

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Idaho**

Site Summary Level: **Idaho National Engineering and Environmental Laboratory**

Project **ID-WM-104 / AMWTP Asset Acquisition Project (Privatized)**

Report Number: **GEN-01b**

Print Date: **3/10/2000**

HQ ID: **0452**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The purpose of the Advanced Mixed Waste Treatment Project (AMWTP) is to retrieve, treat and prepare for shipment 65,000 m³ of transuranic (>100 nanocuries per gram alpha) and alpha low-level (>10 but <100 nanocuries per gram alpha) mixed waste, currently stored at the Idaho National Engineering Laboratory (INEEL) Radioactive Waste Management Complex (RWMC), for final disposal at the Waste Isolation Pilot Plant (WIPP). The procurement and construction of a mixed waste treatment facility (the Advanced Mixed Waste Treatment Facility, or AMWTF) to address this waste is identified in a Settlement Agreement between the state of Idaho, the U.S. Navy and the DOE, signed in October, 1995. In accordance with this Agreement, DOE-ID procured private sector retrieval and treatment services through a competitive bid process and awarded a fixed-price contract to BNFL Inc. on December 20, 1996. In addition to the 65,000 m³ of DOE-ID waste, the AMWTP contract provides a treatment capacity for several mixed waste streams identified in current DOE Federal Facilities Compliance Act Site Treatment Plans. The procurement of the AMWTP provides for the removal and disposition of stored TRU waste from the state of Idaho, thereby meeting the conditions of the Settlement Agreement and eliminating the need for long-term inspection and management of the waste. In addition, disposition of the waste addresses stakeholder concerns regarding the storage of radioactive waste above the Snake River Plain Aquifer, which is a primary source of drinking and irrigation water for much of southeast Idaho.

The AMWTP is divided into three phases. Phase I provides for the completion of licensing, permitting and preliminary design activities, as well as an environmental impact statement (EIS) under the National Environmental Policy Act (NEPA). Phase II provides for the construction of the treatment facility and transition of RWMC retrieval and storage operations from the INEEL Management and Operating contractor to BNFL Inc. Phase III provides for the operation of the facility, RCRA closure following operations, and subsequent D&D of the facility. Because the AMWTP is a privatization project, the three phases are discussed in two Project Baseline Summaries (PBS). This PBS includes the activities associated with Phase II of the project, facility construction. Activities associated with Phase I (permitting, NEPA, etc.) and Phase III of the project (i.e., actual operation, closure and D&D of the facility) are discussed in PBS ID-WM-105, AMWTP Production Operations. Therefore, the scope of this project includes those activities associated with facility construction under the AMWTP privatization contract, including detailed facility/process design, construction of the treatment facility, and Systems Operability testing prior to startup.

Technical Approach: Construction of the treatment facility will employ standard practices and approaches applicable to a Category 2 Nuclear Facility. Use of Government-Furnished Equipment and INEEL utilities, to augment the treatment facility, have been negotiated between DOE-ID, LMITCO and BNFL Inc. and are documented in a Memorandum of Agreement, signed by the three parties in January, 1999.

Assumptions:

1. The AMWTP will be able to obtain the necessary permits to construct and operate the facility in time to support the Settlement Agreement and STP milestones associated with construction and operation of the facility.
2. Necessary privatization funding will be obtained in FY 00-03 to allow construction of the treatment facility to continue (i.e., sufficient funding to cover termination-for-convenience costs in the event the project were to terminate).

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Project Status in FY 2006:

Construction of the treatment facility will be complete by December 31, 2002, with operations (covered in PBS ID-WM-105) commencing by March 31, 2003. All pre-construction activities, including design, licensing, and permitting will be complete prior to initiation of construction activities.

Post-2006 Project Scope:

N/A (this project will be complete in FY 2003).

Project End State

Completion of this project will support the EM end-state by providing a facility for retrieval, treatment and preparation for shipment to WIPP of 65,000 m3 of mixed transuranic and alpha low-level radioactive wastes currently stored at the RWMC. The AMWTP operations associated with Phase III of the project are scheduled to begin in 2003 and complete by 2015, and will be followed by RCRA Closure of the facility and subsequent D&D of the facility. There is a provision in the contract to extend the contract life as necessary, at the discretion of DOE, to treat additional INEEL and non-INEEL DOE mixed waste at the treatment facility.

Cost Baseline Comments:

The costs reflect a fixed-price, competitively-bid contract with BNFL Inc., signed December 20, 1996, with work beginning January 18, 1997, for licensing, construction, operations, and RCRA closure associated with the AMWTP. Because Phase II of the AMWTP is fixed price, no escalation was applied to the costs in this PBS. Successful completion of the project assumes sufficient funds will be available to meet contractual requirements; failure to receive sufficient funding would require renegotiation or termination of the contract. The baseline cost profile reflects annual funding sufficient to cover termination-for-convenience costs, if the contract should require termination-for-convenience at some point in the future.

The cost of this project in constant 1998 and 1999 dollars has remained the same at \$569.4M, throughout the life of this fixed price project. The IDMS Reconciliation section inappropriately applies an escalation factor to the 1998 life cycle cost estimate for the period 1999-2070, thereby generating an erroneous discrepancy between the IDMS-calculated 1999 life cycle cost estimate and the actual 1999 life cycle cost estimate.

Safety & Health Hazards:

The AMWTP will provide for private sector retrieval, treatment, and repackaging of 65,000 m3 of transuranic and alpha low-level mixed wastes currently in storage at the RWMC Transuranic Storage Area (TSA). This waste resulted primarily from weapons production activities conducted at the Rocky Flats Plant and other DOE facilities and was received at the INEEL from 1970 to the late 1980s. These wastes are currently stored in drums, boxes and bins and consist of various solid materials including process sludges, nitrate salts, paper, clothing, plastic, rubber, glass, concrete and various bulk metals. The majority of the waste (approximately 80%) is located in earthen-covered storage within the TSA, with the remainder located in several RCRA-permitted storage modules at the RWMC. The principle hazards associated with this waste are radionuclides (transuranic and mixed fission products), RCRA hazardous constituents (e.g., volatile organic compounds), PCBs and asbestos. Therefore, radiation exposure, personnel contamination, and chemical exposures are potential health hazards that will be present on a daily basis. Additionally, fire hazards will be a concern, along with the normal occupational hazards of lifting, tripping, falls, etc. A hazard analysis is being performed to identify all potential hazards associated with the scope of work. At the end of the project life, the facility will be decontaminated and decommissioned; thus the principal hazards will involve normal occupational hazards related to building D&D. Once D&D is complete, all hazards should be eliminated.

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Project Description Narratives

Because this is a privatization project, BNFL Inc. is required to submit a formal ES&H Authorization application to DOE-ID for approval prior to initiating construction/operations of the facility. The authorization basis for this project will be established through the development and approval of the ES&H Program Operating Plan (ESHPOP), a PSAR/FSAR, applicable regulatory permits (i.e., RCRA, TSCA, CAA/NESHAPs), and the project-specific NEPA decision. The ESHPOP will identify the set of rules, regulations, statutes, DOE Directives, etc. which will govern the design, construction and operation of the AMWTF. Thus, the ESHPOP presents the integrated safety management program that will be implemented throughout the life of the project. The ESHPOP will be developed during Phase I of the project and cosigned by DOE-ID and BNFL Inc. The ESHPOP will be the basis for the formal authorization for BNFL Inc. to handle DOE radioactive materials, and will form the basis from which DOE-ID will perform ES&H oversight of BNFL Inc. activities during construction and operation of the facility. The PSAR and FSAR will identify the hazards involved in the work, and will determine the hazard mitigation necessary to complete the work safely. Appropriate design barriers will be included in facility construction, and additional administrative controls will be identified and implemented during construction and operations to provide defense in depth for hazards. Operational testing and readiness reviews will also be conducted, prior to final startup of facility operations, to ensure facility operations can be performed safely.

Safety & Health Work Performance:

Because this is a privatization project, DOE-ID intends to conduct its monitoring of the AMWTP construction and operations using an approach analogous to a permit. This approach will be consistent with DNFSB Recommendation 95-2 and will allow DOE-ID and BNFL Inc. to mutually negotiate the terms of a document that will set out each party's expectations and limits of conduct, and will provide each party with the assurance that neither DOE nor BNFL Inc. will conduct itself in a manner contrary to the terms of the document unless emergency or extraordinary conditions arise. The document will be called the ES&H Authorization, it will be cosigned by DOE-ID and BNFL Inc.. Once signed, it will present the requirements from which DOE-ID will conduct oversight of ES&H for the contract and will constitute the formal authorization for BNFL to conduct operations and handle DOE radioactive materials. The ES&H Authorization will identify requirements in the following functional areas: radiological controls; nuclear criticality controls; safety analysis report and process; worker safety and health; permission to commence operations and stop work authority; facility, construction and fire safety; training and qualification; environmental protection and monitoring; contingency/emergency planning and response; records and reports; facility security; conduct of operations; radioactive waste management; hazards analysis and control.

PBS Comments:

The AMWTP is a highly visible project within the state of Idaho as well as the DOE. It is the second largest privatization project in the DOE, and the largest at DOE-ID. The Advanced Mixed Waste Treatment Project is identified as the facility for treatment of several mixed waste streams identified in the Site Treatment Plans (STPs) required by the Federal Facilities Compliance Act of 1992, as well as being required by the Settlement Agreement between the State of Idaho and the DOE, signed in October 1995. The Settlement Agreement identifies milestones for construction and commencement of operations at the facility, and the STPs identify milestones for treating mixed waste at the facility, thus several enforceable milestones are tied to construction and operation of this facility. Failure to meet these milestones can lead to an injunction to stop DOE spent fuel from entering the state of Idaho, and impact STP milestones under the FFCA.

Baseline Validation Narrative:

This is a Privatization project being conducted under a fixed-price contract. The project was validated through the competitive bid process.

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General PBS Information

Project Validated? Yes **Date Validated:** 12/20/1996

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date:

FEDPLAN Project? Yes

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

Project Identification Information

DOE Project Manager: Mike J. Bonkoski

DOE Project Manager Phone Number: 208-526-1412

DOE Project Manager Fax Number: 208-526-0598

DOE Project Manager e-mail address: BONKOSKIMJ@INEL.GOV

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

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)	443,800	125,600	569,400									22,700	102,300	159,400	159,400
PBS Baseline (constant 1999 dollars)	443,800	125,600	569,400									22,700	102,300	159,400	159,400
PBS EM Baseline (current year dollars)	443,800	125,600	569,400									22,700	102,300	159,400	159,400
PBS EM Baseline (constant 1999 dollars)	443,800	125,600	569,400									22,700	102,300	159,400	159,400

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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	
dollars)	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)	125,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	125,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	125,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	125,600	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
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
						0.00%	0.00%	0.00%	0.00%	0.00%	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%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 12/1/2002

Current Projected End Date of Project: 9/30/2003

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Project Reconciliation

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	569,400	Actual 1997 Cost:	Actual 1998 Cost:
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	569,400	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):	15,374
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	584,774		

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):	-15,374	
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	569,400	
Additional Amount to Reconcile (+):	0	IDMS makes improper assumptions regarding AMWTP escalation. See Cost Baseline Narrative.
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	569,400	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
BNFL Initiate Construction of the mixed-waste treatment facility	ID0452-4		3/31/2000	3/31/2000			Y				
BNFL commence System Testing of AMWTF	ID0452-6		9/30/2002	9/30/2002			Y			Y	
BNFL complete construction of the AMWTF	ID0452-5		12/31/2002	12/31/2002			Y				

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Mission Complete	ID0452-2		12/1/2002				Y			Y	
Project Start	ID0452-1		1/20/2000								
Project Complete			9/30/2003								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
BNFL Initiate Construction of the mixed-waste treatment facility	ID0452-4										
BNFL commence System Testing of AMWTF	ID0452-6										
BNFL complete construction of the AMWTF	ID0452-5										
Project Mission Complete	ID0452-2										
Project Start	ID0452-1			Y							
Project Complete					Y						