

PROGRESS IN EM'S FOOTPRINT REDUCTION FOR THE OAKLAND PROJECTS OFFICE'S PROJECTS

Richard Schassburger - Director, Oakland Projects Office

ABSTRACT

USDOE Environmental Management's Oakland Projects Office has responsibility for three very different projects in California. The projects are the decontamination and decommissioning and environmental remediation of the Energy Technology Engineering Center in Southern California, environmental remediation of a limited portion of the SLAC National Accelerator Center at Stanford, and contract close-out of with General Electric at the General Electric Vallecitos Nuclear Center in Northern California. The Oakland Projects Office is using both base funds and Recovery Act funds to complete these projects and reduce Environmental Management's footprint in California. The approach that the Oakland Project Office used to determine potential projects for Recovery Act funding, a detailed description of the projects, and the progress and remaining work needed to complete the projects will be discussed in this paper. This paper will also emphasize lessons learned and the efforts that the projects have made to create and save jobs while proactively reducing EM's footprint in California.

INTRODUCTION

The Environmental Program (EM) is responsible for cleanup of environmental legacy from nuclear research, production and testing of DOE funded nuclear energy research within the United States. These past activities produced quantities of nuclear materials, spent nuclear fuel, radioactive and hazardous waste which resulted in contaminated facilities, soil and groundwater at sites across the United States. EM has responsibility for some of the most challenging work of any environmental program in the world.

The EM Oakland Projects Office is responsible for several sites in California. Cleanup of the legacy contamination of a portion of the Lawrence Berkeley National Laboratory is already completed. Current projects include cleanup at the Energy Technology Engineering Center (ETEC) located on the Santa Susana Field Laboratory (SSFL) northwest of Los Angeles in the hills between the San Fernando Valley and Simi Valley, the SLAC National Accelerator Laboratory (SLAC) located adjacent to Stanford University just outside of Menlo Park, and the General Electric Vallecitos Nuclear Center (GEVNC) located in Sunol, California approximately 40 miles east of San Francisco.

ETEC

ETEC is approximately 90 acres of the western-most portion of Area IV of the SSFL. SSFL is made up of four areas, with Area I, most of III and IV owned by the Boeing Company and Area II and a small portion of Area I owned by National Aeronautics and Space Administration (NASA). The Department of Energy (DOE) and its predecessor agencies performed nuclear research and energy development projects at the ETEC site

beginning in the early 1950s. The first nuclear reactor providing energy to the commercial grid was located at ETEC. At its peak, over 270 structures comprised the ETEC site. Since ETEC was a test site, facilities were often decommissioned, cleaned up and reused or demolished. In the late 1980s, DOE Nuclear Energy (NE) concluded its mission at ETEC and the site was transferred to EM in 1990. In 1996, ETEC was declared a surplus facility and deactivation, decommissioning, dismantlement and environmental cleanup are the only ongoing activities. Since that time, all of 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, over 100,000 gallons of sodium metal have been recycled, and numerous facilities have been demolished. 25 numbered structures remain at the site.

In May 2007, the Federal Court of Northern District of California ruled that the DOE's decision in a May 2003 Environmental Assessment to issue a Finding of No Significant Impact was not supported by the Environmental Assessment and ordered DOE to prepare an Environmental Impact Statement to complete the cleanup of Area IV. In late 2007, the U.S. Environmental Protection Agency (USEPA) performed a hazardous ranking assessment of the entire SSFL and proposed to the State of California that SSFL be listed on the Superfund list. In August 2007, the California Department of Toxic Substances Control (DTSC), DOE, NASA and Boeing signed a Consent Order on the cleanup of the SSFL. In December 2007, the State of California passed legislation, known as SB990, requiring cleanup at the SSFL meet stringent agricultural cleanup standards for both hazardous chemical and radiological contamination. For most of 2009, DTSC, DOE, NASA and Boeing negotiated a Revised Consent Order to incorporate SB990 requirements. In November 2009, the Boeing Company filed litigation against DTSC asking the federal court to review the constitutionality and applicability of SB990.

The 2008 Appropriations Law (H.R. 2764) mandated that DOE enter into an interagency agreement with US EPA to conduct "a joint comprehensive radioactive site characterization of Area IV." In December 2008, as requested by the California Congressional Delegation, EPA submitted a proposal that included the scope of work for the comprehensive radiological characterization effort and an estimated cost estimate of \$40 million. In December 2008 and January 2009 DOE provided a total of \$1.7 million to EPA to begin the work of the radiological characterization survey. In August 2009, the American Recovery and Reinvestment Act (ARRA) provided the remaining \$38.3 million to EPA. This radiological survey, at the request of stakeholders, is being performed by the USEPA-Region 9 with involvement of the USEPA Las Vegas Laboratory.

ETEC also received additional, ARRA funding of \$15.8 million to be used for site activities associated with the remaining RCRA reports, characterization necessary to determine additional chemical work and waste management activities related to on-going site maintenance.

Although cleanup was originally planned for completion in 2017 based on the August 2007 Consent Order, the current completion of the ETEC cleanup is more than likely

after 2017. The completion date is dependent upon a Revised Consent Order still under negotiations. DOE would like to complete cleanup on Area IV as soon as possible, but must do so in coordination with the Area IV property owner, Boeing, and the other parties at SSFL, DTSC and NASA.

SLAC NATIONAL ACCELERATOR LABORATORY ENVIRONMENTAL REMEDIATION PROJECT

SLAC is a 426 acre site adjacent to Stanford University. This state-of-the-art high energy physics and synchrotron radiation research laboratory has been in operation since the 1960s. SLAC is operated by Stanford University, who is also the landowner, for the DOE- Office of Science (SC). The research and support operations at SLAC included the use of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), metals, petroleum hydrocarbons and other hazardous materials. SLAC has also generated tritium in local areas of soil and groundwater at the site.

In July 1985 the California Regional Water Quality Control Board (RWQCB) for the San Francisco Bay Area issued a Waste Discharge Order for the former solvent underground storage tank (FSUST) area. In May 2005, a new order was issued by the RWQCB to DOE and Stanford for the "investigation and remediation of impacted soil and groundwater resulting in historical spills and leaks that have occurred during the course of operations at SLAC." Finally, in October 2009, the RWQCB updated the 2005 Order updating the milestones and expanding the West Operable Unit (OU).

In August 2009, the ARRA provided funding to the SLAC Environmental Remediation Project to achieve an acceleration of project completion by 1 year. The scope includes completion of all remaining soil excavation, transportation, disposal, sampling, and restoration activities associated with the Bone Yard, Casting Pad/Bldg 18, Lower Salvage Yard, Clean Landfill, IR-8 Drainage Channel, Artificial Ridge, Building 24/34 Area, Sector 16 Soil Relocation Area Drainage Channel Swale, Klystron Gallery VVS sites, Sector 16 Storage Area Drainage Channel and remaining West SLAC Campus Area/IR-8 OU remedial investigation activities at four waste sites including any excavation, transportation, disposal, sampling and restoration activities and associated project management and other General and Administrative costs.

Clearly, the plan was to complete the SLAC Environmental Remediation Project by the end of fiscal year 2011; however, the expansion of the West OU is in conflict with that goal. The DOE-EM Oakland Projects Office will have to negotiate with the DOE-SC Stanford Site Office on the breakout of responsibility for the West OU. This breakout could impact EM's completion of its current work at SLAC. At a minimum, it is expected that EM will complete all field work and a portion of the regulatory documentation. EM intends to complete as much of the overall effort at SLAC as possible, reducing the EM footprint at SLAC.

GENERAL ELECTRIC VALLECITOS NUCLEAR CENTER CONTRACT CLOSE-OUT

GEVNC is a 1600 acre commercial site owned by General Electric (GE) affiliate GE Hitachi Nuclear Energy. The site is an active facility licensed by the Nuclear Regulatory Commission. Research work for the Nuclear Energy Program of the Atomic Energy Commission (a predecessor agency to DOE) was conducted from 1965 through 1975, and 1981 and 1982. Contracted research for DOE ended in 1982, while research continued at the site for the nuclear power industry.

In 2008, DOE and GEVNC agreed, as a part of the original research contract closeout, that GEVNC would be responsible for decontamination and decommissioning (D&D) and packaging of all waste material and that DOE was responsible for transportation and disposal of the defense-related waste. GE has decontaminated and packaged the waste from a hot cell where DOE-sponsored research occurred. This research included the manufacture of sources for monitoring government reactors, development work that evaluated the stability of ceramic waste forms for immobilizing defense high-level waste, and the cutting of spent fuel elements for examination and testing. Most of the waste generated is transuranic waste (TRU).

Waste shipments began in September 2009 and are expected to be completed in early 2010. This effort is being funded by ARRA funding provided to the Carlsbad Field Office for funding of the Waste Isolation Pilot Plant (WIPP).

CONCLUSION

The goal of the Oakland Projects Office is to complete its responsibilities as expeditiously as possible to further the mission of the Environmental Management Program to complete cleanup, close sites, and reduce the footprint. By the end of fiscal year 2011, the GEVNC contract close-out will be completed, all field work and some of the regulatory documentation will be completed at SLAC, and the radiological survey will be completed at ETEC. Although much is dependent upon the final resolution of current negotiations with the State of California on the revised Consent Order, DOE will proceed as quickly as possible to complete the EIS as soon as the EPA characterization activities have been completed. DOE's goal at ETEC is to develop a course of action that protects human health and the integrity of the environment. The Oakland Projects Office is committed to doing its part in reducing the EM footprint in California.