

**Energy Technology Engineering Center (ETEC) EM Project**  
**Baseline Summary**  
**February, 2009**

**BACKGROUND**

The Santa Susana Field Laboratory (SSFL), owned by the Boeing Company (Boeing), is located atop a range of hills between the populous Simi and San Fernando Valleys, in Ventura County, California, north of Los Angeles. ETEC, the western-most 90 acres of the site located within Administrative Area IV, was leased by DOE and used for research and development activities for DOE Nuclear Energy (NE) Programs.

During the early years of operation, DOE built and operated many facilities at ETEC. When opened in the early 1950s, the site was ideally remote from population centers to enable development of security-sensitive projects. These projects supported research for DOE and its predecessor agencies for nuclear research and energy development projects. The site includes buildings which house test apparatus for large-scale heat transfer and fluid mechanics experiments, mechanical and chemical test facilities, office buildings, and auxiliary support facilities. ETEC has been managed by EM since 1990 after DOE NE concluded its mission. ETEC was declared a surplus facility in 1996. DOE EM's mission has been to complete site cleanup and closure. As such, the current use of the site is strictly EM-related involving deactivation, decommissioning, and dismantlement activities. As a result of past operations, radioactive and chemical contamination exists in several structures (including the Radioactive Materials Handling Facility) as well as in soil and groundwater.

At its mission peak, ETEC comprised over 270 numbered structures. As ETEC was a test site, facilities were often decommissioned and cleaned, refurbished, and/or demolished as necessary once their mission was achieved. Since the decision to close ETEC in 1996, many facilities have been decontaminated, decommissioned, demolished, and contaminated soils have been removed. Since the inception of EM activities, two major radiological facilities and five sodium facilities have been decontaminated and decommissioned, all the inventory of transuranic (TRU) wastes and large volumes of low-level radiological waste (LLW) and mixed low-level radiological waste (MLLW) have been disposed of off-site, and over 100,000 gallons of sodium metal have been recycled. In addition, numerous uncontaminated support facilities have been demolished per the agreement with the DOE Contract to Boeing. DOE has had a performance-based contract with Boeing for the cleanup and closure of ETEC since 1998, which is due to expire in September 2008. DOE has provided Boeing with a short-term contract extension to April 30, 2009, to allow preparation of a response to a request for proposal (RFP) and subsequent evaluation. Issuance of the follow-on contract would allow continuation of the Boeing contract through September 2011. There are no DOE-funded activities at the site besides the EM work.

## **SCOPE DESCRIPTION**

EM's Project activities from FY08 to project closeout, include: 1) completion of an Environmental Impact Statement (EIS) prior to the continuation of any physical demolition or restoration work – the EIS is expected to be complete by 12/30/2013 ; 2) Once this EIS is completed, building demolition will resume for the two remaining radiological and two remaining non-radiological facilities (includes closure of two RCRA-permitted facilities); 3) Waste management and disposal; and 4) RCRA Corrective Action at DOE SWMUs and one groundwater operable unit (OU). Recently additional scope outside the current baseline was added to the project. Settlement of a recent litigation action has identified potential damages claims of approximately \$11 million. The FY2008 appropriations language also mandated that DOE use a portion of its ETEC budget to fund a radiological characterization survey for Area IV of the SSFL. The requirements of this survey are that the US Environmental Protection Agency will perform the work. This survey is estimated to cost approximately \$40.0 million.

Currently there remain two radiological facilities (comprising a total of 11 numbered structures including mixed-waste RCRA-permitted buildings), one sodium test facility (comprised of two buildings), and one RCRA-permitted hazardous waste management facility. In addition, five other DOE support facilities (office and storage buildings, warehouses, parking lots, electrical substations) will be demolished. The two radiological facilities remaining at ETEC are the Radioactive Materials Handling Facility complex (RMHF), which requires development of a State approved RCRA closure plan, and Building 4024 (an Environmental Test Facility). The two remaining sodium facilities are the Sodium Pump Test Facility and the Hazardous Waste Management Facility, which has a State approved closure plan that has been suspended pending completion of the EIS.

The SSFL Area IV site is undergoing a RCRA Corrective Action, encompassing characterization and remediation of contaminated soil and groundwater under a Consent Order administered by the California EPA Department of Toxic Substance Control (DTSC). Interim measures are being implemented to remediate areas of known groundwater contamination (in one groundwater Operable Unit [OU]), while the implementation of the RCRA Facility Investigation (RFI) work plan is the current phase in the investigation of potential areas of chemical contamination in the soil. There are thirteen (13) Solid Waste Management Units (SWMUs).

## **PROJECT MANAGEMENT**

Based on the direction from EM Headquarters, the Oakland Projects Office as part of the Small Sites Program, developed the near-term baseline for each of its projects. The ETEC project baseline has undergone an independent review to verify the reasonableness of the scope, cost, and schedule for the project. An approved near-term baseline reflects the identified scope that can reasonably be accomplished for the identified cost in the identified time period if the near-term baseline is funded as profiled and contingency funds are provided as required during project

execution. It also establishes the baseline as an acceptable point from which to track and control future change. The review and approval process accommodates the likely changes in the EM complex, site priorities and funding plans. These changes could affect both near-term (within the next five years) and life-cycle cost, schedule and scope. Such future changes may be necessary to comply with applicable environmental legal obligations while maintaining essential functions necessary to protect human health, the environment and national security; reflect funding different from the baseline assumptions; incorporate technological advances; implement specific programmatic risks that have been realized; or implement programmatic business cases. Because the cleanup extends beyond the near-term, out-year planning estimates (ranges) have also been developed and independently reviewed.

## LIST OF PROJECTS

The ETEC EM program consists of one project as shown below. The Near-Term Baseline (NTB) for this project is from FY 2008 – FY 2014 and the Out-Year Planning Estimate Range (OPER) is from FY2015 through FY 2020 at the 50% confidence level and goes to FY2025 at the 80% confidence level.

Project	Date Approved	
	Near Term Baseline (NTB)	Out Year Planning Estimate Range (OPER)
CBC-ETEC-0040 – Nuclear Facility D&D – Energy Technology Engineering Center	2/12/2008	2/12/2008

Note: BCP to incorporate litigation settlement and rad. Characterization survey was submitted 1/23/2009.

## PROJECT SCOPE

CBC-ETEC-0040 – Nuclear Facility D&D – Energy Technology Engineering Center

The end-state objective of the EM mission is to restore the ETEC activity areas to conditions protective of human health and the environment. The targeted completion date for regulatory approval is the 2<sup>nd</sup> quarter of FY2020 for implementation of all RCRA Corrective Action and facility removal. The final closure schedule will be updated once the EIS is completed. Project scope requirements are as follows:

- The FY2008 DOE Appropriations language mandated that DOE and EPA enter into an Interagency Agreement (IAG) for the joint preparation of a radiological characterization survey for SSFL Area IV. In July 2008 DOE and EPA entered into an agreement where EPA would perform this survey and DOE would provide the \$40.0 million to fund it. The IAG also provides DOE funds to EPA for the preparation of the radiological background study.
- A lawsuit was brought against DOE and the Boeing Company. Primary litigation for the case has been performed. The recommendation was made to settle the case following several legal briefs. The litigation settlement is projected to be \$11.0 million to be paid in FY2009.

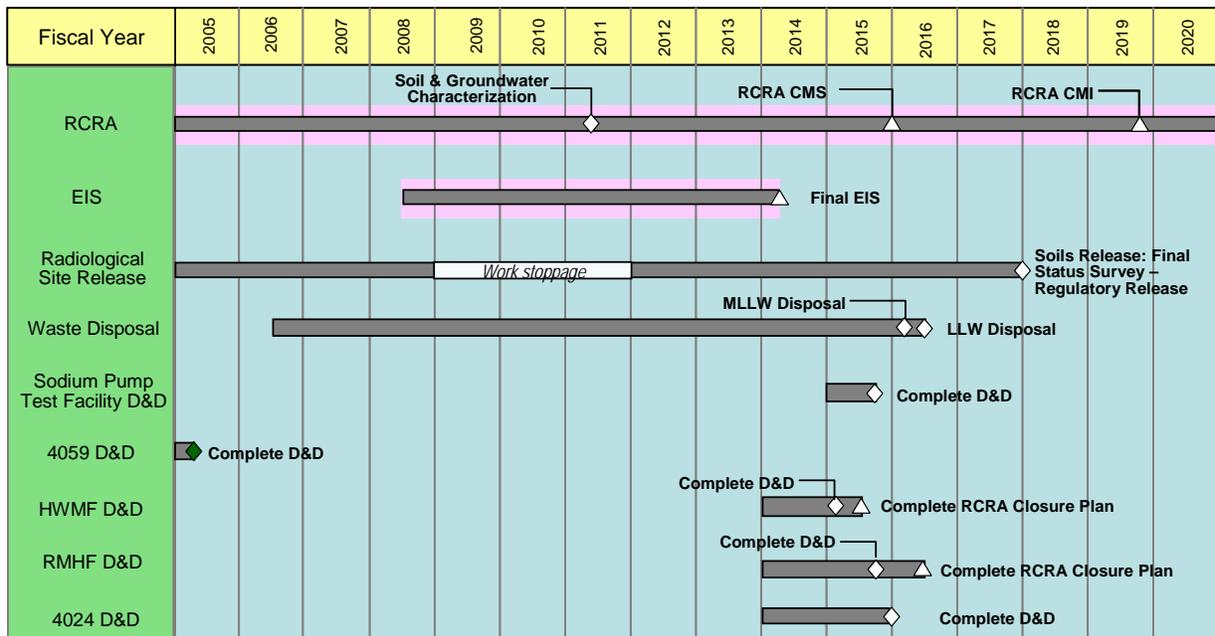
- All LLW and decommissioning materials resulting from demolition of former radiological facilities will be accepted at a DOE-approved disposal facility.
- All MLLW resulting from demolition of former radiological facilities will be treated to meet Land Disposal Restrictions (LDR) and accepted at a DOE approved disposal facility.
- The project scope for radiological soil and building sites is successful completion of Oak Ridge Institute for Science and Education (ORISE) verification that they meet site release criteria.
- The project scope for radiological groundwater is to obtain approval and/or concurrence from DOE and the appropriate state regulatory agencies of the long-term remedy and monitoring plan. Per agreements between DOE and Boeing, DOE will transfer all long-term monitoring and O&M to Boeing.
- The project scope for all DOE-responsible SWMUs and the Chatsworth Formation groundwater OU (CFOU) is a RCRA Facility Investigation (RFI) report finding “no further action” that is approved by the California Department of Toxic Substances (DTSC), or a DTSC-certified Corrective Measures Implementation (CMI) report.
- The radiological project scope is restoration of the RMHF is demolition of the structure, removal of hazardous and radiological materials for disposal, and acceptance of waste at an offsite disposal facility. The RCRA end state is to obtain DTSC approval of the RMHF RCRA Closure Report.
- The project scope for B4024 is demolition of the structure, removal of hazardous and radiological materials for disposal, and acceptance of waste at an offsite disposal facility.
- Demolition of all SPTF above-ground structures, removal of hazardous materials for disposal, and acceptance of waste at an offsite disposal facility.
- The project scope for HWMF is to obtain DTSC approval of HWMF RCRA Closure Report and restoration of the site to like natural conditions including demolition of buildings 4133 and 4029 and acceptance of contaminated soils at an off-site disposal facility.
- Adequate, uninterrupted program/project support and resources are required until all technical and administrative work is complete.
- The project is to have conducted contract work scope and remove all DOE presence (buildings, infrastructure, and personal property and records) in a safe and environmentally responsible manner.

## PROJECT COST (\$M)

Cost Element	Project Number			
	CBC-ETEC-0040			
1. Prior Year Costs (1997-2007)	\$174.3M			
2. Total Near-Term Baseline (50% Confidence Level)	\$114.5M			
3. Unfunded Contingency	\$19.4M			
4. Performance Baseline	\$133.9M			

(80% Confidence Level)				
5. Out Year Planning Estimate Range	\$53.4M-			
	\$87.5M			
6. Total Life Cycle Cost	\$167.9M-			
	\$221.4M			

## SUMMARY LIFECYCLE BASELINE SCHEDULE



- △ Planned Selected Regulatory Milestones
- ◇ Planned Other Targets
- ▲ Completed Selected Regulatory Milestones
- ◆ Completed Other Targets
- Critical Path

## SUMMARY OF APPROVED BASELINE CHANGES

Project	Approved at CD-2		Approved Baseline Changes (Scope, Cost or Schedule)	Current Approved	
	Near Term Baseline (NTB)	Out Year Planning Estimate Range (OPER)		Near Term Baseline (NTB)	Out Year Planning Estimate Range (OPER)
CBC-ETEC-0040 – Nuclear Facility D&D – Energy Technology Engineering Center	Cost: \$40.0M  Schedule: FY2010	Cost: \$65.6M - \$105.8M  Schedule: FY2018- FY2023	BCP-XXX (Date): None	Cost:\$114.5M  Schedule: FY2014	Cost: \$53.4M - \$87.5M Schedule: FY2020 FY2025

Note: NTB is the 50% confidence level estimate.