

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Idaho**

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

Project **ID-OIM-117 / Cathodic Protection System Expansion**

Report Number: **GEN-01b**

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

HQ ID: **0185**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The Idaho Nuclear Technology Engineering Center (INTEC) at the Idaho National Engineering and Environmental Laboratory (INEEL) has an extensive Cathodic Protection System (CPS) installed that protects underground piping and structures from corrosion. The CPS for simplicity can be grouped into three different systems. The first system provides protection for the Tank Farm piping system, the second protects the Underground Dry Fuel Storage Area Vaults (INTEC-749), and the third provides protection for the Underground Utility Systems, i.e. Firewater System. A majority of components (anodes) in the CPS have been in service since 1961, exceeding the design life of 20 years. In order to comply with the State of Idaho RCRA Interim Status Part B Permit, an operational CPS is required. An operational CPS providing corrosion protection to underground piping and structures will help mitigate possible underground piping system failures allowing INTEC to meet the Settlement Agreement with the State of Idaho.

This project provides for design, procurement, and construction activities pertaining to the CPS Expansion Line Item Construction Project (LICP). The LICP will essentially replace all existing underground anodes and rectifiers that have exceeded their design life and are not providing the needed protection on a case by case basis. This LICP will have a thirty year design life. The project will install new reference and test wells inside the INTEC-749 area and other areas as specified in the conceptual design report. The project will replace all of the above ground fiberglass electrical junction boxes that have deteriorated with approved weather tight, UV resistant junction boxes.

This LICP is required to meet the design life of the underground metallic structures associated with the operation of the High Level Liquid Waste Tank Farm, Dry Fuel Storage Facility, and Utility Systems. These systems are required to be operational to support the closure of the Tank Farm and removal of fuel stored in the Dry Fuel Storage Facility.

A High Level Waste (HLW) Environmental Impact Statement (EIS) relating to Tank Farm closure has been submitted to the State of Idaho. During Title Design, the scope of this project could be reduced or expanded due to a change of mission resulting from the outcome of the Record of Decision (ROD) with the State of Idaho concerning the EIS.

Project Status in FY 2006:

Project construction will be complete 4th quarter of FY 2003.

Post-2006 Project Scope:

N/A All construction will be complete by 4th quarter of FY 2003.

Project End State

In order to comply with the State of Idaho RCRA Interim Status Part B Permit, an operational CPS is required. An operational CPS providing corrosion protection to underground piping and structures will help mitigate possible underground piping system failures allowing INTEC to meet the Settlement Agreement with the State of Idaho.

Cost Baseline Comments:

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

Page 1 of 6

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Project Description Narratives

The estimate comes from the completed Conceptual Design Report. It was prepared utilizing the INEEL Cost Estimating Guide (DOE/ID 10473).

Safety & Health Hazards:

This Line Item Construction Project (LICP) will essentially replace all existing underground anodes and rectifiers that have exceeded their design life and are not providing the needed protection on a case by case basis.

The project will install new reference and test wells inside the INTEC-749 area and other areas as specified in the conceptual design report. The project will replace all of the above ground fiberglass electrical junction boxes that have deteriorated with approved weathertight, UV resistant junction boxes.

Safety & Health Work Performance:

The Integrated Safety Management Program mandates that safety be an integral part of the work process. Hazards are identified through work planning, safety controls are implemented, and the work is conducted accordingly. Post job reviews are conducted to identify and discuss problems or successes. Useful information is then distributed through a Lessons Learned Program. Management and workers at all levels with assistance from safety and health professionals are responsible for the development, implementation, maintenance, and promotion of an effective employee safety and health program. This in part is accomplished by review and approval of all Work Control Documents including: work orders, operating procedures, construction and demolition projects, and maintenance plans. Safety and Health contacts are available for every activity/project to assist the responsible worker/manager in planning and executing work according to applicable requirements. The means to accomplish work safely are provided through work control documents with subject matter contacts available in specialty fields such as health, safety, environmental, radiological control, fire protection, occupational medicine, safeguards and security, and emergency management. Safety and health resources are planned and allocated into each activity/project proposal according to size of the activity/project and scope of work. Safety and health reviews assure compliance with appropriate Federal, State and local statutes, and contractual obligations. Reviews also assure that all company health & safety plans, procedures, and documents are included and followed. Personnel, as required, from the facility, safety, health, environmental, fire protection, radiological control, project management group, and other involved organizations or personnel whose expertise is needed is assembled to evaluate the work scope and the work location for hazards. Prior to the work activity an appropriate mitigation plan is formulated with the hazards and plan communicated to the employees. On construction projects a plan-of-the-day is performed by the supervisor with his employees to review the work tasks and associated hazards to be performed that day. Work control documents are prepared on a graded approach. The graded approach is used to determine the frequency of the work control document and who is required to review the document prior to that particular phase of work to be performed. Specific and repetitive tasks are reviewed and documented through the Job Safety Analysis for the identification and elimination of hazards. Unforeseen safety & health issues that are not covered in work control documents require the issuance of special work permits. Safe Work, Confined Space, Lock/Tag, and Construction Permits are issued by safety and health professionals after a complete review of the work activity. Work control planners, supervisors, foremen, and safety and health professionals are all highly skilled and trained professionals. At a minimum, planners are journeymen craftsmen with a skill level equal to or greater than the craftsmen for whom the work is planned. Supervisors and foremen are responsible for conducting a pre-job safety briefing prior to each activity and, workers at all levels of activity, have both the knowledge and authority to "stop work" under unsafe conditions. Safety and health professionals provide on-site assistance to both workers and supervisors and the Company Voluntary Protection Program (VPP) integrates safety and health into all aspects of the work planning and control process. Safety and Health FTEs average approximately \$100K/FTE/year.

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Page 2 of 6

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Project Description Narratives

PBS Comments:

Baseline Validation Narrative:

General PBS Information

Project Validated? **Date Validated:**

Has Headquarters reviewed and approved project? No

Date Project was Added: 3/17/1999

Baseline Submission Date:

FEDPLAN Project? Yes

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

Project Identification Information

DOE Project Manager: Wayne B. Shigley

DOE Project Manager Phone Number: 208-526-1986

DOE Project Manager Fax Number: 208-526-9150

DOE Project Manager e-mail address: shiglewb@inel.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)	6,875	0	6,875			75		75	300	550	3,381	1,244	1,250	0	

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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	
PBS Baseline (constant 1999 dollars)	6,383	0	6,383			75		75	292	525	3,158	1,138	1,120	0		
PBS EM Baseline (current year dollars)	6,875	0	6,875			75		75	300	550	3,381	1,244	1,250	0		
PBS EM Baseline (constant 1999 dollars)	6,383	0	6,383			75		75	292	525	3,158	1,138	1,120	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
PBS Baseline (current year dollars)																
PBS Baseline (constant 1999 dollars)																
PBS EM Baseline (current year dollars)																
PBS EM Baseline (constant 1999 dollars)																

Baseline Escalation Rates

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

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Page 4 of 6

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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

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project:

Current Projected End Date of Project: 9/30/2004

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	Actual 1997 Cost:	Actual 1998 Cost:	
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	0	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):	0
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	0		

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):	6,308	New LICP PBS created from ID-OIM-102
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	6,308	
Additional Amount to Reconcile (+):	0	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	6,308	

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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
A-E WORK INITIATED			3/31/2001								
A-E WORK COMPLETED			3/31/2002								
PHYSICAL CONSTRUCTION START			6/30/2002								
PHYSICAL CONSTRUCTION COMPLETE			9/30/2004								

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
A-E WORK INITIATED				Y							Initiate all architectural and engineering (A-E) work.
A-E WORK COMPLETED											Complete all architectural and engineering (A-E) work.
PHYSICAL CONSTRUCTION START											Start the physical construction.
PHYSICAL CONSTRUCTION COMPLETE					Y						Complete all of the physical construction.