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Los Alamos National Laboratory

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Date: June 22, 2000
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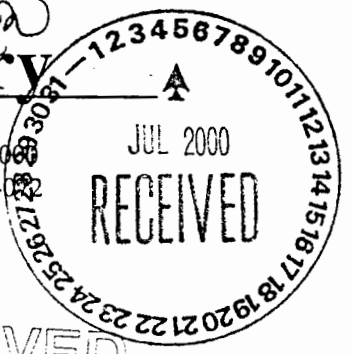

The Honorable Tom Udall
U.S. House of Representatives
Third District -- State of New Mexico
502 Cannon House Office Building
Washington, D.C. 20515

HSWA CANL G/M/CGF

Subject: LANL Environmental Monitoring Program

Dear Congressman Udall:

On behalf of Laboratory Director, Dr. John Browne, the Los Alamos National Laboratory is pleased to respond to your letter received on June 1, in which you request information concerning our environmental monitoring program in the aftermath of the Cerro Grande Fire. The Laboratory is committed to make every reasonable effort to be responsive to the needs and concerns of our neighboring communities and Pueblos, elected officials, oversight agencies, programmatic sponsors, and other stakeholders. Fundamental to this commitment is to keep you and your staff fully apprised. Please note that the Laboratory is responding separately to a related request from Cabinet Secretary Peter Maggiore of the New Mexico Environment Department. Secretary Maggiore has requested information pertaining to efforts to mitigate potential threats from flash floods, debris flows, and erosion.

As background for our response, it is important to know that Dr. Browne established an Emergency Rehabilitation Team to aggressively manage the assessment and mitigation of the adverse environmental impact to the Laboratory resulting from the devastation of the Cerro Grande Fire. This Team is under the direction of Dr. Richard Burick, Deputy Laboratory Director for Operations. The Team has focused efforts on five key areas -- water, potential release sites, air, engineering, and assessment. The Team includes participation by the Department of Energy's Los Alamos Area Office. The Team maintains active coordination and exchange with the Burned Area Emergency Rehabilitation Team, the associated Multi-Agency Coordination Team, the four Accord Pueblos, the County of Los Alamos, the New Mexico Environment Department, and other regulatory agencies.

With respect to your specific inquiries, we provide the following responses. New information will be forwarded on a timely basis. Additionally, the actions of the Emergency Rehabilitation Team are updated daily. I have arranged for these updates to be sent electronically to your staff in Washington, D.C. and in Santa Fe.

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Location of chemical or radiological hazards vulnerable to combustion and dispersion by fire compared with areas actually burned by the fire.

Buildings/Facilities -- Hazardous chemicals and radiological materials are used in a large number of the Laboratory's buildings and facilities. Analysis of potential wildfire impacts to the Laboratory was prepared as part of the recently approved Site-Wide Environmental Impact Statement for the Los Alamos National Laboratory (DOE/EIS-0238, Appendix G, Section 5, January 1999). That analysis considered risk of damage or destruction by wild fire to buildings and facilities (and to their contents) as a function of construction type, materials and exposure, slope, and the quantity and structure of external fuel lists. Those buildings categorized at extreme, high, or moderate risk are listed in Table G.5.4.4-3 of the Site-Wide EIS, which is provided as Attachment 1. The comprehensive database for the Laboratory's approximately 450 "key buildings" can be provided at your request. Five of the buildings and facilities listed in Attachment 1 were damaged by the Cerro Grande Fire. These five structures are summarized in the following table. There were no fire-related releases of chemical or radiological materials from any of these structures or from any other buildings or facilities.

Technical Area/ Building Designation	Building Name or Function	Type of Hazard	Damage Assessment
TA-3, Bldg 16	Ion Beam Facility	Radiological	Perimeter chain-link fence damaged.
TA-15, Bldg 183	Laboratory/Office Building	Radiological	Damage to exterior door. Internal smoke damage.
TA-35, Bldg 213	Target Fabrication Facility	Radiological and Chemical	Internal smoke damage to optics laboratory.
TA-48, Bldg 45	Radiochemistry Clean-room	Radiological and Chemical	Superficial exterior damage. Internal smoke damage to clean-room.
TA-54, Bldg 33	Transuranic Waste Drum Storage	Radiological	Damage to exterior door.

Potential Release Sites -- The Laboratory has 308 Potential Release Sites (PRSs) with surface exposure touched by flame during the fire. This number excludes sites approved for no further action. The designations and descriptions of the fire-impacted PRSs are summarized in Attachment 2. Evaluations by Laboratory and NMED staff have determined that 90 of the 308 affected PRSs require supplementary or new mitigation. These mitigations, categorized as Best Management Practices (BMPs), were implemented at six PRSs during the fire to address imminent threats. The Laboratory has worked with NMED to evaluate the types of BMPs to be implemented at the remaining PRSs. The Laboratory is now actively installing the BMPs in accordance with a prioritized schedule.

Hazardous Waste Accumulation and Storage Areas -- The Laboratory operates and tracks within its buildings and facilities 589 satellite waste accumulation areas, less-than-90-day waste storage areas, and interim waste storage areas. Required weekly inspections were missed at some of these areas during the Cerro Grande Fire or until certain of these facilities were deemed safe for occupancy after the Laboratory resumed operations on May 22. Subsequently, each of the 589 waste accumulation and storage areas were inspected as a requirement for reoccupation of a building or facility. None of these areas, including their waste holdings, were damaged or otherwise compromised from the fire.

Current status, schedule, and future plans related to environmental monitoring actions for air, water, and soil.

Air -- The Laboratory maintains two air monitoring systems -- AIRNET and NEWNET. AIRNET stations are located at 30 sites on the perimeter of the Laboratory and within. An additional 19 stations are located in the Los Alamos town-site, White Rock, El Rancho, Española, Jemez Pueblo, San Ildefonso Pueblo, and Santa Fe. The AIRNET stations operated continuously during the Cerro Grande Fire.

NEWNET (Neighborhood Environmental Watch Network) is a separate network of environmental stations that monitor external penetrating radiation. These stations provide public access to data. Stations are located within the Laboratory and at sites in Albuquerque, Cochiti Pueblo, Eldorado, Española, Los Alamos town-site, San Juan Pueblo, San Ildefonso Pueblo, Santa Clara Pueblo, and Santa Fe. We note that the central data processing system for NEWNET, located in Technical Area 16 (S-Site), failed during the fire as a result of a sustained power outage and subsequent depletion of an uninterruptable power supply. These related power failures resulted in the network being off-line from 11:30 p.m. on Wednesday, May 10, through the afternoon of Sunday, May 14. A software problem caused a second failure from 10 p.m. on Tuesday, May 16, through the evening of Thursday, May 18.

The Laboratory's AIRNET and NEWNET systems received no damage from the fire. In normal operations, filters used to collect samples are typically changed biweekly and shipped to commercial analytical laboratories for analysis. During the fire, the filters were changed at a greater frequency because of the increased concentration of smoke-related particulate and the need to track air quality during the extent of the fire. The Laboratory has since resumed its biweekly filter changes and sampling schedule.

Water and Sediments -- Effluent sampling from permitted outfalls as required under the Laboratory's National Pollution Discharge Elimination System (NPDES) has continued on schedule. The Laboratory will increase its collection of storm water beyond that required by its NPDES Storm Water Permit. Twenty of the Laboratory's 60 remote automated storm-water-sampling stations were damaged or destroyed by the fire. The Laboratory has repaired or replaced 18 of the damaged or destroyed stations. Efforts continue to repair or replace the remaining two stations. Additionally, seven of the automated sampling stations are being upgraded to handle increased storm flows. The automated storm-water-

sampling system will be further supplemented by on-the-ground manual sampling teams comprising Laboratory and NMED personnel. Safety procedures are being finalized to mitigate the obvious risks in manual sampling. Samples obtained from the on-the-ground-teams would be split between the Laboratory and NMED.

Over and above our commitment to storm water monitoring, the Laboratory samples some 15 surface water sites annually. The Laboratory also monitors groundwater on or near Laboratory property at about 45 wells within the Environmental Surveillance Program, which includes sampling from Environmental Restoration Project wells. None of these monitoring wells were damaged by the fire and all are sampled at least once per year.

The Laboratory is entering into an agreement with the U.S. Geological Society to monitor and sample water quality and sediments at three locations on the Rio Grande, three locations on the Cochiti Reservoir, and at the reservoir outlet. These new sampling stations will be operated in full coordination with NMED and the appropriate Pueblos. Sedimentation monitoring in canyons and many other environmental surveillance activities conducted by the Environmental Restoration Project are described in documents available on the web at http://erproject.lanl.gov/documents/virtual.html

Soils, Foodstuffs, and Biota -- The Laboratory has obtained soil samples from routine sampling sites that were burned in the fire. Ash samples were collected in five areas. Fish will be collected and analyzed after a minimum of three flood events involving storm water run off from Laboratory property that reaches the Rio Grande. All other soils, foodstuffs, and biota will be sampled according to routine, annual schedules.

Results of testing, pre-fire baseline environmental data, and list of contaminants of concern.

Pre-fire baseline data is contained in the Laboratory's annual environmental surveillance reports. These reports extend over three decades and provide significant baselines. The most recent report is the LANL Publication LA-13633-ENV entitled "Environmental Surveillance at Los Alamos During 1998". This report was released in September 1999 and is publicly available through the LANL Web site at http://lib-www.lanl.gov/la-pubs/la-13633.pdf. More extensive media specific pre-fire baseline data can be found at these additional web sites: air -- http://www.air-quality.lanl.gov, water-- http://www.esh.lanl.gov/~esh18/, and PRSs: -- http://erproject.lanl.gov/documents/virtual.html#Reach

Attachment 3 lists contaminants of concern. These contaminants are specified in Appendix A of the 1998 Environmental Surveillance Report.

Results of the multi-agency air quality monitoring conducted during the Cerro Grande Fire are summarized in Attachment 4. More detailed information and supporting data are available on the specific agency web sites (e.g., LANL -- http://www.air-quality.lanl.gov). Data from post-fire water, soil, and ash analyses are not yet available.

Independent corroboration of data analyses, quality assurance and control, and coordination with other agencies (e.g., EPA, NMED).

In accordance with an Agreement in Principle negotiated between NMED and DOE, the Laboratory routinely provides NMED with aliquots of all air, water, soil, foodstuffs, and biota samples for independent testing.

During the course of the Cerro Grande Fire, NMED, the U.S. Environmental Protection Agency, and the DOE Radiological Assistance Program augmented Laboratory air sampling efforts. These results were issued through periodic updates and are summarized in Attachment 4 as referenced above. These data are also available at http://www.nmenv.state.nm.us, and are consistent with results obtained by the Laboratory. NMED continues to routinely operate five air samplers as part of its oversight program. NMED will co-sample with the Laboratory at three Los Alamos facilities, using automated air samplers.

In early June, the Laboratory, DOE, and NMED combined forces to form teams to assure adequacy of independent oversight and joint decision-making in post-fire environmental monitoring and mitigation actions for the Laboratory site. The EPA and affected Accord Pueblos are either already participating or expected to participate in these efforts. Areas of interest include modeling, contaminant transport, best management practices remediation, accelerated remediation, engineering, ecology, air, and information communication.

The Laboratory will continue efforts to extend and expand coordination with external agencies to provide additional environmental monitoring information and assure independent corroboration of data, including potential impacts and consequences.

With respect to quality assurance and control, the Laboratory operates to rigorous protocols as specified by DOE, NMED, and EPA requirements. Descriptions of these quality assurance and control protocols can be found in the 1998 Environmental Surveillance Report. Protocols for the quality management programs used in the Laboratory's Environmental Restoration Project can be found on the web at http://erproject.lanl.gov/documents/procedures/qps.html. The Laboratory uses commercial analytical laboratories certified by DOE for many of its samples, and also performs some analyses using LANL resources.

Information for this response was compiled by Dr. Bill Zwick (Environment, Safety, and Health Division). Bill may be contacted for clarifications, additional information, or related inquires at (505)665-4407 or by e-mail at bdz@lanl.gov. Your staff may also contact me at (505)667-4218 or by e-mail at derickson@lanl.gov

In closing, the Laboratory is grateful for your interest and continuing support. We look forward to further exchanges.

Sincerely,

Dennis J. Erickson, Ph.D.
Division Director
Environment, Safety, and Health

DJE/BZ/dis

Attachments:
(1) Evaluation of Vulnerability of LANL Buildings to Wildfire
(2) Potential Release Sites Touched by Flame
(3) Standards for Environmental Contaminants
(4) Summary of Air Monitoring Efforts During the Cerro Grande Fire

Cy (w/o att.):
Peter Maggiore, NMED Secretary
David Gurulé, DOE Los Alamos Area Office Manager/A105
Wayne Kennedy, UC Vice President for Administration
John Browne, Laboratory Director/A100
Richard Burick, Deputy Laboratory Director for Operations/A100
Karl Braithwaite, Laboratory Government Relations Director/A103
CIC-10/A110
ESH-DO File(w/att)