



**Department of Energy**  
Albuquerque Operations  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

DEC 27 1990

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Report

To the Reader:

Enclosed is your copy of the Environmental Surveillance Report for Los Alamos National Laboratory (the Laboratory). This report summarizes the Laboratory's 1989 environmental monitoring and compliance activities. These activities are carried out in order to ensure compliance with environmental standards, to identify at early stages any undesirable environmental trends, and to inform the public about the magnitude of potential health and environmental effects of the Laboratory's operations. This is the latest in a continuing series of environmental surveillance reports published annually by the Laboratory.

The report was prepared by members of the Laboratory's Health, Safety and Environment Division. Since this is an annual report for an ongoing program, we would appreciate your comments or suggestions for improving both the report and the program. If you are not currently on the mailing list for this report, or if personnel changes in your organization have resulted in a need for us to update our mailing list for next year's report, please contact Dr. Paul Schumann of the Environment, Safety and Health Branch at the address provided above, or by telephone at (505) 665-5027. I hope you will find this document useful and informative.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jerry L. Bellows".

Jerry L. Bellows  
Acting Area Manager

Enclosure



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**SUMMARY ASSESSMENT**  
**ENVIRONMENTAL COMPLIANCE ACTIVITY**  
**U.S. DEPARTMENT OF ENERGY**

**Los Alamos National Laboratory**  
**January - September 1990**

**Background**

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Los Alamos National Laboratory and the associated residential areas of Los Alamos and White Rock are located in Los Alamos County, north-central New Mexico, approximately 100 km north-northeast of Albuquerque and 40 km northwest of Santa Fe. Since its inception in 1943, the Laboratory's primary mission has been nuclear weapons research and development. Programs include weapons development, magnetic and inertial fusion, nuclear fission, nuclear safeguards and security, and laser isotope separation. Basic research that supports defense programs includes activities in the areas of physics, chemistry, and engineering. Research on peaceful uses of nuclear energy has included space applications, power reactor programs, radiobiology, and medicine. Major research programs in elementary particle physics are carried out at the Laboratory's linear proton accelerator. Other programs include research in applied photochemistry, astrophysics, earth sciences, energy resources, nuclear fuel safeguards, lasers, computer sciences, solar energy, geothermal energy, biomedical and environmental sciences, and nuclear waste management. The Laboratory is operated for the U.S. Department of Energy (DOE) by the University of California.

It is the Laboratory's policy to provide the highest possible level of protection to the environment and the public from harm that could arise from the Laboratory's operations. To accomplish this policy, line management is responsible for conducting only those operations and activities that can be controlled in a safe and environmentally sound manner. The Laboratory's Health, Safety, and Environment Division maintains a comprehensive program to assist line management and to provide oversight of environmental activities. Laboratory employees are required to observe environmental protection procedures and requirements as specified by their supervisors. In addition, the Laboratory maintains an active program for environmental protection as outlined in the accompanying annual environmental surveillance report.

**Current Issues and Actions**

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***Resource Conservation and Recovery Act***

The Laboratory has 31 hazardous waste management units operating under state and federal regulations promulgated in accordance with the Resource Conservation

and Recovery Act (RCRA). These units are located at seven different sites. In November 1989, the New Mexico Environmental Improvement Division (NMEID) issued a RCRA permit to the Laboratory that addressed 19 of the waste management units. The remaining 12 units, for the open burning and detonation of explosive wastes, as well as disposal of mixed waste, will be addressed in a later permit modification. Closure activities under interim status are continuing at three Solid Waste Management Units (SWMUs), and three more closures are scheduled under the Laboratory's Environmental Restoration (ER) Program. The Laboratory negotiated an agreement for two compliance orders with the state of New Mexico, one dating from 1985 and one from 1988.

The U.S. Environmental Protection Agency (EPA) issued its portion of the RCRA permit in March 1990. This module of the permit addressed the requirement of the Hazardous and Solid Waste Amendments (HSWA) to RCRA and went into effect on May 23, 1990.

During March 5–9, 1990, the NMEID and EPA conducted a RCRA compliance inspection at the Laboratory. A Notice of Violation was received from the NMEID on June 18, 1990, identifying nine violations discovered during the inspection. Eight of the violations were corrected immediately. The remaining violation, which involved waste removal and decontamination, was completed the week of October 1, 1990. In a letter to DOE's Los Alamos Area Office (DOE/LAAO) on July 31, 1990, the NMEID confirmed that eight of the violations had been adequately addressed, and they requested that we provide notification of waste removal and decontamination when the final violation had been corrected. This notification will be sent to NMEID in November.

### ***Environmental Restoration Program***

Under the Hazardous and Solid Waste Act module of the RCRA permit, the Laboratory must follow procedural requirements set forth in the Hazardous and Solid Waste Amendments (HSWA) to the original RCRA for assessing and remediating potential release sites that meet the definition of SWMUs. The Laboratory's ER Program will implement these requirements.

The ER Program Office is currently updating the Laboratory's SWMU report and preparing a Laboratory Installation Work Plan, which will be updated annually, for carrying out assessment and remediation of SWMUs. During the first year under the HSWA portion of the RCRA permit, the program office must prepare site characterization work plans for 10% of the 603 SWMUs listed in that portion of the permit.

Los Alamos National Laboratory is not on the National Priorities List (NPL).

### ***Clean Air Act***

All regulated sources of air pollution are in full compliance with all applicable New Mexico and federal air quality requirements. Six air quality permits have been issued by the state for existing and planned sources at Los Alamos. Five of these permits are for beryllium processing operations. The sixth permit was issued for the planned Solid Waste Fired Boiler; however, construction on this project may never begin because of unanticipated cost factors. Four of the beryllium sources are operational and in full compliance with all state and federal regulations and permit conditions. Construction on the other beryllium source has not yet started.

Two other operations at Los Alamos are controlled by air quality regulations. The asphalt plant is in compliance with the state regulation controlling particulate matter emissions, and the asbestos demolition and renovation operations meet applicable state and federal regulations.

Two open-burning permits were received from NMEID. One is for burning jet fuel to expose ordnance to heat stress. This permit expires October 6, 1990. The other permit is for burning wood waste from dynamic testing activities. It expires June 22, 1991. Both operations comply with conditions stated in the permits.

Radioactive air emissions from DOE facilities are regulated by EPA in accordance with the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) program. The Laboratory remains in full compliance with EPA's regulations covering these emissions. Under the NESHAP program, new or modified DOE facilities that will emit radioactivity may need construction approval from the EPA. The Laboratory applies for approval for such facilities as needed.

### ***National Environmental Policy Act***

The requirements for National Environmental Policy Act (NEPA) compliance were significantly altered by the Secretary of Energy Notice, SEN-15-90, issued February 5, 1990. The notice has the stature of a DOE order and was made effective on the date that Secretary Watkins signed the document. The new approach to NEPA will eliminate the use of Action Description Memorandums (ADMs) by the end of Fiscal Year 1990 and will rely instead on categorical exclusions, Environmental Assessments (EAs), and Environmental Impact Statements (EISs). DOE's Albuquerque Operations Office (DOE/AL) has requested that the Laboratory submit a DOE Environmental Checklist (DEC) for all projects and activities with a cost of more than \$2000. These DEC's would become the basis for a DOE/AL recommendation to Headquarters (DOE/HQ) for a determination of a categorical exclusion, EA, or EIS. The current estimate of the annual number of DEC's that need to be prepared under these guidelines is at least 3000. Between March and September 1990, 145 DEC's were assigned to the Laboratory staff. Of these, 106 have been

transmitted to DOE; final NEPA determinations were made on 86, and 20 projects are outstanding.

At the request of DOE/AL, an EA was prepared on a waste management equipment item, the Scintillation Vial Crusher, and submitted to DOE in January. As of May 1990, no decision had been made by DOE/HQ as to whether further action will be required. An EA for the proposed Materials Science Laboratory at Technical Area (TA)-3 is in final draft. DOE requested an EA for the Weapons Engineering Tritium Facility at TA-16. A final draft was submitted to DOE in August. The EA for the Transuranic Waste Work-Off Plan is being revised to address DOE/HQ's comments. DOE requested that an EA be prepared for the proposed Weapons Subsystems Laboratory. DOE/AL's contractor, who is preparing an EIS for the Special Nuclear Materials Laboratory, completed the scoping meetings and prepared an Implementation Plan. The DOE also determined in March that the proposed Controlled Air Incinerator at TA-50 will require an EIS, but subsequently rescinded that determination.

Additional EAs requested by DOE are for the Oralloy Renovation Project, the Heat Source Fabrication Project, the Area G Expansion, and the Mixed-Waste Receiving and Storage Facility.

### ***Clean Water Act***

The Laboratory has two permits under the Clean Water Act's National Pollutant Discharge Elimination System (NPDES). The main permit includes 9 sanitary treatment facilities and 112 industrial outfalls. Through September 1990, there were 6 violations of the sanitary effluent limitations and 34 violations of the industrial effluent limitations. Approximately 20 of these industrial violations were related to an acid release from the TA-3 power plant. The overall compliance percentage for both the sanitary and industrial outfalls was approximately 97% for the first seven months of 1990.

Spill Prevention Control and Countermeasure (SPCC) Plan activities continued during the two quarters of 1990, including the completion of designs and the construction of spill-control, secondary-containment facilities at several locations throughout the Laboratory.

### ***Safe Drinking Water Act***

Programs for sampling water supplies and reporting results continued throughout the first nine months of 1990. All water supply samples collected and analyzed demonstrated compliance with EPA's National Interim Primary Drinking Water Standards.

**ENVIRONMENTAL COMPLIANCE ACTIVITY**

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***Toxic Substances Control Act***

The Laboratory has an EPA Letter of Authorization allowing disposal of polychlorinated biphenyl (PCB)-contaminated articles at the TA-54 Area G landfill. The Letter of Authorization requires semiannual reporting of the types and quantities of PCB articles disposed of. The report for the first half of 1990 has been submitted.

**Routine Environmental Surveillance**

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The Laboratory maintains an ongoing environmental monitoring program to ensure the protection of the public health and environment, as well as to ensure environmental compliance. The program samples air, ground and surface waters, foodstuffs, soils, and sediments for all pertinent radionuclides and chemical contaminants. External radiation levels that may result from Laboratory operations are also measured and evaluated. Monitoring stations are located on site, off site along the Laboratory perimeter and in surrounding communities, and, to provide background information, in areas distant from the Laboratory. Meteorological and hydrological data are continuously collected in order to evaluate possible transport mechanisms to off-site areas. More than 25 000 chemical and radiochemical analyses are performed annually in support of the environmental monitoring program. In addition, the Laboratory operates a parallel sampling program that monitors both airborne and waterborne effluents at release points in accordance with regulatory permits and DOE orders. The results from this program are used to drive corrective actions and to provide an overview of the status of the environment at the Laboratory.