	11,517	11,517	11,517
Cum Total Cost:	0	11,517	11,517	11,517

Class:	EOC:		LABOR	
	SAL	SAL		
Oct 05- Sep 06	0.0	0.0	0.0	0.0
Oct 06- Sep 07	726.0	726.0	726.0	726.0
Yr Hours:	0	0	0	0
Cum Hours:	0	42,530	42,530	42,530
Yr Total Cost:	0	42,530	42,530	42,530
Cum Total Cost:	0	42,530	42,530	42,530

Class:	EOC:		LABOR	
	HOU	HOU		
Oct 05- Sep 06	0.0	0.0	0.0	0.0
Oct 06- Sep 07	261.0	261.0	261.0	261.0
Yr Hours:	0	0	0	0
Cum Hours:	0	7,605	7,605	7,605
Yr Total Cost:	0	7,605	7,605	7,605
Cum Total Cost:	0	7,605	7,605	7,605

Resource: USUBS
Res Dept: 951

UNESCALATED SUBS Overtime:	Class:		EOC:		SUB		SUBCONTRACTORS		
	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Units:	0.0	7,178.0	2,373,403.0	264,965.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	7,178.0	2,380,581.0	2,645,546.0	2,645,546.0	2,645,546.0	2,645,546.0	2,645,546.0	2,645,546.0
Yr Total Cost:	0	7,178	2,373,403	264,965	0	0	0	0	0
Cum Total Cost:	0	7,178	2,380,581	2,645,546	2,645,546	2,645,546	2,645,546	2,645,546	2,645,546

WASTE ENGINEER Overtime:	Class:		EOC:		LABOR	
	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-
Yr Hours:	936.0	1,334.0	1,667.0	12.0	0.0	0.0
Cum Hours:	936.0	2,270.0	3,937.0	3,949.0	3,949.0	3,949.0
Yr Total Cost:	50,276	75,895	100,432	766	0	0
Cum Total Cost:	50,276	126,171	226,603	227,369	227,369	227,369

WASTE ENGINEER Overtime:	Class:		EOC:		LABOR	
	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-
Yr Hours:	2,024.0	2,564.0	10,247.0	55.0	0.0	0.0
Cum Hours:	2,024.0	4,588.0	14,835.0	14,890.0	14,890.0	14,890.0
Yr Total Cost:	99,986	145,757	3,030,667	267,804	0	0
Cum Total Cost:	99,986	245,743	3,276,410	3,544,215	3,544,215	3,544,215

CAM
[Signature]
CONTROL TEAM *[Signature]*

SECTION 3

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Inorganic Treatment		Date: Mar. 23, 2001		PBS Number: 10		Total Baseline Dollars (Minimum Case):		\$4,846,000		
Evaluator: K. Crosson		Date: Mar. 23, 2001		WBS Number: 1.1.K.C		Control Account Number: KBNR				
CAM: J. Duling		Risk and/or Opportunity		Potential Impact		Internal Or External Driver		Impact Cost \$ (Maximum Case)		
Project Task					Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost \$ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Planning and Management (KBNR1) Mercury	< 6 mon. Delay in subcontractor identification	Internal	< 6 mon. delay		3	50	4	\$100,000	5	Accept
Characterization	Subcontractor inability to meet treatment criteria	Internal	Redirection of waste to alternate subcontractor		1	50	4	\$12,500	2	Accept
Processing	FAT&LC operations personnel not available	Internal	< 3 mon. Delay in operations/increase in schedule		2	30	2	\$30,000	2	Accept
Planning and Management (KBNR2) Macro Decon	< 6 mon. Delay in treatment subcontractor identification.	Internal	< 6 mon. delay		3	20	2	\$40,000	3	Accept
Characterization	Subcontractor inability to meet treatment criteria.	Internal	Redirection of waste to alternate subcontractor		2	20	2	\$111,400	2	Accept
Processing	FAT&LC operations personnel not available	Internal	< 3 mon. Delay in operations/increase in schedule		2	30	2	\$39,000	2	Accept
Planning and Management (KBNR3) Soils, Sludges, & Debris	< 6 mon. Delay in subcontractor identification	Internal	< 6 mon. delay		3	50	4	\$100,000	5	Accept
Characterization	Subcontractor inability to meet treatment criteria	Internal	Redirection of waste to alternate subcontractor		3	50	4	\$950,000	5	Accept
Processing	FAT&LC operations personnel not available	Internal	< 3 mon. Delay in operations/increase in schedule		2	30	2	\$96,000	2	Accept
Total:					\$3,632,000		Total:	\$1,478,900		

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 74
5. WBS ELEMENT CODE 1.1.K.D	6. WBS ELEMENT TITLE WASTE TREATMENT SAMPLE DISPOSITION PROJECT
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <u>a. ELEMENTS OF COST:</u> Labor Materials Subcontracts ODC's <u>b. TECHNICAL CONTENT:</u> The purpose of this element is to inspect, consolidate, sample and direct the disposition of analytical samples that have been generated at the Fernald Environmental Management Project (FEMP) or received from off-site laboratories. <u>c. SCOPE OF WORK:</u> This element provides for the operation of designated radioactive, mixed and hazardous waste storage areas. Work includes all labor and material to perform: - Acquisition and installation of Sample Disposition Equipment. - Identification of unknown waste samples. - Testing to verify identification of unknown waste. - Disposition of secondary waste from the project. - Procurement of containers for disposition of waste samples. - Operations to segregate like waste samples.	

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.D	4. WBS ELEMENT TITLE/NAME WASTE TREATMENT SAMPLE DISPOSITION PROJECT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 02/2003	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBSD	13. TASK DESCRIPTION (ONE LINE) SAMPLE DISPOSITION		

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

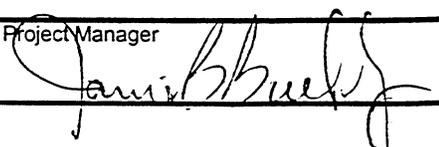
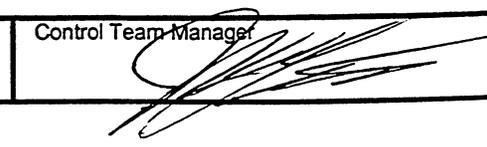
The purpose of this control account is to inspect, consolidate, sample and direct the disposition of analytical samples that have been generated at the FEMP or received from off-site laboratories.

c. SCOPE OF WORK:

This control account provides for the operation of designated radioactive, mixed and hazardous waste storage areas. Work includes all labor and material to perform:

- Acquisition and installation of Sample Disposition Equipment.
- Identification of unknown waste samples.
- Testing to verify identification of unknown waste.
- Disposition of secondary waste from the project.
- Procurement of containers for disposition of waste samples.
- Operations to segregate like waste samples.

Scope for this control account is further defined at the Work Package - Charge Number level (KBSD1).

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.D	4. WBS ELEMENT TITLE/NAME WASTE TREATMENT SAMPLE DISPOSITION PROJECT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 02/2003	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBSD	13. TASK DESCRIPTION (ONE LINE) SAMPLE DISPOSITION		

14. ELEMENT TASK DESCRIPTION

d. WORK SPECIFICALLY EXCLUDED:

Exclusions

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

2) Sample Disposition will not treat the waste. The waste will be treated by other projects, but will be funded by this Control Account.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.D	4. WBS ELEMENT TITLE/NAME WASTE TREATMENT SAMPLE DISPOSITION PROJECT
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 02/2003
---	---

12. TASK IDENTIFICATION (WORK PACKAGE) KBSD1	13. TASK DESCRIPTION (ONE LINE) SAMPLE DISPOSITION
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

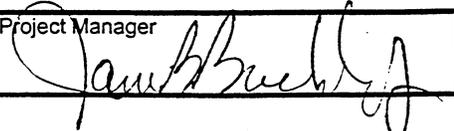
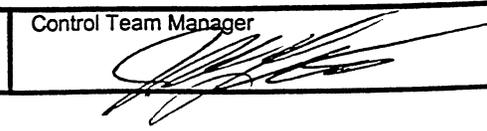
The purpose of this work package is to inspect, consolidate, sample and direct the disposition of 453 containers of historical analytical samples that have been generated at the FEMP or received from off-site laboratories.

c. SCOPE OF WORK:

This work package provides for the operation of designated radioactive, mixed and hazardous waste storage areas. Work includes all labor and material to perform:

- Acquisition and installation of Sample Disposition Equipment.
- Identification of unknown waste samples.
- Testing to verify identification of unknown waste.
- Disposition of secondary waste from the project.
- Procurement of containers for disposition of waste samples.
- Operations to segregate like waste samples.

This work package includes the following sub-tasks:
Planning and Management - Includes planning to define equipment needed, installing equipment for handling the segregation of samples, providing a fingerprint analysis of sample method and determining what methods will work.

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.D	4. WBS ELEMENT TITLE/NAME WASTE TREATMENT SAMPLE DISPOSITION PROJECT		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 02/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBSD1	13. TASK DESCRIPTION (ONE LINE) SAMPLE DISPOSITION		

14. ELEMENT TASK DESCRIPTION

Also includes determining a location in which to do the sample disposition project and setting up of the area to use for this work. The initial phase will be inventory identification, segregation of inventory and defining of campaigns. Planning and Characterization will overlap in work scope, without duplication of work.

Characterization - This will primarily be accomplished by doing "fingerprint" analysis in field as much as possible. Initial characterization will be performed to define "campaigns" for attacking the inventory. Characterization is a continuing part of this scope in that the materials are samples, and as such each drum may have many different types of sample materials of waste in them.

Processing - This will consist of transporting, staging, unloading of sample drums, individual sample identification and segregation of like waste.

Packaging - Unlike many waste streams, most of this waste will not be sent off-site for disposition. Most will go to the On-Site Disposal Facility, the Advanced Wastewater Treatment Facility, or the Soil Project. Drums will be used for transporting these streams as necessary. Some waste samples will go to the Organic Treatment Project for disposition. There may be some wastes that require special disposition, as yet undefined.

d. WORK SPECIFICALLY EXCLUDED:

Exclusions

- 1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

- 2) Sample Disposition will not treat the waste. The waste will be treated by other projects, but will be funded by this Control Account.

SECTION 4

1.0 NARRATIVE

R1-
F10-
016

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.E. D	5. WBS ELEMENT TITLE: SAMPLE DISPOSITION	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: KBSD	

SECTION 4: KBSD – SAMPLE DISPOSITION

1.0 NARRATIVE

1.1 OVERVIEW

The purpose of this scope of work is to inspect, consolidate, sample and direct the disposition of analytical samples that have been generated at the FEMP or received from off-site laboratories.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 KBSD1 – Sample Disposition

R1-
F10-
007

R1-D-
568

- 1) Project inventory will not change from ~~519- 453~~ (34,042 kg) containers
- 2) Support as required by the project from functional areas including Operations, Inventory Control, Maintenance, Radiation Safety, Industrial Hygiene, Characterization and Transportation will be available and support the project schedule.
- 3) Field operations will be performed by FAT&LC represented personnel.
- 4) Approved containers will be manufactured and delivered by vendors to support the approved schedule.
- 5) Current or envisioned projects will accept all consolidated sample waste for treatment/disposal.
- 6) Wastes in this category do not require criticality controls.
- 7) The current safety analysis will not change to impact this project, nor will any other project safety basis impact this scope of work.
- 8) Sampling and sample analysis will be in accordance with the project schedule.

- 9) Off-site laboratories will be available for sample analysis.
- 10) Current FEMP analytical equipment to consist of one X-ray fluorescence machine for determining metals, one FTIR for determining organics and one Pensky-Martins closed-end set up for determining flashpoint; this equipment will be available for use and set up in Building 68 for the life of the Sample Disposition Project.
- 11) Building 68 will be available for project work activities until completion of the project.
- 12) Waste characterization will be performed in a timely manner to support the project schedule.
- 13) Waste Characterization can supply required full-time support in the field to support the project.
- 14) Procedures and task orders will govern waste movement within the FEMP boundary, not by Department of Transportation (DOT) regulations.
- 15) A Management Assessment (MA) will be completed by Waste Generator Services (WGS).
- 16) Only one mock-up of operations will be required.
- 17) Waste that has been consolidated will be sent to projects that are treating/packaging that waste stream.
- 18) Fifteen percent of the waste will be sent to the Organic Treatment Project for treatment/disposal.
- 19) Thirty percent of the waste will be sent to the Mixed Waste for Incineration Project for treatment/disposal.
- 20) Thirty percent of the waste will be sent to the Low-Level Waste Project for treatment/disposal.
- 21) Fifteen percent of the waste will be disposed of through the Advanced Wastewater Treatment Facility.
- 22) Ten percent of the waste will require special treatment/disposal through the Hazardous Waste Project, the Uranium Waste Disposition Project or the Thorium Low-Level Waste Project.
- 23) Any newly generated samples generated by projects (with the exception of PBS-04) will be segregated and disposed of by them to the appropriate disposal project the project generating the sample.

R1-D-
571

R1-
F10-
007

24) Decontamination and dismantlement scope is not included.

R1-D-
640

25) This scope does not include any waste generated that is not already defined waste as of 12/01/00, with the exception of waste generated by the Plant 5/6 D&D project and PBS-04 lab samples (until FY2006). Lab samples generated after 2006 are handled/funded by PBS-04.

R1-D-
586

R1-D-
559

26) The project will realize a fifty- percent reduction in containerized wastes after consolidation, not including any secondary wastes generated from project activities.

R1-
F10-
007

1.2.1.2 General

- 1) Funding will support project scope and schedule of this project as presently developed.
- 2) DOE and Fluor Fernald reporting obligations do not exceed current levels.

1.2.2 Exclusions

- 1) This scope of work does not include any waste of this defined work description containerized after 12/01/00, with the exception of samples from Plant 5 and Plant 6 demolition activities.
- 2) Sample Disposition will not treat the waste. The waste will be treated by other projects, but will be funded by this Control Account.

R1-D-
640

3) This scope excludes any upgrades to Building 68 other than the installation of a sorting booth and process tables, and PBS-04 lab operations until the end of FY2006. After FY2006 sample disposition is paid for by PBS-04.

R1-D-
586

R1-D-
559

1.2.3 Government-Furnished Equipment/Services

R1-F10-
007

No specific government furnished equipment or services is required by this control account.

1.3 DRIVERS

1.3.1 KBSD1 – Sample Disposition

- 1) Release of Waste Characterization campaign packages.
- 2) Retrofit of Building 68 for sorting and segregation activities.
- 3) Delivery and installation of sorting booth from Building 80.
- 4) Issuance of Task Orders through site-wide review.

1.3.2 Regulatory

- 1) Fernald Environmental Management Project (FEMP) Part B Permit Application.
- 2) Department of Energy (DOE) Order 435.1

1.4 PROJECT PHYSICAL DESCRIPTION

This work package provides for the operation of designated radioactive, mixed and hazardous waste storage areas. Work includes all labor and material to perform:

- Acquisition and installation of Sample Disposition Equipment for completing this work scope.
- Identification of unknown waste samples.
- Testing to verify identification of unknown waste.
- Disposition of secondary waste from the project.
- Containers for disposition of waste samples.
- Operations to segregate like waste samples.

1.4.1 KBSD1 – Sample Disposition

1) Planning and Management Activities

Includes planning to define equipment needed, installing equipment for handling the segregation of samples, providing a fingerprint analysis of sample method and determining what methods will work. Also includes determining a location in which to do the sample disposition project and setting up of the area to use for this work. The initial phase will be inventory identification, segregation of inventory and defining of campaigns. Planning and Characterization will overlap in work scope, without duplication of work.

2) Characterization Activities

This will primarily be accomplished by doing "fingerprint" analysis in field as much as possible. Initial characterization will be performed to define "campaigns" for attacking the inventory. Characterization is a continuing part of this scope in that the materials are samples, and as such each drum may have many different types of sample materials of waste in them.

3) Processing Activities

The processing will consist of transporting, staging, unloading of sample drums, individual sample identification and segregation of like waste.

4) Packaging

Unlike many waste streams, most of this waste will not be sent off-site for disposition. Most will go to the On-Site Disposal Facility, the Advanced Wastewater Treatment Facility, or the Soil Project. Drums will be used for transporting these streams as necessary. Some waste samples will go to the Organic Treatment Project for disposition. ~~There may be some wastes that require special disposition, as yet undefined.~~

R1-
D-
572

5) Shipping

There are no off-site shipping requirements for this project.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBSD1 – Sample Disposition

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

This work package provides for the operation of designated radioactive, mixed and hazardous waste storage areas. ~~It is especially critical that this project receives field support from~~ Characterization, ~~support will be utilized~~ on a full time basis, ~~to perform fingerprint analysis~~ as most of the actual characterization/identification will be accomplished in the field. Work includes all labor and material to:

R1-
D-
573

- Develop a Project Plan.
- Develop 24 Task Orders.
- Do one Safety Analysis.
- Conduct one 32 day Management Assessment.

There will be 6 separate waste streams (Campaigns) generated from the project. These are:

- Solid Hazardous/Mixed wastes
- Solid Low Level wastes
- Solid Polychlorinated Biphenyl (PCB) contaminated wastes
- Liquid Hazardous/Mixed wastes
- Liquid Low Level wastes
- Liquid PCB wastes.

1.2) Quantification – Planning and Management Activities

Manhours (Mhrs) and Full Time Equivalents (FTE's) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE's required to complete the task within it's scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 2,785 Mhrs. One full FTE for the life of the project (about 3 years) is 5,241 Mhrs. 2,785 Mhrs is approximately 0.5 FTE's for the life of the project, whereas under management approvals, a Waste Engineer is needed for 32 Mhrs over thirty-two days. This equates to 0.1 FTE's (one hour per day) for that activity. This logic is applied to the remaining quantification sections in this Control Account.

1. Planning and Management	
R1-F10-006	<p>General Administration</p> <p>Waste Engineer– 2,785 Mhrs. (0.5 FTE) Acquisitions– 55.7 Mhrs. (0.01 FTE) Waste Engineer Mgr– 557 Mhrs. (0.1 FTE) Admin. Support– 557 Mhrs. (0.1 FTE)</p> <p>Waste Engineer involvement includes general project oversight and program maintenance, invoicing, treatment and disposal tracking, procedure reviews and revisions, training, and scheduling. Acquisitions will provide an average of 0.5 hrs/wk for general material purchases and project close out (100 hrs). Admin Specialist will provide 1 hr/wk for general support. Waste Engineer Manager will provide 1 hr/wk for meeting, coordination, and DOE internal coordination.</p>
R1-F10-006	<p>Mgt. Approvals</p> <p>Supervisor– 64 Mhrs. (0.2 FTE) Safety Engineer– 64 Mhrs. (0.2 FTE) Waste Engineer– 32 Mhrs. (0.1 FTE) TO Writer– 32 Mhrs. (0.1 FTE) Waste Engineer Mgr– 160 Mhrs. (0.5 FTE)</p> <p>One (1) Management Assessment may need to be performed for potential radioactive liquid shipment (32 days)</p>
R1-F10-007 R1-F10-006	<p>Oversight/Inspections</p> <p>Supervisor– 30 Mhrs. (0.3 FTE) Waste Engineer– 100 Mhrs. (1.0 FTE) Waste Engineer Mgr– 100 Mhrs. (1.0 FTE)</p> <p>Five (10) Ten days total for life of project for project oversight</p>
	<p>Inventory Planning</p> <p>Safety Engineer – 48 Mhrs. (0.1 FTE) Waste Engineer– 960 Mhrs. (2.0 FTE) MC&A–96 Mhrs. (0.2 FTE)</p> <p>A total of six (6) campaigns for development.</p>

F1-
F10-
007

1. Planning and Management	
Work Package Development Hazwat -96.0 Mhrs. (0.05 FTE) Supervisor-96.0 Mhrs. (0.05 FTE) Rad Tech- 35.2 38.0 Mhrs. (0.01 FTE) Safety Tech- 57.6 Mhrs. (0.03 FTE) Rad Engineer-57.6 Mhrs. (0.03 FTE) Safety Engineer- 57.6 Mhrs. (0.03 FTE) Safety Analysis- 48.0 38.0 Mhrs. (0.02 FTE) Waste Engineer-480 Mhrs. (0.25 FTE) MC&A-192 Mhrs. (0.1 FTE) TO Writer-480 Mhrs. (0.25 FTE) Waste Engineer Mgr - 24.0 19.0 Mhrs. (0.04 FTE)	A total of 24 task orders are estimated to be required. Per task order: Task order permits written by ops/Supervisor. Task Order Writer & Waste Engineer 20 hours/task order. 4 hrs/TO Ops Supervisor/Hazwat 2 hrs/ each QA to review, QA above line. 2 hrs/Task Order Safety Analysis 8 hrs/Task Order, MC&A Waste Engineer Manager - 1 hr task order
Tech. Programs Support Waste Engineer- 100 Mhrs. (1.0 FTE) Waste Engineer Mgr - 100 Mhrs. (1.0 FTE)	Includes Waste Engineer and and Waste Engineer Manager participation during Technology Programs coordination meeting related to the DOE Mixed Waste focus area and waste elimination team meetings. (10 Days)
Travel	No project travel planned

2) Task #2 - Characterization Activities

2.1) Plan/Scope - Characterization Activities

R1-
F10-
009

- Perform material evaluation/process knowledge review. (Waste Characterization - PBS11)
- Determine potential Inventory control and lot code modifications. (Waste Characterization - PBS11)
- Perform compatibility assessment for packaging. (Waste Characterization - PBS11)
- Field validates material description and process knowledge. (Field Characterization - PBS10)

2.2) Quantification - Characterization Activities

R1-
F10-
009

*The quantification listed in the detailed for waste characterization activities other than field characterization have been removed from this section section is for project planning purposes. Costs associated with these waste characterization activities will be carried in the detailed estimates for Control Account MMB within PBS11.

R1-
F10-
007

R1-
F10-
009

2. Characterization	
Field Verification Characterization Waste Engineer-1,320 1,510 Mhrs. (0.2 FTE) (1.0 FTE)	Waste engineer time for field validation of material descriptions and process knowledge during life of project activities. Also include Waste Engineer taking digital pictures of consolidated contents of container (2.3 hrs/day) 151 days.

R1- F10- 007 R1- F10- 009	2. Characterization	
	Sampling & Analysis	<p>The sample line will be available to perform sampling activities.</p> <p>It is estimated that 134 samples from a minimum of 134 containers will be required. It is also estimated that five (5) drums/day or three (3) boxes/day can be sampled in building 68.</p> <p>Off-Site analysis with FF support:</p>
	<p>Hazwat – 780 Mhrs. (3.0 FTE) Supervisor– 260 Mhrs. (1.0 FTE) Rad Tech– 260 Mhrs. (1.0 FTE) Safety Tech– 260 Mhrs. (1.0 FTE) Rad Engineer–26 Mhrs. (0.1 FTE) Waste Engineer–260 Mhrs. (1.0 FTE) Acquisitions –26 Mhrs. (0.1 FTE) Waste Engineer Mgr – 5.2 Mhrs. (0.02 FTE)</p>	
	Movement	No special movements for characterization
R1- F10- 008	*Characterization	Characterization of generated wastes, 6 campaigns at 180 hours each (72 days)
	Waste Engineer – 1,080 Mhrs. (1.5 FTE)	

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Develop task orders and/or work plans for on-site processing.
- Sampling Plan
- Install HEPA-ventilated enclosure from Building 80 into Building 68 for use as sorting booth.
- Install sorting tables and miscellaneous supplies, at an estimated cost of \$5,000.
- Purchase fingerprint analysis equipment to include one (1) field test kit for cyanide sulfide.
- Purchase 597 containers for consolidated waste and secondary wastes at \$40 each.
- Transport 308 ~~242~~ containers of samples to the Sample Disposition area; 211 containers are already located in Building 68.
- Segregate 519 ~~453~~ containers of samples and consolidate into containers of like material.
- Characterize 260 containers of consolidated wastes (approximately 44%), with one sample taken for every 2 containers (130 samples).

R1-
F10-
007

R1-F10-007

- Consolidated wastes into 55-gallon containers.
- W.O. to get building 68 ready.
- There will be ~~4410~~ 1,292 drum movements.
- ~~515~~ 449 drums will be crushed.
- 121 pair of full-anti-C's will be used.

3.2) Quantification – Processing Activities

3. Processing	
Decanting Hazwat – 30 Mhrs. (3.0 FTE) Supervisor– 10 Mhrs. (1.0 FTE) Rad Tech– 5 Mhrs. (0.5 FTE) Safety Tech– 10 Mhrs. (1.0 FTE) MVO – 10 Mhrs. (1.0 FTE)	30 containers will require decanting. The operations throughput rate for decanting is 30 containers/day. No further characterization on decant waters/oils is necessary
Venting/Puncturing	No venting/puncturing required.
Drum Crushing Hazwat– 669.5 Mhrs. (2.0 FTE) Supervisor– 33.5 Mhrs. (0.1 FTE) Rad Tech– 167.4 Mhrs. (0.5 FTE) Safety Tech– 167.4 Mhrs. (0.5 FTE) MC&A– 33.5 Mhrs. (0.1 FTE)	515 drums will be generated during consolidation operations and will require crushing (33 days).
Liquid Bulking Hazwat– 202.4 Mhrs. (3.0 FTE) MVO–67.5 Mhrs. (1.0 FTE) Supervisor– 67.5 Mhrs. (1.0 FTE) Rad Tech– 67.5 Mhrs. (1.0 FTE) Safety Tech– 67.5 Mhrs. (1.0 FTE) Waste Engineer– 33.7 Mhrs. (0.5 FTE) MC&A– 33.7 Mhrs. (0.5 FTE)	Secondary Wastes – TSCA Only accounts for the cost of bulking the liquids. All other costs (such as inerting and shipping) will be covered by the Mixed Waste Requiring Incineration Project. Based upon 78 containers (7 days).
On-site Treatment	No on-site treatment will be performed
Sorting & Consolidation	
ISO's	No ISOs are included in this project

3. Processing		
R1-F10-006	<p style="text-align: center;">Boxes</p> <p>Hazwat-78.0 Mhrs. (3.0 FTE) MVO-26.0 Mhrs. (1.0 FTE) Supervisor- 2.6 Mhrs. (0.1 FTE) Rad Tech-2.6 Mhrs. (0.1 FTE) Safety Tech- 6.50 Mhrs. (0.2 FTE) Rad Engineer - 2.60 Mhrs (0.1 FTE) Safety Engineer - 13.0 Mhrs (0.5 FTE) Waste Engineer- 26.0 Mhrs. (1.0 FTE) MC&A- 5.2 Mhrs. (0.2 FTE) TO Writer- 5.2 Mhrs (0.2 FTE) Acquisitions- 2.6 Mhrs (0.1 FTE) Waste Eng. Mgr.- 6.5 Mhrs (0.2 FTE) Adm. Specialist- 5.2 Mhrs (0.2 FTE)</p>	4 boxes of waste will be sorted and consolidated (2.6 days)
R1-F10-006 R1-F10-007	<p style="text-align: center;">Drums</p> <p>Hazwat-4,017.0-0 3,502 Mhrs. (3.0 FTE) MVO-1,339.0- 1,167 Mhrs. (1.0 FTE) Supervisor-134.0- 116 Mhrs. (0.1 FTE) Rad Tech-134.0- 116 Mhrs. (0.1 FTE) Safety Tech-334.8- 292 Mhrs. (0.2 FTE) Rad Engineer -134.0- 116 Mhrs (0.1 FTE) Safety Engineer -669.5- 583 Mhrs (0.5 FTE) Safety Analysis- 134.5 Mhrs (0.1 FTE) Waste Engineer-1,339.0- 1,167 Mhrs. (1.0 FTE) MC&A-268.0- 233 Mhrs. (0.2 FTE) TO Writer- 268.0 Mhrs (0.2 FTE) Acquisitions- 134.0 Mhrs (0.1 FTE) Waste Eng. Mgr.- 334.8- 292 Mhrs (0.2 FTE) Adm. Specialist- 267.8 Mhrs (0.2 FTE)</p>	515- 449 drums will be sorted and consolidated (134 days).
<i>Movement</i>		
	ISO's	No ISOs are included in this project
R1-F10-006	<p style="text-align: center;">Boxes</p> <p>Hazwat -2.7- 2.1 Mhrs. (1.0 FTE) MVO- 2.7- 2.1 Mhrs. (1.0 FTE) Supervisor- 0.5 Mhrs. (0.2 FTE) Rad Tech- 0.5 Mhrs. (0.2 FTE) Safety Tech- 1.1 Mhrs. (0.5 FTE) Waste Engineer- 0.2 Mhrs. (0.1 FTE) MC&A- 0.5 Mhrs. (0.2 FTE) TO Writer- 0.1 Mhrs. (0.05 FTE) Admin Support- 0.1 Mhrs. (0.05 FTE)</p>	4 boxes will be moved from Plant 1 pad to building. Operations throughput for the movement of boxes is: 24 boxes per day

R1-
 F10-
 006

 R1-
 F10-
 007

3. Processing	
Drums	294- 242 drums will be moved from plant 1 pad to building 68. 515 453 empty drums will be moved from building 68 to drum crusher.
Hazwat - 229.1 210 Mhrs. (1.0 FTE)	Plus 597 drums of consolidated waste (260) and secondary waste (337) will be moved from building 68 to the plant 1 pad. Operations throughput for the movement of drums is: 80 drums per day
MVO- 229.1 210 Mhrs. (1.0 FTE)	
Supervisor- 45.8 42 Mhrs. (0.2 FTE)	
Rad Tech- 57.3 52 Mhrs. (0.25 FTE)	
Safety Tech- 114.6 105 Mhrs. (0.5 FTE)	
Safety Engineer - 11.5 10.5 Mhrs (0.05 FTE)	
Rad Engineer - 11.5 10.5 Mhrs (0.05 FTE)	
Waste Engineer- 22.9 21 Mhrs. (0.1 FTE)	
MC&A- 45.8 42 Mhrs. (0.2 FTE)	
TO Writer - 11.5 Mhrs. (0.05 FTE)	
Admin Support - 11.5 Mhrs. (0.05 FTE)	

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

- Purchase 597 drums.
- Add absorbent as needed.

4.2) Quantification – Packaging

R1-
 F10-
 007

4. Packaging	
Repack/Overpack	No overpack/repack operations are required
<i>Container Purchase</i>	
ISO's	No ISOs are included in this project
Boxes	No box packaging
Drums	Includes the purchase of 597 drums for consolidated wastes and secondary waste.
Hazwat- 97.0 Mhrs. (1.0 FTE)	
MVO- 97.0 Mhrs. (0.5 FTE)	
Supervisor- 48.5 19.4 Mhrs. (0.2 FTE)	
Waste Engineer- 9.7 Mhrs. (0.1 FTE)	
MC&A- 9.7 Mhrs. (0.1 FTE)	

5) Task #5 – Shipping

5.1) Plan/Scope – Shipping

- No shipping required

5.2) Quantification – Shipping

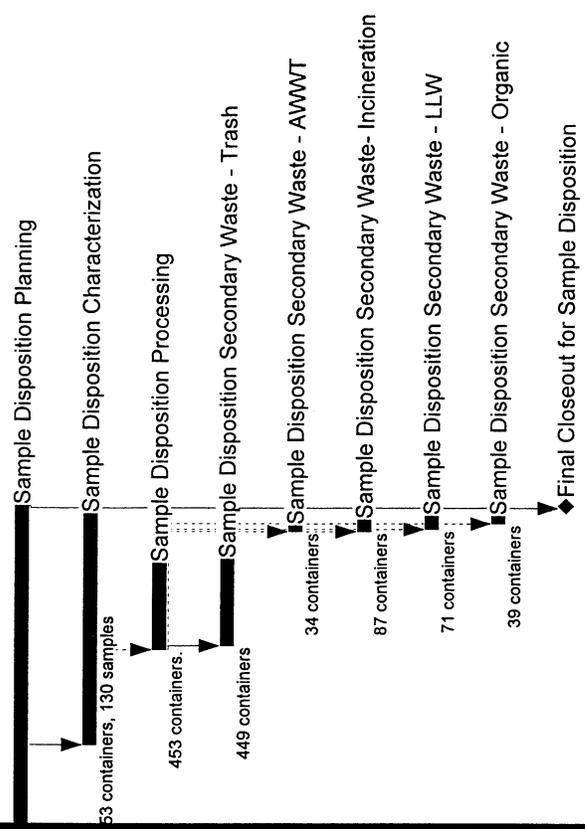
5. Shipping	
Shipping Preparation	No shipping required
Loading	No loading required

SECTION 4

2.0 SCHEDULE

K PBS 10 - MIXED WASTE
1.1.K.D WASTE TREATMENT SAMPLE DISPOSITION PROJEC
KBSD1 Sample Disposition

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BSD15210	Sample Disposition Planning	04DEC00	27APR04	681
K1BSD15220	Sample Disposition Characterization	10OCT01	29MAR04	492
K1BSD15230	Sample Disposition Processing	15OCT02*	16SEP03	185
K1BSD16270	Sample Disposition Secondary Waste - Trash	05NOV02	07OCT03	185
K1BSD15770	Sample Disposition Secondary Waste - AWWT	22JAN04*	11FEB04	12
K1BSD15670	Sample Disposition Secondary Waste- Incineration	22JAN04*	04MAR04	24
K1BSD16870	Sample Disposition Secondary Waste - LLW	29JAN04*	25MAR04	32
K1BSD14570	Sample Disposition Secondary Waste - Organic	23FEB04*	25MAR04	20
K1BSD1MS90	Final Closeout for Sample Disposition		27APR04*	0



Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:55

BLCF - K101

MIXED WASTE
 1.1.K.D WASTE TREATMENT SAMPLE
 DISPOSITION PROJECT

Sheet 1 of 1

FLUOR FERNALD
 © Primavera Systems, Inc.

Early Bar
 Progress Bar
 Critical Activity

Date	Revision	Checked/Approved
R1-D-559		
R1-D-586		
R1-D-640		
R1-D-653		
R1-D-876		
F10-007		

SECTION 4

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KD01 SAMPLE DISPOSITION

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006							
				Q1	Q2	Q3	Q4																								
Processing	Environmental Safety & H	Safety Engineer	1.40	0	0	0	0	0	0	0.1	0.1	0.3	0.3	0.2	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Environmental Safety & H	Industrial Hygienist Tech.	2.40	0	0	0	0	0	0	0.3	0.4	0.4	0.3	0	0.6	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing	Waste Management	Waste Engineer	6.60	0	0	0	0	0	0	0.5	0.5	0.7	0	0	2	1	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	General Labor	Hazwat	1.60	0	0	0	0	0	0	0	0	0	0	0.2	0.8	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Transportation Labor	Motor Vehicle Operator	0.70	0	0	0	0	0	0	0	0	0	0	0.2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Waste Management	Waste Engineer	1.40	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Packaging	Maintenance	Project Support Manager	0.60	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheet Totals:			47.60	0.20	0.80	0.20	0.50	1.30	1.10	4.40	4.60	7.70	6.70	4.20	9.60	3.30	3.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SECTION 4

4.0 ESTIMATE

KBSD1

SAMPLE DISPOSITION

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: _____
PROJECT MGR: _____
CAM: _____
PREPARED BY: _____
FISCAL YEAR: _____

PBS: OHFN10
WBS: 1.1.1.KD
CTRL ACCT: KBSD
CHARGE NO: KBSD1
COMMENT NO: F10-006, F10-008, E-728

Resource:	HAZWAT Res Dept:	HAZWAT OverTime:	Class:	LABOR														
				EOC:	HOU		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-	
	951				Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-					
					Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10				
Yr Hours:					23.0	28.0	5,153.0	464.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:					23.0	51.0	5,204.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0	5,668.0
Yr Total Cost:					662	849	165,400	15,771	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:					662	1,511	166,910	182,682	182,682	182,682	182,682	182,682	182,682	182,682	182,682	182,682	182,682	182,682

Resource:	INHTEC Res Dept:	INDUST HYGIENIST TEC OverTime:	Class:	LABOR														
				EOC:	SAL		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-	
	951				Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-					
					Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10				
Yr Hours:					15.0	19.0	779.5	153.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:					15.0	34.0	813.5	967.0	967.0	967.0	967.0	967.0	967.0	967.0	967.0	967.0	967.0	967.0
Yr Total Cost:					565	754	32,756	6,829	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:					565	1,319	34,075	40,904	40,904	40,904	40,904	40,904	40,904	40,904	40,904	40,904	40,904	40,904

Resource:	MAT300 Res Dept:	MATERIAL OBJCLASS300 OverTime:	Class:	MATERIAL														
				EOC:	MAT		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-	
					Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-					
					Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10				
Yr Units:					0.0	0.0	120,677.4	159,955.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:					0.0	0.0	120,677.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4	280,632.4
Yr Total Cost:					0	0	127,282	173,433	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:					0	0	127,282	300,715	300,715	300,715	300,715	300,715	300,715	300,715	300,715	300,715	300,715	300,715

Resource:	MPCREP Res Dept:	MATL PROP CTRL REP OverTime:	Class:	LABOR														
				EOC:	SAL		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-	
	951				Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-					
					Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10				
Yr Hours:					71.0	85.0	442.0	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:					71.0	156.0	598.0	646.0	646.0	646.0	646.0	646.0	646.0	646.0	646.0	646.0	646.0	646.0
Yr Total Cost:					2,295	2,892	15,927	1,832	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:					2,295	5,186	21,113	22,945	22,945	22,945	22,945	22,945	22,945	22,945	22,945	22,945	22,945	22,945

Resource: MVOOPR
Res Dept: 951
Class: LABOR

MOTOR VEHICLE OPER
Overtime: EOC: HOU

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	0.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0
Cum Hours:	0.0	0.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0	1,580.0
Yr Total Cost:	0	0	50,838	0	0	0	0	0	0	0
Cum Total Cost:	0	0	50,838	50,838	50,838	50,838	50,838	50,838	50,838	50,838

Resource: PJSMGR
Res Dept: 951
Class: LABOR

PROJECT SUPPORT MGR
Overtime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	46.0	56.0	463.0	177.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	46.0	102.0	565.0	742.0	742.0	742.0	742.0	742.0	742.0	742.0
Yr Total Cost:	2,103	2,695	23,600	9,554	0	0	0	0	0	0
Cum Total Cost:	2,103	4,798	28,399	37,953	37,953	37,953	37,953	37,953	37,953	37,953

Resource: RADENG
Res Dept: 951
Class: LABOR

RAD ENGINEER
Overtime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	13.0	18.0	158.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	13.0	31.0	189.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0
Yr Total Cost:	614	894	8,314	1,337	0	0	0	0	0	0
Cum Total Cost:	614	1,508	9,822	11,160	11,160	11,160	11,160	11,160	11,160	11,160

Resource: RADTEC
Res Dept: 951
Class: LABOR

RAD TECH
Overtime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	10.0	12.0	535.0	154.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	10.0	22.0	557.0	711.0	711.0	711.0	711.0	711.0	711.0	711.0
Yr Total Cost:	341	430	20,328	6,196	0	0	0	0	0	0
Cum Total Cost:	341	771	21,099	27,295	27,295	27,295	27,295	27,295	27,295	27,295

Resource: S&HENG
Res Dept: 951
Class: LABOR

SAFETY ENGINEER
Overtime: EOC: SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	51.0	62.0	667.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	51.0	113.0	780.0	816.0	816.0	816.0	816.0	816.0	816.0	816.0
Yr Total Cost:	2,535	3,244	36,966	2,113	0	0	0	0	0	0
Cum Total Cost:	2,535	5,779	42,745	44,858	44,858	44,858	44,858	44,858	44,858	44,858

Resource: TFSREP
Res Dept: 951

TECH/PROG SUPT REP
Overline:

LABOR
EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:	118.0	142.0	140.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	118.0	260.0	400.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0
Yr Total Cost:	6,131	7,766	8,110	4,908	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	6,131	13,898	22,008	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915	26,915

Resource: USUBS
Res Dept: 951

UNESCALATED SUBS
Overline:

SUBCONTRACTORS
EOC: SUB

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Units:	0.0	0.0	0.0	438,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0	438,588.0
Yr Total Cost:	0	0	0	438,588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	0	0	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588	438,588

Resource: WSTENG
Res Dept: 951

WASTE ENGINEER
Overline:

LABOR
EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:	1,085.0	1,314.0	3,360.0	1,726.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	1,085.0	2,399.0	5,759.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0	7,485.0
Yr Total Cost:	55,368	70,579	191,160	103,987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	55,368	125,947	317,107	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094	421,094

GRAND TOTALS:

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:	1,432.0	1,736.0	13,277.5	2,862.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	1,432.0	3,172.0	16,445.5	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0	19,308.0
Yr Total Cost:	70,614	90,103	680,881	764,549	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	70,614	160,717	841,398	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947	1,605,947

CAM  CONTROL TEAM 

SECTION 4

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

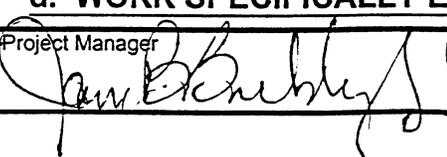
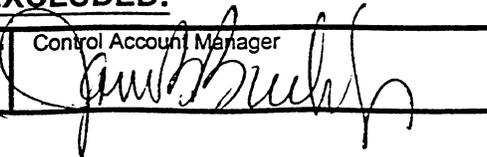
Project: Sample Disposition		PBS Number: 10		Total Baseline Dollars (Minimum Case):		\$1,605,946				
Evaluator: K. Crosson		Date: Mar. 23, 2001		WBS Number: 1.1.K.D						
CAM: J. Duling		Date: Mar. 23, 2001		Control Account Number: KBSD						
Risk and/or Opportunity		Potential Impact	Internal Or External Driver	Impact Cost \$ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost \$ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Packaging	Inability to use building 68 for operations	6 mon. delay to identify/retrofit a facility for use	Internal	\$575,000	3	30	2	\$172,500	5	Accept
Shipping	FAT&LC operations personnel not available	<6 mon. Delay in operations/increase in schedule	Internal	\$200,000	2	30	2	\$60,000	5	Accept
Total:				\$775,000			Total:	\$232,500		
Processing	Loss of Broad Spectrum contract	Redirection of waste to alternate subcontractor	External	\$1,000,000	3	70	4	\$700,000	5	

WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-010H20115	4. INDEX LINE NO. 75
5. WBS ELEMENT CODE 1.1.K.E	6. WBS ELEMENT TITLE MIXED WASTE INCINERATION
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODC's</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>The purpose of this element is to consolidate (bulk), sample and transport ignitable and combustible waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP) to the Department of Energy's (DOE) Toxic Substances Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>This element includes those planning, characterization, processing, packaging and shipping activities necessary to disposition ignitable and combustible liquid waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP). The wastes will be consolidated, sampled, and bulked into on-site storage tanks located by Building 79. The waste will then be transported in DOE tankers with contract power units, to the Department of Energy's (DOE) Toxic Substances Control Act (TSCA) Incinerator located in Oak Ridge, Tennessee.</p>	

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.E	4. WBS ELEMENT TITLE/NAME MIXED WASTE INCINERATION		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 04/2004	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBTS	13. TASK DESCRIPTION (ONE LINE) MIXED WASTE INCINERATION		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>The purpose of this control account is to consolidate (bulk), sample and transport ignitable and combustible waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP, to the Department of Energy's (DOE) Toxic Substances Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>This control account includes those planning, characterization, processing, packaging and shipping activities necessary to disposition ignitable and combustible liquid waste mixtures that are presently stored at the FEMP. The wastes will be consolidated, sampled, and bulked into on-site storage tanks located by Building 79. The waste will then be transported in DOE tankers with contract power units, to the Department of Energy's (DOE) Toxic Substances Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.</p> <p>Scope for this control account is further defined in at the Work Package - Charge Number level (KBTS1)</p> <p><u>d. WORK SPECIFICALLY EXCLUDED:</u></p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.E	4. WBS ELEMENT TITLE/NAME MIXED WASTE INCINERATION		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 04/2004	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBTS	13. TASK DESCRIPTION (ONE LINE) MIXED WASTE INCINERATION		

14. ELEMENT TASK DESCRIPTION

1) This scope does not include any demolition activities. Decontamination of facilities (included) will include one rinse of tanks and removal of sludge from bottom of tanks only.

2) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.E	4. WBS ELEMENT TITLE/NAME MIXED WASTE INCINERATION
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2003
---	---

12. TASK IDENTIFICATION (WORK PACKAGE) KBTS1	13. TASK DESCRIPTION (ONE LINE) MIXED WASTE INCINERATION
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

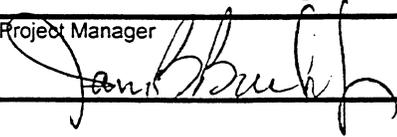
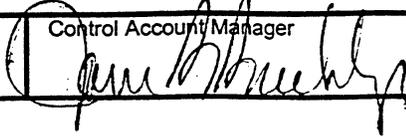
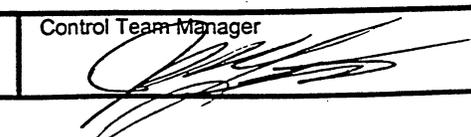
b. TECHNICAL CONTENT:

The purpose of this work package is to consolidate (bulk), sample and transport ignitable and combustible waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP) to the Department of Energy's (DOE) Toxic Substances Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.

c. SCOPE OF WORK:

This work package includes those planning, characterization, processing, packaging and shipping activities necessary to disposition ignitable and combustible liquid waste mixtures that are presently stored at the FEMP. The wastes will be consolidated, sampled, and bulked into on-site storage tanks located by Building 79. The waste will then be transported in DOE tankers with contract power units, to the Department of Energy's (DOE) Toxic Substances Control Act Incinerator (TSCAI) located in Oak Ridge, Tennessee.

This work package includes the following sub-tasks:
Planning and Management to consolidate, sample and transport certain ignitable and combustible liquid waste identified as Batches 10,11,12 and 13 (new generation). The inventory includes the inventory stored at the FEMP as of 12/01/00, wastes generated from D&D of Plants 5 and 6 and new generation from

Project Manager 	Control Account Manager 	Control Team Manager 
--	--	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.E	4. WBS ELEMENT TITLE/NAME MIXED WASTE INCINERATION		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBTS1	13. TASK DESCRIPTION (ONE LINE) MIXED WASTE INCINERATION		
14. ELEMENT TASK DESCRIPTION <p>PBS01 and PBS12. On approval of the TSCAI and the State of Tennessee, the consolidated waste batches will be transported to the Department of Energy's (DOE) TSCAI located in Oak Ridge, Tennessee for treatment. There will be five, (5) Batches of Liquid Mixed Waste for treatment.</p> <p>Characterization - Liquid waste, identified to meet the waste acceptance criteria (WAC) for the TSCAI, has been placed into Batches 10,11,12, and 13. This waste, destined for the TSCAI, will be tested for chemical compatibility within each batch. The waste identified as being batch-compatible will be bulked into consolidation tanks with each consolidation tank representing a batch. Batch 11 requires completion of batch compatibility assessment. Batches 12, and 13 require batch compatibility assessments. Batches 11,12 and 13 consolidation efforts require photographs of non-empty container waste contents. Batches 11,12,and 13, on consolidation completion, require development of the batch consolidated MEF (on receipt of batch sample analysis results), radiological characterization for transport/treatment and characterization assistance in TSCAI application development.</p> <p>Processing - Inspections and inerting of the bulking tanks will be maintained as required. Drums of waste identified for consolidation will be evaluated to determine if they should be run through the oil/water separator prior to bulking. This process will be performed as needed. On completion of bulking into each consolidation tank, verification sampling per the TSCAI WAC will be completed for each batch. When a tank is empty, it will include one rinse of the tank and then be reused, or if the tank will no longer be used, it will also have the sludge from bottom removed. The water washes will go through the water/oil separator and the water will go to the Advanced Waste Water Treatment Facility (AWWTF) and the rest will go back into inventory for one of the next batches. Batch 10 is in tank B, bulked/sampled and waiting approval to ship to TSCAI. Batch 11 is started bulking in tank C. Batch 12 is awaiting the installation of tank D. An engineering analysis performed on the Tank Farm located on the west side of the Pilot Plant revealed that the tanks do not meet NEC code for flammable/combustible liquids. Therefore, Batch 13 will go in tank "B".</p> <p>Packaging - A TSCA application to send each batch to Oak Ridge will be submitted with the batch sample analysis results. Once a batch application is accepted by</p>			

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.K.E	4. WBS ELEMENT TITLE/NAME MIXED WASTE INCINERATION		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2003	
12. TASK IDENTIFICATION (WORK PACKAGE) KBTS1	13. TASK DESCRIPTION (ONE LINE) MIXED WASTE INCINERATION		
14. ELEMENT TASK DESCRIPTION the TSCAI, a request for approval will be sent by the TSCAI to the State of Tennessee. On approval by TSCAI and the State of Tennessee, each batch will be scheduled and transported to the TSCAI for treatment. Shipping - The waste will be shipped in DOE/DOT certified and approved tank trailers owned by DOE Oak Ridge. Contract power units will be obtained to haul the waste to the TSCAI in Oak Ridge. <u>d. WORK SPECIFICALLY EXCLUDED:</u> 1) This scope does not include any demolition activities. Decontamination of facilities (included) will include one rinse of tanks and removal of sludge from bottom of tanks only. 2) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.			

SECTION 5

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.E.	5. WBS ELEMENT TITLE: MIXED WASTE INCINERATION	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: KBTS	

SECTION 5: KBTS – MIXED WASTE INCINERATION

1.0 NARRATIVE

1.1 OVERVIEW

The purpose of this scope of work is to consolidate (bulk), sample and transport ignitable and combustible waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP, to the Department of Energy's (DOE) Toxic Substances Control Act (TSCA) Incinerator located in Oak Ridge, Tennessee.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 KBTS1 – Mixed Waste Incineration

- 1) The Oak Ridge TSCA Incinerator will continue to receive FEMP wastes for incineration without delays.
- 2) Funding will support project scope and schedule for batches 10, 11, 12, ~~and~~ 13. ~~and 14.~~
- 3) All Mixed Waste for Incineration batch waste will be accepted and treated by the TSCA Incinerator (TSCAI) in Oak Ridge prior to the closure of that facility (2003). Additionally the facility retains current certifications and the current WAC (issued 2/10/00, Rev 0) remains in use.
- 4) The State of Tennessee will approve each batch inventory for shipment into the State within the 6 months of receiving application for each batch.
- 5) The current safety analysis will not change to impact this project, nor will any other project safety basis impact this scope of work.
- 6) The TSCAI burn plan will accommodate FEMP waste project schedule.
- 7) Sampling and sample analysis will be in accordance with the project schedule.

R1-D-575
 R1-D-562
 R1-F10-007

- 8) That the Y-12 Lab will be available to support the analysis as required for this project.
- 9) Assumes that the Oil/Water separation will be working to reduce volume of water pumped into the bulking tanks.
- 10) Procedures and task orders, and not DOT regulations will govern any waste movements within the FEMP boundary.
- 11) The current inventory of liquid mixed waste for incineration will be bulked into holding tanks. This assumes that weather during consolidation; sampling and transportation will support the schedule.
- 12) The TSCAI shipping tank trailer is available and will retain certification for use in transporting the waste to Oak Ridge until the currently identified batches removed from the FEMP.
- 13) The TSCAI shipping tank trailer will meet the transport schedule defined in this scope of work, which is a 5 workday turn around from Oak Ridge.

R1-
F10-
007

- 14) Freight for transporting the TSCAI tanker will remain at \$2000 per trip, with an average of 5 trips per batch, with ~~five (5)~~ **four (4)** batches remaining. The carrier retained to transport the TSCAI shipping tank trailer will support this schedule.

R1-D-
565

- 15) ~~The route used~~ **Currently established transportation routes will be used** to transport the mixed waste for incineration ~~will remain constant to the TSCAI.~~

- 16) There will be funding available for installing and startup of the additional tank in the current bulking facility and funding for the re-piping of the new Liquid Mixed Waste bulking facility.

R1-
F10-
017

- 17) The bulking facility, located between Bldg. 77 and Bldg. 79 warehouses will have a "D" tank installed and operating by ~~June/01~~ **Sept/01**. This facility will remain in operation until all liquid waste in the current bulking area consolidation tanks is shipped off site.

R10-
D-562

- ~~18) The two tanks behind Bldg. 13 (Pilot Plant), will be converted to use by the Mixed Waste for Incineration Project by 07/01. These two tanks will be available for use by this project until all Liquid mixed waste that is available for incineration is transported or until there is no further need for bulking this waste.~~

R1-D-
575

- ~~19) There will be no SSR/ORR for relocating bulking operations to the two tanks behind Building 13 rather a Management Assessment (MA) will be completed by Waste Generator Services (WGS).~~

- 20) This scope of work includes drum crushing/drum disposal.

- R1-D-559
- R1-D-586
- R1-D-640
- 21) Any waste(s) left in the container after all available liquid has been removed, to the bulking consolidation tanks will not be included in this scope of work. It will be re-assigned to other appropriate waste streams for treatment/disposal, however costs associated with subsequent disposition will include in this Cost Account.
 - 22) Any new waste (after 12/01/00) generated by projects will be funded and by those projects until disposition. This assumption excludes Plant 5 & 6 D&D generated wastes - PBS-04 wastes until 2006, PBS-01 wastes until end of FY2006 and PBS-12 until end of FY2006.
 - 23) A Work Package (task orders, etc.) will be issued for every 100 containers.
 - 24) Drum Movements = 80 drums/day.
 - 25) Box movements = 24 boxes a day.
 - 26) Liquid bulking can be accomplished at 15 drums/day.
 - 27) Drum crushing can be accomplished at 20 drums per day.
 - 28) Each campaign will take 3 weeks to characterize.
 - 29) A work package will be issued for each truck shipment.
 - 30) A work package will be issued for each sampling event.

1.2.1.2 General

- R1-D-559
- R1-D-586
- R1-D-640
- 1) Support as required by the Project from functional areas including Operations, MC&A, Maintenance, Radiation Safety, Industrial Hygiene, Characterization and Transportation will be available and support the project schedule.
 - 2) ~~Ongoing generated liquid mixed waste material will be funded by the projects where the waste was generated.~~

1.2.2 Exclusions

- R1-D-559
- R1-D-586
- R1-D-640
- 1) This scope does not include any demolition activities. Decontamination of facilities (included) will include one rinse of tanks and removal of sludge from bottom of tanks only.
 - 2) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, PBS-04 wastes until the end of FY2006, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-04 waste generated after FY2006 will be

handled by PBS-04, and PBS-01, and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

1.2.3 Government-Furnished Equipment/Services

- 1) The Toxic Substances Control Act (TSCA) Incinerator at the East Tennessee Technology Park (ETTP), that is owned by the Department of Energy, will be available to dispose of the waste types identified in the Control account. In addition, the TSCA Incinerator will be able to treat the waste in accordance with the schedule identified in this Control Account. All costs for disposal are covered as a direct transfer of funds for DOE Headquarters to DOE Oak Ridge.
- 2) The government will provide tanker trailers owned by DOE Oak Ridge for the transportation of liquid wastes for incineration, to the TSCA Incinerator. Such trailers will be available in accordance with the schedule identified in the Control Account, and will meet applicable Department of Transportation requirements/certifications for the waste being transported.
- 3) The government will provide access to the laboratory facilities located at the Y-12 complex in Oak Ridge for analysis for wastes identified in this control account, and in accordance with the schedule presented for this scope of work.

1.3 DRIVERS

R1-
D-
562

1.3.1 KBTS1 – Mixed Waste Incineration

R1-
D-
575

- 1) ~~Retrofitting of the ammonia tank farm east of AWWT (old Pilot Plant Tanks)~~
- 1) Delivery of waste containers from the Plant 1 Pad to Building 79 for bulking operations.

1.3.2 Regulatory

- 1) Approval of the TSCA Incinerator Burn Plan by the state of Tennessee.
- 2) Fernald Environmental Management Project (FEMP) Site Treatment Plan (STP)
- 3) Department of Energy (DOE) Order 435.1

1.4 PROJECT PHYSICAL DESCRIPTION

R1-
D-
562

R1-
D-
575

The purpose of this scope of work is to consolidate and sample ignitable and combustible liquid waste mixtures that are presently stored at the Fernald Environmental Management Project (FEMP). The wastes will be bulked into on-site storage tanks located by Building 79 ~~and the Pilot Plant~~. The waste will then be transported in DOE tankers with contract power units, to the Department of Energy's (DOE) Toxic Substances Control Act (TSCA) Incinerator located in Oak Ridge, Tennessee.

1.4.1 KBTS1 – Mixed Waste Incineration

1) Planning and Management Activities

R1-F10-007
R1-D-562
R1-D-575

Liquid Mixed Waste for Incineration will consolidate, sample and transport certain ignitable and combustible liquid waste identified as Batches 10,11,12, ~~and~~ 13. ~~and 14~~ which, as of December 1, 2000, is stored at the FEMP. On approval of the Toxic Substances Control Act Incinerator (TSCAI) and the State of Tennessee, the consolidated waste batches will be transported to the Department of Energy's (DOE) TSCAI located in Oak Ridge, Tennessee for treatment. There will be ~~five, (5)~~ four (4) Batches of Liquid Mixed Waste for treatment.

2) Characterization Activities

R1-F10-007
R1-D-562
R1-D-575

Liquid waste, identified to meet the waste acceptance criteria (WAC) for the TSCAI, has been placed into Batches 10,11,12, ~~and~~ 13. ~~and 14~~. This waste, destined for the TSCAI, will be tested for chemical compatibility within each batch. The waste identified as being batch- compatible will be bulked into consolidation tanks with each consolidation tank representing a batch. Batch 11 requires completion of batch compatibility assessment. Batches 12, ~~and~~ 13 ~~and 14~~ require batch compatibility assessments. Batches 11,12, ~~and~~ 13 ~~and 14~~ consolidation efforts require photographs of non-empty container waste contents. Batches 11,12, ~~and~~ 13 ~~and 14~~, on consolidation completion, require development of the batch consolidated MEF (on receipt of batch sample analysis results), radiological characterization for transport/treatment and characterization assistance in TSCAI application development.

3) Processing Activities

R1-D-562
R1-D-575

Inspections and inerting of the bulking tanks will be maintained as required. On completion of bulking into each consolidation tank, verification sampling per the TSCAI WAC will be completed for each batch. When a tank is empty, it will include one rinse of the tank and then be reused, or if the tank will no longer be used, it will also have the sludge from bottom removed. The water washes will go through the water/oil separator and the water will go to AWWTF and the rest will go back into inventory for one of the next batches. Batch 10 is in tank B, bulked/sampled and waiting approval to ship to TSCA. Batch 11 is started bulking in tank C. Batch 12 is awaiting the installation of tank D. ~~Batch 13 and 14 will be bulked in the new Liquid Mixed Waste tank farm on the West Side of the Pilot Plant.~~

4) Packaging

A TSCA application to send each batch to Oak Ridge will be submitted with the batch sample analysis results. Once a batch application is accepted by the TSCAI, a request for approval will be sent by the TSCAI to the State of Tennessee. On approval by TSCAI and the State of Tennessee, each batch will be scheduled and transported to the TSCAI for treatment.

5) Shipping

The waste will be shipped in DOE/DOT certified and approved tank trailers that are owned by DOE Oak Ridge. Contract power units will be obtained to haul the waste to the TSCA Incinerator in Oak Ridge.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBTS1 – Mixed Waste Incineration

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

R1-
F10-
007

R1-D-
562

R1-D-
575

- Identify approximately ~~1489~~ 713 (217,179 kg) containers of mixed waste for incineration that was containerized prior to 12/01/00 and 424 containers of forecasted waste from PBS-01 and Plant 5 & 6 D&D activities and combine into campaign packages and batches.
- The Project will run for ~~657~~ 1,068 days.
- There will be five, (5) Batches of Liquid Mixed Waste for treatment. These will be known as Batches, 10, 11, 12, and 13 ~~and 14~~.
- Develop schedules for on-site characterization, processing, and packaging.
- Develop procedures.
- Develop Task Orders
- Engineering for "D" tank installation.
- Safety Analysis
- Purchase 2 new pumps.
- There will be 39 Work packages.

1.2) Quantification – Planning and Management Activities

Manhours (Mhrs) and Full Time Equivalents (FTE's) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE's required to complete the task within it's scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 985 Mhrs. One full FTE for the life of the project (about 3 years) is 5,241 Mhrs. 985 Mhrs is approximately 0.15 FTE's for the life of the project, whereas under management approvals, a Waste Engineer is needed for 80 Mhrs over eight days. This equates to one full FTE for that activity. This logic is applied to the remaining quantification sections in this Control Account.

1. Planning and Management	
<p>General Administration</p> <p>Waste Engineer— 985.5 (0.15 FTE)</p> <p>Admin. Support— 657.0 Mhrs. (0.1 FTE)</p>	<p>Waste Engineer involvement includes general project oversight and program maintenance, invoicing, treatment and disposal tracking, procedure reviews and revisions, training, and scheduling.</p> <p>Admin Specialist will provide 1 hr/wk for general support.</p>
<p>Mgt. Approvals</p> <p>Supervisor— 20.0 Mhrs. (0.25 FTE)</p> <p>Rad Tech— 16.0 Mhrs (0.20 FTE)</p> <p>Safety Tech— 16.0 Mhrs (0.20 FTE)</p> <p>Safety Engineer— 16.0 Mhrs. (0.20 FTE)</p> <p>Rad Engineer— 16.0 Mhrs (0.20 FTE)</p> <p>Safety Analysis— 8.0 Mhrs (0.10 FTE)</p> <p>Waste Engineer— 80.0 Mhrs. (1.00 FTE)</p> <p>MC&A 8.0 Mhrs (0.10 FTE)</p> <p>Waste Engineer Mgr— 16.0 Mhrs. (0.20 FTE)</p> <p>Admin. Specialist— 16.0 Mhrs (0.20 FTE)</p>	<p>One (1) Management Assessment may be needed for utilization of old Pilot Plant tanks (8 days).</p>
<p>Oversight/Inspections</p> <p>Supervisor— 20 Mhrs. (0.2 FTE)</p> <p>Waste Engineer— 80 Mhrs. (1.0 FTE)</p>	<p>Eight (8) days total for life of project for project oversight</p>
<p>Inventory Planning</p> <p>Waste Engineer— 1,600.0 Mhrs. (2.0 FTE)</p> <p>MC&A—160.0 Mhrs. (0.2 FTE)</p>	<p>A total of five (5) four (4) batch's with multiple campaigns per batch will be developed.</p>
<p>Work Package Development</p> <p>Hazwat —156.0 Mhrs. (0.05 FTE)</p> <p>Supervisor—156.0 Mhrs. (0.05 FTE)</p> <p>Rad Tech— 31.2 Mhrs. (0.01 FTE)</p> <p>Safety Tech— 93.6 Mhrs. (0.03 FTE)</p> <p>Rad Engineer—93.6 Mhrs. (0.03 FTE)</p> <p>Safety Engineer— 93.6 Mhrs. (0.03 FTE)</p> <p>Safety Analysis—62.4 Mhrs. (0.02 FTE)</p> <p>Waste Engineer— 780.0 Mhrs. (0.25 FTE)</p> <p>MC&A—312.0 Mhrs. (0.10 FTE)</p> <p>TO Writer—780 Mhrs. (0.25 FTE)</p>	<p>A total of 39 task orders are estimated to be required.</p> <p><u>Per task order:</u> Task order permits written by ops/Supervisor. Task Order Writer & Waste Engineer 20 hours/task order. 4 hrs/TO Ops Supervisor/Hazwat 2 hrs/ each QA to review, QA above line. 2 hrs/Task Order Safety Analysis 8 hrs/Task Order, MC&A</p>
<p>Tech. Programs Support</p> <p>Waste Engineer— 20 Mhrs. (1.0 FTE)</p>	<p>Includes Waste Engineer and participation during Technology Programs coordination meeting related to the DOE Mixed Waste focus area and alternatives to incineration meetings related to TSCA. (2 Days)</p>
<p>Travel</p>	<p>Three trips to the TSCA Incinerator at three</p>

R1-F10-006

R1-D-562
 R1-D-575

R1-F10-006

R1-F10-009

1-F10-006
 R1-F10-008

1. Planning and Management	
Waste Engineer – 90 Mhrs (1.0 FTE)	days per trip.

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

R1-
F10-
009

R1-
F10-
007

- Perform material evaluation/process knowledge review.
~~Waste Characterization – PBS11~~
- Determine potential Inventory control and lot code modifications.
~~Waste Characterization – PBS11~~
- Perform compatibility assessment for packaging. ~~Waste Characterization – PBS11~~
- Field validates material description and process knowledge.
~~Waste Characterization – PBS10~~
- There will be 13 Campaigns in four batch's (Batch 10 completed 11/01/00).
~~Waste Characterization – PBS11~~

2.2) Quantification – Characterization Activities

R1-
F10-
009

*The quantification for waste listed in the detailed characterization ~~activities other than field characterization has been removed from this section.~~ section is for project planning purposes. Costs associated with these ~~waste characterization~~ activities will be carried in the detailed estimates for Control Account MMMB within PBS11.

R1-
F10-
006

R1-
f10-
007

2. Characterization	
Field Verification Characterization Waste Engineer–60 Mhrs. (0.5 FTE)	Waste engineer time for field validation of material descriptions and process knowledge during life of project activities. Also include Waste Engineer taking digital pictures of residual materials after bulking (5 hrs/day).
Sampling & Analysis MC&A = 20 Mhrs. (0.5 FTE) MVO = 40 Mhrs. (1.0 FTE) Hazwat – 80 Mhrs. 120 (2.0 FTE) Supervisor–40 Mhrs. (1.0 FTE) Rad Tech– 40 Mhrs. (1.0 FTE) Safety Tech– 40 Mhrs. (1.0 FTE) Rad Engineer–4 Mhrs. (0.1 FTE) Waste Engineer–40 Mhrs. (1.0 FTE) Acquisitions – 4 Mhrs. (0.1 FTE)	Collection of samples from Batch's 11, 12, and 13 (1 day per batch) Off-Site analysis with FF support.
Movement	No special movements for characterization
*Characterization	Characterization of generated wastes, 13 campaigns at 180 hours each (156 days)

R1-
F10-
009

2. Characterization	
Waste Engineer	2,340 Mhrs. (1.5 FTE)

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Develop task orders and/or work plans for on-site processing.
- Sampling Plan.
- Sampling of the Bulking Tanks.
- Bulking into tanks.
- W.O. to get new Tank farm ready
- There will be 39 Work packages.
- Drum Movement from Plant 1 to building 79.
- Bulking @ 15 drums/day.
- Crushing at rate of 20 drums per day.
- There will be ~~2,646~~ 2,910 drum movements.
- ~~1,489~~ 1,137 drums will be crushed.
- 1626 pair of full-anti-C's will be used.

R1-D-562
 R1-D-575

3.2) Quantification – Processing Activities

3. Processing		
	Decanting	No decanting required
	Venting/Puncturing	No venting/puncturing required.
	Drum Crushing	1,489 1,137 empty drums will be generated during bulking operations and will require crushing (97 days).
	Hazwat– 1,478 Mhrs. (2.0 FTE) Supervisor– 74 Mhrs. (0.1 FTE) Rad Tech– 370 Mhrs. (0.5 FTE) Safety Tech– 370 Mhrs. (0.5 FTE) MC&A– 74 Mhrs. (0.1 FTE)	
	Liquid Bulking	1,137 containers will be bulked into the TSCA batch's (129 days).
	Hazwat– 2,956 Mhrs. (3.0 FTE) MVO– 985 Mhrs. (1.0 FTE) Supervisor– 492 Mhrs. (0.5 FTE) Rad Tech– 985 Mhrs. (1.0 FTE) Safety Tech– 985 Mhrs. (1.0 FTE) Waste Engineer– 493 Mhrs. (0.5 FTE) MC&A– 493 Mhrs. (0.5 FTE)	
	Maintenance	2,580.0 Mhrs (2.0 FTE) Retrofit of Pilot Plant Tanks
	On-site Treatment	No on-site treatment will be performed
	Sorting & Consolidation	No sorting/consolidation other than bulking is included in this project.

R1-F10-007

R1-F10-007

R1-D-562

R1-D-575

R1-F10-007

3. Processing	
<i>Movement</i>	
ISO's	No ISOs are included in this project
Boxes	No Boxes are included in this project
Drums	636 drums will be moved from plant 1 pad to building 79. 1,137 drums will be moved from Bldg 79 to the Bulking Area. 1,137 empty drums will be moved from building 79 to drum crusher.
Hazwat - 473 Mhrs. (1.0 FTE)	Operations throughput for the movement of drums is: 80 drums per day
MVO- 473 Mhrs. (1.0 FTE)	
Supervisor- 95 Mhrs. (0.2 FTE)	
Rad Tech- 118 Mhrs. (0.25 FTE)	
Safety Tech- 236 Mhrs. (0.5 FTE)	
Safety Engineer - 24 Mhrs (0.05 FTE)	
Rad Engineer - 24 Mhrs (0.05 FTE)	
Waste Engineer- 47 Mhrs. (0.1 FTE)	
MC&A- 47 Mhrs. (0.1 FTE)	
Admin Support - 21.5 Mhrs. (0.05 FTE)	

R1-F10-006
 R1-F10-007

4) Task #4 - Packaging

4.1) Plan/Scope - Packaging

- Purchase 92 containers (drums) for secondary waste.
- Add absorbent as required

4.2) Quantification - Packaging

4. Packaging	
Repack/Overpack	No overpack/repack operations are required
<i>Container Purchase</i>	
ISO's	No ISOs are included in this project
Boxes	No box packaging
Drums	Includes the purchase of 92 drums for consolidated wastes and secondary waste.
Hazwat- 15.0 Mhrs. (1.0 FTE)	
MVO- 15.0 Mhrs. (1.0 FTE)	
Supervisor- 3.0 Mhrs. (0.2 FTE)	
Waste Engineer- 1.5 Mhrs. (0.1 FTE)	
MC&A- 1.5 Mhrs. (0.1 FTE)	

5) Task #5 - Shipping

5.1) Plan/Scope - Shipping

R1-F10-007

- There will be 14 shipments of Waste shipped off-site.
- Waste will be shipped to the Oak Ridge TSCA Incinerator.

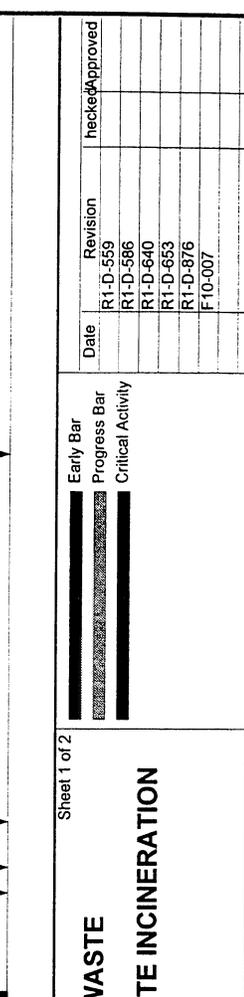
5.2 Quantification - Shipping

5. Shipping					
R1-F10-007	<table border="1"> <tr> <td> Shipping Preparation Hazwat – 280 Mhrs (2.0 FTE) Maintenance – 14 Mhrs (0.1 FTE) Supervisor – 70 Mhrs (0.5 FTE) Rad Tech – 140 Mhrs (1.0 FTE) Safety Tech – 70 Mhrs (0.5 FTE) Waste Engineer – 140 Mhrs (1.0 FTE) MC&A – 70 Mhrs (0.5 FTE) </td> <td> Transfer of consolidated liquid from bulk tanks to tanker trailers for shipment (14 shipments, 14 days). </td> </tr> </table>	Shipping Preparation Hazwat – 280 Mhrs (2.0 FTE) Maintenance – 14 Mhrs (0.1 FTE) Supervisor – 70 Mhrs (0.5 FTE) Rad Tech – 140 Mhrs (1.0 FTE) Safety Tech – 70 Mhrs (0.5 FTE) Waste Engineer – 140 Mhrs (1.0 FTE) MC&A – 70 Mhrs (0.5 FTE)	Transfer of consolidated liquid from bulk tanks to tanker trailers for shipment (14 shipments, 14 days).		
Shipping Preparation Hazwat – 280 Mhrs (2.0 FTE) Maintenance – 14 Mhrs (0.1 FTE) Supervisor – 70 Mhrs (0.5 FTE) Rad Tech – 140 Mhrs (1.0 FTE) Safety Tech – 70 Mhrs (0.5 FTE) Waste Engineer – 140 Mhrs (1.0 FTE) MC&A – 70 Mhrs (0.5 FTE)	Transfer of consolidated liquid from bulk tanks to tanker trailers for shipment (14 shipments, 14 days).				
R1-F10-007	<table border="1"> <tr> <td>Loading</td> <td>No loading required of containers is required</td> </tr> <tr> <td> Shipping Administration Waste Engineer – 320 Mhrs (1.0 FTE) </td> <td> Preparation of shipping paperwork for 22 shipments to the TSCA Incinerator in Oak Ridge. (4 batches @ 80 hours per batch) </td> </tr> </table>	Loading	No loading required of containers is required	Shipping Administration Waste Engineer – 320 Mhrs (1.0 FTE)	Preparation of shipping paperwork for 22 shipments to the TSCA Incinerator in Oak Ridge. (4 batches @ 80 hours per batch)
Loading	No loading required of containers is required				
Shipping Administration Waste Engineer – 320 Mhrs (1.0 FTE)	Preparation of shipping paperwork for 22 shipments to the TSCA Incinerator in Oak Ridge. (4 batches @ 80 hours per batch)				

SECTION 5

2.0 SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BTS15820	Batch 10 Characterization	04DEC00	07FEB01	37
K1BTS16270	Incineration Secondary Waste - Trash	04DEC00	08NOV01	190
K1BTS15330	Batch 11 Processing	04DEC00	28NOV01	199
K1BTS15310	Batch 11 Planning	04DEC00	31DEC01	215
K1BTS15420	Batch 12 Characterization	04DEC00	16JAN02	224
K1BTS15410	Batch 12 Planning	04DEC00	31JUL02	333
K1BTS15810	Batch 10 Planning	07FEB01	15JAN02	187
K1BTS15320	Batch 11 Characterization	11JUN01	09AUG01	35
K1BTS15850	Batch 10 Shipping	26JUL01*	17SEP01	29
K1BTS15830	Batch 10 Processing	06AUG01	19DEC01	76
K1BTS15430	Batch 12 Processing	21AUG01*	10JUL02	177
K1BTS15350	Batch 11 Shipping	10SEP01*	11OCT01	20
K1BTS1B10	STP Complete Batch 10 Shipment		28SEP01*	0
K1BTS1EPA	STP Complete Batch 10 Shipment		30SEP01*	0
K1BTS15770	Incineration Secondary Waste - AWWT	13NOV01	13MAY02	99
K1BTS14570	Incineration Secondary Waste - Organics	29NOV01*	12AUG02	140



Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K PBS 10 - MIXED WASTE				
1.1.K.E MIXED WASTE INCINERATION				
KBTS1 Mixed Waste for Incineration				
K1BTS15820	Batch 10 Characterization	04DEC00	07FEB01	37
K1BTS16270	Incineration Secondary Waste - Trash	04DEC00	08NOV01	190
K1BTS15330	Batch 11 Processing	04DEC00	28NOV01	199
K1BTS15310	Batch 11 Planning	04DEC00	31DEC01	215
K1BTS15420	Batch 12 Characterization	04DEC00	16JAN02	224
K1BTS15410	Batch 12 Planning	04DEC00	31JUL02	333
K1BTS15810	Batch 10 Planning	07FEB01	15JAN02	187
K1BTS15320	Batch 11 Characterization	11JUN01	09AUG01	35
K1BTS15850	Batch 10 Shipping	26JUL01*	17SEP01	29
K1BTS15830	Batch 10 Processing	06AUG01	19DEC01	76
K1BTS15430	Batch 12 Processing	21AUG01*	10JUL02	177
K1BTS15350	Batch 11 Shipping	10SEP01*	11OCT01	20
K1BTS1B10	STP Complete Batch 10 Shipment		28SEP01*	0
K1BTS1EPA	STP Complete Batch 10 Shipment		30SEP01*	0
K1BTS15770	Incineration Secondary Waste - AWWT	13NOV01	13MAY02	99
K1BTS14570	Incineration Secondary Waste - Organics	29NOV01*	12AUG02	140

Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:57

BLGF - K101

MIXED WASTE

1.1.K.E MIXED WASTE INCINERATION

Sheet 1 of 2

Revision: R1-D-559, R1-D-586, R1-D-640, R1-D-653, R1-D-876, F10-007

checked/Approved

FLUOR FERNALD

© Primavera Systems, Inc.

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11																	
					Gantt Chart																	
KBTS1 Mixed Waste for Incineration																						
K1BTS1MS01	Provide Schedule for Addtl Batch Shipments		31DEC01*	0																		
K1BTS15450	Batch 12 Shipping	08APR02*	11JUN02	37																		
K1BST1B11	STP Complete Batch 11 Shipment		30SEP02*	0																		
K1BST1EPA	STP Complete Batch 11 Shipment		30SEP02*	0																		
K1BTS15510	New Generation Planning	01OCT02*	31AUG06	789																		
K1BTS15520	New Generation Characterization	02JAN03	27APR06	670																		
K1BTS15530	New Generation Processing	23JUN03*	27JUN06	608																		
K1BTS15550	New Generation Shipping	20AUG03*	31AUG06	611																		
K1BTS1MS90	Final Closeout for MW Incineration		31AUG06*	0																		



Sheet 2 of 2

MIXED WASTE

1.1.K.E MIXED WASTE INCINERATION

Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:57

01DEC00 BLCF - K101

Legend:
 ■ Early Bar
 ■ Progress Bar
 ■ Critical Activity

Date	Revision	Checked/Approved
R1-D-559		
R1-D-586		
R1-D-640		
R1-D-653		
R1-D-876		
F10-007		

FLUOR FERNALD
 © Primavera Systems, Inc.

SECTION 5

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KE01 MIXED WASTE INCINERATION

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006							
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Shipping	Procurement	Material Property Control Rep.	0.30	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Shipping	Maintenance	Project Support Manager	0.20	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shipping	Environmental Safety & H	Industrial Hygienist Tech.	0.20	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shipping	Craft Labor	Millwright	1.20	0.1	0.5	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0

Sheet Totals: 44.60 2.80 6.90 4.20 5.50 1.70 2.50 4.10 4.30 2.00 0.60 1.20 1.70 0.60 0.30 1.20 0.50 0.80 0.30 1.00 0.40 0.20 0.30 1.10 0.40

SECTION 5

4.0 ESTIMATE

MIXED WASTE DISPOSITION ESTIMATE WORKSHEET

PBS 10
WBS 1.1 K
Control Account: KBT5
Charge Number: KBT51
CAM: Joel Dulko

R1-D-562
R1-D-575
R1-F-10-006
R1-F-10-007
R1-F-10-008
R1-F-10-009

Duration: 42 Months
Fiscal Year: FY10-14

Project: Waste Treatment Projects
Subproject: Mixed Waste for Incineration

Quantity Basis (containers and volume): 1137 drums / 57379 gal.
0 0
1 day = 10 mhrs

Make Entries in Yellow Shaded Areas Only

Activity	Days	PPE Count	Harvest (LBS/HR)	MVO (LBS/HR)	HEO (LBS/HR)	Trin. Labor (LBS/HR)	Maintenance (LBS/HR)	Supervisor (LBS/HR)	Rad Tech (LBS/HR)	ITS Comp. (LBS/HR)	QA (LBS/HR)	WMO (LBS/HR)	Safety Tech (LBS/HR)	Rad Eng. (LBS/HR)	Safety Eng. (LBS/HR)	Safety Anal. (LBS/HR)	Waste Eng. (LBS/HR)	MECA Chk. (LBS/HR)	TO Writer (LBS/HR)	Acquisitions (LBS/HR)	Wet Eng Mgr (LBS/HR)	Admin. Spl. (LBS/HR)
1. Planning & Management	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Administration	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mgt Approval	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventory Planning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventory Planning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tech. Programs Submittal	0	0	0	0																		

SECTION 6

4.0 ESTIMATE

KBTS1

MIXED WASTE INCINERATION

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.E
CTRL ACCT: KBTS
CHARGE NO: KBTS1
COMMENT NO: F10-006, F10-007

Resource:	HAZWAT	HAZWAT	Class:		EOC:		LABOR			
			Res Dept:	951	EOC:	HOU	EOC:	HOU		
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	2,801.0	1,682.0	243.0	241.0	262.0	247.0	0.0	0.0	0.0	0.0
Yr Total Cost:	2,801.0	4,483.0	4,726.0	4,967.0	5,229.0	5,476.0	5,476.0	5,476.0	5,476.0	5,476.0
Cum Total Cost:	80,641	50,971	7,800	8,192	9,433	9,501	0	0	0	0
	80,641	131,612	139,412	147,603	157,037	166,538	166,538	166,538	166,538	166,538

Resource:	INHTEC	INDUST HYGIENIST TEC	Class:		EOC:		LABOR			
			Res Dept:	951	EOC:	SAL	EOC:	SAL		
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	860.0	573.0	89.0	87.0	92.0	90.0	0.0	0.0	0.0	0.0
Yr Total Cost:	860.0	1,433.0	1,522.0	1,609.0	1,701.0	1,791.0	1,791.0	1,791.0	1,791.0	1,791.0
Cum Total Cost:	32,413	22,732	3,740	3,871	4,336	4,532	0	0	0	0
	32,413	55,145	58,885	62,756	67,093	71,625	71,625	71,625	71,625	71,625

Resource:	MAT300	MATERIAL OBJCLASS300	Class:		EOC:		MATERIAL			
			Res Dept:	951	EOC:	MAT	EOC:	MAT		
Yr Units:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:	38,073.7	34,312.3	985.0	4,879.9	4,860.5	3,979.7	0.0	0.0	0.0	0.0
Yr Total Cost:	38,073.7	72,386.0	73,371.0	76,250.9	83,111.3	87,091.0	87,091.0	87,091.0	87,091.0	87,091.0
Cum Total Cost:	38,074	35,239	1,039	5,291	5,418	4,564	0	0	0	0
	38,074	73,312	74,351	79,642	85,060	89,624	89,624	89,624	89,624	89,624

Resource: MILWRT
Res Dept: 951
Class: LABOR

Resource:	Res Dept:	Class:	EOC:		HOU								
			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
MILLWRIGHT	951	LABOR											
OverTime:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			796.0	692.0	124.0	123.0	124.0	124.0	0.0	0.0	0.0	0.0	
Cum Hours:			796.0	1,488.0	1,612.0	1,735.0	1,859.0	1,983.0	1,983.0	1,983.0	1,983.0	1,983.0	
Yr Total Cost:			24,875	22,762	4,320	4,538	4,846	5,178	0	0	0	0	
Cum Total Cost:			24,875	47,637	51,957	56,495	61,341	66,519	66,519	66,519	66,519	66,519	

Resource: MPCREP
Res Dept: 951
Class: LABOR

Resource:	Res Dept:	Class:	EOC:		SAL								
			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
MATL PROP CTRL REP	951	LABOR											
OverTime:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			213.0	493.0	53.0	49.0	53.0	51.0	0.0	0.0	0.0	0.0	
Cum Hours:			213.0	706.0	759.0	808.0	861.0	912.0	912.0	912.0	912.0	912.0	
Yr Total Cost:			6,884	16,772	1,910	1,870	2,142	2,202	0	0	0	0	
Cum Total Cost:			6,884	23,656	25,565	27,435	29,577	31,780	31,780	31,780	31,780	31,780	

Resource: MVOOPR
Res Dept: 951
Class: LABOR

Resource:	Res Dept:	Class:	EOC:		HOU								
			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
MOTOR VEHICLE OPER	951	LABOR											
OverTime:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			533.0	614.0	96.0	95.0	95.0	95.0	0.0	0.0	0.0	0.0	
Cum Hours:			533.0	1,147.0	1,243.0	1,338.0	1,433.0	1,528.0	1,528.0	1,528.0	1,528.0	1,528.0	
Yr Total Cost:			15,382	18,652	3,089	3,237	3,429	3,663	0	0	0	0	
Cum Total Cost:			15,382	34,034	37,123	40,360	43,789	47,452	47,452	47,452	47,452	47,452	

Resource: PJSMGR
Res Dept: 951
Class: LABOR

Resource:	Res Dept:	Class:	EOC:		SAL								
			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
PROJECT SUPPORT MGR	951	LABOR											
OverTime:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			357.0	374.0	55.0	53.0	61.0	54.0	0.0	0.0	0.0	0.0	
Cum Hours:			357.0	731.0	786.0	839.0	900.0	954.0	954.0	954.0	954.0	954.0	
Yr Total Cost:			16,322	17,998	2,804	2,861	3,488	3,299	0	0	0	0	
Cum Total Cost:			16,322	34,320	37,124	39,985	43,473	46,771	46,771	46,771	46,771	46,771	

Resource: RADENG 951 **LABOR**

Resource:	Res Dept:	RAD ENGINEER	Overnight:	EOC:		Class:		LABOR			
				SAL	SAL						
		Oct00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:		36.0	56.0	12.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0
Cum Hours:		36.0	92.0	104.0	110.0	116.0	122.0	122.0	122.0	122.0	122.0
Yr Total Cost:		1,699	2,782	631	334	354	378	0	0	0	0
Cum Total Cost:		1,699	4,481	5,113	5,447	5,801	6,180	6,180	6,180	6,180	6,180

Resource: RADTEC 951 **LABOR**

Resource:	Res Dept:	RAD TECH	Overnight:	EOC:		Class:		LABOR			
				SAL	SAL						
		Oct00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:		707.0	642.0	81.0	90.0	81.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		707.0	1,349.0	1,430.0	1,510.0	1,600.0	1,681.0	1,681.0	1,681.0	1,681.0	1,681.0
Yr Total Cost:		24,095	23,030	3,078	3,219	3,836	3,688	0	0	0	0
Cum Total Cost:		24,095	47,124	50,202	53,421	57,257	60,945	60,945	60,945	60,945	60,945

Resource: S&HENG 951 **LABOR**

Resource:	Res Dept:	SAFETY ENGINEER	Overnight:	EOC:		Class:		LABOR			
				SAL	SAL						
		Oct00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:		85.0	54.0	16.0	11.0	9.0	3.0	0.0	0.0	0.0	0.0
Cum Hours:		85.0	139.0	155.0	166.0	175.0	178.0	178.0	178.0	178.0	178.0
Yr Total Cost:		4,225	2,825	887	646	560	199	0	0	0	0
Cum Total Cost:		4,225	7,051	7,938	8,583	9,143	9,342	9,342	9,342	9,342	9,342

Resource: TPSREP 951 **LABOR**

Resource:	Res Dept:	TECH/PROG SUPT REP	Overnight:	EOC:		Class:		LABOR			
				SAL	SAL						
		Oct00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
		Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:		496.0	90.0	47.0	48.0	50.0	48.0	0.0	0.0	0.0	0.0
Cum Hours:		496.0	586.0	633.0	681.0	731.0	779.0	779.0	779.0	779.0	779.0
Yr Total Cost:		25,772	4,922	2,723	2,945	3,249	3,332	0	0	0	0
Cum Total Cost:		25,772	30,694	33,417	36,362	39,611	42,943	42,943	42,943	42,943	42,943

Resource: USUBS
Res Dept: 951
Class: SUB

UNESCALATED SUBS
Overtime: 109,677.4
Yr Units: 109,677.4
Cum Units: 109,677
Yr Total Cost: 109,677
Cum Total Cost: 109,677

	UNESCALATED SUBS		SUBCONTRACTORS		EOC:	
	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Yr Units:	109,677.4	335,322.6	9,097.5	12,081.8	12,033.7	6,787.0
Cum Units:	109,677.4	445,000.0	454,097.5	466,179.3	478,213.0	485,000.0
Yr Total Cost:	109,677	335,323	9,097	12,082	12,034	6,787
Cum Total Cost:	109,677	445,000	454,097	466,179	478,213	485,000

Resource: WSTENG
Res Dept: 951
Class: SAL

	WASTE ENGINEER		LABOR		EOC:	
	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Yr Hours:	3,692.0	1,448.0	527.0	422.0	458.0	435.0
Cum Hours:	3,692.0	5,140.0	5,667.0	6,089.0	6,547.0	6,982.0
Yr Total Cost:	188,403	77,777	29,983	25,424	29,229	29,660
Cum Total Cost:	188,403	266,179	296,162	321,586	350,815	380,475

GRAND TOTALS:

	UNESCALATED SUBS		SUBCONTRACTORS		EOC:	
	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Yr Hours:	10,576.0	6,718.0	1,343.0	1,215.0	1,300.0	1,234.0
Cum Hours:	10,576.0	17,294.0	18,637.0	19,852.0	21,152.0	22,386.0
Yr Total Cost:	568,463	631,784	71,099	74,509	82,354	76,986
Cum Total Cost:	568,463	1,200,247	1,271,347	1,345,856	1,428,210	1,505,195

John W. Mundy

Anna Mary

CAM CONTROL TEAM

SECTION 5

5.0 RISK PLAN

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 76
5. WBS ELEMENT CODE 1.1.K.F	6. WBS ELEMENT TITLE HAZARDOUS WASTE
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODC's</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>This element provides for the planning, management/administration, packaging/repackaging, and off-site disposition (treatment and disposal) of non-radiologically contaminated hazardous wastes which may be recycled, treated or disposed. This scope includes non-radiologically contaminated, non-hazardous chemicals that are prohibited from disposition at the Fernald Environmental Management Project (FEMP) Advanced Wastewater Treatment Facility and/or off-site sanitary landfills. This element also includes the disposition, as waste, unused chemicals with radiological contamination to an off-site contractor.</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The hazardous waste program includes a broad range of wastes, bound together by virtue of their radiologically clean condition and hazardous chemical characteristics or ability to be recycled. The activities involved in the process of final disposition/recycling of these wastes include planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this element.</p> <p>There is no current inventory of waste in this program due to the immediate shipment of wastes after the containers are generated. However, typical wastes that are collected for disposition through this program are unused chemicals, spent batteries, used light tubes and ballasts, and photochemicals resulting from operations and activities at the FEMP.</p>	

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 76
5. WBS ELEMENT CODE 1.1.K.F	6. WBS ELEMENT TITLE HAZARDOUS WASTE	
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00		8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3100	
11. ELEMENT TASK DESCRIPTION <p>This program also includes some unused chemicals that are not considered hazardous and do not contain any radiological contamination. These wastes can be dispositioned with the other unused chemicals in a more cost-effective manner than any other disposal option available to the FEMP.</p> <p>In addition, this project includes a population of waste that is radiologically contaminated. These wastes are unused chemicals that either are contaminated or cannot be disproved from having radiological contamination. The waste contains both hazardous and non-hazardous chemicals. An approved contractor, through the Broad-Spectrum contract, will treat these wastes in a manner consistent with the Organic Treatment Project (OTP) and/or the Inorganic Treatment Project.</p>		

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.F	4. WBS ELEMENT TITLE/NAME HAZARDOUS WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBHW	13. TASK DESCRIPTION (ONE LINE) HAZARDOUS WASTE		

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODC's

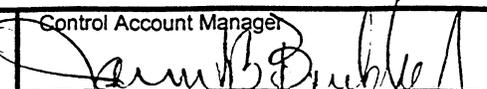
b. TECHNICAL CONTENT:

This control account provides for the planning, management/administration, packaging/repackaging, and off-site disposition (treatment and disposal) of non-radiologically contaminated hazardous wastes which may be recycled, treated or disposed. This scope includes non-radiologically contaminated, non-hazardous chemicals that are prohibited from disposition at the FEMP Advanced Wastewater Treatment Facility and/or off-site sanitary landfills. This control account also includes the disposition, as waste, unused chemicals with radiological contamination to an off-site contractor.

c. SCOPE OF WORK:

The hazardous waste program includes a broad range of wastes, bound together by virtue of their radiologically clean condition and hazardous chemical characteristics or ability to be recycled. The activities involved in the process of final disposition/recycling of these wastes include planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

There is no current inventory of waste in this program due to the immediate shipment of wastes after the containers are generated. However, typical wastes

Project Manager 	Control Account Manager 	Control Team Manager 
---	---	---

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.F	4. WBS ELEMENT TITLE/NAME HAZARDOUS WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBHW	13. TASK DESCRIPTION (ONE LINE) HAZARDOUS WASTE		

14. ELEMENT TASK DESCRIPTION

that are collected for disposition through this program are unused chemicals, spent batteries, used light tubes and ballasts, and photochemicals resulting from operations and activities at the FEMP.

This program also includes some unused chemicals that are not considered hazardous and do not contain any radiological contamination. These wastes can be dispositioned with the other unused chemicals in a more cost-effective manner than any other disposal option available to the FEMP.

In addition, this project includes a population of waste that is radiologically contaminated. These wastes are unused chemicals that either are contaminated or cannot be disproved from having radiological contamination. The waste contains both hazardous and non-hazardous chemicals. An approved contractor, through the Broad-Spectrum contract, will treat these wastes in a manner consistent with the Organic Treatment Project (OTP) and/or the Inorganic Treatment Project.

Scope for this control account is further defined at the Work Package - Charge Number level (KBHW1).

d. WORK SPECIFICALLY EXCLUDED:

1) This scope does not include any low-level radioactive or mixed wastes, except for the radiologically contaminated unused chemicals.

2) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.F	4. WBS ELEMENT TITLE/NAME HAZARDOUS WASTE
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006
---	---

12. TASK IDENTIFICATION (WORK PACKAGE) KBHW1	13. TASK DESCRIPTION (ONE LINE) HAZARDOUS WASTE
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

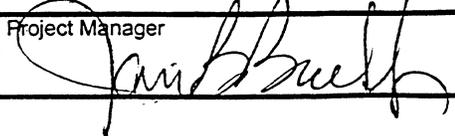
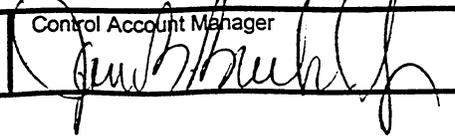
b. TECHNICAL CONTENT:

This work package provides for the planning, management/administration, packaging/repackaging, and off-site disposition (treatment and disposal) of non-radiologically contaminated hazardous wastes which may be recycled, treated or disposed. This scope includes non-radiologically contaminated, non-hazardous chemicals that are prohibited from disposition at the FEMP Advanced Wastewater Treatment Facility and/or off-site sanitary landfills. This work package also includes the disposition, as waste, unused chemicals with radiological contamination to an off-site contractor.

c. SCOPE OF WORK:

The hazardous waste program includes a broad range of wastes, bound together by virtue of their radiologically clean condition and hazardous chemical characteristics or ability to be recycled. The activities involved in the process of final disposition/recycling of these wastes include planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

There is no current inventory of waste in this program due to the immediate shipment of wastes after the containers are generated. However, typical wastes

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.F	4. WBS ELEMENT TITLE/NAME HAZARDOUS WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 09/2006	
12. TASK IDENTIFICATION (WORK PACKAGE) KBHW1	13. TASK DESCRIPTION (ONE LINE) HAZARDOUS WASTE		

14. ELEMENT TASK DESCRIPTION

that are collected for disposition through this program are unused chemicals, spent batteries, used light tubes and ballasts, and photochemicals resulting from operations and activities at the FEMP.

This program also includes some unused chemicals that are not considered hazardous and do not contain any radiological contamination. These wastes can be dispositioned with the other unused chemicals in a more cost-effective manner than any other disposal option available to the FEMP.

In addition, this project includes a population of waste that is radiologically contaminated. These wastes are unused chemicals that either are contaminated or cannot be disproved from having radiological contamination. The waste contains both hazardous and non-hazardous chemicals. An approved contractor, through the Broad-Spectrum contract, will treat these wastes in a manner consistent with the Organic Treatment Project (OTP) and/or the Inorganic Treatment Project.

d. WORK SPECIFICALLY EXCLUDED:

1) This scope does not include any low-level radioactive or mixed wastes, except for the radiologically contaminated unused chemicals.

2) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

SECTION 6

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.F.	5. WBS ELEMENT TITLE: HAZARDOUS WASTE	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: KBHW	

SECTION 6: KBHW – HAZARDOUS WASTE

1.0 NARRATIVE

1.1 OVERVIEW

The scope of the program is the planning, management/administration, packaging/repackaging, and off-site disposition (treatment and disposal) of non-radiologically contaminated hazardous wastes which may be recycled, treated or disposed. This scope includes non-radiologically contaminated, non-hazardous chemicals that are prohibited from disposition at the FEMP Advanced Wastewater Treatment Facility and/or off-site sanitary landfills. In addition, this program will disposition, as waste, unused chemicals with radiological contamination. ~~to an off-site contractor.~~

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

- 1) The scope of this program will not change for the life of the FEMP Remediation Project.
- 2) ~~Funding provided will support the existing scope and reporting schedule for programs at the FEMP site and current off site locations until FY2006. FEMP site generator will fund any wastes in this scope requiring recycling/treatment/disposal after FY2006.~~
- 3) Functional support from areas such as Operations, Maintenance, Industrial Hygiene, Radiological Safety, Characterization and Transportation will be available and support the schedule and the contractors.
- 4) Costs from these functional support areas will be charged to this program until FY2006 when they will transfer to the generator.
- 5) Current contractors continue to provide services for recycling/ treatment/disposal of hazardous and non-hazardous waste under this program. The current costs of these contractors will be used to estimate the ongoing cost of this program.

R1-
D-
578

6) Radiologically contaminated unused chemicals will be treated and disposed through the Broad-Spectrum contract at M&EC. The current costs of this contractor will be used to estimate the ongoing cost of this portion of the program.

R1-
F10-
007

7) Approximately three (3) shipments of general Resource Conservation and Recovery Act (RCRA) hazardous recyclable wastes per year, containing approximately ~~15 drums~~ 14 drums per shipment, will be generated through normal operations of the laboratory, chemical expiration and facility shutdown.

R1-
F10-
007

8) There will be one (1) controlled area non-radiologically contaminated chemical shipment per year, ~~containing 5 drums~~, from chemical expiration and facility shutdown.

R1-
F10-
007

9) Approximately ~~one (1) shipment, containing 10 skids~~ two (2) shipments, containing ~~20 drums~~ per shipment, of electrical waste per year requiring recycling will be generated through facility shutdown and routine site operations.

10) Approximately three (3) shipments, containing 1 drums per shipment, of photochemical waste per year requiring recycling will be generated through Medical and Drafting.

R1-
F10-
007

11) Approximately one (1) shipment, containing ~~7 skids and 4 drums~~ 30 containers per shipment, of used light tubes, ~~Ni-Cd batteries~~, and ballasts per year requiring recycling and disposal will be generated from FEMP activities and facility shutdown.

12) Approximately one (1) shipment per year, ~~containing 5 drums per shipment~~, of radiologically contaminated unused chemicals requiring treatment and disposal will be generated from facility closures.

R1-
F10-
007

13) ~~One (1) initial shipment of legacy waste chemicals consisting of 15 drums of non-radiologically contaminated hazardous chemicals, 58 drums of radiologically contaminated hazardous chemicals, 8 metal boxes of radiologically contaminated hazardous chemicals, and 16 skids of radiologically contaminated non-hazardous chemicals generated from facilities closures.~~

14) Current project safety analyses will not change to impact the program.

15) There will be one Management Assessment for the initial radiologically contaminated chemical shipment.

16) The shipping preparation for lead acid batteries, electrical waste, and photochemicals was completed prior to rebaseline activities. Future shipping preparation time will only be necessary for radiologically contaminated and hazardous chemical shipments.

- 17) Four contracts will require rebidding twice during the length of the program for a total of 8 rebid contracts.
- 18) The regulators will not increase the scope of this program through existing regulations or implement any additional regulations that add to the scope of this program. The existing regulations are:
 - a. FEMP Site Treatment Plan
 - b. DOE Order 5400.1, "General Environmental Protection Program"
 - c. Resource Conservation and Recovery Act (RCRA) of 1976
 - d. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
 - e. Pollution Prevention Act
 - f. Federal Facilities Compliance Act of 1992
 - g. Department of Transportation (DOT) regulations
- 19) DOE and Fluor Fernald requirements and reporting obligations do not exceed current levels.
- ~~20) The site will continue to generate non-contaminated hazardous waste for recycle/treatment/disposal until the end of the contract.~~
- ~~21) This program will pay for treatment/disposal of all unused chemicals from the on-site laboratory until FY2006.~~
- 22) Generators will pay **budget** for treatment/disposal of all other unused chemicals from other site areas regardless of when the waste is generated.
- 23) Batteries, fluorescent light ballasts, and fluorescent light tubes will continue to be exempt from the CERCLA off-site rule.
- 24) Facilities currently available in the laboratory, or a similar area, will be available for packaging unused chemicals.
- 25) Facilities will be available to package and ship lead acid batteries to the recycle contractor.
- 26) Clean-side locker storage will remain available for collection/storage of fluorescent light tubes, fluorescent light ballasts and designated batteries.
- 27) The program will not incur any costs from the FEMP labor force to package the unused chemicals. Currently, the treatment/ disposal contractor packages the material.
- 28) It is assumed that this program will not assume the costs to disposition waste streams generated by contractors to Fluor Fernald.

R1-
D-
577

1.2.2 Exclusions

- 1) This scope does not include any low-level radioactive or mixed wastes, except for the radiologically contaminated unused chemicals.
- 2) This scope does not include any wastes generated after FY2006 that would be applicable to this project.

1.2.3 Government-Furnished Equipment/Services

- 1) The Broad Spectrum Contract as administered by the Department of Energy Oak Ridge Operations Office (DOE-ORO) will remain in effect through 2006, and be fully available for the waste types and schedule identified in this Control Account.
- 2) The DOE disposal contract with Envirocare of Utah will remain in place until at least the end of FY2007, and be fully available for the waste types and schedule identified in this Control Account.

1.3 DRIVERS

1.3.1 KBHW1 – Hazardous Waste

- | |
|--------------------|
| R1-
F10-
007 |
| R1-
D-
586 |
- 1) As the process area continues to reduce activities, there will be a steady rate of batteries and unused chemicals for recycling/treatment/disposal. In ~~FY2006~~ ~~FY2004~~, a drastic reduction of these items will occur along with the transfer of costs to the generator of the waste.
 - 2) As buildings and operations are reduced at the FEMP, there will be a steady ~~rate~~ ~~reduction~~ of fluorescent light tubes and ballasts. In FY2006, the generator will incur the costs associated with the recycling of this waste.
 - 3) The generation of photo chemicals from Medical and Drafting will gradually decrease with the reduction of personnel and site activities. In ~~FY2006~~, ~~FY2004~~, the generator will incur the costs associated with the recycling of this waste.

1.4 PROJECT PHYSICAL DESCRIPTION

The hazardous waste program includes a broad range of wastes, bound together by virtue of their radiologically clean condition and hazardous chemical characteristics or ability to be recycled. The activities involved in the process of final disposition/recycling of these wastes include planning, management, administration, packaging/repackaging, sorting/segregation, decontamination, shipment, treatment and disposal or recycle as applicable, for each waste stream included in the scope of this control account.

There is no current inventory of waste in this program due to the immediate shipment of wastes after the containers are generated. However, typical wastes that are collected for disposition through this program are unused chemicals, spent batteries, used light tubes and ballasts, and photochemicals resulting from operations and activities at the FEMP.

Activities required to complete this scope of work include:

- Preparation of documentation required for the Department of Transportation (DOT), RCRA, and TSD waste acceptance criteria, as well as for administration of the contracts for the various disposal/recycling companies.
- Identification, characterization, movement, packaging, and loading of drums and boxes of wastes from various locations at the FEMP to commercial packagers or transporters.
- Transportation of the waste from the FEMP to the treatment facility.
- Treatment of waste at the TSD or recycling vendor and disposal of any ancillary wastes at an approved facility.

This program also includes some unused chemicals that are not considered hazardous and do not contain any radiological contamination. These wastes can be disposed with the other unused chemicals in a more cost-effective manner than any other disposal option available to the FEMP.

In addition, this project includes a population of waste that is radiologically contaminated. These wastes are unused chemicals that either are contaminated or cannot be disproved from having radiological contamination. The waste contains both hazardous and non-hazardous chemicals. M&EC, through the Broad-Spectrum contract, will treat these wastes in a manner consistent with the Organic Treatment Project (OTP).

1.4.1 KBHW1 – Hazardous Waste

1) Planning and Management Activities

Development of project flow/logic diagrams, schedules, statements of work, and contractual agreements with Heritage (unused chemicals), Recyclights (spent batteries, used lights and ballasts), and Safety-Kleen (photochemical). Development of safety basis documents, procedures, task orders, work orders, requisitions, etc. Also includes identifying new waste streams for recycling and issuance of new technical guidance for these waste streams.

The Hazardous Waste Program services many different organizations to remove generated waste streams. The following is a list of current and historical customers. However, the program is designed to assist all internal FEMP customers.

- a. Medical
- b. On-Site Laboratory
- c. Property
- d. Audio-Visual Services
- e. Transportation
- f. Maintenance and Infrastructure Support
- g. Drafting

2) Characterization Activities

Perform material evaluation/process knowledge review, field validation of material description and process knowledge, compatibility reviews, absorbent determinations, EPA waste code assignments and LDR verifications.

3) Processing Activities

Processing for treatment/recycling/disposal of each non-radiologically contaminated waste stream is performed by or done under the direction of the subcontractor who will accept the waste. Radiological surveys are performed to ensure these chemicals meet the requirements for off-site shipment to a non-radiological treatment/disposal facility.

Radiologically contaminated chemical waste streams will be sorted and moved by on-site personnel prior to shipment. Radiological surveys will be performed to ensure the exterior container meets shipping requirements. Also includes waste collection, container movements, waste sorting and segregation.

4) Packaging

Includes packaging of lead acid batteries, electrical waste, and radiological chemicals. The subcontractor will perform any other packaging and the cost will be included in the cost of the contract.

Containers will be purchased for packaging to include skids, drums, and metal boxes. Also includes container labeling in accordance with EPA and DOT regulations.

5) Shipping

Includes loading of container onto transport vehicle, performance of regulatory review per characterization data and completion of all required shipment paperwork, (i.e., Manifest, Bill of Lading, etc.). Also includes performance of incoming and outgoing vehicle inspections, vehicle release survey and release checklist.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBHW1 – Hazardous Waste

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope – Planning and Management Activities

- Preparation of Statement of Work for the contract and correspondence with the contractor. Includes scheduling packaging dates and oversight of the contractor while on-site and scheduling pickup dates
- Process knowledge collection and review, and summarization of chemicals to verify they meet contractor, shipping and regulatory requirements.
- Development of task orders and purchase of packaging materials for shipping of waste.
- Coordination with various generators to accumulate the chemicals at a centralized location.
- Coordination between on-site departments to facilitate the scheduled shipments.
- Management of Clean Side Storage Locker for lighting and electrical wastes.
- Identification of any newly generated radiologically contaminated unused chemicals and combination of them into campaign packages. Consolidation of the existing ~~legacy waste chemicals legacy 27 drums of waste chemicals~~ into first campaign.
- Identification of hazardous material classes which can be recycled and investigation of new technologies.
- Development and issuance of technical guidance for recycling of newly identified hazardous waste streams.
- Evaluation of FEMP policy changes and /or regulatory updates to determine impacts on program and implement necessary changes to program.
- Review of all chemical inventory estimated to be 3 hazardous chemical shipments per year * 6 years = 18 shipments PLUS 1 controlled area non-radiologically contaminated chemical shipment ~~per year * 6 years = 6 shipments~~ PLUS 1 radiologically contaminated chemical shipment ~~per year * 6 years = 6 shipments~~ PLUS 3 ~~legacy waste chemical shipments = 33~~ = 20 total chemical shipments.

R1-
F10-
007

R1-
F10-
007

Two task orders per year [Lead acid batteries, Clean Side Locker (electrical waste)] * 6 years PLUS 1 task order for radiological chemical field ~~verification * 6 years~~

R1-
F10-
007

~~PLUS verification, 1 task order for radiologically contaminated chemical segregation * 6 years PLUS and 1 task order for radiologically contaminated chemical shipments * 6 years PLUS 3 task orders for legacy waste chemical verification, segregation and shipment = 33 task orders = 15 task orders.~~

- Each rebid (8 total) will require either a pre or post award audit estimated to take 2 days each for a total of 16 days.

1.2) Quantification – Planning and Management

Manhours (Mhrs) and Full Time Equivalents (FTE's) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE's required to complete the task within it's scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 4,728 Mhrs. One full FTE for the life of the project (6 years) is 10,482 Mhrs. ~~40,482 Mhrs.~~ 4,728 Mhrs is approximately 0.4 FTE's for the life of the project, whereas under management approvals, a Waste Engineer is needed for 30 Mhrs over three days. This equates to one full FTE for that activity. This logic is applied to the remaining quantification sections in this Control Account.

R1-
F10-
007

<p>R1- F10- 007</p> <p>R1- F10- 006</p>	<p>1. Planning and Management</p> <p>General Administration</p> <p>Waste Eng. — 4,728.0 Mhrs. (0.4 FTE)</p> <p>Acquisitions — 591.0 Mhrs. (0.1 FTE)</p> <p>Waste Eng. Mgr. — 591.0 Mhrs. (0.1 FTE)</p> <p>Supervisor — 591.0 Mhrs. (0.1 FTE)</p> <p>Admin. Spt. — 591.0 Mhrs. (0.1 FTE)</p>	<p><i>For duration of project (6 yrs * 197 days/yr)</i></p> <p>8 RFP reviews</p> <p>Draft 8 RFPs, program maintenance, procedure reviews and revisions, training, schedule, invoicing, subcontractor activities, etc</p> <p>Rebids (4 contracts require rebid twice during length of program = 8 rebid contracts) and invoicing</p> <p>General project oversight</p> <p>Procedure and task order review</p>
<p>R1- F10- 007</p> <p>R1- F10- 006</p>	<p>General Administration</p> <p>QA — 591.0 Mhrs. (0.1 FTE)</p> <p>Waste Eng. — 4,728.0 Mhrs. (0.4 FTE)</p> <p>Acquisitions — 591.0 Mhrs. (0.1 FTE)</p> <p>Waste Eng. Mgr. — 591.0 Mhrs. (0.1 FTE)</p> <p>Supervisor — 591.0 Mhrs. (0.1 FTE)</p> <p>Admin. Spt. — 591.0 Mhrs. (0.1 FTE)</p>	<p><i>For duration of project (6 yrs * 197 days/yr)</i></p> <p>8 RFP reviews</p> <p>Draft 8 RFPs, program maintenance, procedure reviews and revisions, training, schedule, invoicing, subcontractor activities, etc</p> <p>Rebids (4 contracts require rebid twice during length of program = 8 rebid contracts) and invoicing</p> <p>General project oversight</p> <p>Procedure and task order review</p>
<p>R1- F10- 007</p>	<p>Mgt. Approvals</p> <p>Waste Engineer — 30.0 Mhrs. (1.0 FTE)</p> <p>Waste Eng. Mgr — 30.0 Mhrs. (1.0 FTE)</p> <p>Rad. Engineering — 6.0 Mhrs. (0.2 FTE)</p> <p>Safety Engineering — 12.0 Mhrs. (0.4 FTE)</p> <p>Safety Tech — 6.0 Mhrs. (0.2 FTE)</p> <p>Safety Analysis — 6.0 Mhrs. (0.2 FTE)</p>	<p>1 Management Assessment for initial rad lab packaging and shipment (estimated to take 3 days)</p>

1. Planning and Management	
	MC&A — 6.0 Mhrs. (0.2 FTE) TO Writer — 6.0 Mhrs. (0.2 FTE) HazWat — 1.5 Mhrs. (0.05 FTE) TO Writer — 6.0 Mhrs. (0.2 FTE) HazWat — 1.5 Mhrs. (0.05 FTE) Supervisor — 15.0 Mhrs. (0.5 FTE) Supervisor — 15.0 Mhrs. (0.5 FTE) Rad Tech — 9.0 Mhrs. (0.3 FTE)
R1-F10-007	Mgt. Approvals Waste Engineer — 30.0 Mhrs. (1.0 FTE) Waste Eng. Mgr — 30.0 Mhrs. (1.0 FTE) Rad. Engineering — 6.0 Mhrs. (0.2 FTE) Safety Engineering — 12.0 Mhrs. (0.4 FTE) Safety Tech — 6.0 Mhrs. (0.2 FTE) Safety Analysis — 6.0 Mhrs. (0.2 FTE) MC&A — 6.0 Mhrs. (0.2 FTE) TO Writer — 6.0 Mhrs. (0.2 FTE) HazWat — 1.5 Mhrs. (0.05 FTE) Supervisor — 15.0 Mhrs. (0.5 FTE) Rad Tech — 9.0 Mhrs. (0.3 FTE) QA — 15.0 Mhrs. (0.5 FTE) 1 Management Assessment for initial rad lab packaging and shipment (estimated to take 3 days)
R1-F10-007	Oversight/Inspections Supervisor — 126.0 Mhrs. (0.2 FTE) Rad Tech — 126.0 Mhrs. (0.2 FTE) Waste Engineer — 630.0 Mhrs. (1.0 FTE) Oversight of each shipment (estimated to be 10 shipments/yr * 6 yrs PLUS 3 legacy shipments = 63 X 1 day = 63 days)
	Oversight/Inspections QA — 330.0 Mhrs. (0.5 FTE) Supervisor — 132.0 Mhrs. (0.2 FTE) Rad Tech — 132.0 Mhrs. (0.2 FTE) Waste Engineer — 660.0 Mhrs. (1.0 FTE) Oversight of each shipment (estimated to be 11 shipments/yr * 6 yrs = 66 shipments X 1 day = 66 days)
R1-F10-007	Inventory Planning Waste Engineer — 6,600.0 Mhrs. (2.0 FTE) MC&A — 1,650.0 Mhrs. (0.5 FTE) TO Writer — 3,300.0 Mhrs. (1.0 FTE) Review of all chemical inventory estimated to be 3 hazardous chemical shipments per year * 6 years = 18 shipments PLUS 1 controlled area non-radiologically contaminated chemical shipment per year * 6 years = 6 shipments PLUS 1 radiologically contaminated chemical shipment per year * 6 years = 6 shipments PLUS 3 legacy waste chemical shipments = 33 total chemical campaigns Inventory Planning per campaign: Project Engineer — 5 days/campaign MC&A — 2 days/campaign TO Writer — 3 days/campaign
	Inventory Planning Waste Engineer — 2,880.0 Mhrs. (2.0 FTE) MC&A — 720.0 Mhrs. (0.5 FTE) Review of all chemical inventory estimated to be 3-Haz-chemical shipments per year * 6 years = 18 shipments PLUS 1 controlled area non-

1. Planning and Management	
TO Writer — 1,440.0 Mhrs. (1.0 FTE)	radiologically contaminated chemical shipment PLUS 1 rad chemical shipment = 20 total chemical inventory reviews Review of inventory for inclusion in program.
Work Package Development Hazwat — 132.0 Mhrs. (0.05 FTE) Supervisor — 132.0 Mhrs. (0.1 FTE) Rad Tech — 26.4 Mhrs. (0.0 FTE) Safety Tech — 52.8 Mhrs. (0.0 FTE) Rad Engineer — 52.8 Mhrs. (0.0 FTE) Safety Engineer — 52.8 Mhrs. (0.0 FTE) Safety Analysis — 79.2 Mhrs. (0.0 FTE) Waste Engineer — 792.0 Mhrs. (0.3 FTE) MC&A — 79.2 Mhrs. (0.0 FTE) TO Writer — 792.0 Mhrs. (0.3 FTE)	Two task orders per year [Lead acid batteries, Clean Side Locker (electrical waste)] * 6 years PLUS 1 task order for radiological chemical field verification * 6 years PLUS 1 task order for radiologically contaminated chemical segregation * 6 years PLUS 1 task order for radiologically contaminated chemical shipments * 6 years PLUS 3 task orders for legacy waste chemical verification, segregation and shipment = 33 task orders Per-Task Order: Waste Engineer/TO writer - 20 hrs, Ops Sup/Hazwat = 4 hrs, Safety = 2 hrs, Project Manager - 1 hr Development: 2 wks time/task order for development = 8 days
Work Package Development Hazwat — 72.0 Mhrs. (0.05 FTE) Supervisor — 72.0 Mhrs. (0.1 FTE) Rad Tech — 14.4 Mhrs. (0.0 FTE) QA — 43.2 Mhrs. (0.0 FTE) Safety Tech — 28.8 Mhrs. (0.0 FTE) Rad Engineer — 28.8 Mhrs. (0.0 FTE) Safety Engineer — 28.8 Mhrs. (0.0 FTE) Safety Analysis — 43.2 Mhrs. (0.0 FTE) Waste Engineer — 432.0 Mhrs. (0.3 FTE) MC&A — 43.2 Mhrs. (0.0 FTE) TO Writer — 432.0 Mhrs. (0.3 FTE)	2 task orders per year (Lead acid batteries, Clean Side Locker (electrical waste)) * 6 years PLUS 1 task order for rad chemical field verification, 1 task order for rad chemical segregation and 1 task order for rad chemical shipments = 15 task orders Per Task Order: Waste Engineer/TO writer — 20 hrs, Ops Sup/Hazwat — 4 hrs, QA Review — 2 hrs, Safety — 2 hrs, Project Manager — 1 hr Development: 2 wks time/task order for development = 8 days
Tech. Programs Support	No Tech Programs Support
Travel QA — 160.0 Mhrs (1.0 FTE) Waste Engineer — 320.0 Mhrs. (2.0 FTE)	Each rebid (8 total) will require either a pre or post award audit estimated to take 2 days each for a total of 16 days

R1-
F10-
007

R1-
D-
578

R1-
F10-
006

2) Task #2 – Characterization Activities

2.1) Plan/Scope – Characterization Activities

- Characterization for non-radiologically contaminated chemicals, including verifying containers into existing MEFs.

- Characterization for radiologically contaminated chemicals, including absorbent determination, compatibility assessment, characterization and profile development.

R1-
F10-
007

- Mainly characterization of 3 hazardous chemical shipments per year * 6 years PLUS 1 controlled area non-radiologically contaminated chemical shipment * 6 years PLUS 1 shipment of radiologically contaminated chemicals * 6 years PLUS 3 legacy waste chemical shipments = 33 - 20 Campaigns.

2.2) Quantification – Characterization Activities

*The quantification listed in the detailed characterization section is for project planning purposes. Costs associated with these activities will be carried in the detailed estimates for Control Account MMBB within PBS11.

2. Characterization	
Field Verification	No field verification
Sampling & Analysis	No sampling and analysis included
Movement	No specific movements for characterization
<u>Characterization</u>	<u>Costs associated with these activities will be carried in the detailed estimates for Control Account MMBB within PBS11.</u>
Characterization*	<p>Mainly characterization of 3 Haz chemical shipments per year * 6 years PLUS 1 controlled area non-radiologically contaminated chemical shipment PLUS 1 shipment of rad chemicals = 20 Campaigns</p> <p><u>Characterization per Haz/non-radiologically contaminated chemical campaign:</u> No absorbent determination No compatibility assessment Waste Engineer — 12 days MC&A — 1 day QA — ½ day Project Manager — 2 hours Clerk — 1 day</p> <p><u>Characterization per rad campaign:</u> (Absorbent Determination) Waste Engineer — 2 days Project Manager — 1 hour (Compatibility Assessment) Waste Engineer — 4 days Project Manager — 1 hour (Characterization) Waste Engineer — 12 days MC&A — 1 day QA — ½ day Project Manager — 2 hours Clerk — 1 day (Profile) Waste Engineer — 8 days Project Manager — 2 hours</p>

R1-
F10-
007

R1-
F10-
007

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Sorting and radiological surveys performed for all waste and containers generated in the production area.
- The various subcontractors will perform processing for treatment/recycling/disposal of the various non-radiologically contaminated wastes.
- Movement of containers for processing and storage.

3.2) Quantification – Processing Activities

3. Processing	
Decanting	No decanting
Venting/Puncturing	No venting or puncturing
Drum Crushing	No drum crushing
Liquid Bulking	No liquid bulking
On-site Treatment	No on-site treatment
<i>Sorting & Consolidation</i>	
	ISO's
	No ISOs included in project
	Skids
	Sorting and radiological surveys will need to be performed based on 118 skids: 60 skids of lead acid batteries 42 skids of lamps 16 skids of radiologically contaminated non-hazardous legacy chemicals
	Skids
	Sorting and radiological surveys will need to be performed on lead acid batteries Based on 214 skids.

R1-
F10-
007

R1-
D-
578

R1-
F10-
007

3. Processing	
Rad Engineer — 185.47 Mhrs. (0.1 FTE) Safety Engineer — 927.33 Mhrs. (0.5 FTE) Safety Analysis — 185.47 Mhrs. (0.1 FTE) Waste Engineer — 927.33 Mhrs. (0.5 FTE) MC&A — 370.93 Mhrs. (0.2 FTE) Acquisitions — 185.47 Mhrs. (0.1 FTE)	
Boxes HazWat — 208.0 Mhrs (3.0 FTE) MVO — 69.33 Mhrs. (1.0 FTE) Supervisor — 6.93 Mhrs. (0.1 FTE) Rad Tech — 69.33 Mhrs. (1.0 FTE) Safety Tech — 17.33 Mhrs. (0.25 FTE) Rad Engineer — 6.93 Mhrs. (0.1 FTE) Safety Engineer — 34.67 Mhrs. (0.5 FTE) Safety Analysis — 6.93 Mhrs. (0.1 FTE) Waste Engineer — 69.33 Mhrs. (0.5 FTE) MC&A — 13.87 Mhrs. (0.2 FTE) Acquisitions — 6.93 Mhrs. (0.1 FTE)	Sorting and radiological surveys will need to be performed on bulk quantities of radiologically contaminated hazardous legacy chemicals located on the controlled side Based on 8 boxes.
Boxes HazWat — 208.0 Mhrs (3.0 FTE) MVO — 69.33 Mhrs. (1.0 FTE) Supervisor — 6.93 Mhrs. (0.1 FTE) Rad Tech — 69.33 Mhrs. (1.0 FTE) Quality — 34.67 Mhrs. (0.5 FTE) Safety Tech — 17.33 Mhrs. (0.25 FTE) Rad Engineer — 6.93 Mhrs. (0.1 FTE) Safety Engineer — 34.67 Mhrs. (0.5 FTE) Safety Analysis — 6.93 Mhrs. (0.1 FTE) Waste Engineer — 69.33 Mhrs. (0.5 FTE) MC&A — 13.87 Mhrs. (0.2 FTE) Acquisitions — 6.93 Mhrs. (0.1 FTE)	Sorting and radiological surveys will need to be performed on bulk quantities of rad and Haz chemicals located on the controlled side Based on 8 boxes.

R1-
F10-
007

R1-
D-
578

R1-
F10-
007

3. Processing																											
R1- F10- 007 R1- D- 578	<table border="1"> <thead> <tr> <th>Drums</th> <th></th> </tr> </thead> <tbody> <tr> <td>HazWat</td> <td>3,929.25 Mhrs (3.0 FTE)</td> </tr> <tr> <td>MVO</td> <td>1,309.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Supervisor</td> <td>130.98 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Rad Tech</td> <td>1,309.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Safety Tech</td> <td>327.44 Mhrs. (0.25 FTE)</td> </tr> <tr> <td>Rad Engineer</td> <td>130.98 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Safety Engineer</td> <td>654.88 Mhrs. (0.5 FTE)</td> </tr> <tr> <td>Safety Analysis</td> <td>130.98 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Waste Engineer</td> <td>1,309.75 Mhrs. (0.5 FTE)</td> </tr> <tr> <td>MC&A</td> <td>261.95 Mhrs. (0.2 FTE)</td> </tr> <tr> <td>Acquisitions</td> <td>130.98 Mhrs. (0.1 FTE)</td> </tr> </tbody> </table> <p>Sorting and radiological surveys will need to be performed on non-bulk quantities of non-radiologically and radiologically contaminated hazardous chemicals (legacy and ongoing) located on the controlled side and RCRA hazardous chemicals Based on 403 drums. 270 drums of RCRA hazardous chemicals 30 drums of ongoing non-rad waste chemicals 30 drums of ongoing rad waste chemicals 15 drums of legacy non-rad waste chemicals 58 drums of legacy rad waste chemicals</p>	Drums		HazWat	3,929.25 Mhrs (3.0 FTE)	MVO	1,309.75 Mhrs. (1.0 FTE)	Supervisor	130.98 Mhrs. (0.1 FTE)	Rad Tech	1,309.75 Mhrs. (1.0 FTE)	Safety Tech	327.44 Mhrs. (0.25 FTE)	Rad Engineer	130.98 Mhrs. (0.1 FTE)	Safety Engineer	654.88 Mhrs. (0.5 FTE)	Safety Analysis	130.98 Mhrs. (0.1 FTE)	Waste Engineer	1,309.75 Mhrs. (0.5 FTE)	MC&A	261.95 Mhrs. (0.2 FTE)	Acquisitions	130.98 Mhrs. (0.1 FTE)		
Drums																											
HazWat	3,929.25 Mhrs (3.0 FTE)																										
MVO	1,309.75 Mhrs. (1.0 FTE)																										
Supervisor	130.98 Mhrs. (0.1 FTE)																										
Rad Tech	1,309.75 Mhrs. (1.0 FTE)																										
Safety Tech	327.44 Mhrs. (0.25 FTE)																										
Rad Engineer	130.98 Mhrs. (0.1 FTE)																										
Safety Engineer	654.88 Mhrs. (0.5 FTE)																										
Safety Analysis	130.98 Mhrs. (0.1 FTE)																										
Waste Engineer	1,309.75 Mhrs. (0.5 FTE)																										
MC&A	261.95 Mhrs. (0.2 FTE)																										
Acquisitions	130.98 Mhrs. (0.1 FTE)																										
R1- F10- 007	<table border="1"> <thead> <tr> <th>Drums</th> <th></th> </tr> </thead> <tbody> <tr> <td>HazWat</td> <td>731.25 Mhrs (3.0 FTE)</td> </tr> <tr> <td>MVO</td> <td>243.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Supervisor</td> <td>24.38 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Rad Tech</td> <td>243.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>QA</td> <td>121.88 Mhrs. (0.5 FTE)</td> </tr> <tr> <td>Safety Tech</td> <td>60.94 Mhrs. (0.25 FTE)</td> </tr> <tr> <td>Rad Engineer</td> <td>24.38 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Safety Engineer</td> <td>121.88 Mhrs. (0.5 FTE)</td> </tr> <tr> <td>Safety Analysis</td> <td>24.38 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>Waste Engineer</td> <td>243.75 Mhrs. (0.5 FTE)</td> </tr> <tr> <td>MC&A</td> <td>48.75 Mhrs. (0.2 FTE)</td> </tr> <tr> <td>Acquisitions</td> <td>24.38 Mhrs. (0.1 FTE)</td> </tr> </tbody> </table> <p>Sorting and radiological surveys will need to be performed on non-bulk quantities of rad and Haz chemicals located on the controlled side Based on 75 drums.</p>	Drums		HazWat	731.25 Mhrs (3.0 FTE)	MVO	243.75 Mhrs. (1.0 FTE)	Supervisor	24.38 Mhrs. (0.1 FTE)	Rad Tech	243.75 Mhrs. (1.0 FTE)	QA	121.88 Mhrs. (0.5 FTE)	Safety Tech	60.94 Mhrs. (0.25 FTE)	Rad Engineer	24.38 Mhrs. (0.1 FTE)	Safety Engineer	121.88 Mhrs. (0.5 FTE)	Safety Analysis	24.38 Mhrs. (0.1 FTE)	Waste Engineer	243.75 Mhrs. (0.5 FTE)	MC&A	48.75 Mhrs. (0.2 FTE)	Acquisitions	24.38 Mhrs. (0.1 FTE)
Drums																											
HazWat	731.25 Mhrs (3.0 FTE)																										
MVO	243.75 Mhrs. (1.0 FTE)																										
Supervisor	24.38 Mhrs. (0.1 FTE)																										
Rad Tech	243.75 Mhrs. (1.0 FTE)																										
QA	121.88 Mhrs. (0.5 FTE)																										
Safety Tech	60.94 Mhrs. (0.25 FTE)																										
Rad Engineer	24.38 Mhrs. (0.1 FTE)																										
Safety Engineer	121.88 Mhrs. (0.5 FTE)																										
Safety Analysis	24.38 Mhrs. (0.1 FTE)																										
Waste Engineer	243.75 Mhrs. (0.5 FTE)																										
MC&A	48.75 Mhrs. (0.2 FTE)																										
Acquisitions	24.38 Mhrs. (0.1 FTE)																										
<p><i>Movement</i></p>																											
<p>ISO's</p> <p>No ISOs included in project</p>																											
R1- F10- 007 R1- D- 578	<table border="1"> <thead> <tr> <th>Skids</th> <th></th> </tr> </thead> <tbody> <tr> <td>HazWat</td> <td>41.17 Mhrs (1.0 FTE)</td> </tr> <tr> <td>MVO</td> <td>41.17 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Supervisor</td> <td>8.23 Mhrs. (0.2 FTE)</td> </tr> <tr> <td>Rad Tech</td> <td>41.17 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Rad Engineer</td> <td>2.06 Mhrs. (0.05 FTE)</td> </tr> <tr> <td>Safety Engineer</td> <td>2.06 Mhrs. (0.05 FTE)</td> </tr> <tr> <td>Waste Engineer</td> <td>4.12 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>MC&A</td> <td>4.12 Mhrs. (0.1 FTE)</td> </tr> </tbody> </table> <p>60 Skids of lead acid batteries will need to be moved for weighing 16 Skids of legacy chemicals will need to be moved to interim storage Based on movement of 76 skids.</p>	Skids		HazWat	41.17 Mhrs (1.0 FTE)	MVO	41.17 Mhrs. (1.0 FTE)	Supervisor	8.23 Mhrs. (0.2 FTE)	Rad Tech	41.17 Mhrs. (1.0 FTE)	Rad Engineer	2.06 Mhrs. (0.05 FTE)	Safety Engineer	2.06 Mhrs. (0.05 FTE)	Waste Engineer	4.12 Mhrs. (0.1 FTE)	MC&A	4.12 Mhrs. (0.1 FTE)								
Skids																											
HazWat	41.17 Mhrs (1.0 FTE)																										
MVO	41.17 Mhrs. (1.0 FTE)																										
Supervisor	8.23 Mhrs. (0.2 FTE)																										
Rad Tech	41.17 Mhrs. (1.0 FTE)																										
Rad Engineer	2.06 Mhrs. (0.05 FTE)																										
Safety Engineer	2.06 Mhrs. (0.05 FTE)																										
Waste Engineer	4.12 Mhrs. (0.1 FTE)																										
MC&A	4.12 Mhrs. (0.1 FTE)																										
R1- F10- 007	<table border="1"> <thead> <tr> <th>Skids</th> <th></th> </tr> </thead> <tbody> <tr> <td>HazWat</td> <td>61.75 Mhrs (1.0 FTE)</td> </tr> <tr> <td>MVO</td> <td>61.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Supervisor</td> <td>12.35 Mhrs. (0.2 FTE)</td> </tr> <tr> <td>Rad Tech</td> <td>61.75 Mhrs. (1.0 FTE)</td> </tr> <tr> <td>Rad Engineer</td> <td>3.09 Mhrs. (0.05 FTE)</td> </tr> <tr> <td>Safety Engineer</td> <td>3.09 Mhrs. (0.05 FTE)</td> </tr> <tr> <td>Waste Engineer</td> <td>6.18 Mhrs. (0.1 FTE)</td> </tr> <tr> <td>MC&A</td> <td>6.18 Mhrs. (0.1 FTE)</td> </tr> </tbody> </table> <p>Skids of lead acid batteries will need to be moved for weighing Based on movement of 114 skids</p>	Skids		HazWat	61.75 Mhrs (1.0 FTE)	MVO	61.75 Mhrs. (1.0 FTE)	Supervisor	12.35 Mhrs. (0.2 FTE)	Rad Tech	61.75 Mhrs. (1.0 FTE)	Rad Engineer	3.09 Mhrs. (0.05 FTE)	Safety Engineer	3.09 Mhrs. (0.05 FTE)	Waste Engineer	6.18 Mhrs. (0.1 FTE)	MC&A	6.18 Mhrs. (0.1 FTE)								
Skids																											
HazWat	61.75 Mhrs (1.0 FTE)																										
MVO	61.75 Mhrs. (1.0 FTE)																										
Supervisor	12.35 Mhrs. (0.2 FTE)																										
Rad Tech	61.75 Mhrs. (1.0 FTE)																										
Rad Engineer	3.09 Mhrs. (0.05 FTE)																										
Safety Engineer	3.09 Mhrs. (0.05 FTE)																										
Waste Engineer	6.18 Mhrs. (0.1 FTE)																										
MC&A	6.18 Mhrs. (0.1 FTE)																										
<table border="1"> <thead> <tr> <th>Boxes</th> <th></th> </tr> </thead> <tbody> <tr> <td>HazWat</td> <td>4.33 Mhrs (1.0 FTE)</td> </tr> </tbody> </table> <p>Move boxes of radiologically contaminated waste chemicals to storage</p>		Boxes		HazWat	4.33 Mhrs (1.0 FTE)																						
Boxes																											
HazWat	4.33 Mhrs (1.0 FTE)																										

3. Processing	
	<p>MVO — 4.33 Mhrs. (1.0 FTE) Supervisor — 0.87 Mhrs. (0.2 FTE) Rad Tech — 4.33 Mhrs. (1.0 FTE) Rad Engineer — 0.22 Mhrs. (0.05 FTE) Safety Engineer — 0.22 Mhrs. (0.05 FTE) Waste Engineer — 0.43 Mhrs. (0.1 FTE) MC&A — 0.43 Mhrs. (0.1 FTE)</p> <p>Based on 8 boxes.</p>
R1-F10-007	<p>Boxes</p> <p>HazWat — 4.33 Mhrs. (1.0 FTE) MVO — 4.33 Mhrs. (1.0 FTE) Supervisor — 0.87 Mhrs. (0.2 FTE) Rad Tech — 4.33 Mhrs. (1.0 FTE) Rad Engineer — 0.22 Mhrs. (0.05 FTE) Safety Engineer — 0.22 Mhrs. (0.05 FTE) Waste Engineer — 0.43 Mhrs. (0.1 FTE) MC&A — 0.43 Mhrs. (0.1 FTE)</p> <p>Move rad chemical boxes to storage Based on 8 boxes.</p>
R1-F10-007 R1-D-578	<p>Drums</p> <p>HazWat — 18.2 Mhrs. (1.0 FTE) MVO — 18.2 Mhrs. (1.0 FTE) Supervisor — 3.64 Mhrs. (0.2 FTE) Rad Tech — 18.2 Mhrs. (1.0 FTE) Rad Engineer — 0.91 Mhrs. (0.05 FTE) Safety Engineer — 0.91 Mhrs. (0.05 FTE) Waste Engineer — 1.82 Mhrs. (0.1 FTE) MC&A — 1.82 Mhrs. (0.1 FTE)</p> <p>Drum movement based on 112 drums: 58 drums of legacy rad contaminated waste chemicals 30 drums of ongoing rad contaminated waste chemicals 6 drums of Ni-Cd batteries 18 drums of ballasts</p>
R1-F10-007 R1-D-578	<p>Drums</p> <p>HazWat — 12.19 Mhrs. (1.0 FTE) MVO — 12.19 Mhrs. (1.0 FTE) Supervisor — 2.44 Mhrs. (0.2 FTE) Rad Tech — 12.19 Mhrs. (1.0 FTE) Rad Engineer — 0.61 Mhrs. (0.05 FTE) Safety Engineer — 0.61 Mhrs. (0.05 FTE) Waste Engineer — 1.22 Mhrs. (0.1 FTE) MC&A — 1.22 Mhrs. (0.1 FTE)</p> <p>Move rad chemical drums to storage Based on 75 drums.</p>

4) Task #4 - Packaging

4.1) Plan/Scope - Packaging

- Generation of paperwork for transport and verification of treatment.
- Purchasing of skids and containers for shipment of waste.
- Purchasing of packaging material to ship lead acid batteries.
- Packaging of the waste stream by the on-site labor force for shipment.
- Subcontracts provide containers for all shipments with the exception of skids for electrical wastes and containers for radiologically contaminated chemicals.

4.2) Quantification – Packaging

4. Packaging	
<p>RT- F10- 007</p>	<p>Repack/Overpack</p> <p>NOTE: With exceptions of lead acid batteries, lamps, and radiologically contaminated waste chemicals, all other packaging is performed under contract listed below in 6. Subcontracts listed.</p>
	<p>Repack/Overpack</p> <p>NOTE: With exceptions of lead acid batteries, electrical waste, and rad chemicals, all other packaging is performed under contract listed below in 6. Subcontracts listed.</p>
	<p>ISO's No ISOs included in project</p>
<p>R1- F10- 007</p> <p>R1- D- 570</p>	<p>Skids Packaging of 118 skids, except as noted:</p> <p>HazWat – 767.0 Mhrs. (2.0 FTE) MVO – 383.5 Mhrs. (1.0 FTE) HEO – 38.35 Mhrs. (0.1 FTE) Maintenance – 134.23 Mhrs. (0.35 FTE) Supervisor – 191.75 Mhrs. (0.5 FTE) Rad Tech – 385.5 Mhrs. (1.0 FTE) Safety Tech – 76.7 Mhrs. (0.2 FTE) Rad Engineer – 19.18 Mhrs. (0.05 FTE) Safety Engineer – 19.18 Mhrs. (0.05 FTE) Waste Engineer – 38.35 Mhrs. (0.1 FTE) MC&A – 76.7 Mhrs. (0.2 FTE)</p> <p>60 skids of lead acid batteries (for cleaning) 42 skids of lamps 16 skids of radiologically contaminated legacy waste chemicals.</p>
<p>R1- F10- 007</p>	<p>Skids Includes packaging of lead acid batteries and electrical waste. Based on 214 skids, except as noted.</p> <p>Cleaning of 114 lead acid battery skids</p> <p>HazWat – 1,391.0 Mhrs. (2.0 FTE) MVO – 695.5 Mhrs. (1.0 FTE) HEO – 69.55 Mhrs. (0.1 FTE) Maintenance – 245 Mhrs. (0.35 FTE) Supervisor – 347.75 Mhrs. (0.5 FTE) Rad Tech – 695.5 Mhrs. (1.0 FTE) QA – 34.78 Mhrs. (0.05 FTE) Safety Tech – 139.10 Mhrs. (0.2 FTE) Rad Engineer – 24.38 Mhrs. (0.05 FTE) Safety Engineer – 121.88 Mhrs. (0.05 FTE) Waste Engineer – 243.75 Mhrs. (0.1 FTE) MC&A – 48.75 Mhrs. (0.2 FTE)</p>
<p>R1- F10- 007</p> <p>R1- D- 578</p>	<p>Boxes Includes packaging of radiologically contaminated legacy waste chemicals Based on 8 boxes:</p> <p>HazWat – 52.00 Mhrs. (2.0 FTE) MVO – 26.00 Mhrs. (1.0 FTE) HEO – 2.60 Mhrs. (0.1 FTE) Supervisor – 13.00 Mhrs. (0.5 FTE) Rad Tech – 26.00 Mhrs. (1.0 FTE) Safety Tech – 5.20 Mhrs. (0.2 FTE) Rad Engineer – 1.30 Mhrs. (0.05 FTE) Safety Engineer – 1.30 Mhrs. (0.05 FTE) Waste Engineer – 2.60 Mhrs. (0.1 FTE)</p>

4. Packaging	
	<p>MC&A — 5.20 Mhrs. (0.2 FTE)</p> <p>Boxes Includes packaging of rad chemicals Based on 8 boxes.</p> <p>HazWat — 52.00 Mhrs. (2.0 FTE) MVO — 26.00 Mhrs. (1.0 FTE) HEO — 2.60 Mhrs. (0.1 FTE) Supervisor — 13.00 Mhrs. (0.5 FTE) Rad Tech — 26.00 Mhrs. (1.0 FTE) QA — 1.30 Mhrs. (0.05 FTE) Safety Tech — 5.20 Mhrs. (0.2 FTE) Rad Engineer — 1.30 Mhrs. (0.05 FTE) Safety Engineer — 1.30 Mhrs. (0.05 FTE) Waste Engineer — 2.60 Mhrs. (0.1 FTE) MC&A — 5.20 Mhrs. (0.2 FTE)</p>
	<p>Drums Packaging of 112 drums:</p> <p>HazWat — 145.6 Mhrs. (2.0 FTE) MVO — 72.8 Mhrs. (1.0 FTE) HEO — 7.28 Mhrs. (0.1 FTE) Supervisor — 36.4 Mhrs. (0.5 FTE) Rad Tech — 72.8 Mhrs. (1.0 FTE) Safety Tech — 14.56 Mhrs. (0.2 FTE) Rad Engineer — 3.64 Mhrs. (0.05 FTE) Safety Engineer — 3.64 Mhrs. (0.05 FTE) Waste Engineer — 7.28 Mhrs. (0.1 FTE) MC&A — 14.56 Mhrs. (0.2 FTE)</p> <p>58 legacy radiologically contaminated waste chemicals drums 30 ongoing radiologically contaminated waste chemicals drums 6 Ni-Cd battery drums 18 ballast drums</p>
	<p>Drums Includes packaging of rad chemicals, electrical waste Based on 75 drums.</p> <p>HazWat — 97.50 Mhrs. (2.0 FTE) MVO — 48.75 Mhrs. (1.0 FTE) HEO — 4.88 Mhrs. (0.1 FTE) Supervisor — 24.38 Mhrs. (0.5 FTE) Rad Tech — 48.75 Mhrs. (1.0 FTE) QA — 2.44 Mhrs. (0.05 FTE) Safety Tech — 9.75 Mhrs. (0.2 FTE) Rad Engineer — 2.44 Mhrs. (0.05 FTE) Safety Engineer — 2.44 Mhrs. (0.05 FTE) Waste Engineer — 4.88 Mhrs. (0.1 FTE) MC&A — 9.75 Mhrs. (0.2 FTE)</p>
	<p>Container Purchase</p> <p>NOTE: With exception of skids for lead acid batteries and lamps and containers for ballasts, Ni-Cd batteries, and radiologically contaminated waste chemicals, all other containers are provided under contract listed below in 6. Subcontracts.</p>
	<p>Container Purchase</p> <p>NOTE: With exception of skids for lead acid batteries and electrical waste and containers for rad chemicals, all other containers are provided under contract listed below in 6. Subcontracts.</p>
	<p>ISO's No ISO's included in project</p>
	<p>Skids Purchase of 118 skids</p>

R1-
F10-
007

R1-
D-
578

R1-
F10-
007

R1-
F10-
007

4. Packaging

R1-
F10-
007

HazWat - 20.00 Mhrs. (1.0 FTE)
 MVO - 10.00 Mhrs. (0.5 FTE)
 HEO - 10.00 Mhrs. (0.5 FTE)
 Supervisor - 4.00 Mhrs. (0.2 FTE)
 Waste Engineer - 2.00 Mhrs. (0.1 FTE)
 Admin. Spt. - 1.00 Mhrs. (0.05 FTE)

60 skids for lead acid batteries
 42 lamp shipments
 16 legacy radiologically contaminated waste chemicals

R1-
F10-
007

Skids

HazWat - 20.00 Mhrs. (1.0 FTE)
 MVO - 10.00 Mhrs. (0.5 FTE)
 HEO - 10.00 Mhrs. (0.5 FTE)
 Supervisor - 4.00 Mhrs. (0.2 FTE)
 Waste Engineer - 2.00 Mhrs. (0.1 FTE)
 Admin. Spt. - 1.00 Mhrs. (0.05 FTE)

Includes the purchase of 114 skids for lead acid battery and 100 electrical waste shipments

R1-
D-
578

Boxes

HazWat - 4.33 Mhrs. (1.0 FTE)
 MVO - 2.17 Mhrs. (0.5 FTE)
 HEO - 2.17 Mhrs. (0.5 FTE)
 Supervisor - 0.87 Mhrs. (0.2 FTE)
 Rad Tech - 4.33 Mhrs. (1.0 FTE)
 Rad Engineer - 0.22 Mhrs. (0.05 FTE)
 Safety Engineer - 0.22 Mhrs. (0.05 FTE)
 Waste Engineer - 0.43 Mhrs. (0.1 FTE)
 Admin. Spt. - 0.22 Mhrs. (0.05 FTE)

Includes the purchase of 8 metal boxes for the packaging of rad chemicals being sent to Broad Spectrum for treatment

R1-
F10-
007

R1-
D-
578

Drums

HazWat - 18.20 Mhrs. (1.0 FTE)
 MVO - 9.10 Mhrs. (0.5 FTE)
 HEO - 9.10 Mhrs. (0.5 FTE)
 Supervisor - 3.64 Mhrs. (0.2 FTE)
 Rad Tech - 18.20 Mhrs. (1.0 FTE)
 Rad Engineer - 0.91 Mhrs. (0.05 FTE)
 Safety Engineer - 0.91 Mhrs. (0.05 FTE)
 Waste Engineer - 1.82 Mhrs. (0.1 FTE)
 Admin. Spt. - 0.91 Mhrs. (0.05 FTE)

Includes the purchase of 112 drums:
 58 drums for legacy radiologically contaminated waste chemicals
 30 drums for ongoing radiologically contaminated waste chemicals
 6 drums for Ni-Cd batteries
 18 drums for ballasts

R1-
F10-
007

Drums

HazWat - 12.19 Mhrs. (1.0 FTE)
 MVO - 6.09 Mhrs. (0.5 FTE)
 HEO - 6.09 Mhrs. (0.5 FTE)
 Supervisor - 2.44 Mhrs. (0.2 FTE)
 Rad Tech - 12.19 Mhrs. (1.0 FTE)
 Rad Engineer - 0.61 Mhrs. (0.05 FTE)
 Safety Engineer - 0.61 Mhrs. (0.05 FTE)
 Waste Engineer - 1.22 Mhrs. (0.1 FTE)
 Admin. Spt. - 0.61 Mhrs. (0.05 FTE)

Includes the purchase of 75 drums for the packaging of rad chemicals being sent to Broad Spectrum for treatment

5) Task #5 – Shipping

5.1) Plan/Scope - Shipping

- Radiological surveys of chemicals and containers.
- Tracking of containers.
- Generation of documents to transport waste.
- Assumed that the shipping preparation for lead acid batteries, electrical waste, and photochemicals was completed prior to rebaseline activities; future shipping preparation time will only be necessary for chemical shipments (radiologically contaminated and hazardous). Shipping preparation is defined as : characterization, contracts, and procedures.

R1-
D-
579

- The chemical shipments require 120 hours of preparation per characterization from Shipping Services. Therefore, the number of required characterizations is higher than the actual to compensate for the additional time required per characterization.

R1-
F10-
007

- Three hazardous chemical shipments per year * 6 years = 18 hazardous chemical shipments PLUS 1 shipment of radiologically contaminated chemicals * 6 years PLUS 1 shipment of controlled area non-radiologically contaminated chemicals * 6 years PLUS 2 shipments of legacy radiologically radiologically contaminated chemicals PLUS 1 shipment of legacy controlled area non-radiologically contaminated chemicals for a TOTAL of 3329 shipments

R1-
F10-
007

R1-
D-
578

- 33 shipments @ 120 hours/shipment = 50 shipments @ 80 hours/shipment

5.2) Quantification - Shipping

5. Shipping	
R1-F10-007	<p>Shipping Preparation</p> <p>Waste Engineer = 4,000 Mhrs. (1.00 FTE)</p> <p>Assumed that the shipping preparation for lead acid batteries, electrical waste, and photochemicals was completed prior to rebaseline activities; (Shipping preparation is defined as: characterization, contracts, procedures.) future shipping preparation time will only be necessary for chemical shipments (rad and Haz)</p> <p>Three hazardous chemical shipments per year * 6 years = 18 hazardous chemical shipments PLUS 1 shipment of radiologically contaminated chemicals * 6 years PLUS 1 shipment of controlled area non-radiologically contaminated chemicals * 6 years PLUS 2 shipments of legacy radiologically contaminated chemicals PLUS 1 shipment of legacy controlled area non-radiologically contaminated chemicals for a TOTAL of 33 shipments</p> <p>33 shipments @ 120 hours/shipment = 50 shipments @ 80 hours/shipment</p>
R1-D-578	<p>Shipping Preparation</p> <p>Waste Engineer = 1,600 Mhrs. (1.00 FTE)</p> <p>Assumed that the shipping preparation for lead acid batteries, electrical waste, and photochemicals was completed prior to rebaseline activities; future shipping preparation time will only be necessary for chemical shipments (rad and Haz) —</p> <p>3 Haz chemical shipments per year * 6 years = 18 Haz chemical shipments PLUS 1 shipment of rad chemicals PLUS 1 shipment of controlled area non-radiologically contaminated chemicals</p>
R1-F10-007	<p>Loading</p> <p>NOTE: With exception of lead acid batteries, electrical waste, and rad chemicals, all other loading will be performed under contract listed below in 6. Subcontracts.</p>
R1-F10-007	<p>ISO's No ISOs included in project</p> <p>Skids Loading of 60 lead acid battery skids. Minimal amount of time is necessary to load 42 electrical waste skids</p> <p>MVO = 530.4 Mhrs. (4.00 FTE) Tran. Laborer = 1,326.00 Mhrs. (10.00 FTE) Supervisor = 265.20 Mhrs. (2.00 FTE) Rad Tech = 265.20 Mhrs. (2.00 FTE) Waste Engineer = 13.26 Mhrs. (0.10 FTE) MC&A = 26.52 Mhrs. (0.20 FTE)</p> <p>Based on 102 skids.</p>
R1-F10-007	<p>Skids Loading of lead acid battery skids. Minimal amount of time is necessary to load electrical waste skids</p> <p>MVO = 4.00 Mhrs. (0.00 FTE)</p>

5. Shipping		
R1- F10- 007 R1- D- 578	Tran. Laborer — 1,482.00 Mhrs. (10.00 FTE) Supervisor — 296.40 Mhrs. (2.00 FTE) Rad Tech — 296.40 Mhrs. (2.00 FTE) QA — 296.40 Mhrs. (2.00 FTE) Waste Engineer — 14.82 Mhrs. (0.10 FTE) MC&A — 29.64 Mhrs. (0.20 FTE)	Based on 114 skids.
	Boxes MVO — 41.60 Mhrs. (4.00 FTE) Tran. Laborer — 104.00 Mhrs. (10.00 FTE) Supervisor — 20.80 Mhrs. (2.00 FTE) Rad Tech — 20.80 Mhrs. (2.00 FTE) Waste Engineer — 1.04 Mhrs. (0.10 FTE) MC&A — 2.08 Mhrs. (0.20 FTE)	Loading of 8 metal boxes with rad chemicals
R1- F10- 007	Boxes MVO — 4.00 Mhrs. (0.00 FTE) Tran. Laborer — 104.00 Mhrs. (10.00 FTE) Supervisor — 20.80 Mhrs. (2.00 FTE) Rad Tech — 20.80 Mhrs. (2.00 FTE) QA — 20.80 Mhrs. (2.00 FTE) Waste Engineer — 1.04 Mhrs. (0.10 FTE) MC&A — 2.08 Mhrs. (0.20 FTE)	Loading of 8 metal boxes with rad chemicals
R1- F10- 007 R1- D- 578	Drums MVO — 97.07 Mhrs. (4.00 FTE) Tran. Laborer — 242.67 Mhrs. (10.00 FTE) Supervisor — 48.53 Mhrs. (2.00 FTE) Rad Tech — 48.53 Mhrs. (2.00 FTE) Waste Engineer — 2.43 Mhrs. (0.10 FTE) MC&A — 4.85 Mhrs. (0.20 FTE)	Non-radiologically contaminated waste chemical drums and photochemical drums are loaded by the Subcontractor Loading of 112 drums based on: 58 legacy radiologically contaminated waste chemical drums 30 ongoing radiologically contaminated waste chemical drums 6 Ni-Cd battery drums 18 ballast drums
R1- F10- 007	Drums MVO — 4.00 Mhrs. (0.00 FTE) Tran. Laborer — 162.50 Mhrs. (10.00 FTE) Supervisor — 32.50 Mhrs. (2.00 FTE) Rad Tech — 32.50 Mhrs. (2.00 FTE) QA — 32.50 Mhrs. (2.00 FTE) Waste Engineer — 1.63 Mhrs. (0.10 FTE) MC&A — 3.25 Mhrs. (0.20 FTE)	Loading of 75 drums with rad chemicals and electrical waste
<i>Shipping Administration</i>		
	ISO Shipments	No ISOs included in project
	Skid Shipments	None required for skid shipments
R1- F10- 007	Skid Shipments	6 shipments of lead acid batteries
	Waste Engineer — 36.00 Mhrs. (3.00 FTE)	
	Box Shipments	1 shipment of boxes
	Waste Engineer — 6.00 Mhrs. (3.00 FTE)	

R1-
F10-
007

5. Shipping		
Waste Engineer	Box Shipments 6.86 Mhrs. (3.00 FTE)	1 shipment of boxes to Broad Spectrum
Waste Engineer	Drum Shipments 294.00 Mhrs. (3.00 FTE)	49 shipments of drums
Waste Engineer	Drum Shipments 9.00 Mhrs. (3.00 FTE)	2 shipments of drums to Broad Spectrum

6) Task #6 – Off-Site Treatment

6.1) Plan/Scope – Off-Site Treatment

- Prices for each non-radiologically contaminated waste type is based on current contract pricing from subcontractors.
- Price for radiologically contaminated chemicals is based on Broad Spectrum unit cost of \$30/kg which includes transportation to treatment facility, treatment, post-processing container, and transport to Envirocare.

6.2) Quantification – Off-Site Treatment

R1-
F10-
007

R1-
F10-
007

6. Off-Site Treatment		
Photochemicals		
<i>Container</i>		
	Drum	3 per year * 6 years * 45.00 each = \$810
<i>Treatment/Recycle/Disposal</i>		
		3 drums per year * 6 years * \$150.00/drum = \$2,700
Electrical Waste		
<i>Container</i>		
	-Fluorescent lamp box	\$251.00 for 1 shipment of boxes * 6 years = \$1,506
	Fluorescent lamp box	\$251.00 for 1 shipment of boxes * 6 years = \$1,506
<i>Recycle</i>		
	-Fluorescent lamp box	\$251.00 for 1 shipment of boxes * 6 years = \$1,506
<i>Recycle</i>		
	-Fluorescent lamp box	\$251.00 for years worth of boxes * 6 years = \$1,506
	-Fluorescent lamp box	\$251.00 for years worth of boxes * 6 years = \$1,506
<i>Recycle</i>		
	Fluorescent lamp box	\$251.00 for 1 shipment of boxes * 6 years = \$1,506
<i>Recycle</i>		
	Ballasts	\$1.10 per lb * 900 lbs per shipment = \$ 990 1 shipment per year for 6 years = \$ 5,940

6. Off-Site Treatment		
	Ballasts	\$1.10 per lb * 500 lbs per shipment = \$ 550 1 shipment per year for 6 years = \$ 3,300
	Ni-Cad batteries	\$0.83 per lb * 200 lbs per shipment = \$ 166 1 shipment per year for 6 years = \$996
	Ni-Cad batteries	\$0.83 per lb * 500 lbs per shipment = \$ 415 1 shipment per year for 6 years = \$2,490
	Fluorescent lamps - 4 ft	\$0.45 per lamp * 6,000 = \$2,700 per shipment for first 4 years \$0.45 per lamp * 2,000 = \$900 per shipment for last 2 years shipments for all 6 years = \$12,600
	Fluorescent lamps - 8 ft	\$0.63 per lamp * 600 = \$378.00 per shipment for first 4 years \$0.63 per lamp * 100 = \$63 per shipment for last 2 years shipments for all 6 years = \$1,638.00
	Broken lamps	\$1.25 per lb * 100 lb = \$125.00 per shipment for first 2 years \$1.25 per lb * 20 = \$25 per shipment for last 4 years shipments for all 6 years = \$350
	<u>Transportation</u>	\$55.00 per 4 foot pallet space * 7 per shipment = \$385.00 1 shipment per year for 6 years = \$2,310
	<u>Transportation</u>	\$55.00 per 4 foot pallet space * 16 per shipment = \$880.00 1 shipment per year for 6 years = \$5,280
	Hazardous Chemicals	
	<u>Container</u>	
	Drum	3 shipments of 15 drums per year * 6 years = 270 270 @ \$38.29 each = \$10,338.30
	Drum	3 shipments of 14 drums per year * 6 years = 270 270 @ \$38.29 each = \$10,338.30
	<u>Treatment/Disposal</u>	
	LabPacks	270 drums @ \$491.00/drum = \$132,570
	<u>Packaging</u>	
	Vermiculite	270 bags @ \$6.38/bag = \$1,722.60
	<u>Travel/Loading/Transport</u>	
	Subcontractor Travel	\$1,148.65 per day for 2 days = \$2,297.30 3 trips per year for 6 years = \$41,351.40
	Loading	\$223.35 per shipment 3 shipments per year for 6 years = \$4,020.30
	Transport	\$223.35 per shipment 3 shipments per year for 6 years = \$4,020.30
	Controlled Area Non-Radiologically Contaminated Chemicals	

R1-
F10-
007

R1-
F10-
007

R1-
F10-
007

6. Off-Site Treatment		
R1-F10-007	Container	
	Tri-Fold (1 cubic yard box)	16 @ \$85.00 each = \$1360.00
	Drum	45 @ \$38.29 each = \$1,723.05
	Drum	75 @ \$38.29 each = \$2871.75
R1-E-730	Treatment/Disposal	
	Boxed Bulk Chemicals	28,800 lbs @ \$0.60/lb = \$17,280.00
	Drummed Bulk Chemicals	4 drums @ \$175.00/drum = \$700.00
R1-F10-007	Incinerable LabPacks	45 drums @ \$491.00/drum = \$22,095.00
	Incinerable LabPacks	69 drums @ \$491.00/drum = \$33,879.00
	Non-Processable Bulk Pack Drum	2 drums @ \$390.00/drum = \$780.00
R1-F10-007	Packaging	
	Vermiculite	45 bags @ \$6.38/bag = \$287.10
	Vermiculite	75 bags @ \$6.38/bag = \$478.50
	Travel/Loading/Transport	
R1-F10-007	Subcontractor Travel	Ongoing \$1,148.65 per day for 2 days = \$2,297.30 1 shipment per year for 6 years = \$13,783.80 Legacy \$1,148.65 per day for 4 days = \$4,594.60
	Subcontractor Travel	\$1,148.65 per day for 2 days = \$2,297.30
	Loading	\$223.35 per shipment 1 shipment per year for 6 years PLUS 1 legacy shipment = \$1,563.45
	Loading	\$223.35 per shipment
	Transport	\$223.35 per shipment 1 shipment per year for 6 years PLUS 1 legacy shipment = \$1,563.45
	Transport	\$223.35 per shipment
	Radiologically Contaminated Chemicals	Price is based upon Broad Spectrum unit cost of \$30/kg which includes transportation to treatment facility, treatment, post-processing container, and transport to Envirocare 34,000 kilograms @ \$30/kg = \$1,020,000
	Radiologically Contaminated Chemicals	Price is based upon Broad Spectrum unit cost of \$30/kg which includes transportation to treatment facility, treatment, post-processing container, and transport to Envirocare 18,366 kilograms @ \$30/kg = \$550,980

7) Task #7 – Disposal

7.1) Plan/Scope – Disposal

- Disposal costs for all non-radiologically contaminated waste streams are included in the off-site treatment costs.

R1-
 F10-
 007

- Disposal costs for radiologically contaminated chemicals are based on 8875 drums and 8 boxes (equivalent to 4880 drums) for a total of 1,020,147 cubic feet. No increase in volume from treatment is expected since most of the drums will have void space due to the nature of the labpacks/bulk-packaged packaged packaged packaged drums.

7.2) Quantification – Disposal

R1-
 F10-
 007

 R1-
 D-
 578

7. Disposal	
Envirocare MW Fee Radiologically contaminated chemicals	1,020 cu. Ft. @ \$23/cu. ft. = \$23,460
Envirocare MW Fee Radiologically contaminated chemicals	1,147 cu. Ft. @ \$23/cu. ft. = \$26,381

SECTION 6

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KF01 HAZARDOUS WASTE

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006						
				Q1	Q2	Q3	Q4																							
Packaging	Maintenance	Project Support Manager	0.80	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	
Packaging	Craft Labor	Millwright	1.80	0.1	0.3	0	0.1	0	0	0	0.1	0	0	0	0.3	0.2	0.2	0.2	0.2	0.1	0	0	0	0	0	0	0	0	0	0
Packaging	Environmental Safety & H	Rad Tech	1.10	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0	0.1	0	0.1	
Packaging	Environmental Safety & H	Safety Engineer	0.80	0	0	0	0	0.1	0	0	0	0	0.1	0	0	0	0.1	0.1	0	0	0	0.1	0	0	0.1	0	0	0	0	
Packaging	Waste Management	Waste Engineer	2.20	0.2	0.7	0	0	0.1	0	0	0	0	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0	0	0	0	0	0	0	0	0	0.1	0
Packaging	Procurement	Material Property Control Rep.	0.90	0	0.1	0	0	0	0	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	0	0	0	0	0	0
Shipping	Transportation Labor	Motor Vehicle Operator	1.00	0	0	0	0.1	0	0.1	0	0.1	0	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1
Shipping	Transportation Labor	Transportation Laborer	3.50	0.1	0.2	0	0.3	0	0.3	0	0.3	0	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0	0.3	0	0.3	0	0.3	0	0.3	0
Shipping	Maintenance	Project Support Manager	0.80	0	0	0	0.1	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0.1	0	0.1	0	0.1
Shipping	Waste Management	Waste Engineer	4.80	0	0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0	0.3	0.1	0	0.2	0	0.1	0	0.2	0	0	0.2	0

Sheet Totals: 89.40 2.50 6.50 8.10 8.10 7.80 9.20 1.90 2.60 2.40 2.20 2.30 6.60 3.80 3.80 3.80 4.40 2.30 1.60 2.40 0.90 1.30 1.50 2.40 1.00

Shipping Subcontract	Shipment Unit	Quantity	Rate	Total
Lab Analysis	Sample	0	\$1,675	\$0
Photochemicals	Drum	18	\$185	\$3,310
Electrical Waste	Package	270	see attached	\$25,340
Haz Chemicals	Package		see attached	\$194,023
Controlled Area Non-Chemicals	Package	45 drums	see attached	\$45,810
Radioactively Contaminated Chemicals	Package	45 drums	see attached	\$45,810
Radioactively Contaminated Chemicals to Broad Spectrum Gas Cylinders	Kilogram	34,000	\$30	\$1,020,000
	ea	61		\$1,241,000
Rad Contaminated Non-Hazardous Chemicals to OSDF	pallet	16 (38 cu ft)		\$0
BURIAL FEES	Unit	Quantity	Rate	Total
Entrecare MW Fee	cu ft	1,020	\$23	\$23,460

Prepared by: Leigh Brazina
Date Prepared: Rev 8, August 21, 2001

Control Team Review: *A. Murphy*

Project Review: *Janet W. White*

- 58 drums of radiologically contaminated hazardous chemicals
- 15 drums of non-radiologically contaminated hazardous chemicals
- 8 boxes of radiologically contaminated hazardous waste
- 10 solids of radiologically contaminated non-hazardous chemicals
- 61 gas cylinders

KBHW1

HAZARDOUS WASTE

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.F
CTRL ACCT: KBHW
CHARGE NO: KBHW1
COMMENT NO: F10-006, F10-007, E729, E730

Resource:	HAZWAT	HAZWAT	Class:	EOC:	LABOR								
Res Dept:	951	951		HOU		HOU		HOU		HOU		HOU	
Yr Hours:	1,704.8	1,704.8		1,704.8	1,704.8	1,704.8	1,704.8	1,704.8	1,704.8	1,704.8	1,704.8	1,704.8	1,704.8
Cum Hours:	1,704.8	3,753.9		5,803.0	7,065.0	8,411.0	8,411.0	8,411.0	8,411.0	8,411.0	8,411.0	8,411.0	8,411.0
Yr Total Cost:	49,082	62,095		65,771	42,896	24,280	25,837	0	0	0	0	0	0
Cum Total Cost:	49,082	111,177		176,948	219,844	244,124	269,961	269,961	269,961	269,961	269,961	269,961	269,961

Resource:	HEOQPR	HEOQPR	Class:	EOC:	LABOR								
Res Dept:	951	951		HOU		HOU		HOU		HOU		HOU	
Yr Hours:	14.1	16.9		16.9	10.0	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	14.1	31.1		48.0	58.0	63.5	69.0	69.0	69.0	69.0	69.0	69.0	69.0
Yr Total Cost:	444	561		594	371	217	231	0	0	0	0	0	0
Cum Total Cost:	444	1,005		1,599	1,971	2,188	2,418	2,418	2,418	2,418	2,418	2,418	2,418

Resource:	INHTEC	INHTEC	Class:	EOC:	LABOR								
Res Dept:	951	951		SAL		SAL		SAL		SAL		SAL	
Yr Hours:	27.0	32.5		32.5	20.0	10.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	27.0	59.5		92.0	112.0	122.5	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Yr Total Cost:	1,019	1,289		1,365	890	496	528	0	0	0	0	0	0
Cum Total Cost:	1,019	2,307		3,673	4,562	5,058	5,586	5,586	5,586	5,586	5,586	5,586	5,586

Resource:	MAT300	MAT300	Class:	EOC:	MATERIAL								
Res Dept:	951	951		MAT		MAT		MAT		MAT		MAT	
Yr Units:	14,659.6	17,619.7		17,619.7	10,848.0	5,797.1	5,773.9	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	14,659.6	32,279.3		49,899.0	60,747.0	66,544.1	72,318.0	72,318.0	72,318.0	72,318.0	72,318.0	72,318.0	72,318.0
Yr Total Cost:	14,660	18,095		18,584	11,762	6,462	6,622	0	0	0	0	0	0
Cum Total Cost:	14,660	32,755		51,339	63,101	69,563	76,185	76,185	76,185	76,185	76,185	76,185	76,185

Resource: MILWRT
Res Dept: 951

MILLWRIGHT OverTime:	Class:		EOC:		LABOR	
	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
476.8	573.1	573.1	353.0	188.4	187.6	0.0
476.8	1,049.9	1,623.0	1,976.0	2,164.4	2,352.0	2,352.0
14,900	18,851	19,967	13,024	7,362	7,834	0
14,900	33,751	53,718	66,742	74,104	81,938	81,938

Resource: MPCREP
Res Dept: 951

MATL PROP CTRL REP OverTime:	Class:		EOC:		LABOR	
	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
737.4	886.3	886.3	546.0	291.6	290.4	0.0
737.4	1,623.7	2,510.0	3,066.0	3,347.6	3,638.0	3,638.0
23,833	30,151	31,936	20,834	11,786	12,541	0
23,833	53,984	85,920	106,755	118,540	131,082	131,082

Resource: MVOOPR
Res Dept: 951

MOTOR VEHICLE OFER OverTime:	Class:		EOC:		LABOR	
	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
344.9	414.5	414.5	255.0	136.3	135.7	0.0
344.9	759.5	1,174.0	1,429.0	1,565.3	1,701.0	1,701.0
9,954	12,593	13,338	8,689	4,918	5,234	0
9,954	22,547	35,885	44,574	49,492	54,726	54,726

Resource: PJSMDR
Res Dept: 951

PROJECT SUPPORT MGR OverTime:	Class:		EOC:		LABOR	
	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07
66.4	79.8	79.8	49.0	26.1	25.9	0.0
66.4	146.2	225.0	275.0	301.1	327.0	327.0
3,036	3,840	4,068	2,645	1,490	1,565	0
3,036	6,876	10,944	13,589	15,078	16,663	16,663

Resource:	RADENG	RAD ENGINEER		LABOR		EOC:		LABOR			
Res Dept:	951	Overtime:	Class:	EOC:	SAL	EOC:	SAL	EOC:	SAL		
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		702.7	844.6	844.6	520.0	278.1	276.9	0.0	0.0	0.0	0.0
Yr Total Cost:		33,169	41,963	44,447	28,977	16,413	17,466	0	3,467.0	0	3,467.0
Cum Total Cost:		33,169	75,132	119,579	148,556	164,970	182,435	182,435	182,435	182,435	182,435

Resource:	RADTEC	RAD TECH		LABOR		EOC:		LABOR			
Res Dept:	951	Overtime:	Class:	EOC:	SAL	EOC:	SAL	EOC:	SAL		
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		352.2	423.4	423.4	261.0	139.3	138.7	0.0	0.0	0.0	0.0
Yr Total Cost:		12,005	15,187	16,086	10,502	5,936	6,317	0	1,738.0	0	1,738.0
Cum Total Cost:		12,005	27,192	43,278	53,780	59,716	66,033	66,033	66,033	66,033	66,033

Resource:	S&HENG	SAFETY ENGINEER		LABOR		EOC:		LABOR			
Res Dept:	951	Overtime:	Class:	EOC:	SAL	EOC:	SAL	EOC:	SAL		
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		153.4	337.7	522.0	635.0	695.6	756.0	756.0	756.0	756.0	756.0
Yr Total Cost:		7,623	9,644	10,215	6,632	3,769	4,010	0	0	0	0
Cum Total Cost:		7,623	17,268	27,483	34,115	37,884	41,894	41,894	41,894	41,894	41,894

Resource:	TPSREP	TECH/PROG SUPT REP		LABOR		EOC:		LABOR			
Res Dept:	951	Overtime:	Class:	EOC:	SAL	EOC:	SAL	EOC:	SAL		
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		830.8	998.6	998.6	615.0	328.7	327.3	0.0	0.0	0.0	0.0
Yr Total Cost:		43,170	54,615	57,848	37,727	21,357	22,726	0	4,099.0	0	4,099.0
Cum Total Cost:		43,170	97,784	155,632	193,360	214,717	237,443	237,443	237,443	237,443	237,443

Resource: TRNLAB
Res Dept: 951
Class: HOU
E.O.C.: HOU
LABOR

Resource:	TRNLAB	EOC:	LABOR											
Res Dept:	951	HOU												
Yr Hours:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 09-	Oct 09-
Cum Hours:			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 10	Sep 10
339.0	407.5	251.0	133.7	133.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,539.3	1,405.0	1,405.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0	1,673.0
8,367	10,586	11,212	4,414	4,414	0	0	0	0	0	0	0	0	0	0
8,367	18,953	30,165	37,479	41,623	46,033	46,033	46,033	46,033	46,033	46,033	46,033	46,033	46,033	46,033

Resource: USUBS
Res Dept: 951
Class: SUB
E.O.C.: SUB
SUBCONTRACTORS

Resource:	USUBS	EOC:	SUBCONTRACTORS											
Res Dept:	951	SUB												
Yr Units:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 09-	Oct 09-
Cum Units:			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 10	Sep 10
286,328.0	344,143.0	211,872.0	112,772.1	112,772.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,412,483.0	1,299,710.9	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0	1,412,483.0
286,328	344,143	211,872	112,772	112,772	0	0	0	0	0	0	0	0	0	0
286,328	630,471	974,614	1,186,486	1,299,711	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483	1,412,483

Resource: WSTENG
Res Dept: 951
Class: SAL
E.O.C.: SAL
LABOR

Resource:	WSTENG	EOC:	LABOR											
Res Dept:	951	SAL												
Yr Hours:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 09-	Oct 09-
Cum Hours:			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 10	Sep 10
3,925.9	4,718.6	2,905.0	1,546.4	1,546.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19,367.0	17,820.6	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0	19,367.0
200,336	253,449	175,019	105,438	105,438	0	0	0	0	0	0	0	0	0	0
200,336	453,786	722,239	897,258	996,344	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782	1,101,782

GRAND TOTALS:

Resource:	WSTENG	EOC:	LABOR											
Res Dept:	951	SAL												
Yr Hours:			Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 09-	Oct 09-
Cum Hours:			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 10	Sep 10
9,675.5	11,629.2	7,160.0	3,810.8	3,810.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47,731.0	43,920.2	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0	47,731.0
707,925	877,063	908,030	579,153	320,940	333,551	333,551	333,551	333,551	333,551	333,551	333,551	333,551	333,551	333,551
707,925	1,584,988	2,493,018	3,072,171	3,393,111	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662	3,726,662

CAM _____
John Murphy
 CONTROL TEAM: *Anna Murphy*

SECTION 6

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Hazardous Waste Disposition		PBS Number: 10		Total Baseline Dollars (Minimum Case):		\$3,726,662				
Evaluator: K. Crosson		Date: Mar. 23, 2001		WBS Number: 1.1.K.F						
CAM: J. Duling		Date: Mar. 23, 2001		Control Account Number: KBHW						
Project Task		Risk and/or Opportunity		Potential Impact		Internal Or External Driver				
		Impact Cost \$ (Maximum Case)		Risk Impact Level		Risk Probability %				
		Risk Probability Level		Probable Cost \$ (Likeliest Case)		Risk Critical Value				
		Risk Handling Strategy								
Planning and Management	Waste disposal costs increase due to unforeseen changes in the market.	Cost to dispose of Hazardous Waste doubles.	Internal	\$221,000	2	10	1	\$22,100	1	Accept
Planning and Management	Current waste recycling and/or treatment and disposal contracts change midstream due to unforeseen circumstances	New contracts will be issued/schedule impacts, additional cost for contract development and award	Internal	\$100,000	2	10	1	\$10,000	1	Accept
Planning and Management	Delay in subcontractor readiness/operational ability	Increase schedule/redirection of waste to alternate facility	Internal	\$187,500	2	10	1	\$18,750	1	Accept
Processing	Subcontractor inability to meet treatment criteria	Redirection of waste to alternate subcontractor	Internal	\$62,500	1	10	1	\$6,250	1	Accept
		Total:		\$571,000				\$57,100		

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 77	
5. WBS ELEMENT CODE 1.1.K.G		6. WBS ELEMENT TITLE AWWT LIQUIDS	
7. APPROVED CP NO. ORIGINAL SCOPE PER CP# FY01-0115-0010-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3100	

11. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
 Materials
 Subcontracts
 ODC's

b. TECHNICAL CONTENT:

The purpose of this element is to segregate, consolidate, and treat aqueous wastes through the FEMP Advanced Wastewater Treatment Facility (AWWT).

c. SCOPE OF WORK:

Liquid waste containerized prior to 12/1/00 (320 containers), newly generated waste from PBS01, PBS12 and PBS02 D&D Plants 5 and 6 will be evaluated by Waste Characterization for acceptability to AWWT for treatment through FY06. Waste streams that lack sufficient data or process knowledge that are still believed to be good candidates for AWWT treatment may be sampled and analyzed for acceptability. Waste Characterization will issue AWWT Campaign Inventory Release Letters with AWWT Environmental Compliance issuing Waste Water Discharge Permits based on those Release Letters. Waste Characterization will act on Compatibility Assessments as deemed necessary by the project and Waste Characterization. Containers will be staged, visually verified for acceptability to AWWT and steps taken, such as removal of oil or non-liquids, to allow for AWWT treatment. Depending upon circumstances and compatibility, liquid waste may be transferred directly from the containers to the AWWT transfer tank truck, directly into the treatment facility, or bulked into large holding tanks prior to waste transfer.

Residues, non-liquid or unacceptable waste will be re-characterized, re-coded, and placed into another campaign for disposition.

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.K.G	4. WBS ELEMENT TITLE/NAME AWWT LIQUIDS
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232
--	--	--

8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE
--	---------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00	11. ESTIMATED START / COMPLETION DATE 12/2000 - 10/2001
---	---

12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBLA	13. TASK DESCRIPTION (ONE LINE) AWWT LIQUIDS
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

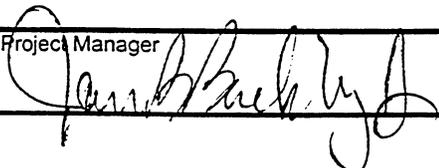
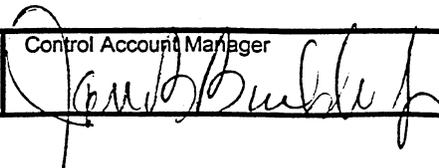
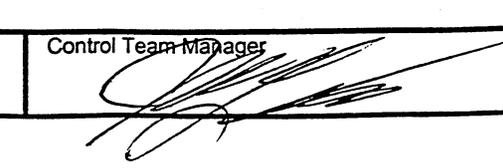
Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

The purpose of this control account is to segregate, consolidate, and treat aqueous wastes through the FEMP Advanced Wastewater Treatment Facility (AWWT).

c. SCOPE OF WORK:

Liquid waste containerized prior to 12/1/00 (320 containers), newly generated waste from PBS01, PBS12 and PBS02 D&D Plants 5 and 6 will be evaluated by Waste Characterization for acceptability to AWWT for treatment through FY06. Waste streams that lack sufficient data or process knowledge that are still believed to be good candidates for AWWT treatment may be sampled and analyzed for acceptability. Waste Characterization will issue AWWT Campaign Inventory Release Letters with AWWT Environmental Compliance issuing Waste Water Discharge Permits based on those Release Letters. Waste Characterization will act on Compatibility Assessments as deemed necessary by the project and Waste Characterization. Containers will be staged, visually verified for acceptability to AWWT and steps taken, such as removal of oil or non-liquids, to allow for AWWT treatment. Depending upon circumstances and compatibility, liquid waste may be transferred directly from the containers to the AWWT transfer tank truck, directly into the treatment facility, or bulked into large holding tanks prior to waste transfer.

Project Manager 	Control Account Manager 	Control Team Manager 
--	---	---

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.G	4. WBS ELEMENT TITLE/NAME AWWT LIQUIDS		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 10/2001	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) KBLA	13. TASK DESCRIPTION (ONE LINE) AWWT LIQUIDS		

14. ELEMENT TASK DESCRIPTION

Residues, non-liquid or unacceptable waste will be re-characterized, re-coded, and placed into another campaign for disposition.

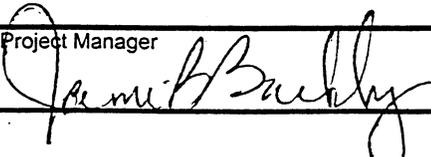
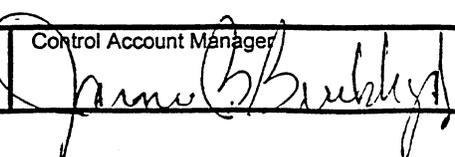
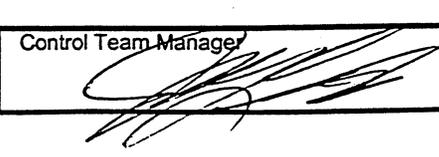
Scope for this control account is further defined at the Work Package - Charge Number level (KBLA1).

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.K.G	4. WBS ELEMENT TITLE/NAME AWWT LIQUIDS		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 10/2001	
12. TASK IDENTIFICATION (WORK PACKAGE) KBLA1	13. TASK DESCRIPTION (ONE LINE) AWWT LIQUIDS		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Material Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>The purpose of this work package is to segregate, consolidate, and treat aqueous wastes through the FEMP Advanced Wastewater Treatment Facility (AWWT).</p> <p><u>c. SCOPE OF WORK:</u></p> <p>Liquid waste containerized prior to 12/1/00 (320 containers), newly generated waste from PBS01, PBS12 and PBS02 D&D Plants 5 and 6 will be evaluated by Waste Characterization for acceptability to AWWT for treatment through FY06. Waste streams that lack sufficient data or process knowledge that are still believed to be good candidates for AWWT treatment may be sampled and analyzed for acceptability. Waste Characterization will issue AWWT Campaign Inventory Release Letters with AWWT Environmental Compliance issuing Waste Water Discharge Permits based on those Release Letters. Waste Characterization will act on Compatibility Assessments as deemed necessary by the project and Waste Characterization. Containers will be staged, visually verified for acceptability to AWWT and steps taken, such as removal of oil or non-liquids, to allow for AWWT treatment. Depending upon circumstances and compatibility, liquid waste may be transferred directly from the containers to the AWWT transfer tank truck, directly into the treatment facility, or bulked into large holding tanks prior to waste transfer.</p>			
Project Manager 	Control Account Manager 	Control Team Manager 	

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.K.G	4. WBS ELEMENT TITLE/NAME AWWT LIQUIDS		
5. PERFORMING DIV/DEPARTMENT CODE 51	6. ORIGINATOR NAME/PHONE JOEL DULING - EXT. 4030	7. WBS ELEMENT MANAGER JIM BUCKLEY - EXT. 3232	
8. BUDGET AND REPORTING NUMBER EW05H3100	9. BUDGET TITLE MIXED WASTE		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? ORIGINAL SCOPE PER CP# FY01-0115-0010-00		11. ESTIMATED START / COMPLETION DATE 12/2000 - 10/2001	
12. TASK IDENTIFICATION (WORK PACKAGE) KBLA1	13. TASK DESCRIPTION (ONE LINE) AWWT LIQUIDS		

14. ELEMENT TASK DESCRIPTION

Residues, non-liquid or unacceptable waste will be re-characterized, re-coded, and placed into another campaign for disposition.

This work package includes the following sub-tasks:

Planning and Management Activities - Development of project flow/logic diagrams, schedules, procedures, task orders, work orders, requisitions and discharge requests as needed. Attend project meetings for coordination between AWWT personnel and project schedules.

Characterization Activities - Material evaluation/process knowledge review, waste water discharge requests, sampling and analysis plan development, data review, statistical analysis (radiological and chemical) and field validation of material description and process knowledge. Compatibility reviews and EPA waste code assignments.

Processing Activities - Includes those activities involving the handling of the containers in accordance with the characterization results in order to disposition the contents appropriately.

Shipping - Includes loading of aqueous waste into site vacuum truck for delivery to the on-site Advanced Waste-water Treatment System (AWWT).

d. WORK SPECIFICALLY EXCLUDED:

Exclusions:

1) This scope of work does not include any waste of this defined work description generated or packaged after December 1, 2000. With the exception of Plant 5 & 6 D&D wastes, and PBS-01 and PBS-12 waste until the end of FY2006. PBS-01 and PBS-12 waste generated after FY2006 will be funded by PBS-11 administration accounts.

SECTION 7

1.0 NARRATIVE

1. PROJECT TITLE: WASTE TREATMENT	2. DATE: 09/10/01	3. PBS#: 10
4. WBS ELEMENT CODE: 1.1.K.G.	5. WBS ELEMENT TITLE: AWWT LIQUIDS	
6. CAM NAME/ PHONE: JIM BUCKLEY/JOEL DULING	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: KBLA	

SECTION 7: KBLA – AWWT LIQUIDS

1.0 NARRATIVE

1.1 OVERVIEW

The purpose of this scope of work is to segregate, consolidate, and treat aqueous wastes through the FEMP Advanced Wastewater Treatment Facility (AWWT).

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

- 1) Adequate support from functional areas (i.e., AWWT tanker truck and support personnel, Operations, Maintenance, Radiation Safety, Industrial Hygiene, Characterization and Transportation) will be available and support the schedule.
- 2) Funding will support scope and schedule for AWWT Campaigns 1003, 1005, 1006, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, and 1016. In addition, it will also support disposition of 55 500-gallon tanks of sump water generated by PBS-01 between FY-01 and FY-06.
- 3) The AWWT will remain certified by USEPA and OEPA to continue treating liquid waste.
- 4) The current safety analysis will not change to impact this project, nor will any other project safety basis impact this scope of work.
- 5) Sampling and sample analysis will be in accordance with the project schedule.
- 6) Awwt Project wastes will be stored in non-climate controlled warehouse facilities. Inclement weather between the months of November and March will affect the proposed schedule.
- 7) The AWWT tank trucks are available in a timely manner and will retain certification for use in transporting the waste to AWWT until the current project inventory is treated or transferred to more appropriate disposition routes.

R1-
F10-
007

R1-
F10-
007

- 8) Building 79 will be available for conducting operations, staging tanks, containers, and secondary containment for the life of the project.
- 9) The AWWT will continue to treat liquid waste without charging to the generator's accounts.

R1-
E-
885

- 10) ~~Funding levels will support the purchase, installation and startup of additional tanks and equipment for new processes to facilitate project operations.~~ The project will plan to procure replacement parts and equipment for liquid bulking for existing equipment and new processes within the KBLA budget up to \$4,700 for the life-cycle of the project.

- 11) There will be no Standard Startup Review, Operational Readiness Review or Management Assessment for the project.
- 12) DOE and Fluor Fernald reporting obligations do not exceed current levels of adherence.
- 13) Empty containers that previously held waste can be crushed/disposed in the OSDF without any further treatment.
- 14) Any residual liquid waste(s) in the containers will be removed and transferred to the Mixed Waste for Incineration Project, the Organic Treatment Project or Low-level waste project as appropriate, and is included in this work scope.

R1-
F10-
007

1.2.2 Exclusions

R1-D-
586

- 1) This scope of work only includes the 326 containers of waste in inventory as of 12/01/2000, wastes from Plant 5 & 6 D&D activities as well as PBS-01 and PBS-04 generated wastes until FY06. Waste generated after FY-06 from PBS-01, PBS-04, and PBS-12 will be funded by the generator, and administered by PBS-11.

R1-D-
559

R1-D-
604

1.2.3 Government-Furnished Equipment/Services

None

1.3 DRIVERS

- 1) Issuance of approved Waste Characterization Campaign Release Letters.
- 2) Finalized Chemical Compatibility Assessments from Waste Characterization.
- 3) Approved NPDES Waste Water Discharge Permits.
- 4) Scheduling and delivery of site vacuum trucks for waste pick-up.

1.4 PROJECT PHYSICAL DESCRIPTION

R1-
F1-
007

Liquid waste will be evaluated by Waste Characterization for acceptability to AWWT for treatment. Waste streams that lack sufficient data or process knowledge that are still believed to be good candidates for AWWT treatment may be sampled and analyzed for acceptability. Waste Characterization will issue AWWT Campaign Inventory Release Letters with AWWT Environmental Compliance issuing Waste Water Discharge Permits based on those Release Letters. Waste Characterization will act on Compatibility Assessments as deemed necessary by the project and Waste Characterization. Containers will be staged, visually verified for acceptability to AWWT and steps taken, such as removal of oil or non-liquids, to allow for AWWT treatment. Depending upon circumstances and compatibility, liquid waste may be transferred directly from the containers to the AWWT transfer tank truck, directly into the treatment facility, or bulked into large holding tanks prior to waste transfer. Residues, non-liquid or unacceptable waste will be re-characterized, re-coded, and placed into another campaign for disposition.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 KBLA1 – AWWT Liquids

1) Task #1 – Planning and Management Activities

1.1) Plan/Scope

Development of project flow/logic diagrams, schedules, procedures, task orders, work orders, requisitions and discharge requests as needed. Attend project meetings for coordination between AWWT personnel and project schedules.

R1-
F10-
007

- ~~Plan for and manage the disposition of 326 containers in inventory as of 12/01/2000, 61 containers from Plant 5 D&D, 7 containers from Plant 6 D&D, and 55 500-gallon tanks from the Maintenance Garage.~~ of aqueous hazardous, low level radioactive and mixed liquid wastes that are suitable and acceptable for treatment through the FEMP AWWT facility and in compliance with the FEMP NPDES permit.

- Develop project flow/logic diagrams and schedules.
- Develop procedures.
- Develop work orders and requisitions as required.

R1-
F10-
007

- ~~Develop campaign release letter(s).~~ the inventory stated in the Campaign Release Letter(s) will be forwarded to Soils and Water Division's Environmental Compliance group by means of a Waste Water Discharge Request Form where it will be evaluated against the site's NPDES Permit and the waste's acceptability for treatment in the AWWT facility. Unapproved waste inventory, along with reasoning for dismissal, will be forwarded to Waste Characterization and WTP

personnel whereby it will be placed into a re-assignment campaign and re-evaluated for disposition alternative or further sampling and analysis.

- The mechanism by which the final inventory campaigns, on approval by Waste Characterization and/or Soil & Water Division's Environmental Compliance, as applicable, will be processed is the WGS Division's Task Order System.
- Under the Task Order System, the methodology for the operations of processing the approved inventory is created by WTP personnel and evaluated by support organizations such as Radiological Control, Health and Safety, Industrial Hygiene, Operations, and Environmental Compliance to ensure safe work practices will be followed.
- Coordinate work with AWWT personnel and operating schedules.

1.2) Quantification – Planning and Management Activities

Manhours (Mhrs) and Full Time Equivalents (FTE's) listed are based upon the time to complete the specific task identified. As such, specific activities will list the FTE's required to complete the task within it's scheduled duration. As an example, a Waste Engineer provides a total general administration function for the life of the project that is estimated to be 3,798 Mhrs. One full FTE for the life of the project (1,266 Days) is 11,394 Mhrs. 3,798 Mhrs is approximately 0.33 FTE's for the life of the project, whereas under inventory planning, a Waste Engineer is needed for 250 Mhrs over 25 days. This equates to one full FTE for that activity. This logic is applied to the remaining quantification sections in this Control Account.

R1-
F10-
007

R1-
F10-
006

R1-
F10-
007

1. Planning and Management	
General Administration Waste Engineer– 3,798 Mhrs (0.33 FTE) Supervisor – 1,266 Mhrs (0.10 FTE)	Waste Engineer involvement includes general project oversight and program maintenance, invoicing, treatment and disposal tracking, procedure reviews and revisions, training, and scheduling.
Mgt. Approvals	No Management Assessment will be performed
Oversight/Inspections Supervisor– 160 (0.2 FTE) Waste Engineer– 800 (1.0 FTE) Waste Engineer Mgr– 800 (1.0 FTE)	Eighty (80) days total for life of project for project oversight
Inventory Planning Waste Engineer– 250 Mhrs. (1.0 FTE) MC&A– 250 Mhrs. (1.0 FTE)	A total of 25 AWWT campaigns taking a total of 25 days to complete.

1. Planning and Management	
Work Package Development Hazwat - 44 Mhrs. (0.05 FTE) Supervisor- 44 Mhrs. (0.05 FTE) Rad Tech- 11 Mhrs. (0.01 FTE) Safety Tech- 33 Mhrs. (0.03 FTE) Rad Engineer- 33 Mhrs. (0.03 FTE) Safety Engineer- 33 Mhrs. (0.03 FTE) Safety Analysis- 22 Mhrs. (0.02 FTE) Waste Engineer- 220 Mhrs. (0.25 FTE) MC&A- 88 Mhrs. (0.10 FTE) TO Writer- 440 Mhrs. (0.25 FTE)	A total of 111 task orders are estimated to be required (88 days). <u>Per task order:</u> Task order permits written by ops/Supervisor. Task Order Writer & Waste Engineer 20 hours/task order. 4 hrs/TO Ops Supervisor/Hazwat 2 hrs/ each QA to review, QA above line. 2 hrs/Task Order Safety Analysis 8 hrs/Task Order, MC&A
Tech. Programs Support	No technology programs support
Travel	No travel required.

R1-F10-006

R1-F10-007

2) Task #2 – Characterization Activities

2.1) Plan/Scope

Material evaluation/process knowledge review, sampling and analysis plan development, data review, statistical analysis (radiological and chemical) and field validation of material description and process knowledge. Compatibility reviews and EPA waste code assignments.

- **Containerized** AWWT liquid waste inventory that presently is or will be in SWIFTS, will be evaluated by Waste Characterization and placed into discreet campaign inventory packages. These campaigns will be approved and release to Waste Treatment Projects (WTP) for AWWT Facility treatment via a Campaign Release Letter.
- Liquid wastes will be evaluated by WTP personnel and characterized by Soil & Water Division's Environmental Compliance group for acceptability via a Waste Water Discharge Request Form. Approved liquid waste may be picked up directly by the AWWT tank truck and delivered to the AWWT facility for treatment without going through the WGS Division Waste Characterization process or being placed into SWIFTS as active inventory.
- Waste Characterization will complete a Chemical Compatibility Assessment that evaluates and approves the acceptability of co-mingling waste streams and any precautions, restrictions or special instructions for co-mingling activities.

R1-F10-007

- Unapproved waste will be processed through the WGS Waste Characterization process and placed in SWIFTS as active inventory. It will be placed in proper interim storage while disposal paths are further sampling and analysis are evaluated by WTP personnel.

2.2) Quantification – Characterization Activities

*The quantification listed in the detailed characterization section is for project planning purposes. Costs associated with these activities will be carried in the detailed estimates for Control Account MMB within PBS11.

2. Characterization	
Field Verification Waste Engineer– 240 Mhrs. (0.5 FTE)	Waste engineer time for field validation of material descriptions and process knowledge during life of project activities. Also include Waste Engineer taking digital pictures of residual materials after pump-out (48 days).
Sampling & Analysis	No sampling required for characterization
Movement	No special movements for characterization
*Characterization Waste Engineer– 360 Mhrs. (1.5 FTE)	Characterization of generated wastes, 3 campaigns at 120 hours each (24 days)

R1-
F10-
007

R1-
F10-
008

3) Task #3 – Processing Activities

3.1) Plan/Scope – Processing Activities

- Upon approval and issuance of a Task Order, approved waste container inventory will be located by Operations personnel and staged in the approved location for container processing.
- The lid of each container will be removed by Operations under the surveillance of support personnel specified in the approved Task Order and visually inspected for the presence of oil and to assure the waste stream is acceptable for AWWT facility treatment.
- Containers that do not contain a liquid component will be documented, re-characterized and re-evaluated for alternative disposal methods.
- Approximately 50 containers will have residual and contact wastes to be processed as low-level waste trash/debris.

R1-
F10-
007

R1-
F10-
007

- Approximately 10 containers consolidated sludge to be processed, 5 through the Organic Treatment Project. and 5 through LLW project.
- Approximately five containers of skimmed oil to be disposed of through the Mixed Waste for Incineration Project.
- When a floating layer of oil is encountered, this layer will, using the oil/water separation process, be removed by a small pneumatic pump and a suction tube or skimmer, and placed into another container. The container will be documented, characterized, labeled and placed in proper interim storage during disposal evaluation and processing.

R1-
F10-
007

- Approximately 124 containers will need to be processed through the oil/water separator.
- Upon completion of container inspections, liquids from all containers will be transferred into a temporary holding tank that is to be set up in the Building 79 bulking area. These liquids will then be pumped directly into the AWWT tank truck that will deliver it to the AWWT facility for treatment. Containers also may be delivered directly to the AWWT for treatment.
- All containers retaining debris or other residues after liquids have been transferred will be documented, re-characterized and re-evaluated for alternative disposal methods.
- All secondary wastes developed from liquids transfer operations will be documented, characterized and evaluated.

R1-
F10-
007

- Approximately 25 containers of secondary waste will be disposed of through the Low-Level Waste Project.
- All containers which are determined to be empty after liquids transfer operations will be evaluated for container reuse or directed to drum crushing operations.
- For non-liquid components observed, documentation will be turned into Waste Characterization and Material Control & Accountability (MC&A) for re-characterization, SWIFTS updating, re-coding and re-labeling. Remaining debris and residues in partially consumed containers will also be re-weighed and submitted to MC&A for SWIFTS updating.
- Depending upon the circumstances, containers may need to be delivered directly to the AWWT, transferred to the AWWT tank truck at the staging area from the containers, picked up at the point of generation in a tote tank, or bulked into a holding tank.

- Emptied drums will be crushed on site and placed in containers.
- Approximately 601 containers of crushed drums will be placed in the On-Site Disposal Facility.

In the event inventory is not approved for AWWT facility treatment due to lack of data, an extent of sampling and analysis will be evaluated and conducted on this inventory to assist the characterization and acceptability determination for treatment through the AWWT Facility. Inventory that is not approved due to untreatable attributes or NPDES non-compliant issues will be re-assigned by Waste Treatment Projects.

3.2) Quantification – Processing Activities

3. Processing		
R1-F10-007	Oil/Water Separation HAZWATS – 20 Mhrs Supervisors – 10 Mhrs RCT- 10 Mhrs Safety Tech- 10 Mhrs Waste Engineer – 5 Mhrs	No decanting required 124 container require oil/H ₂ O operation
	Venting/Puncturing	No venting/puncturing required.
R1-F10-007	Drum Crushing Hazwat– 512.20 Mhrs. (2.0 FTE) Supervisor– 25.61 Mhrs. (0.1 FTE) Rad Tech– 105 Mhrs. (0.5 FTE) Safety Tech– 105 Mhrs. (0.5 FTE) MC&A– 25.61 Mhrs. (0.1 FTE)	394 empty drums will be generated during bulking operations and will require crushing (21 days).
R1-F10-007	Liquid Bulking Hazwat– 2,454.4 Mhrs. (3.0 FTE) MVO– 813.13 Mhrs. (1.0 FTE) Supervisor– 813.13 Mhrs. (1.0 FTE) Rad Tech– 813.3 Mhrs. (1.0 FTE) Safety Tech– 813.13 Mhrs. (1.0 FTE) Waste Engineer– 813.13 Mhrs. (1.0 FTE) MC&A– 163.63 Mhrs. (0.2 FTE)	944 drum equivalent containers will be bulked into a poly-tank. 95 of the 994 containers to be bulked require skimming (106 days). Bulking operations throughput = 15/day = 62.93 days
	On-site Treatment	No on-site treatment will be performed
	Sorting & Consolidation	No sorting/consolidation other than bulking is included in this project.
	Movement	
	ISO's	No ISOs are included in this project

R1-F10-007	<p>3. Processing</p> <p>55 x 2 Tote Tanks Boxes</p> <p>HAZWAT = 59.58 Mhrs. (1.0 FTE)</p> <p>MVO = 58.58 Mhrs. (1.0 FTE)</p> <p>Supervisor = 11.92 Mhrs. (.20 FTE)</p> <p>RCT = 14.90 Mhrs. (.25 FTE)</p> <p>Safety Tech = 29.79 Mhrs. (.25 FTE)</p> <p>Rad Engineer = 3.0 Mhrs. (0.05 FTE)</p> <p>Safety Engineer = 3.0 Mhrs. (0.05 FTE)</p> <p>Waste Engineer = 7. Mhrs. (0.10 FTE)</p> <p>MC&A = 7 Mhrs. (0.10 FTE)</p>	<p>64 tote tanks will be moved from Plt. 1 to Bldg 79 for bulking. 64 empty totes will be returned to generators.</p>
	R1-F10-007	<p>Drums</p> <p>Hazwat = 128.0 Mhrs. (1.0 FTE)</p> <p>MVO = 128.0 Mhrs. (1.0 FTE)</p> <p>Supervisor = 25.61 hrs. (0.2 FTE)</p> <p>Rad Tech = 32.0 Mhrs. (0.25 FTE)</p> <p>Safety Tech = 64.0 Mhrs. (0.5 FTE)</p> <p>Safety Engineer = 6.40 Mhrs (0.05 FTE)</p> <p>Rad Engineer = 6.40 Mhrs (0.05 FTE)</p> <p>Waste Engineer = 13.0 Mhrs. (0.1 FTE)</p> <p>MC&A = 13.0 Mhrs. (0.1 FTE)</p>

4) Task #4 – Packaging

4.1) Plan/Scope – Packaging

No waste packaging is required.

4.2) Quantification – Packaging

4. Packaging	
Repack/Overpack	No overpack/repack operations are required
Container Purchase	No container purchases are required.

5) Task #5 – Shipping

5.1) Plan/Scope – Shipping

- Includes loading of aqueous waste into site vacuum truck for delivery to the on-site Advanced Waste-water Treatment System (AWWT)

5.2 Quantification - Shipping

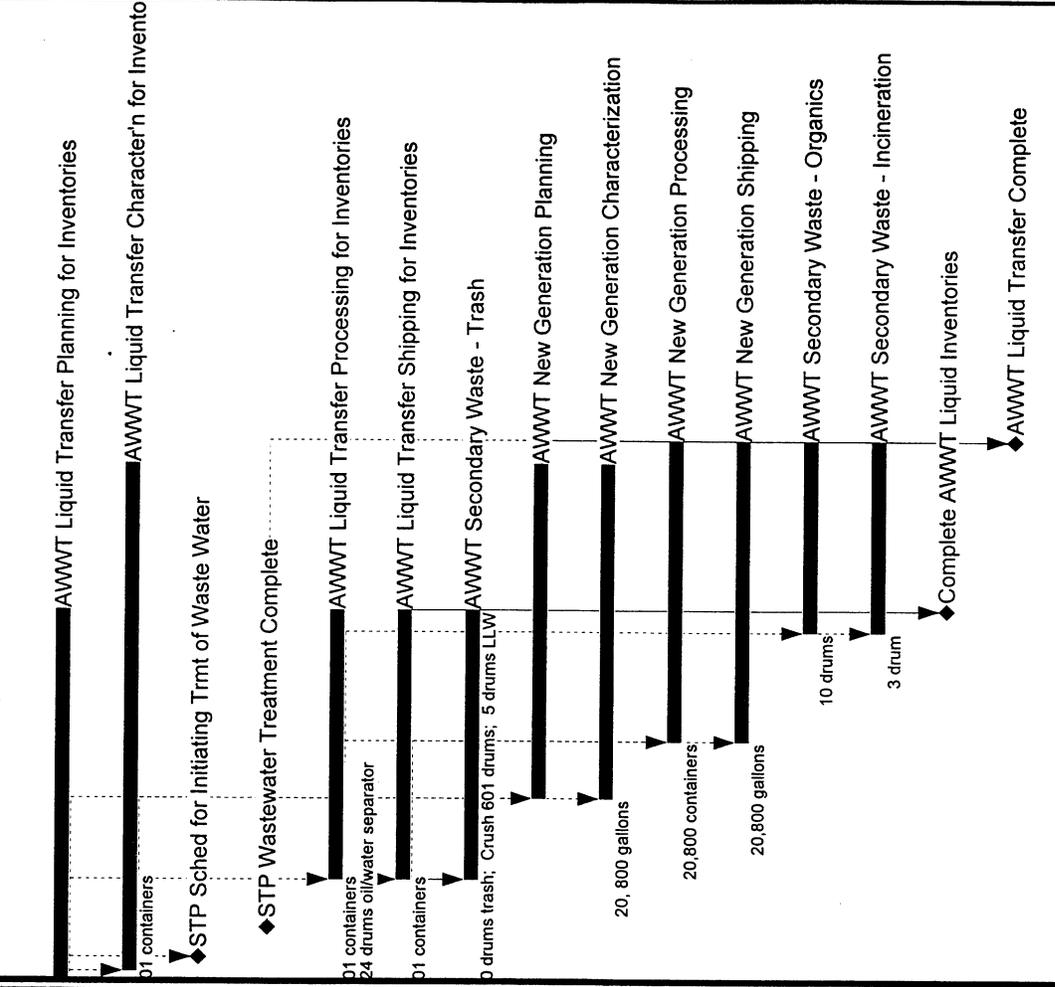
5. Shipping	
Shipping Preparation Hazwat – 200 Mhrs (1.0 FTE) MVO – 200 Mhrs (1.0 FTE) Waste Engineer – 100 Mhrs (0.5 FTE) RCT 200 Mhrs (1.0 FTE) Supervisor 100 Mhrs (0.5 FTE)	Transfer of consolidated liquid from bulk tanks to vacuum truck for shipment (20 days)
Loading	No loading required of containers is required
Shipping Administration	No shipping administration is required (on-site shipments only).

SECTION 7

2.0 SCHEDULE

K PBS 10 - MIXED WASTE
1.1.K.G AWWT LIQUIDS

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
K1BLA15710	AWWT Liquid Transfer Planning for Inventories	04DEC00*	08NOV04	789
K1BLA15720	AWWT Liquid Transfer Character'n for Inventories	08JAN01*	31MAY06	1,085
K1BLA1STP	STP Sched for Initiating Trmt of Waste Water		01MAR01*	0
K1BLA1MS01	STP Wastewater Treatment Complete		29JUN01*	0
K1BLA15730	AWWT Liquid Transfer Processing for Inventories	26DEC01*	08NOV04	577
K1BLA15750	AWWT Liquid Transfer Shipping for Inventories	26DEC01	08NOV04	577
K1BLA16270	AWWT Secondary Waste - Trash	26DEC01	08NOV04	577
K1BLA15711	AWWT New Generation Planning	12NOV02*	31MAY06	886
K1BLA15721	AWWT New Generation Characterization	12NOV02*	31MAY06	886
K1BLA15731	AWWT New Generation Processing	23JUN03*	29AUG06	798
K1BLA15751	AWWT New Generation Shipping	23JUN03*	29AUG06	798
K1BLA14570	AWWT Secondary Waste - Organics	19AUG04*	29AUG06	409
K1BLA15670	AWWT Secondary Waste - Incineration	19AUG04*	29AUG06	409
K1BLA1MS90	Complete AWWT Liquid Inventories		08NOV04*	0
K1BLA1MS91	AWWT Liquid Transfer Complete		29AUG06	0



Start Date: 01DEC00
 Finish Date: 28SEP06
 Data Date: 01DEC00
 Run Date: 12SEP01 10:58

BLGF - K101

MIXED WASTE

1.1.K.G AWWT LIQUIDS

Sheet 1 of 1

Early Bar
 Progress Bar
 Critical Activity

Date	Revision	Checked/Approved
R1-D-559		
R1-D-586		
R1-D-640		
R1-D-653		
R1-D-876		
F10-007		

SECTION 7

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1KG01 AWWT LIQUIDS

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																	
1002 SSD MW DISPOSITION	10/02/2000	09/30/2002		XXX																								
1003 Thorium Stabilization	10/02/2000	01/09/2001		XXX	X																							
1004 Neutralization Precipitation Deactivation	10/02/2000	01/25/2001		XXX	X																							
1005 Char/Pack/Ship Hazardous Waste	10/02/2000	09/28/2001		XXX	XXX	XXX	XXX																					
1006 Organic Treatment Project (PCB)	10/02/2000	07/02/2003		XXX																								
1007 Thorium Mixed Waste	10/02/2000	07/15/2003		XXX																								
1008 Mixed Waste Admin	10/02/2000	09/30/2003		XXX																								
1009 Inorganic Small Quantity	10/01/2001	07/18/2002		XXX	XXX	XXX	XXX	X																				
1010 DECONTAMINATION/MACROENCAPULATIO	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																				
1011 INORGANIC SAMPLE DISPOSITION	01/02/2001	01/16/2002		XXX	XXX	XXX	XXX	X																				
1012 LIQUID AWWT	10/02/2000	1/16/2000	XX																									
1013 LIQUID TSCA	10/02/2000	03/28/2002		XXX	XXX	XXX	XXX	XXX	XXX																			
Planning	Waste Management	Waste Engineer	4.10	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
Planning	General Labor	Hazwat	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Planning	Procurement	Material Property Control Rep.	0.10	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0		
Planning	Maintenance	Project Support Manager	0.40	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Planning	Environmental Safety & H	Safety Engineer	0.40	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1		
Planning	Project Management	Tech/Program Support Rep.	0.70	0	0.1	0.1	0.1	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0		
Characterization	Waste Management	Waste Engineer	0.60	0.1	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0		
Processing	General Labor	Hazwat	7.90	0	0	0.6	0.2	0.4	0	0.4	0.4	0.4	0	0.4	0.8	0.5	0.1	0.1	1	1	0	0.4	0.4	0	0.4	0		
Processing	Procurement	Material Property Control Rep.	0.90	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0	0	0	0.1	0		
Processing	Transportation Labor	Motor Vehicle Operator	2.90	0	0	0.2	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0.3	0.2	0.1	0.1	0.5	0.5	0	0.1	0.1	0	0.1	0		
Processing	Maintenance	Project Support Manager	3.10	0.1	0.8	0.1	0.1	0.1	0	0.1	0	0.1	0	0.1	0.2	0.2	0	0.3	0.5	0.5	0	0.1	0.1	0	0.1	0		
Processing	Environmental Safety & H	Rad Tech	2.40	0	0	0.2	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.2	0.1	0	0.1	0.4	0.4	0	0.1	0.1	0	0.1	0		
Processing	Environmental Safety & H	Industrial Hygienist Tech.	2.40	0	0	0	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0.3	0.2	0	0.4	0.5	0.5	0	0.1	0.1	0	0.1	0		
Processing	Project Management	Tech/Program Support Rep.	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Processing	Waste Management	Waste Engineer	3.10	0	1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.2	0.1	0.1	0.4	0.4	0	0.1	0.1	0	0.1	0		
Shipping	General Labor	Hazwat	1.70	0	0	0	0.1	0	0	0	0.1	0	0	0	0.2	0.1	0.1	0.1	0.4	0.4	0	0.1	0	0	0	0.1		
Shipping	Maintenance	Project Support Manager	0.80	0.1	0.1	0	0.1	0	0	0.1	0	0	0	0.1	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0	0	0	0
Shipping	Environmental Safety & H	Rad Tech	0.50	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0		
Shipping	Waste Management	Waste Engineer	0.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.2	0	0	0	0	0	0		
Sheet Totals:			32.20	0.80	2.50	1.80	1.40	1.10	0.40	1.40	1.10	1.00	0.40	1.30	2.60	2.10	0.50	3.70	4.50	0.10	1.20	1.10	0.10	1.20	0.20			

SECTION 7

4.0 ESTIMATE

KBLA1

AWWT LIQUIDS

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: J. BUCKLEY
CAM: J. BUCKLEY
PREPARED BY: A. MURPHY
FISCAL YEAR: 2001-2010

PBS: OHFN10
WBS: 1.1.K.G
CTRL ACCT: KBLA1
CHARGE NO: KBLA1
COMMENT NO F10-006, F10-007, E885

Resource:	HAZWAT	HAZWAT	HAZWAT		EOC:		LABOR	
			Res Dept:	951	Class:	HOU	Class:	HOU
Yr Hours:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	0.0	1,377.0	1,103.0	733.0	284.0	0.0	0.0
Yr Total Cost:	0	0	41,728	37,491	26,392	10,925	0	0
Cum Total Cost:	0	0	41,728	110,868	137,260	148,185	148,185	148,185

Resource:	INHTEC	INHTEC	INHTEC		EOC:		LABOR	
			Res Dept:	951	Class:	SAL	Class:	SAL
Yr Hours:	0.0	0.0	453.0	312.0	240.0	87.0	0.0	0.0
Cum Hours:	0.0	0.0	453.0	1,010.0	1,260.0	1,337.0	1,337.0	1,337.0
Yr Total Cost:	0	0	17,971	13,883	11,313	4,381	0	0
Cum Total Cost:	0	0	17,971	42,150	53,462	57,843	57,843	57,843

Resource:	MAT300	MAT300	MATERIAL		EOC:		MATERIAL	
			Res Dept:	951	Class:	MAT	Class:	MAT
Yr Units:	0.0	0.0	14,380.0	18,626.9	4,477.2	2,238.7	0.0	0.0
Cum Units:	0.0	0.0	14,380.0	33,006.9	52,004.2	58,720.0	58,720.0	58,720.0
Yr Total Cost:	0	0	14,768	19,646	4,990	2,568	0	0
Cum Total Cost:	0	0	14,768	34,415	60,003	62,571	62,571	62,571

Resource:	MPCREP	MPCREP	MPCREP		EOC:		LABOR	
			Res Dept:	951	Class:	SAL	Class:	SAL
Yr Hours:	0.0	0.0	295.0	99.0	76.0	44.0	0.0	0.0
Cum Hours:	0.0	0.0	295.0	396.0	571.0	615.0	615.0	615.0
Yr Total Cost:	0	0	10,036	3,639	3,072	1,900	0	0
Cum Total Cost:	0	0	10,036	13,675	20,525	22,425	22,425	22,425

Resource: MVOOPR
Res Dept: 951
Class: LABOR

MOTOR VEHICLE OPER
Overline: EOC: HOU

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum
Yr Hours:	0.0	504.0	0.0	504.0	277.0	781.0	369.0	262.0	109.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	504.0	0.0	504.0	781.0	1,412.0	1,150.0	1,412.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0	1,521.0
Yr Total Cost:	0	15,310	0	15,310	8,913	12,573	36,796	4,203	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	15,310	0	15,310	24,223	46,252	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455	50,455

Resource: PJSMGR
Res Dept: 951
Class: LABOR

PROJECT SUPPORT MGR
Overline: EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Cum																		
Yr Hours:	958.0	522.0	410.0	366.0	164.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	958.0	1,480.0	1,890.0	2,256.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0	2,568.0
Yr Total Cost:	43,800	25,121	20,899	17,840	10,019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	43,800	68,920	89,819	109,575	127,415	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433	137,433

Resource: RADENG
Res Dept: 951
Class: LABOR

RAD ENGINEER
Overline: EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum
Yr Hours:	0.0	14.0	20.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Cum Hours:	0.0	14.0	34.0	48.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
Yr Total Cost:	0	696	1,052	236	252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	696	1,748	2,305	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541

Resource: RADITEC
Res Dept: 951
Class: LABOR

RAD TECH
Overline: EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum	Yr	Cum
Yr Hours:	0.0	452.0	273.0	361.0	109.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	452.0	725.0	1,086.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0	1,348.0
Yr Total Cost:	0	16,214	10,373	14,525	11,167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	16,214	26,587	41,112	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279	52,279

Resource: S&HENG
Res Dept: 951

Class: LABOR

EOC: SAL

SAFETY ENGINEER
Overtime:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	0.0	14.0	26.0	13.0	9.0	8.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	14.0	40.0	53.0	62.0	70.0	70.0	70.0	70.0	70.0
Yr Total Cost:	0	733	1,441	763	560	531	0	0	0	0
Cum Total Cost:	0	733	2,173	2,936	3,496	4,027	4,027	4,027	4,027	4,027

Resource: TPSREP
Res Dept: 951

Class: LABOR

EOC: SAL

TECH/PROG SUPT REP
Overtime:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	130.0	150.0	112.0	16.0	16.0	17.0	0.0	0.0	0.0	0.0
Cum Hours:	130.0	280.0	392.0	408.0	424.0	441.0	441.0	441.0	441.0	441.0
Yr Total Cost:	6,755	8,204	6,488	982	1,040	1,180	0	0	0	0
Cum Total Cost:	6,755	14,959	21,447	22,428	23,468	24,648	24,648	24,648	24,648	24,648

Resource: USUBS
Res Dept: 951

Class: SUB

EOC: SUB

UNESCALATED SUBS
Overtime:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Units:	0.0	0.0	0.0	994.1	8,284.0	7,521.9	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	994.1	9,278.1	16,800.0	16,800.0	16,800.0	16,800.0	16,800.0
Yr Total Cost:	0	0	0	994	8,284	7,522	0	0	0	0
Cum Total Cost:	0	0	0	994	9,278	16,800	16,800	16,800	16,800	16,800

Class: SUBCONTRACTORS

Resource: WSTENG
Res Dept: 951

WASTE ENGINEER
Overtime:

Class:

EOC:
SAL

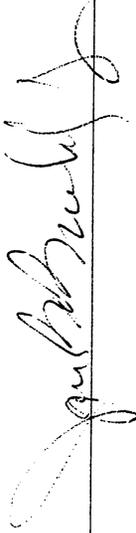
LABOR

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	1,395.0	689.0	703.0	513.0	416.0	268.0	0.0	0.0	0.0	0.0
Cum Hours:	1,395.0	2,064.0	2,767.0	3,280.0	3,696.0	3,964.0	3,964.0	3,964.0	3,964.0	3,964.0
Yr Total Cost:	71,187	35,934	39,996	30,907	26,549	18,273	0	0	0	0
Cum Total Cost:	71,187	107,121	147,117	178,024	204,572	222,845	222,845	222,845	222,845	222,845

GRAND TOTALS:

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:	2,483.0	4,450.0	3,153.0	3,162.0	2,330.0	1,094.0	0.0	0.0	0.0	0.0
Cum Hours:	2,483.0	6,933.0	10,086.0	13,248.0	15,578.0	16,672.0	16,672.0	16,672.0	16,672.0	16,672.0
Yr Total Cost:	121,741	186,715	154,391	156,807	120,897	66,718	0	0	0	0
Cum Total Cost:	121,741	308,456	462,847	619,654	740,551	807,269	807,269	807,269	807,269	807,269

CAM




CONTROL TEAM

SECTION 7

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: AWWT		PBS Number: 10		Total Baseline Dollars (Minimum Case):		\$807,269				
Evaluator: K. Crosson		Date: Mar 23, 2001		WBS Number: 1.1.K.G						
CAM: J. Dulling		Date: Mar 23, 2001		Control Account Number: KBLA						
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost \$ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost \$ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Planning	Unplanned waste identification / generation: (500 containers * \$200.00)	Increased cost due to extended project oversight / management.	Internal	\$100,000	4	4	50	3	\$50,000	5 Accept
Processing	Schedule extension due to delays in waste disposal activities	Increased cost due to extended project oversight / management.	Internal	\$100,000	4	4	50	3	\$50,000	5 Accept
				Total:	\$200,000		Total:	\$100,000		

