Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Oakland**

Print Date: **3/9/2000**

Site Summary Level: **Lawrence Livermore National Laboratory**

HQ ID: **0464**

Project **OK-041 / Accelerated Waste Treatment**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose and Scope: The remaining task, to build a Large Container Processing Unit (LCPU) has been transferred to OK-026 LLNL GPP. The LCPU will be a permitted TRU glovebox large enough to handle the oversized TRU containers. To this end it will:
1. Obtain the necessary RCRA Permits and NEPA approvals
2. Design a working unit where in the boxes can be opened, the items/ equipment may be characterized and sized reduced (as needed), and the contents transferred into WIPP-approved containers.
3. Clear a room for, or build a enclosing facility for the working LCPU. Provide any new utilities (compressed air, 480V power) as needed.
4. Construction the working LCPU.

Build and operate a Molten Salt Oxidation (MSO) reactor, and a calciner to solidify the ash (waste) from the MSO process. Establish the volume reduction, final form durability, and economy of the process.

Technical Approach: MSO technology uses a liquid salt bath at 950 degress C. Waste and air are injected into the salt, and the waste is destroyed through oxidation. No flame is present during the process.

We will select a room with HEPA filtered ventilation, negative pressure, overhead crane, and necessary utilities (compressed air, power, communications...) capable of moving and uncrating two large (6`x6`x9`) TRU metal Boxes at a time. If a host facility with such a filtered room is not available, then the design will be adjusted to include secondary ventilation containment, and an alternate facility will be selected or built. The preliminary plan is that a section of the existing Plutonium Work Facility will be converted to this purpose.

The working LCPU itself will be adapted from existing walk-in booth designs used at other nuclear facilities (e.g., NFS`s design for Irwin KY fuel fab decon; CPC`s design for LLNL`s walk-in booth; Permacon`s designs for NTS`s Waste Exam Facility). It will allow for video recording of the exams, chemical and radiation survey instruments, size reduction of large items (e.g. lathes, gloveboxes), and sorting tables for external workers with gloves (as well as a walk-in capability). The unit will be hard sided to minimize maintenance and reduce accidental release potential. Handling features include an overhead crane and large airlocks.

Project Status in FY 2006:

ETDP and LCPU project will be complete.
See PBS OK-026 LLNL Genl Plant Projects.

Post-2006 Project Scope:

ETDP will be complete and the LCPU will continue to operate as designed.
See PBS OK-026 LLNL Genl Plant Projects.

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Project Description Narratives

Project End State

ETDP has no links to other projects.
The LCPU project has no links to other projects.

Cost Baseline Comments:

The ETDP was completed in FY99.

All LCPU costs are included with PBS OK-026 LLNL Genl Plant Projects. Redesign around use of hands-on work instead of remote handling reduced costs to <$5M (within GPP limits).

Safety & Health Hazards:

The ETDP/MSO Treatment uses 700 degree C salt as the main fluid and decomposes a variety of hazardous chemicals. Dep Uranium was used as a radioactive material surrogate.

Safety & Health Work Performance:

All activities are done by procedures that requires LLNL Hazards Control's concurrence. HC Teams are funded by overhead, are staffed with specialists to cover most all hazards (rad, haz, industrial, lasers, and assist all Lab activities.

PBS Comments:

ETDP - no additional narrative.

Currently, LLNL (like other DOE sites) does not have the ability to process or handle the oversized TRU containers which are in the legacy inventory. Without this project, those containers would stay in storage INDEFINITELY. In addition to current inventory, it is anticipated that large items requiring certification will be created during the decontamination and decommissioning of LLNL facilities.

Baseline Validation Narrative:

Not Validated

General PBS Information

Project Validated? **Date Validated:**

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/13/1999

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General PBS Information

FEDPLAN Project? Yes

Drivers:	**CERCLA**	**RCRA**	**DNFSB**	**AEA**	**UMTRCA**	**State**	**DOE Orders**	**Other**
	N	Y	N	N	N	N	Y	N

Project Identification Information

DOE Project Manager: John Wood

DOE Project Manager Phone Number: 925-422-0683

DOE Project Manager Fax Number: 925-422-0832

DOE Project Manager e-mail address: john.wood@oak.doe.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	**2007-2070 Total**	**1997-2070 Total**	**1997**	**Actual 1997**	**1998**	**Actual 1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PBS Baseline (current year dollars)	7,823	0	7,823	4,138	2,138	1,971	2,650	1,714	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	7,823	0	7,823	4,138	2,138	1,971	2,650	1,714	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	7,823	0	7,823	4,138	2,138	1,971	2,650	1,714	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	7,823	0	7,823	4,138	2,138	1,971	2,650	1,714	0	0	0	0	0	0	0

	2007	**2008**	**2009**	**2010**	**2011-2015**	**2016-2020**	**2021-2025**	**2026-2030**	**2031-2035**	**2036-2040**	**2041-2045**	**2046-2050**	**2051-2055**	**2056-2060**	**2061-2065**	**2066-2070**

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	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/1/2002

Current Projected End Date of Project: 9/30/1999

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

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Project **OK-041 / Accelerated Waste Treatment**

Project Reconciliation

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	11,911	**Actual 1997 Cost:**	2,138	**Actual 1998 Cost:**	2,650
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	7,123	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			192
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	7,315				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):	4,900	$5M (FY99-00) Balance of LCPU transfered to OK-026 LLNL GPP.
Cost Reductions Due to Efficiencies (-):	2,100	$2M LCPU costs reduced by locating it within DWTF and more modularization.
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	315	
Additional Amount to Reconcile (+):	1,399	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**1,714**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Start			12/1/1997								
Project End			9/30/1999								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Start				Y							
Project End					Y	Y					

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