

# **SANDIA REPORT**

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## **Baseline Environmental Report Environmental Test Facility Buildings 955 and 956 Sandia National Laboratories, California**

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**Baseline Environmental Report  
Environmental Test Facility  
Buildings 955 and 956  
Sandia National Laboratories, California**

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**ABSTRACT**

A baseline environmental study is required for all Department of Energy real property transfers. This report provides the baseline environmental information for the proposed lease of the Environmental Test Facility, buildings 955 and 956, at Sandia National Laboratories, California. The baseline study included a review of past land uses, current operations, natural and cultural resources, socioeconomics, hazardous materials and waste, radioactive materials and contamination, and environmental permits. Results of the baseline study show that the facility grounds provide potential habitat for sensitive bird and amphibian species. Asbestos containing building materials are assumed to be present in facility restrooms. Hazardous or radioactive contamination is not present at the facility. Three Sandia site environmental permits are applicable to operations at the Environmental Test Facility.

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# **Baseline Environmental Report Environmental Test Facility Buildings 955 and 956 Sandia National Laboratories, California**

## **Introduction**

Sandia National Laboratories, California (SNL/CA) and the U.S. Department of Energy (DOE) are proposing to lease the Environmental Test Facility, Buildings 955 and 956, at SNL/CA. Prior to the transfer or lease of any real property, the DOE must comply with various environmental requirements. The Baseline Environmental Report for the Environmental Test Facility provides the baseline information needed to support compliance with these requirements. This report was prepared in accordance with DOE's *Cross-Cut Guidance on Environmental Requirements for DOE Real Property Transfers* (DOE/EH-413/9712, October 1997).

Much of the information provided in this report was obtained from historical and current records maintained by SNL/CA. Information about past and current uses of the Environmental Test Facility was collected through personnel interviews, facility inspection, and environmental surveys.



## **Location and Description of the Environmental Test Facility**

SNL/CA is located in Livermore, California in the east portion of Alameda County (Figure 1). The site is approximately 413 acres. It is bounded on the east, west, and south by agricultural property and county roadways. Lawrence Livermore National Laboratory is adjacent to the site on the north. SNL/CA is a federal research laboratory owned by the DOE and operated by Sandia Corporation, a subsidiary of Lockheed Martin.

The Environmental Test Facility is located in the southwest portion of the site (Figure 2). The Facility was constructed in 1989 and consists of two structures, Buildings 955 and 956. Building 955 is a steel frame building on a concrete slab foundation and approximately 6,458 gross square feet (gsf) in size. Building 956 is concrete and rebar construction and approximately 2,572 gsf. The outside area around the facility is asphalt paved.

### **Past Land Uses**

DOE purchased the land that now contains the Environmental Test Facility in 1970 as a safety buffer and for expansion of the SNL/CA site. Prior to 1970, the parcel was privately owned and used for farming (SNL, 1989). The property remained undeveloped under DOE ownership until 1988 when construction of the Environmental Test Facility began.

Sandia aerial photographs dating from 1964 to 1998 were reviewed on June 20, 2000 for additional information on past uses of the property. Results of the aerial photography review show the land as a grassy field in 1964, 1973, 1976, and 1985. It is assumed that the area was used for hay production as rows of unbaled hay are visible in one photograph. A 1988 aerial photograph shows the facility under construction and in a 1990 photograph the completed facility is visible. There is no indication from review of aerial photographs that the property was used in the past for storage or disposal of hazardous materials or waste.

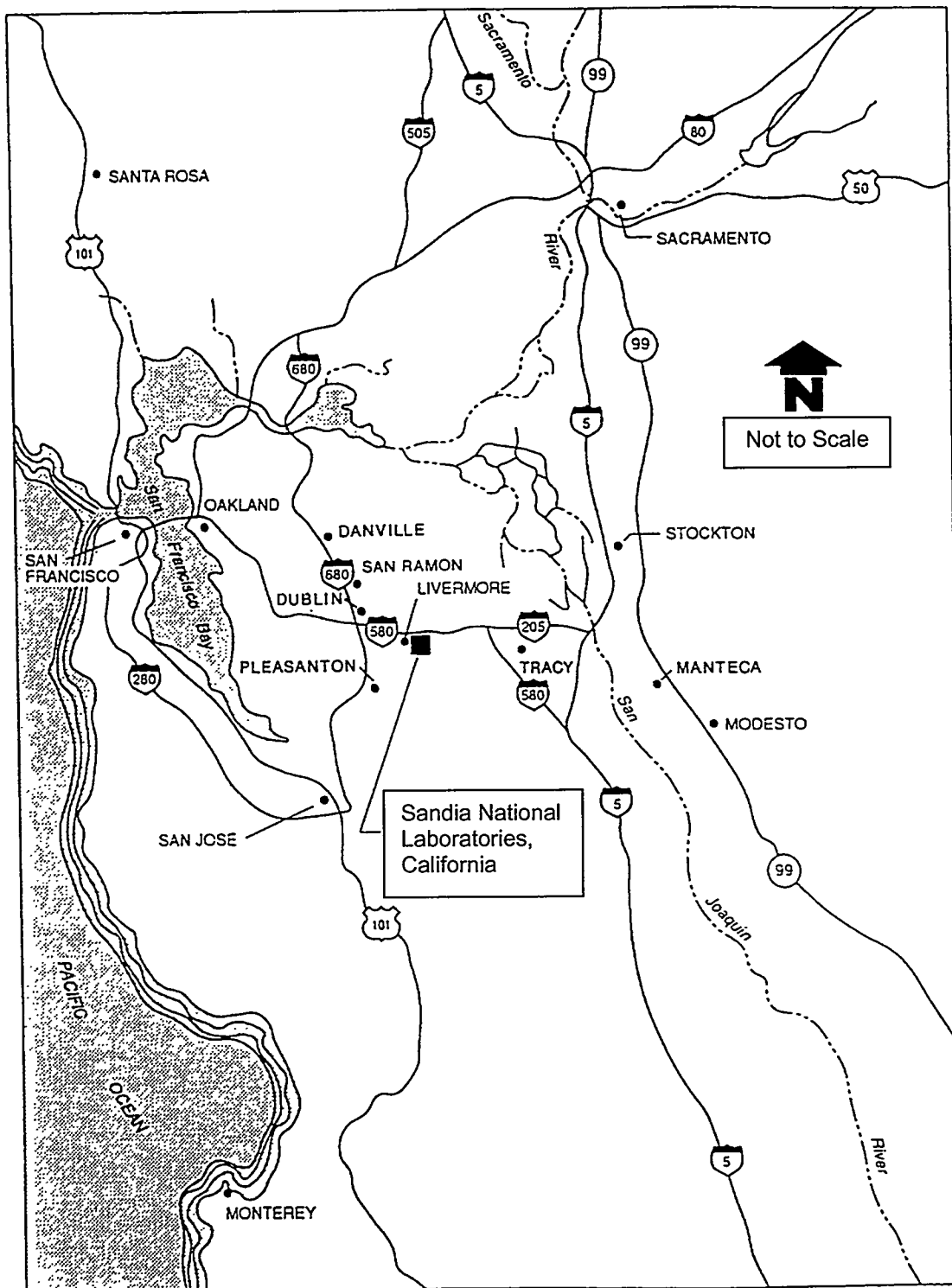


Figure 1. Regional location map for Sandia National Laboratories, California.

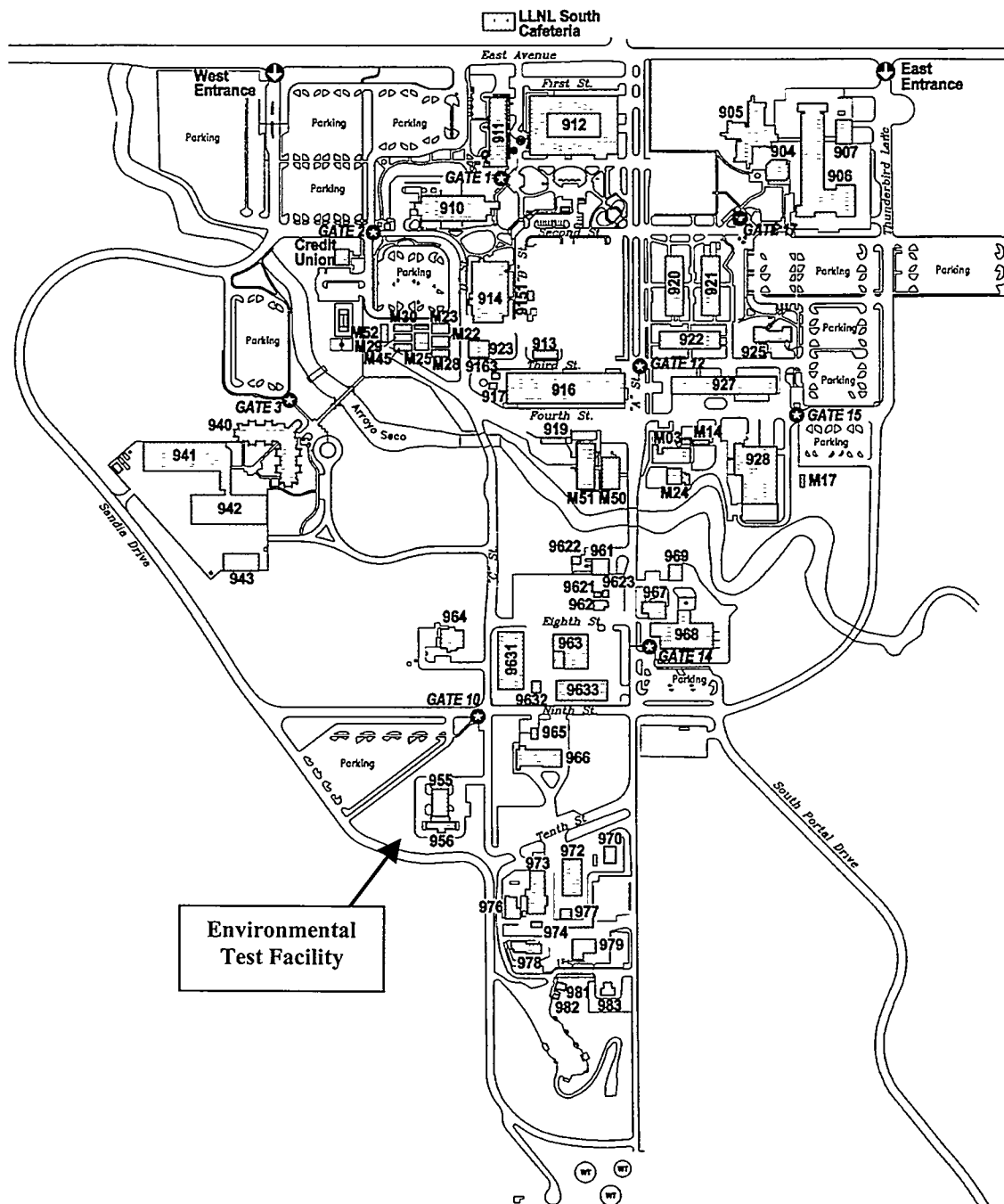


Figure 2. Sandia National Laboratories, California site map.

## **Current Operations**

The Environmental Test Facility began operations in 1989. Operations consist of nondestructive environmental testing, such as vibration, shock, temperature, and altitude testing on weapons components that may contain explosives and sealed radioactive sources. Building 955 houses the environmental test chambers used to test components in simulated climatic conditions. Building 955 also contains the remote operations center for vibration equipment housed in Building 956. The test cells in the facility are reinforced with concrete and are rated for one pound of explosives or equivalent. Hazardous materials used and wastes generated at the facility are discussed on page 16.

## Natural and Cultural Resources

### Floodplains

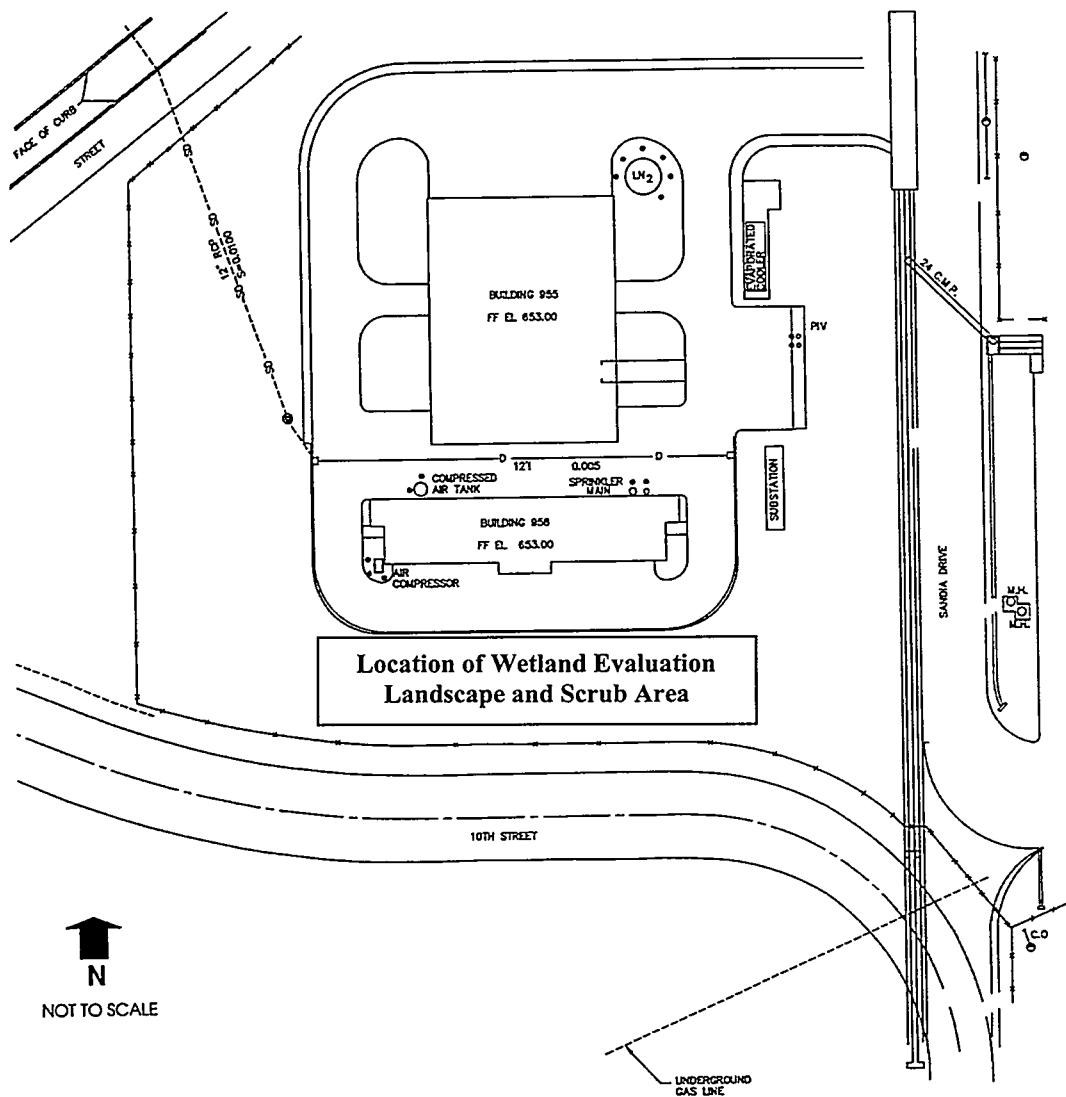
The Arroyo Seco traverses the SNL/CA site from east to northwest. Within the site's boundaries, the Arroyo is designated as a 100-year flood zone where floodwaters would be contained within the stream channel (FEMA, 1997; FEMA, 1981). The Environmental Test Facility is located approximately 1000 feet from the bank of the Arroyo and outside the boundaries of the flood zone.

### Wetlands

During inspection of the Environmental Test Facility on June 13, 2000, an area containing wetland vegetation was observed within a landscaped area on the south side of the facility (Figure 3). The area is approximately 100 feet long by 4 feet wide. A wetland evaluation was conducted on July 10, 2000 to determine if the area is a regulated wetland as defined by the U.S. Army Corp of Engineers (ACOE). Results of the evaluation are presented in a *Wetland Survey Report* (SAIC, 2000) and summarized below. Obligate wetland plants, water source, and soil types were identified. Plants in this area include willows (*Salix* spp), cottonwoods (*Populus fremontii*), mulefat (*Baccharis salicifolia*), narrow-leaved cattail (*Typha angustifolia*), and rushes (*Juncus* spp.). All of these species are considered wetland indicator species. None are listed as threatened or endangered. The water source that is supporting the wetland vegetation was found to be irrigation runoff. The ACOE does not regulate wetlands created and maintained by artificial water sources that can be turned off. Hydric soils are not present in the area. Because of the lack of hydric soils and a year-round natural source of water, the area does not meet the definition of a regulated wetland.

### Biological Resources

The entire SNL/CA site, including the Environmental Test Facility, provides potential habitat for the California tiger salamander (*Ambystoma californiense*), a Federal candidate species and a California species of special concern. Tiger salamanders live underground most of the time in burrows dug by ground squirrels. They emerge from their dens during heavy storm events and migrate to nearby ponds to breed. Ponds where California tiger salamanders have been observed are located in Sandia's west buffer and on a privately owned parcel adjacent to the east boundary of the site. There are several ground squirrel burrows located on the north side of the facility along a landscaped berm. The presence or absence of tiger salamanders in these burrows could not be determined.



**Figure 3.** Environmental Test Facility site plan.

The landscaped area surrounding the facility contains scrub plants that provide suitable habitat for nesting birds. On July 10, 2000, a nest was observed in the landscaped area along the south side of the facility. A biologist evaluated the nest on July 14, 2000. The nest is active and contains eggs. The color, size, and markings on the eggs suggest that they could be from one of three bird species: loggerhead shrike (*Lanius ludovicianus*), northern mockingbird (*Mimus polyglottos*), or western scrub jay (*Aphelocoma californica*). All three birds were observed in the area. These birds, nests, eggs, and young are protected under the Migratory Bird Treaty Act and the California Fish and Game Code.

## **Cultural Resources**

In 1990, an evaluation of archeological and historical resources was conducted at SNL/CA. The Environmental Test Facility was included in this evaluation. The results of the evaluation indicate that no archaeological resources or structures of historic significance are present at the site. In general, properties must be more than 50 years old to be considered for the National Register of Historic Places. The Environmental Test Facility was a new facility in 1990 and thus did not meet the age criteria for an historic place.

Within the last few years, the DOE has recognized the Cold War period (1946 to 1989) as a defined historical era for buildings less than 50 years old. Because the Environmental Test Facility began operation in 1989, at the end of the Cold War, the facility is not likely to have been associated with events that have made a significant contribution to the Cold War period. Additionally, weapons components that were tested in the facility during 1989 could not have reached production and been included in the weapons stockpile in time to contribute to the Cold War effort.

## **Socioeconomics**

The Environmental Test Facility is not staffed on a permanent basis. Sandia personnel from other areas of the site are brought into the facility to operate equipment and perform testing activities on an as needed basis. The lease of this facility will not affect the level of employment at the site.



## **Hazardous Materials and Wastes**

Information regarding the presence or past use of hazardous materials, waste generation, and past spills of hazardous materials at the Environmental Test Facility were obtained from the following sources.

- Facility inspection conducted on June 13, 2000
- Questionnaires completed by and interviews with former facility users
- Records of calls to the ES&H hotline
- Interviews with SNL/California Facilities personnel
- SNL Chemical Inventory System search for chemicals currently located in this facility, and located in the facility in the past
- SNL/CA Waste Management database

## **Hazardous Materials, Wastes, and Petroleum Products**

Hazardous materials used and stored at the facility (as noted in the Chemical Inventory System) include small amounts of acetone and alcohols used for wipe cleaning, epoxies, lubricants, and adhesives. Wastes generated at the facility consist of oily wipes and rags with solvent residue from equipment cleaning, waste oil, and coolants. The types of materials used and wastes generated are not expected to change as a result of leasing the facility. However, the quantity of materials used and wastes generated may increase due to an increase in operations at the facility.

Weapons components containing up to one pound of explosives have been tested in the facility. Because all testing done in the facility is nondestructive, there was no explosive waste generated or release of explosive material. The explosive limit (1 pound) and the nondestructive nature of testing is not expected to change as a result of leasing the facility.

Interviews with operating personnel and a site inspection revealed evidence of numerous oil spills in the past, both inside and outside of the facility. ES&H hotline records also revealed several calls regarding spills of oil, and two spills of battery acid (from overcharging a forklift battery). All oil spills appear to have been on paved areas, either inside the building or outside. No spills were noted to have occurred on soils. All spills reported to have been cleaned up, with no other remedial action necessary.

## **Underground Storage Tanks**

Personnel from Sandia's Underground Storage Tank Program indicate that no underground storage tanks are present at the Environmental Test Facility. No underground storage tanks have ever been located at this facility.

## **Polychlorinated Biphenyl (PCB)**

The age of the building (1989) and interviews with Facilities personnel indicate that PCB containing items were never used at this facility. A facility inspection showed no large electrical components of a vintage that would be suspect for containing PCBs. In addition, a review of the records in the ES&H records center revealed no records indicating the presence of PCBs in buildings 955 or 956.

## **Asbestos**

The Environmental Test Facility was surveyed for asbestos in September 1994 (BCM, 1994a; BCM, 1994b). The tile and grout in the Building 955 restrooms (rooms 106C and 106D) were not sampled, but are assumed to contain asbestos due to the nature of the tiles and date of installation. The tiles were not sampled due to the low probability of the tiles being disturbed. The interior of the buildings did not show any asbestos containing materials. The roof materials of the facility contained asbestos. The old roof was removed and replaced in June 2000.

## **Radioactive Materials and Contamination**

Some weapons components that are tested in the facility contain sealed radioactive sources. Because all testing activities are nondestructive, radioactive waste is not generated and there were no releases of radioactive materials from these sealed sources. Nondestructive testing of components that contain sealed radioactive sources is expected to continue under a lease agreement. The release of radioactive materials is not expected to occur.

One other activity involving radioactive material was conducted in the facility in January 1999. A neutron shield containing depleted uranium was dismantled in the Building 955 main bay. During removal of the polypropylene surrounding the depleted uranium shield, the paint on the uranium core flaked off. This paint was contaminated with uranium. The contamination was cleaned up after the project was completed.

A survey of the facility for radioactive contamination was performed on June 24 and June 26, 2000 (SNL, 2000a; SNL, 2000b; SNL, 2000c). The survey consisted of swipe samples of the floors, bench tops, and equipment. In addition, the entire floor area was surveyed for dose rate using hand held instruments. No activity above background levels was noted during the surveys.

## Environmental Permits

There are no environmental permits specifically for operations in the Environmental Test Facility. However, SNL/CA does maintain several site-wide permits that are also applicable to operations in the facility. These are:

- California Environmental Protection Agency (CalEPA) Part B Permit for storage and limited treatment of hazardous waste;
- Wastewater Discharge Permit issued by the City of Livermore for discharge of sanitary and industrial effluent to the City's sewer system; and
- Bay Area Air Quality Management District (BAAQMD) permit for wipe cleaning operations.

Management and disposal of wastes generated at the Environmental Test Facility under a lease agreement will be the responsibility of the lessee. No changes are required to the SNL/CA Part B Permit as a result of leasing the facility.

Conditions of the Wastewater Discharge Permit and the BAAQMD Wipe Cleaning Permit will remain applicable to operations in the Environmental Test Facility under a lease agreement. No changes are required to either permit as a result of leasing the facility, as long as the operations and equipment remain the same. There are currently no plans to separate the facility from the SNL/CA sewer system or to remove the buildings from the BAAQMD designation for the Sandia site, Plant #290.

In addition to the above listed permits, SNL/CA is covered under the California Industrial Activities Storm Water National Pollutant Discharge Elimination System (NPDES) General Permit. This permit allows SNL/CA to comply with Federal permitting requirements for storm water discharges associated with industrial activities. Conditions of this permit will be applicable to operations in the Environmental Test Facility under a lease agreement. No changes are required to Sandia's storm water management program as a result of leasing the facility.

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