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U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

**Record of Decision: Site-Wide Environmental Impact Statement for
Continued Operation of Los Alamos National Laboratory,
Los Alamos, New Mexico**

AGENCY: Department of Energy, National Nuclear Security Administration.

ACTION: Record of Decision.

SUMMARY: The National Nuclear Security Administration (NNSA) of the U.S. Department of Energy (DOE) is issuing this Record of Decision (ROD) for the continued operation of the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. This ROD is based on information and analyses contained in the *Final Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico*, DOE/EIS-0380 (Final SWEIS or 2008 SWEIS) issued on May 16, 2008; comments on the SWEIS; and other factors, including costs, security considerations and the missions of NNSA.

In the 2008 SWEIS, NNSA assessed three alternatives for the continued operation of LANL: (1) No Action, (2) Reduced Operations, and (3) Expanded Operations. The No Action Alternative analyzed in this SWEIS consists of NNSA and LANL continuing to implement earlier decisions based on previous National Environmental Policy Act (NEPA) reviews, including the 1999 LANL SWEIS (DOE/EIS-0238) and its ROD (64 FR 50797, Sept. 20, 1999). The 2008 SWEIS identified the Expanded Operations Alternative as NNSA's Preferred Alternative. The SWEIS includes a classified appendix that assesses the potential environmental impacts of a representative set of credible terrorist scenarios.

Because NNSA is continuing to evaluate significant technical and national security issues that could affect the operation and missions of LANL, NNSA is making only a few decisions at this

time regarding the continued operation of the laboratory. NNSA will not make any decisions regarding nuclear weapons production and other actions analyzed in the Complex Transformation Supplemental Programmatic Environmental Impact Statement (DOE/EIS-0236-S4) (Complex Transformation SPEIS or SPEIS) prior to the completion of the SPEIS. However, NNSA must make some decisions now regarding LANL to support the safe and successful execution of the laboratory's current missions. It is likely that NNSA will issue other RODs regarding the continued operation of LANL based on the 2008 SWEIS, the SPEIS and other NEPA analyses.

NNSA has decided to continue to implement the No Action Alternative with the addition of some elements of the Expanded Operations Alternative. These elements include increases in operation of some existing facilities and new facility projects needed for ongoing programs and protection of workers and the environment. For the most part, NNSA will continue the missions conducted at LANL at current levels at this time. NNSA will also continue to implement actions necessary to comply with the March 2005 Compliance Order on Consent (Consent Order), which requires investigation and remediation of environmental contamination at LANL. NNSA will not change pit production at LANL at this time; the 1999 ROD set pit production at LANL at 20 per year.

FOR FURTHER INFORMATION: For further information on the 2008 LANL SWEIS or this ROD, or to receive a copy of this SWEIS or ROD, contact: Ms. Elizabeth Withers, Document Manager, U.S. Department of Energy, National Nuclear Security Administration Service Center, Post Office Box 5400, Albuquerque, NM 87185, (505) 845-4984. Questions about the SWEIS, ROD and other issues regarding the Los Alamos Site Office's NEPA compliance program may also be addressed to Mr. George J. Rael, Assistant Manager Environmental Operations, NEPA Compliance Officer, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, Los Alamos, NM 87544. Mr. Rael may be contacted by telephone at (505) 665-0308, or by e-mail at: LASO.SWEIS@doeal.gov. For information on the DOE NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC-20), U.S. Department of Energy, 1000 Independence

Avenue, SW, Washington, DC 20585, (202) 586-4600, or leave a message at (800) 472-2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available on the Internet through the DOE NEPA Website at: <http://www.gc.energy.gov/nepa/>.

SUPPLEMENTARY INFORMATION:

Background

NNSA prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing NEPA (40 CFR Parts 1500-1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). DOE last issued a SWEIS and ROD for the continued operation of LANL in 1999. DOE's NEPA regulations require that the Department evaluate site-wide NEPA analyses every five years to determine their continued applicability; NNSA initiated such an evaluation of the 1999 SWEIS in 2004. It subsequently decided to prepare a new SWEIS. NNSA issued a Draft SWEIS in July 2006 for public review and comment during a 75-day period. It considered the comments received on the Draft SWEIS in preparing the Final SWEIS, which it issued on May 16, 2008.

LANL is a multidisciplinary, multipurpose research institution in north-central New Mexico, about 60 miles (97 kilometers) north-northeast of Albuquerque, and about 25 miles (40 kilometers) northwest of Santa Fe. LANL occupies approximately 25,600 acres (10,360 hectares), or 40 square miles (104 square kilometers). About 2,000 structures, with a total of approximately 8.6 million square feet under roof, house LANL operations and activities, with about one half of the area used as laboratory or production space, and the remainder used for administrative, storage, services, and other purposes.

LANL is one of NNSA's three national security laboratories. Facilities and expertise at LANL are used to perform science and engineering research; the laboratory also manufactures some nuclear weapons components such as plutonium pits. In addition to weapons component manufacturing, LANL performs weapons testing, stockpile assurance, component replacement, surveillance, and maintenance. LANL's research and development activities include high

explosives processing, chemical research, nuclear physics research, materials science research, systems analysis and engineering, human genome mapping, biotechnology applications, and remote sensing technologies. The main role of LANL in the fulfillment of NNSA and DOE missions is scientific and technological work that supports nuclear materials handling, processing, and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities. Work at LANL is also conducted for other Federal agencies such as the Departments of Defense and Homeland Security, as well as universities, institutions, and private entities.

Alternatives Considered

The alternatives NNSA evaluated in the SWEIS span a range of operations from minimum levels that would maintain essential mission capabilities (Reduced Operations Alternative) through the highest reasonably foreseeable levels that could be supported by current or new facilities (Expanded Operations Alternative). The No Action Alternative evaluated in the SWEIS consists of the continued implementation of decisions announced in the 1999 SWEIS ROD and decisions based on other completed NEPA reviews. The Reduced Operations Alternative assumes a reduction in the levels of certain operations and activities from the levels evaluated in the No Action Alternative. The Expanded Operations Alternative includes activities evaluated in the No Action Alternative, increases in overall operational levels, and new projects that fall into three categories: (1) projects to maintain existing operations and capabilities (such as projects to replace aging structures with modern ones, and projects to consolidate operations and eliminate unneeded structures); (2) projects that support environmental remediation at LANL and compliance with the Consent Order, including demolition of excess buildings; and (3) projects that add new infrastructure and expand existing capabilities.

Compliance with the Consent Order

NNSA and LANL will continue to implement actions necessary to comply with the Consent Order, which requires the investigation and remediation of environmental contamination at LANL, regardless of the alternative it selects for the continued operation of the laboratory. The 2008 SWEIS analyzes the environmental impacts of actions required under the Consent

Order,¹ and actions proposed by NNSA to facilitate its compliance with the Order (such as replacement of waste management structures, and establishment of waste examination and staging areas) under the Expanded Operations Alternative so that the impacts of these actions can be distinguished from the impacts of other proposed actions.

Preferred Alternative

The preferred alternative is the alternative that NNSA believes would best fulfill its statutory mission responsibilities while giving consideration to economic, budget, environmental, schedule, policy, technical and other information. In both the Draft and the Final SWEIS, NNSA identified the Expanded Operations Alternative as its preferred alternative.

Environmentally Preferable Alternative

NEPA's Section 101 (42 USC § 4331) establishes a policy of federal agencies having a continuing responsibility to improve and coordinate their plans, functions, programs and resources so that, among other goals, the nation may fulfill its responsibilities as a trustee of the environment for succeeding generations. The Council on Environmental Quality (CEQ), in its "Forty Most Asked Questions Concerning CEQ's NEPA Regulations" (46 FR 18026, Feb. 23, 1981), defines the "environmentally preferable alternative" as the alternative "that will promote the national environmental policy expressed in NEPA's Section 101."

The analyses in the SWEIS of the environmental impacts associated with operating LANL identified only minor differences among the three alternatives across natural and cultural resource areas. Within each of the alternatives there are actions that could result in negative impacts, as well as those that would produce positive environmental effects. Considering the many environmental facets of the alternatives analyzed in the SWEIS, and looking out over the long term, NNSA believes that implementation of the Expanded Operations Alternative would allow it to best achieve its environmental trustee responsibilities under Section 101 of NEPA. Facilitating the cleanup of the site with new or expanded waste management facilities, and

¹ The Consent Order was issued by the New Mexico Environment Department (NMED). As NMED makes the decisions regarding the requirements of the Order, these decisions are not subject to NEPA because they are not "federal actions."

replacing older laboratory and production facilities with new buildings that incorporate modern safety, security and efficiency standards, would improve LANL's ability to protect human health and the environment while allowing LANL to continue to fulfill its national security missions. Increasing operational levels and performing various demolition activities would use additional resources and generate additional waste, but NNSA would also undertake actions to modernize and replace older facilities with more energy efficient and environmentally-protective facilities and to implement waste control and environmental practices to minimize impacts. Many of these types of actions are not feasible with the outdated infrastructure currently at LANL. Under this alternative, NNSA would be better positioned to minimize the use of electricity and water, streamline operations through consolidation, reduce the "footprint" of LANL as a whole, and allow some areas to return to a natural state.

NNSA's Responsibilities to Tribal Governments

NNSA recognizes that the operation of LANL over the last 65 years has affected the people of neighboring communities in northern New Mexico, including Tribal communities. These effects, which vary in nature across communities, include alterations of lifestyles, community, and individual practices. With respect to Tribal communities, NNSA adheres to federal statutes such as the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, and the National Historic Preservation Act. NNSA follows Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*; Executive Order 13007, *Indian Sacred Sites*; Executive Order 13021, *Tribal Colleges and Universities*; and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. NNSA also follows the 2004 Presidential Memorandum regarding Government-to-Government Relationships with Native American Tribal Governments, DOE's American Indian and Alaska Native Tribal Government Policy, DOE Order 1230.2 and DOE Notice 144.1, which establish principles and policies for the Department's relations with Tribes. NNSA has established cooperative agreements with Tribal nations that are located near NNSA sites to enhance their involvement in environmental restoration while protecting Tribal rights and resources.

Four Pueblo governments in the vicinity of LANL have signed individual Accord Agreements with NNSA (Santa Clara, San Ildefonso, Cochiti, and Jemez). The Accord Agreements, together with the recently established Environmental Management/NNSA tribal framework, provide a basis for conducting government-to-government relations and serve as a foundation for addressing issues of mutual concern between the Department and the Pueblos. In furtherance of these Accord Agreements, and specifically to address concerns and issues raised by the Santa Clara Pueblo, the implementation of the decisions in this ROD will be undertaken in conjunction with a Mitigation Action Plan (MAP), which will be updated as needed to address specific concerns and issues raised by the Santa Clara and other Tribal communities.

Environmental Impacts of Alternatives

NNSA analyzed the potential impacts of each alternative on land use; visual resources; site infrastructure; air quality; noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; and waste management and pollution prevention. NNSA also evaluated the impacts of each alternative as to irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. In addition, it evaluated impacts of potential accidents at LANL on workers and surrounding populations. In a classified appendix, NNSA also evaluated the potential impacts of intentional destructive acts that might occur at LANL.

The 2008 SWEIS's impact analyses for normal operations (i.e., operations without accidents or intentional destructive acts) identified the most notable differences in potential environmental impacts among the alternatives in the following resource areas: *geology and soils; radiological air quality; human health; site infrastructure (electric power use, natural gas demand, potable water demand, and waste management demands); and transportation*. It also identified minor differences in potential environmental impacts among the alternatives under normal operations for: *land use; visual environment; surface water resources; groundwater resources; non-radiological air quality; noise levels; ecological resources; cultural resources; and*

socioeconomics. These findings are described in the Summary and Chapters 4 and 5 of the SWEIS.

Environmental justice was an impact area of particular concern among those who commented on the SWEIS. NNSA recognizes that the operation of LANL over the last 65 years has affected the people of neighboring communities, including minority and low-income households. These effects, which vary in nature across communities, include alterations of lifestyles, community, and individual practices. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires every Federal agency to analyze whether its proposed actions and alternatives would have disproportionately high and adverse impacts on minority or low-income populations. Based on the impacts analysis, NNSA expects no disproportionately high and adverse impacts on minority or low-income populations from the continued operation of LANL under any of the alternatives. From the analysis conducted of the alternatives, the radiological dose from emissions from normal operations are slightly lower for members of Hispanic, Native American, total minority, and low-income populations than for members of the population that are not in these groups, mainly because of the locations of these populations relative to the operations at LANL that produce these emissions. The maximum annual dose for the average member of any of the minority or low-income populations is estimated to be 0.092 millirem compared to a dose of 0.10 millirem for a member of the general population, and a dose of 0.11 millirem for a member of the population that does not belong to a minority or low-income group.

NNSA also analyzed human health impacts from exposure through special pathways, including subsistence consumption of native vegetation (piñon nuts and Indian Tea [Cota]), locally grown produce and farm products, groundwater, surface waters, fish (game and nongame), game animals, other foodstuffs and incidental consumption of soils and sediments (on produce, in surface water, and from ingestion of inhaled dust). These special pathways can be important to the environmental justice analyses because some of them may be more important or prevalent as to the traditional and cultural practices of members of minority populations in the area. The

analyses conducted for the 2008 SWEIS, however, show that the health impacts associated with these special pathways do not result in disproportionately high and adverse impacts to minority or low-income populations.

The SWEIS analyzed potential accidents at LANL. Bounding accidents for both nuclear materials handling and waste management operations and for chemical handling and waste management operations, were identified as those with the highest potential consequences to the offsite population under median site meteorological conditions. Chemicals of concern were selected from a database based on quantities, chemical properties, and human health effects. In making the decisions announced in this ROD, NNSA considered the potential accidents analyzed in the SWEIS for each of the three alternative levels of LANL operations. For the most part, there are few differences among the alternatives for the maximum potential wildfire, seismic, or facility operational accident at LANL because actions under each alternative do not, for the most part, affect the location, frequency, or material at risk of the analyzed accident scenarios. Potential accidents that could occur under the No Action Alternative could also occur under both the Reduced Operations and the Expanded Operations Alternatives. In general, TA-54 waste management operations dominate the potential radiological accident risks and consequences at LANL under all three alternatives.

Under both the No Action and the Reduced Operations Alternatives, the accident with the highest estimated consequences to offsite populations involving radioactive material or wastes is a lightning-initiated fire at the Radioassay and Nondestructive Testing Facility in TA-54. Such an accident could result in up to 6 additional latent cancer fatalities (LCFs) in the offsite population. A fire at the Plutonium Facility's material staging area located within TA-55 could result in up to 5 additional LCFs in the offsite population. The potential accident expected to result in the highest estimated consequences to the hypothetical maximally exposed individual (MEI) and a non-involved nearby worker would be a fire in a waste storage dome at TA-54. If that accident were to occur, a single LCF to a noninvolved worker located 110 yards (100 meters) away from the site of the accident would be likely, and there could also be a 1 in 2 likelihood

(0.50) of a LCF to the MEI, who is assumed to be located at the nearest site boundary for the duration of the accident. The lightning-initiated fire accident at the Radioassay and Nondestructive Testing Facility could also result in a single LCF to a noninvolved worker located 110 yards (100 meters) away from the site of the accident, and could also result in about the same 1 in 2 likelihood (0.49) of a LCF to the MEI assumed to be located at the nearest boundary for the duration of the accident.

Under the Expanded Operations Alternative, there is a potential for a radiological accident unique to this alternative. The radiological accident most likely to result in the highest estimated consequences to the offsite population is a building fire involving radioactive sealed sources stored at the Chemistry and Metallurgy Research Building. Such an accident could result in up to 7 additional LCFs in the offsite population. The potential accident expected to result in the highest estimated consequences to the hypothetical MEI and a non-involved nearby worker would be the same as for the No Action Alternative, namely, a fire in a waste storage dome at TA-54.

DOE evaluates the exposure risks associated with chemicals of concern and the requirements for crisis response personnel to use personal protection to avoid potentially dangerous exposures through its system of Emergency Response Planning Guidelines (ERPG). Chemicals of concern in the analyzed accidents at LANL under both the No Action and Reduced Operations Alternatives include selenium hexafluoride and sulfur dioxide, both from waste cylinder storage at TA-54, and chlorine and helium gases located at TA-55. Annual risks of worker and public exposure in the event of chemical releases are greatest from chlorine and helium gases. The annual risk is estimated to be about one chance in 15 years for workers within 1,181 yards (1,080 meters) of the facility receiving exposures in excess of the ERPG limits for chlorine gas, with the nearest public access located at 1,111 yards (1,016 meters). The annual risk is estimated to be about one chance in 15 years for workers within 203 yards (186 meters) of the facility receiving exposures in excess of ERPG limits for helium gas, with the nearest public access at 1,146 yards (1,048 meters).

Cleanup activities of Material Disposal Areas (MDAs) are analyzed under the Expanded Operations Alternative. These activities pose a risk of accidental releases of toxic chemicals, as there is a degree of uncertainty about how much and what chemicals were disposed of in the MDAs. MDA B is the closest disposal area to the boundary of LANL that will require remediation; remediation by waste removal was assumed for the analysis of a bounding accidental chemical release. Sulfur dioxide gas and beryllium powder were chosen as the bounding chemicals of concern for this area based on their ERPG values. If present at MDA B in the quantities assumed, both of these chemicals would likely dissipate to safe levels very close to the point of their release. However, there is a potential risk to the public due to the short distance between MDA B and the nearest point where a member of the public might be.

Comments on the Final Site-Wide Environmental Impact Statement

NNSA distributed more than 1,030 copies of the Final SWEIS to Congressional members and committees, the State of New Mexico, Tribal governments and organizations, local governments, other Federal agencies, non-governmental organizations, and individuals. NNSA received comments on the Final SWEIS from the Santa Clara Indian Pueblo; the Members and Residents of Santa Clara Pueblo; Concerned Citizens for Nuclear Safety, together with Robert H. Gilkeson and the Embudo Valley Environmental Monitoring Group; Citizen Action New Mexico; Nuclear Watch New Mexico; Citizens for Alternatives to Radioactive Dumping; and from nearby farmers.

Comments on the Final SWEIS included issues already raised during the comment period for the Draft SWEIS. Volume 3 of the Final SWEIS contains all comments received on the Draft SWEIS and NNSA's responses to them; this chapter also describes how these comments resulted in changes to the SWEIS.

The Santa Clara Indian Pueblo identified three main areas of concern: (1) government-to-government consultation should have taken place before the issuance of the Final SWEIS; (2)

environmental justice issues (including cumulative impacts) were not analyzed properly in the Final SWEIS; and (3) going forward with an increase in plutonium pit production at this time would be premature and violate NEPA. In a letter signed by 226 individuals, the Members and Residents of the Santa Clara Pueblo stated their support for comments on the SWEIS submitted by the tribal leaders. They also stated their opposition to increased plutonium pit production and specifically asked “that (1) proper analysis of environmental justice and accumulative impacts be completed and circulated to the public for comments; (2) that NNSA/DOE honor government-to-government consultation and the process as a trust to Indian Tribes (Santa Clara Pueblo); and (3) that no decision about increasing plutonium pit production be made until review of this issue mandated in a new law (the National Defense Authorization Act for Fiscal year 2008) is completed.”

To the extent that Santa Clara Pueblo perceived NNSA’s action in delaying government-to-government consultation until after the issuance of the Final SWEIS and before the issuance of this ROD to be inconsistent with appropriate protocol for such consultations, this was not intended. NNSA believes that it followed the requirements of DOE Order 1230.2, *U.S. Department of Energy American Indian and Alaska Native Tribal Government Policy*, in consulting through the formal government-to-government process with Santa Clara Pueblo prior to making the decisions announced in this ROD. However, given the two-year time period between the issuance of the Draft SWEIS in 2006 and the issuance of the Final SWEIS in 2008, NNSA acknowledges that it could have been more prompt in engaging in government-to-government consultation with the Santa Clara Pueblo. NNSA will work to improve its consultation process.

With regard to the impact analysis of environmental justice issues (including cumulative impacts) in the Final SWEIS, NNSA believes that it appropriately analyzed the potential for disproportionately high and adverse impacts to minority and low-income populations located within a 50-mile radius of LANL under all alternatives, and that it also appropriately analyzed cumulative impacts to the extent that future actions are known or foreseeable. However, NNSA

recognizes that many of the concerns the Santa Clara expressed are rooted in protected cultural and religious practices of its people. With this in mind, NNSA will undertake implementation of the decisions announced in this ROD in conjunction with a MAP. The MAP will be updated as the need arises to identify actions that would address specific concerns and issues raised by the Santa Clara as well as those of other tribal entities in the area of LANL.

NNSA agrees that decisions at this time on proposed actions analyzed in the Complex Transformation SPEIS, including decisions regarding the number of plutonium pits LANL will produce, would be premature. NNSA will not make any decisions on pit production until after it completes the SPEIS.

Concerned Citizens for Nuclear Safety, together with Robert H. Gilkeson and the Embudo Valley Environmental Monitoring Group, raised several concerns with the Final SWEIS: issuance of the Final SWEIS is premature because there could be a future Congressional change in the purpose and need to operate LANL; there is an uncertain seismic hazard at LANL; the Final SWEIS does not comply with NEPA because it omitted an analysis of prime farmland; LANL does not have a reliable network of monitoring wells; radionuclides have been found in the drinking water wells of Los Alamos County, San Ildefonso Pueblo, and Santa Fe; and storm flow and sediment transport are primary mechanisms for potential contaminant transport beyond LANL's boundaries.

NNSA does not agree that issuance of the Final SWEIS and a ROD is premature. Should Congress or the President direct changes regarding the purpose and need to operate LANL, NNSA may need to conduct additional NEPA reviews or amend this ROD. Federal agencies always face the possibility that in the future the Congress or the President may direct changes in their missions and responsibilities. At this time, NNSA is making only a limited set of decisions regarding actions that need to be implemented now. These decisions do not limit or prejudice the decisions NNSA may make regarding the programmatic alternatives it is evaluating in the Complex Transformation SPEIS.

New information about seismic risks at LANL (set forth in the report, *Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory, 2007, LA-UR-07-3965*) may change how hazardous materials are stored, operations are conducted, and facilities are constructed or renovated. NNSA is conducting a systematic review of LANL structures and operations in light of this information. This review, expected to be completed in about one year, will identify any necessary changes to address the new seismic information. NNSA will then implement the necessary changes to LANL facilities and operations based on the review's recommendations.

NNSA contacted the U.S. Department of Agriculture regarding prime farmland designations in northern New Mexico and included that information in Chapter 4 of the Final SWEIS. No farmland designated by that agency as "prime farmland" is located within Los Alamos or Santa Fe Counties, and only a limited amount of prime farmland is located within a 50-mile radius of LANL in Sandoval and Rio Arriba Counties. The Farmland Protection Policy Act requires that projects receiving Federal funds that would result in the permanent conversion of prime farmland to non-farmland (or remove its prime rating) must develop and consider alternatives that would not result in the conversion. None of the proposed actions at LANL under any of the alternatives would result in changes to any designated prime farmland or cause it to be re-designated as non-prime farmland.

Information about the network of monitoring wells, including existing and planned wells, is provided in Chapter 4 of the Final SWEIS. NNSA acknowledges that past well installation practices have not produced the desired network, and will continue to install and refurbish wells until adequate information is obtained regarding groundwater conditions and contaminant transport within the aquifers in the LANL area. Contaminants identified in various drinking water wells are being monitored, and drinking water production from these wells may be adjusted or discontinued in compliance with health protection standards. Additional study of aquifer conditions and contaminant transport is needed before long-term corrective actions can be identified and implemented. Contaminant transport via surface water flow and sediment

transport is recognized as the primary mechanisms for off-site transport, especially after storms. As the watershed recovers from the effects of the Cerro Grande Fire in 2000, the volumes of storm water runoff are expected to decrease.

Citizen Action New Mexico stated its opposition to the Expanded Operations Alternative, especially expanded nuclear weapons research and production, and asserted that the Final SWEIS did not consider the increased impact of plutonium production on children in compliance with Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

NNSA believes it has complied with this Executive Order in the Final SWEIS. NNSA now uses a more conservative dose-to-risk conversion factor in assessing risks of radiation exposures as a result of this Order. Use of the new dose-to-risk conversion factor is one of the changes noted in NNSA's NEPA process since the issuance of the 1999 SWEIS (Chapter 6 and Appendix C of the SWEIS). As noted previously, NNSA is not making any decisions at this time that would result in expansion of nuclear weapons production.

In comments on the Final SWEIS, Nuclear Watch New Mexico (NWNM) stated that: expanded plutonium pit production is not necessary; potential impacts of the proposed Radiological Science Institute are not adequately analyzed in the Final SWEIS and that a project-specific EIS is necessary for the institute; waste volumes identified in the Final SWEIS do not reconcile with those in NNSA's Draft Complex Transformation Supplemental Programmatic EIS; there is confusion about whether the proposed Advanced Fuel Cycle Facility, which is the subject of another DOE programmatic EIS, *The Global Nuclear Energy Partnership Programmatic EIS* (the GNEP PEIS), would be used for research and development or for full-scale reprocessing (and the number of associated facilities that could be located at LANL); and the Los Alamos Science Complex should be funded through the traditional Congressional budgetary authorization and appropriation process.

NNSA believes that it appropriately analyzed the potential impacts of the Radiological Science Institute in the Final SWEIS to the extent possible at this stage of the project planning process, and acknowledged in the Final SWEIS that additional NEPA analyses may be necessary if NNSA decides to continue with this proposal. NNSA will reconcile and update waste volumes in the Final Complex Transformation SPEIS. DOE has decided to eliminate the Advanced Fuel Cycle Facility from consideration in the GNEP PEIS (for more information, please visit: <http://www.gnep.energy.gov>). NNSA is considering the use of alternative financing for the Los Alamos Science Complex; this is an appropriate financing approach in certain situations although it has been rarely used at LANL.

NWNM also asked for additional clarification of some of NNSA's responses to its comments on the Draft SWEIS and provided additional information regarding some of their previous comments. Specifically, NWNM asked if all current tests using plutonium at the Dual Axis Radiographic Hydrodynamic Test Facility (DARHT) are conducted inside vessels.

At present, NNSA is not conducting any tests at DARHT that use plutonium, and future tests using plutonium at this facility would be conducted inside vessels.

NWNM asked if the Rendija Canyon Fault is the closest fault to the proposed location of the Radiological Science Institute.

As discussed in the Final SWEIS, it is the closest known fault to that location.

NWNM also requested an unclassified appendix that discusses intentional destructive acts at LANL; asserted there should be a citation to information compiled by the U.S. Department of Commerce's Bureau of Economic Analysis; and asked that the Area G Performance Assessment and Composite Analysis and the geotechnical report recently prepared by LANL be posted on the Internet.

NNSA considered the preparation of an unclassified discussion of the potential environmental impacts of intentional destructive acts at LANL, but concluded that such a discussion posed unacceptable security risks. Information used to prepare the economic impacts analysis was not contained within a discrete study, so a citation is not appropriate in this instance. Unclassified documents prepared by LANL are generally placed on its internet site when completed and approved for distribution. NWNM may access the LANL internet site for these specific references.

NWNM correctly pointed out that the Environmental Protection Agency (EPA) had designated the Española Basin as a Sole Source Aquifer in early 2008.

Once EPA designates a sole source aquifer under its Sole Source Aquifer Protection Program, the agency can review proposed projects that are to receive Federal funds and that have a potential to contaminate the aquifer. Under this review, EPA can request changes to a Federally-funded project if it poses a threat to public health by contaminating an aquifer to the point where a safe drinking water standard could be violated. Projects conducted entirely by Federal agencies, or their contractors, at sole source aquifer locations are not subject to EPA's review process. NNSA is not proposing any new projects that would cause the Española Basin aquifer to exceed a safe drinking water standard.

Citizens for Alternatives to Radioactive Dumping also commented on the Final SWEIS. It asserted that expanded pit production is not necessary; that contamination has been found in produce samples; that there is prime farm land in the Embudo Valley; that there are radionuclides in the Rio Grande, which is a threat to its use as drinking water by the city of Santa Fe; and that radioactive cesium has been found in soils at the Trampas Lakes, which drain into the Rio Grande.

As NNSA noted in its response to other comments on the Draft SWEIS, a single "false positive" result was returned from a laboratory analyzing fruit specimens grown near LANL. No uptake of radioactive contamination attributed to LANL operations has been found in produce samples

obtained from the Embudo Valley. Drinking water supplies for Santa Fe must meet Safe Drinking Water Act and other state and municipal requirements. Elevated radionuclide concentrations in the soils of alpine lake basins within the Rocky Mountain range have been attributed to global fallout concentrated through snowfall and specific geomorphic conditions.

Decisions

With limited additions, NNSA has decided to continue operation of Los Alamos National Laboratory pursuant to the No Action Alternative analyzed in the 2008 SWEIS. The parameters of this alternative are set by the 1999 ROD and other decisions that NNSA has made previously regarding the continued operation of LANL. The additions to the No Action Alternative NNSA has decided to implement at this time consist of elements of the Expanded Operations Alternative. These elements are of two types: (1) changes in the level of operations for on-going activities within existing facilities, and (2) new facility projects. The changes in operational levels NNSA has decided to implement at this time are:

- **Supporting the Global Threat Reduction Initiative and Off-Site Sources Recovery Project by broadening the types and quantities of radioactive sealed sources (Co-60, Ir-192, Cf-252, Ra-226) that LANL can manage and store prior to their disposal;**
- **Expanding the capabilities and operational level of the Nicholas C. Metropolis Center for Modeling and Simulation to support the Roadrunner Super Computer platform;**
- **Performing research to improve beryllium detection and to develop mitigation methods for beryllium dispersion to support industrial health and safety initiatives for beryllium workers; and**
- **Retrieval and disposition of legacy transuranic waste (approximately 3,100 cubic yards of contact-handled and 130 cubic yards of remote-handled) from belowground storage.**

New facility projects involve the design, construction, or renovation of facilities and were analyzed as part of the Expanded Operations Alternative. The facility projects that NNSA has decided to pursue at this time are:

- **Planning, design, construction and operation of the Waste Management Facilities Transition projects to facilitate actions required by the Consent Order;**
- **Repair and replacement of mission critical cooling system components for buildings in TA-55 to enable the continued operation of these buildings and to comply with current environmental standards; and**
- **Final design of a new Radioactive Liquid Waste Treatment Facility, and design and construction of the Zero Liquid Discharge Facility component of this new treatment facility to enable LANL to continue to treat radioactive liquid wastes.**

These projects and actions are needed on an immediate basis to maintain existing capabilities, support existing programs, and provide a safe and environmentally protective work environment at LANL. The need for these increases in operations and new facility projects exists regardless of any decisions NNSA may make regarding the programmatic and project-specific alternatives analyzed in the Complex Transformation SPEIS.

In addition, NNSA will continue to implement actions required by the Consent Order, as noted above, these decisions are not subject to NEPA.

Basis for Decision

NNSA's decisions are based on its mission responsibilities and its need to sustain LANL's ability to operate in a manner that allows it to fulfill its existing responsibilities in an environmentally sound, timely and fiscally prudent manner.

National security policies require NNSA to maintain the nation's nuclear weapons stockpile as well as its core competencies in nuclear weapons. Since completion in 1996 of the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) and associated ROD, NNSA and its predecessor, DOE's Office of Defense Programs, has implemented these policies through the Stockpile Stewardship Program (SSP). The SSP emphasizes development and application of improved scientific and technical capabilities to assess the safety, security, and reliability of existing nuclear warheads without the use of nuclear testing. LANL's operations support a wide range of scientific and technological

capabilities for NNSA's national security missions, including the SSP. Most of NNSA's missions require research and development capabilities that currently reside at the LANL site. The nuclear facilities in LANL's TA-55 must maintain the nation's nuclear stockpile. Programmatic risks would be unacceptable if LANL did not continue to operate, or if it failed to implement the new decisions set forth above.

NNSA believes that, at this time, existing national security requirements can be met by continuing to conduct operations at current levels with only a limited number of increases in levels of operations and new facility projects. These increases in operations and new projects are needed because of changes in the SSP program and NNSA's nuclear non-proliferation program. They are also needed to meet new responsibilities that have arisen as a result of changes in our national security requirements since 1999. One of the new facility projects is needed to facilitate NNSA's compliance with the Consent Order. The specific rationales for NNSA's decisions to implement seven elements of the Expanded Operations Alternative are:

1. Supporting the Global Threat Reduction Initiative and Off-Site Sources Recovery Project by broadening the types and quantities of radioactive sealed sources (Co-60, Ir-192, Cf-252, Ra-226) that LANL can manage and store prior to their disposal – This decision will allow NNSA to retrieve and store more of these sources, which, if not adequately secured, could be used in a radiation dispersion device (a “dirty bomb”).
2. Expanding the capabilities and operational level of the Nicholas C. Metropolis Center for Modeling and Simulation to support the Roadrunner Super Computer platform – This decision will allow NNSA to perform calculations that improve its ability to certify that the nuclear weapons stockpile is reliable without conducting underground nuclear tests. It will also allow LANL to conduct research on global energy challenges and other scientific issues.
3. Performing research to improve detection and mitigation methods for beryllium – This research will support the continued development of methods to capture and sequester beryllium and to expedite sample analysis needed to implement exposure controls to ensure worker safety.
4. Retrieval and disposition of legacy transuranic waste (approximately 3,100 cubic yards of

contact-handled and 130 cubic yards of remote-handled) from belowground storage – Retrieving and dispositioning this waste will allow LANL to complete closure and remediation of TA-54 Material Disposal Area G under the Consent Order. This action will reduce risk by removing approximately 105,000 plutonium-239 equivalent curies from LANL.

5. Planning, design, construction and operation of the Waste Management Facilities Transition projects – These projects will replace LANL’s existing facilities for solid waste management. The existing facilities at TA-54 for transuranic waste, low-level waste, mixed low-level waste and hazardous/chemical waste are scheduled for closure and remediation under the Consent Order.
6. Repair and replacement of mission critical cooling system components for buildings in TA-55 – This decision will allow these facilities to continue to operate and for NNSA to install a new cooling system that meets current standards regarding the phase-out of Class 1 ozone-depleting substances.
7. Final design of a new Radioactive Liquid Waste Treatment Facility, and design and construction of the Zero Liquid Discharge Facility component of this new treatment facility – This decision will allow LANL to continue to treat radioactive liquid wastes by replacing a facility that does not meet current standards and that cannot be acceptably renovated. Regardless of any decisions NNSA may make about complex transformation and LANL’s role in it, the laboratory will need to treat liquid radioactive wastes for the foreseeable future.

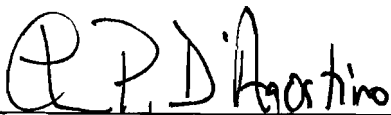
Mitigation Measures

As described in the SWEIS, LANL operates under environmental laws, regulations, and policies within a framework of contractual requirements; many of these requirements mandate actions intended to control and mitigate potential adverse environmental effects. Examples include the Environment, Safety, and Health Manual, emergency plans, Integrated Safety Management System, pollution prevention and waste minimization programs, protected species programs, and energy and conservation programs. A Mitigation Action Plan for this ROD will be issued that includes: specific habitat conservation measures recommended by the U.S. Fish and Wildlife

Service for mitigating effects to potential habitat areas; site- and action-specific commitments related to the Consent Order once the State of New Mexico decides on specific environmental remediation for LANL MDAs; and traffic flow improvements that could involve such measures as installing turn lanes, installing and coordinating traffic lights, and installing new signage. A summary of all prior mitigation commitments for LANL that are either underway or that have yet to be initiated will be included in the MAP. These prior commitments include such actions as continued forest management efforts, continued trail management measures, and implementation of a variety of sampling and monitoring measures, as well as additional measures to reduce potable water use and conserve resources.

In addition, with respect to the concerns raised by the Santa Clara Pueblo, NNSA will continue its efforts to support the Pueblo and other tribal entities in matters of human health, and will participate in various intergovernmental cooperative efforts to protect indigenous practices and locations of concern. NNSA will conduct government-to-government consultation with the Pueblo and other tribal entities to incorporate these matters into the MAP.

Issued at Washington, DC, this 19th day of September 2008.

A handwritten signature in black ink that reads "T. P. D'Agostino". The signature is written in a cursive style and is positioned above a horizontal line.

Thomas P. D'Agostino
Administrator
National Nuclear Security Administration

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