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Special Nuclear Materials R&D Laboratory Replacement Project

snml **fact sheet**

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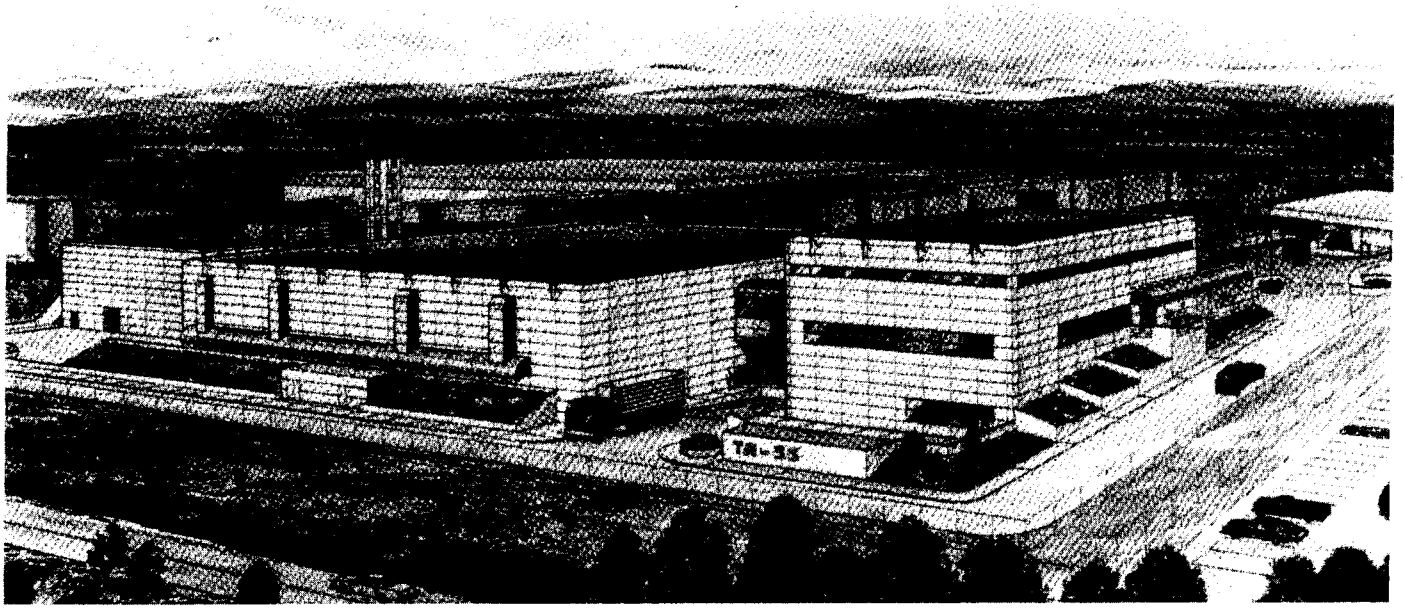
Special Nuclear Materials Research and Development Laboratory Replacement Project at Los Alamos National Laboratory



Architectural rendering of the Special Nuclear Materials Research and Development Laboratory Replacement Project.

Highlights

- The Project will consolidate Los Alamos National Laboratory's special nuclear materials research and development activities at Technical Area 55. (Special nuclear materials, as defined by the U.S. Department of Energy, include certain quantities and isotopes of uranium and plutonium.)
- The total facility will include about 193,000 square feet of laboratory, office, and support space and will replace aging laboratories in the Chemistry and Metallurgy Research Building (also known as the CMR Building).
- The replacement laboratory will be a state-of-the-art facility that will enhance operational reliability and security.
- The new facility will reduce the environmental effects of current operations because it will decrease the volume of waste materials and reduce radioactive emissions.
- The facility is designed to be built, operated, and ultimately decommissioned without undue risk to the environment, general public, or on-site personnel.
- Safety analyses are being performed to ensure appropriate risk reduction in the design, construction, and operation of the facility.

Project Description

The Project will consolidate Los Alamos National Laboratory's special nuclear materials research and development activities at one site and relocate the analytical chemistry functions currently performed in the CMR Building. The new facility will enhance operational reliability and security and ensure employee, public, and environmental safety.

The new laboratory will be located at Los Alamos National Laboratory adjacent to the Plutonium Facility at Technical Area 55.

The Project involves the design, construction, and operation of new facilities totaling about 193,000 square feet. The complex consists of a research and development laboratory, a laboratory support and office building, a utilities building, a guard station, and a replacement waste pretreatment facility. The Project also includes the decontamination and renovation of a portion of the CMR Building.

Current Status

- Preliminary design will be completed in January 1990.
- The Department of Energy is preparing an Environmental Impact Statement, which is expected to be completed in 1991.
- Site work and utilities construction are scheduled to start in mid 1991, after completion of the Environmental Impact Statement.
- Facility construction is planned for completion in the fall of 1994.

Project Funding

- Fiscal Year 1988 funding was $10 million. Funding for Fiscal Year 1989 was $22 million.
- Scheduled funding is $14 million for Fiscal Year 1990 and $20.6 million for Fiscal Year 1991. Additional funding will be determined as the Project proceeds.
- Funds for this Project are appropriated by Congress and administered by the Department of Energy Assistant Secretary for Defense Programs.

Environmental Impact Statement

The Department of Energy has contracted with an independent firm, Battelle Pacific Northwest Laboratory, to prepare an Environmental Impact Statement to address and evaluate specific environmental concerns related to the construction, operation, and ultimate decommissioning of this Project.

The public has an opportunity to comment on the scope of the Environmental Impact Statement for a period of thirty days from the date a formal Notice of Intent is published in the Federal Register. Also during this period, a public meeting will be held in Los Alamos to receive public comments. Public comment will be sought again when the draft Environmental Impact Statement is completed and distributed to interested parties. Information about the Environmental Impact Statement comment and review procedures may be obtained from Donald Lucero, Project Manager, U.S. Department of Energy, Albuquerque Operations Office, P. O. Box 5400, Albuquerque, New Mexico 87115, telephone (505) 665-2170.

Environment, Safety, and Health

The overall environment, safety, and health objective is to ensure that the facility is built, operated, and ultimately decommissioned without undue risk to the environment, general public, or on-site personnel. This objective will be pursued with a risk management system that ensures compliance with applicable state and federal requirements. Safety analyses are being

performed to ensure compliance with these requirements and to achieve appropriate risk reduction in the design, construction, and operation of the facility.

An Environment, Safety, and Health section has been established as part of the Project's management organization. Additional professional support is provided through a Los Alamos National Laboratory Health, Safety, and Environment Division team of experts in health physics, industrial safety, industrial hygiene, nuclear criticality safety, waste and environmental management, and construction safety.

The Project is being designed to reduce any effects on the environment by decreasing the amount of low-level radioactive waste generated by nuclear materials research and development operations. Although emissions from the existing facility meet the applicable federal and state standards, radioactive emissions from the new facility will be further reduced by about ninety percent. This reduction will result mainly from state-of-the-art air cleaning systems in the new facility. The Project will also consolidate special nuclear materials operations. This consolidation will reduce transportation of special nuclear materials on Department of Energy roads at Los Alamos, which are open to the public.

Operations

As one of its primary missions assigned by the Department of Energy, Los Alamos National Laboratory conducts special nuclear materials research and development to advance technology at other Department of Energy facilities. This research and development consists, generally, of developing and verifying advanced chemical procedures for the recovery and purification of special nuclear materials and associated waste minimization. The systems and equipment necessary to implement the new or improved processes are then demonstrated so that the technology may be incorporated at other Department of Energy facilities.

This facility's research and development activities will be directed toward enhancing the safety, environmental protection, material accountability, and efficiency of special nuclear material process technology. This facility will also provide analytical chemistry capabilities needed at Technical Area 55.

The goals of the Project's research and development are to decrease special nuclear materials in chemical process residues, to further reduce potential occupational radiation exposure, to maintain rapid and accurate measurement of nuclear materials for process development control and inventory, and to minimize waste generation.

The research and development portion of the laboratory will house the following operations: waste management, nitrate process development and nitrate research and development, chloride process development and chloride research and development, special nuclear materials diagnostics, sample management, reference standards preparation, and nondestructive assay.

The analytical chemistry portion of the facility will house the following operations: spectroanalysis, mass spectrometry, plutonium assay, plutonium chemistry, radiochemistry, x-ray fluorescence, analytical sample management, and analytical research.

The design for the laboratory building will meet Department of Energy criteria to safely withstand major natural phenomena, including an earthquake and an extreme windstorm.

The replacement waste pretreatment facility will house a concentration process to remove the major portion of any radioactive elements from the waste stream before it enters the main waste treatment plant.

The laboratory support and office building, which will also house storage and change rooms, will not contain radioactive materials.

Project Management

A Project Office has been established in Los Alamos and staffed with Los Alamos National Laboratory and Department of Energy personnel. This office is responsible for Project planning, engineering, procurement, and construction.

Procurement

A Project Office acquisition section has been established for the solicitation, negotiation, and award of subcontracts.

All subcontracts will be awarded using Los Alamos National Laboratory and University of California procurement procedures approved by the Department of Energy. Subcontracts will include architect-engineer services, construction, specialized facilities equipment, and standard commercial products.

Special equipment, such as gloveboxes and internal confinement systems, which accounts for a significant portion of the costs of the Project, will be procured from pre-evaluated equipment suppliers qualified under nuclear quality assurance requirements.

Initiatives have been established to enhance small, women-owned, and minority business subcontracting opportunities. Bids will be solicited for fixed-price construction subcontracts from regional and local contractors.

Engineering and Construction

Los Alamos National Laboratory will award and manage construction subcontracts for the new facilities and for refurbishing existing facilities. Initial construction of new facilities could begin as early as mid 1991 and continue through the fall of 1994. Refurbishment of existing facilities is planned to begin in the winter of 1994 and to end in the fall of 1996.

It is estimated that the labor force required for the Project will peak at about 300 people in 1993. Construction needs for the new facility are estimated at 150,000 cubic yards of excavation, 36,000 cubic yards of concrete, 950 tons of structural steel, 160,000 feet of electrical conduit, 500,000 feet of wire, and 185,000 feet of piping.

Quality Assurance

To enable the successful completion of this complex project, a quality assurance program has been established. This program will ensure that design and construction meet Department of Energy orders, regulations, and guidelines. The quality assurance program will conform with the requirements of the primary national consensus standard ASME NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities."

Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545

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Northern New Mexico DOE's Sacrificial Lamb

By Maurice A. Weisberg

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Here goes the Department of Energy again making another National Sacrifice Area out of northern New Mexico. Los Alamos National Laboratory is designing a new plutonium processing facility that will be about five football fields in area and be the lab's largest constuction project. Because the Rocky Flats and Hanford plants are essentially shut down by contamination, the brunt of plutonium operations will now be handled at LANL and, consequently, more plutonium scrap and nuclear materials will be transported along St. Francis Drive.

In addition to its long history of plutonium blending and conversion operations, one can expect accelerated plutonium recycling and waste treatment. Since the Colorado governor threatens to close down Rocky Flats this spring because it has reached storage limits on nuclear wastes, it becomes convenient to use LANL which has no limits on burial and storage and can resume incineration of nuclear wastes next year at the end of the moratorium.

Maurice A. Weisberg

Why does LANL and the DOE ignore the conclusions of the National Research Council which stated that current supply and capacity of plutonium were adequate and the DOE should postpone plans to construct additional capabilities? As Congressman Les Aspin comments, there is a strong aroma of pork (definitely not kosher).

One cannot regulate toxins or radioactive poisons at the back end of the waste stream by setting up bureaucratic, legalistic so-called "acceptable doses." You can only ensure a safe environment by not using or creating these poisons at the front end of technology. To discuss health and safety standards for a plutonium processing plant at Los Alamos is an oxymoron. It's like talking about a limited small pregnancy. Los Alamos displays chutzpah and deception with their blather about being serious on health and safety with their schemes of incincerating plutonium wastes (landfills in the sky) and processing plutonium wastes. The sobering fact is that plutonium is a very toxic radioactive poison in even microscopic amounts, lasts 240,000 years and there is no engineered facility that can contain it well enough to avoid human misery and added cancer victims.

Forty years of operations at the Nuclear Weapons complex in 17 facilities including Los Alamos has produced national sacrifice areas with massive contamination of groundwater, soil, and the environment. Despite a massive public relations effort by the new Secretary of Energy, we are now informed that his "tiger teams" to investigate present health and safety efforts are all defense contractor consultants and their paid agents. Unless the public demands independent oversight we will continue with the pernicious priority of bomb production first and health and safety concerns will be covered up by the so-called allowable doses (remember that there is no proven safe threshold for radioactivity).

What is imperative are congressional hearings on the new stealth LANL plutonium production and recycling facility.

The DOE's scoping hearing for this new building is this Wednesday at 7 p.m., Fuller Lodge, Los Alamos. Comments by the public are limited to five-minute suggestions for the environmental impact statement.

Maurice A. Weisberg is a medical doctor who lives in Santa Fe.