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CHAPTER 1

Introduction and Purpose and Need for Agency Action

This chapter introduces Sandia National Laboratories' (SNL's) role in supporting the U.S. Department of Energy's (DOE's) statutory missions and operations, a statement of the purpose and need for the Department's action, a description of DOE missions for SNL, an overview of the alternatives to be considered, and a review of the decisions that the DOE will make based in part on the findings in this Site-Wide Environmental Impact Statement (SWEIS) in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] Section 4321). In addition, it discusses the public participation process, related NEPA documents, and the organization and contents of the remaining chapters in the SWEIS.

1.1 INTRODUCTION

SNL is one of several national laboratories that support the DOE's statutory responsibilities for nuclear weapons research and design, development of other energy technologies, and basic scientific research. SNL is one of the largest laboratories in the world, with an annual budget of approximately \$1.4 billion and a workforce of approximately 7,500 (DOE 1998j). SNL is composed of four geographically separated facilities: Albuquerque, New Mexico (SNL/NM); Tonopah, Nevada; Kauai, Hawaii; and Livermore, California (SNL/CA). This SWEIS focuses on SNL/NM. (A SWEIS was completed in 1992 for SNL/CA and Lawrence Livermore National Laboratory (DOE/EIS-0157) (DOE 1992f).)

SNL/NM comprises approximately 8,800 ac of Federal land (owned by the DOE, U.S. Department of Defense [DoD], and U.S. Forest Service [USFS]) on Kirtland Air Force Base (KAFB) southeast of the city of Albuquerque (Figure 1.1–1) (SNL/NM 1997a). SNL/NM shares KAFB with other Federal agencies, primarily the U.S. Air Force (USAF) and the USFS. The USAF is a cooperating agency in the preparation of the SWEIS.

The DOE has prepared the SWEIS to examine the environmental impacts associated with three alternatives for SNL/NM's continued operation (see Section 1.3 and Chapter 3 for additional information regarding the alternatives). In the SWEIS, the DOE describes the consequences, both onsite and offsite, of ongoing and proposed SNL/NM operations and compares the potential consequences to three alternative levels of future operations.

DOE activities at the national laboratories and production facilities are known as mission lines. In the DOE *Strategic Plan*, mission lines are also known as business lines. Descriptions of DOE mission/business lines follow (DOE 1997c):

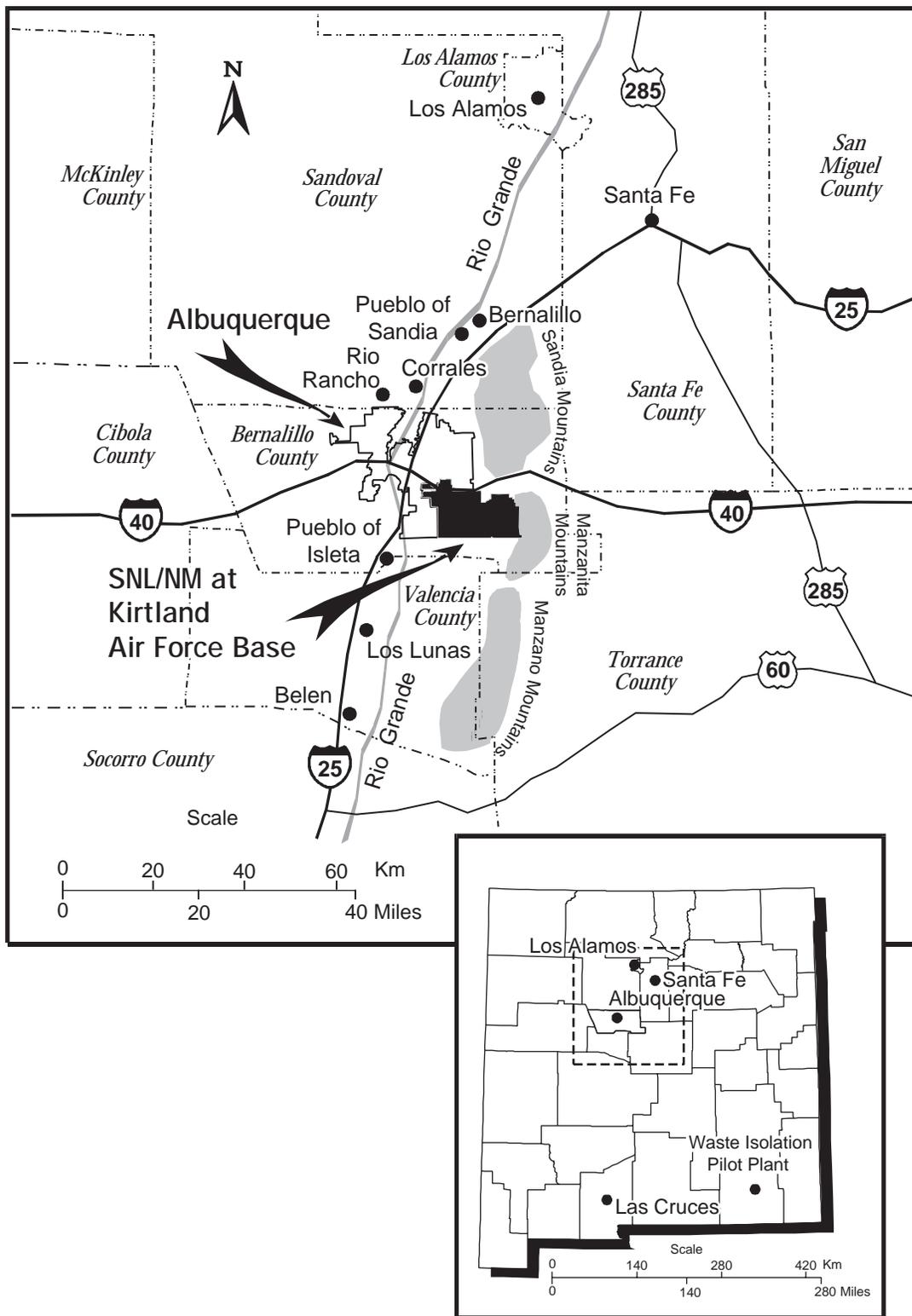
The Importance of SNL's National Security Role

The continuing need for SNL to support the DOE's national security mission line was confirmed by President Clinton, who stated, "...to meet the challenge of ensuring confidence in the safety and reliability of our stockpile, I have concluded that the continued vitality of all three DOE nuclear weapons laboratories will be essential." Statement by the President: Future of Major Federal Laboratories (The White House 1995).

- *National Security*—effectively support and maintain a safe, secure, and reliable enduring stockpile of nuclear weapons without nuclear testing; safely dismantle and dispose of excess nuclear weapons; and provide technical leadership for national and global nonproliferation and nuclear safety activities.
- *Energy Resources*—ensure adequate supplies of clean energy; reduce U.S. vulnerability to supply disruptions; encourage efficiency and advance alternative and renewable energy technologies; and increase energy choices for all consumers.

The DOE Mission Statement

To foster a secure and reliable energy system that is environmentally and economically sustainable, to be a responsible steward of the nation's nuclear weapons, to clean up our own facilities, and to support continued United States leadership in science and technology. (DOE 1996e)



Source: SNL/NM 1997j

Figure 1.1–1. SNL/NM, KAFB, and Surrounding Region

SNL/NM is located within the boundaries of KAFB, southeast of Albuquerque in Bernalillo county.

- *Environmental Quality*—reduce the environment, safety, and health risks and threats from DOE facilities and materials; safely and permanently dispose of civilian spent nuclear fuel and defense-related radioactive waste; and develop the technologies and institutions required for solving domestic and international environmental problems.
- *Science and Technology*—combine the unique resources of the Department’s laboratories and the nation’s universities to maintain leadership in basic research and to advance scientific knowledge; focus applied research and technology development in support of the Department’s mission lines; contribute to the nation’s science and mathematics education; and deliver relevant scientific and technical information.

1.2 PURPOSE AND NEED FOR AGENCY ACTION

The DOE needs to continue to meet its responsibilities for national security, energy resources, environmental quality, and science and technology at SNL/NM. The DOE needs to continue to fulfill its responsibilities as mandated by statute, Presidential Decision Directive (PDD), and congressional authorization and appropriation, while meeting this need in a manner that protects human health and the environment.

DOE missions for SNL have evolved over time in response to national needs. When assigning missions to SNL, the DOE considers many factors, including PDDs; the *National Defense Authorization Act of 1994* (Public Law 103-160); the DoD Nuclear Posture Review; and treaties, both implemented and proposed, including the Nuclear Nonproliferation Treaty, Strategic Arms Reduction Treaty (START) I, proposed START II, and the proposed Comprehensive Test Ban Treaty. Following are specialized capabilities SNL/NM provides in support of the Department’s mission lines:

- science-based performance and reliability testing and computer-based modeling of nuclear components;
- production of nonnuclear components;
- production of neutron generators;
- materials science, including studying behavior of materials under high temperature and pressure;
- engineering and high-energy physics;

SWEIS Terminology

Mission	The DOE’s mission is to foster a secure and reliable energy system that is environmentally and economically sustainable, to be a responsible steward of the nation’s nuclear weapons, to clean up its facilities, and to support continued United States leadership in science and technology.
Mission Lines	The DOE accomplishes its major responsibilities by assigning groups or types of activities (National Security, Energy Resources, Environmental Quality, Science and Technology) to its system of national laboratories and production facilities.
Programs	The DOE is organized into Program Offices. Each has a primary responsibility within one of the four DOE mission lines. The Program Offices provide funding and direction for activities at DOE facilities. Similar, coordinated sets of activities that meet Program Office responsibilities are referred to as programs. Programs are usually long-term efforts with broad goals or requirements.
Capabilities	The DOE’s capabilities include the combination of equipment, facilities, infrastructure, and expertise required to implement mission assignments.

- high explosives research and development (R&D) and testing;
- microelectronics and photonics research;
- medical isotopes production; and
- radiation effects experimentation and accelerator operations.

For additional discussion of SNL/NM’s support of DOE mission lines, see Section 2.1.

1.3 PROPOSED ACTION AND ALTERNATIVES

The DOE proposes to continue operating SNL/NM and managing its resources in a manner that meets evolving DOE mission lines and that responds to the concerns of affected and interested individuals and agencies.

The DOE identified three alternatives—No Action, Expanded Operations (the DOE's Preferred Alternative), and Reduced Operations—that would meet its purpose and need for agency action and support existing and potential future program-related activities at SNL/NM.

1.3.1 No Action Alternative

Under the No Action Alternative, ongoing DOE and interagency programs and activities at SNL/NM would continue the status quo, that is, operating at planned levels as reflected in current DOE management plans. In some cases, these planned levels include increases over today's operating levels. This would also include any recent activities that have already been approved by the DOE and have existing NEPA documentation.

1.3.2 Expanded Operations Alternative

Under the Expanded Operations Alternative, DOE and interagency programs and activities at SNL/NM would increase to the highest reasonable activity levels, as set forth in this SWEIS, that could be supported by current facilities and their potential expansion and construction of new facilities for future actions specifically identified in the SWEIS. In this Final SWEIS the Expanded Operations Alternative has two potential configurations for the Microelectronics Development Laboratory (MDL) facility. In the first configuration, the SWEIS analyzed the expansion of operations in the existing MDL (analyzed in the Draft SWEIS). In the second configuration, the SWEIS presents the available information on the developing proposal for the Microsystems and Engineering Sciences Applications (MESA) Complex, including impacts from the construction and operation of the facility (see Sections 3.3 and 5.4) adjacent to the existing MDL. The DOE has included in the second configuration of the Expanded Operations Alternative all available programmatic and environmental information on the MESA Complex based on its approved *Microsystems and Engineering Sciences Applications Complex Conceptual Design Plan* (SNL/NM 1999b).

The conceptual design for the MESA Complex will be finalized in the December 1999 timeframe with the

issuance of the Conceptual Design Report currently under preparation. Thus, because the information on the MESA Complex in this SWEIS is preliminary and incomplete (based on the Conceptual Design Plan), and was added after issuance of the Draft SWEIS for public review and comment, the DOE has determined that an additional NEPA review will be conducted for the construction and operation of the proposed MESA Complex after the conceptual design is finalized. Based on the current configuration for the proposed MESA Complex, the DOE will prepare an environmental assessment (EA) to determine whether an environmental impact statement (EIS) is required and will include the opportunity for public participation. The decision whether or not to construct and operate the MESA Complex will be made following the additional NEPA review. The DOE did not include the MESA Complex as a "Projects Under Consideration" in the Draft SWEIS because the DOE had not then decided to proceed with conceptual design for the project. Once the DOE decided to go forward with conceptual design, however, it elected to present the information it had gathered thus far from the ongoing conceptual design. Nothing in the Final SNL/NM SWEIS is intended to influence the findings of any subsequent NEPA review of the MESA Complex. Similarly, the Record of Decision (ROD) based on the Final SWEIS will not affect the DOE's eventual decision with respect to the MESA Complex. Any decision to construct and operate the MESA Complex will be based solely on a NEPA review specific to the MESA Complex.

While the DOE will not make a decision on MESA based on this SWEIS, construction and operation of the MESA Complex is nonetheless presented in the SWEIS. The DOE has elected to share with the public such information as it has assembled in the course of its ongoing conceptual design of the MESA Complex to give the public an idea of the additional consequences that could potentially occur at SNL/NM should the project go forward (see Section 5.4, Expanded Operations Alternative). Because conceptual design is ongoing, environmental impact information is also incomplete and preliminary and may differ from what will be presented in the subsequent EA.

1.3.3 Reduced Operations Alternative

Under the Reduced Operations Alternative, DOE and interagency programs and activities at SNL/NM would be reduced to the minimum level of operations needed to maintain SNL/NM facilities and equipment in an operational readiness mode.

The Notice of Intent (NOI) (62 *Federal Register* [FR] 29332) proposed that the No Action and Expanded Operations Alternatives be considered in the SWEIS (see Chapter 14); however, a third alternative, the Reduced Operations Alternative, was added to show a broader range of alternatives and respond to comments received from the public during the scoping process (Section 1.7.1).

The SWEIS analyzes the environmental impacts of activities at SNL/NM associated with these three alternatives, as well as activities common to all alternatives including maintenance support and material management. The alternatives are more fully described in Chapter 3.

1.3.4 Preferred Alternative

The DOE did not present a Preferred Alternative in the Draft SNL/NM SWEIS. The DOE has now selected the Expanded Operations Alternative (exclusive of the MESA Complex) as its Preferred Alternative. Under the Expanded Operations Alternative, the DOE would expand operations at SNL/NM as the need arose (until 2008), subject to the availability of congressional appropriations, to increase the level of existing operations to the highest reasonable foreseeable activity levels that are analyzed in the SWEIS. The Preferred Alternative would only implement expansion at the existing MDL, without addition of the MESA Complex.

1.4 OBJECTIVE OF THE SWEIS

In the SWEIS, the DOE is examining the environmental impacts of the three alternatives for the continued operation of the laboratory. The objective of the SWEIS is to provide the DOE, other agencies, and the public with the following:

- descriptions of the affected environment, current operation, and potential impacts associated with the continued operation of SNL/NM;
- sufficient information to facilitate routine decisions by the DOE regarding verification of operational status;
- a document that can be used for tiering (linking) NEPA analyses for future proposed actions, to eliminate repetitive discussions of similar issues and focus on the actual issues ready for decisions at each level of environmental review; and
- an understanding of SNL/NM's contribution to cumulative environmental impacts created by SNL/NM, KAFB, other onsite DOE facilities and activities in the Albuquerque area.

The last site-wide NEPA document for SNL/NM was prepared in 1977 (ERDA 1977). Since that time, site programs and activity levels have changed. Recently, the DOE has made decisions on the *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (DOE 1996a), the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE 1997i), the *Medical Isotopes Production Project: Molybdenum-99 and Related Isotopes Environmental Impact Statement* (DOE 1996b), and the *Nonnuclear Consolidation Environmental Assessment* (DOE/EA-0792) (DOE 1993c). Based on these changes and decisions, the DOE decided that a thorough environmental analysis was needed to describe impacts of ongoing and proposed SNL/NM operations.

1.5 DECISIONS TO BE SUPPORTED BY THE SWEIS

The SWEIS will be used to support DOE decisions on the levels of operations at SNL/NM, as well as serving as a basis for tiering future NEPA analyses and decisions regarding specific activities, as needed.

No sooner than 30 days after the Final SWEIS is issued, the DOE will consider preparing a ROD. The ROD will contain the DOE's decisions on future operating levels for SNL/NM. In the ROD, the DOE will explain all factors, including environmental impacts, that the Department considered in reaching its decision and identify the environmentally preferable alternative or alternatives. The DOE may select one of the three alternatives or a combination of the alternatives analyzed in the SWEIS.

Where the DOE has analyzed the environmental impacts at selected facilities for the three levels of operations that comprise the three alternatives, the DOE may choose different activity levels for each of the selected facilities and facility groups in its ROD. The NEPA process is satisfied as long as the department has bounded the environmental impacts for the selected level of operations of each facility. Here, all of the selected activity levels are analyzed in the SWEIS, and any combination of activities between the Reduced and Expanded Operations Alternatives will similarly be bounded by the SWEIS. If mitigation measures, monitoring, or other conditions are adopted as part of the DOE decision, these, too, will be summarized in the ROD.

1.6 PROJECTS UNDER CONSIDERATION

The following six projects are under consideration, but have not been included in this NEPA process (with one exception) because they are not ripe for decision-making. The MESA Complex configuration for the Expanded Operations Alternative has been included in the analysis and presented in the SWEIS for the purpose of full disclosure and integration. Separate NEPA review of each would be conducted before implementation of these projects.

- *X-1 Advanced Radiation Source*—an accelerator envisioned to generate X-ray outputs far greater than those that can be generated on the SNL/NM Z-machine or the ZX machine. The X-1 would enable a comprehensive range of weapon research activities, made possible by achievement of high yield fusion burn. Four potential alternative locations for this facility, including SNL/NM, were outlined in the Final Programmatic Environmental Impact Statement (PEIS) for Stockpile Stewardship and Management (SSM). However, pre-conceptual design on this project is stopped at this time, and the DOE will make the decision to proceed at a later date.
- *ZX*—a concept for a ZX experimental facility is under discussion that would provide a new X-ray source for high-energy density R&D and weapon effects testing. This facility would entail modifications to facilities in Technical Area (TA)-IV. The ZX would provide an increase in SNL/NM capabilities for stockpile stewardship studies. In concept, this facility would use existing facilities and infrastructure in TA-IV, but would require an additional building to house the pulsed-power accelerator and experimental area. The ZX would produce a significant increase in soft X-ray energy output (up to 7 MJ) per shot compared to the existing Z-machine. Target materials would be similar to those used or planned for the Z facility. At this time, the DOE has decided that SNL/NM will not build a new \$200 M facility, rather the work will be carried out in the existing facility.
- *Annular Core Pulse Reactor-II*—a proposed reactor that would use the same fundamental design as the existing Annular Core Research Reactor (ACRR) facility. This reactor could be used for defense program-related testing using the uranium oxide-beryllium oxide fuel from the existing ACRR. This facility could be constructed in TA-V. A potential

scenario for operation of such a reactor is analyzed under the Expanded Operations Alternative, but would require separate NEPA review if the DOE proposes pursuing the project.

- *ACRR-medical isotopes production privatization*—The DOE could decide to privatize its medical isotopes production in the future.
- *DOE-owned portion of a local research park*—eighty-six ac of undeveloped DOE land adjacent to the Sandia Science and Technology Park may be developed in the future. The entire research park comprises approximately 200 ac, and various public and private entities are involved in the development activities. This project has not been analyzed in this SWEIS, but is described in Section 6.4.1.
- *MESA*—a developing proposal comprised of technical and engineering activities required to implement microsystems technology into the nuclear weapons stockpile. The program could provide capabilities that support the DOE's stockpile stewardship and management, the Stockpile Life Extension Program (SLEP), and The Enhanced Surety Campaign. Current plans call for the MESA Complex to be built adjacent to the existing MDL. The project could require retooling of equipment in the existing MDL and construction of a replacement building for the antiquated Compound Semiconductor Research Laboratory (CSRL). Once the replacement laboratory was completed, the DOE would combine the MDL and the existing CSRL into one integrated design, prototype, and fabrication facility that would be a part of the MESA Complex. Other support buildings and structures (light laboratories, offices, gas storage) would be built nearby. If MESA becomes operational the DOE will demolish the existing CSRL.

As discussed in Section 1.3.4, Preferred Alternative, the DOE has determined that an EA will be conducted for the construction and operation of the MESA Complex (a developing proposal) after the conceptual design is finalized and before this project can be implemented.

1.7 PUBLIC PARTICIPATION

Public participation is integral to the preparation of the SWEIS. This section summarizes the issues and concerns that were identified during the public scoping process.

1.7.1 Scoping Process

Scoping is a process for determining the range of issues to be addressed in an EIS and for identifying significant issues associated with the alternatives (40 Code of Federal Regulations [CFR] §1501.7). The objectives of the scoping process are to notify interested persons, agencies, and other groups about the proposed action and the alternatives being considered; solicit comments about environmental issues, alternatives for the proposed action, and other items of interest; and consider those comments in the preparation of the SWEIS.

Scoping for the SWEIS consisted of both internal DOE scoping and external public scoping processes. The internal DOE scoping process began with working groups comprised of DOE managers and SNL/NM laboratory managers. The external scoping process period began after the publication of the NOI (62 FR 29332) on May 30, 1997, and continued until July 14, 1997. The NOI was published to notify the public that the DOE was intending to prepare a SWEIS on SNL/NM operations and to invite other Federal agencies, Native American tribes, state and local governments, and the general public to participate in the scoping process. The NOI also presented background information on SNL/NM and preliminary alternatives and issues identified through the internal scoping process.

Two scoping meetings for the SWEIS were held for the general public on June 23, 1997, at the University of New Mexico Continuing Education Center in Albuquerque, New Mexico. At these meetings, the DOE presented information on its proposal to prepare the SWEIS and the alternatives that were to be analyzed. The public was invited to present oral and/or written comments at the scoping meetings or by telephone by way of a toll-free number. Written comments could also be submitted by mail, facsimile, or electronic mail.

1.7.2 Summary of Scoping Issues and Concerns

During the public scoping process, a total of 29 individuals and organizations either submitted requests for information or made oral or written comments. These comments, summarized in Table 1.7–1, were sorted based on the organization of the SWEIS. All of these comments have been reviewed and considered at various stages during the preparation of the SWEIS. Many are explicitly addressed in the pertinent sections of the first seven chapters of the SWEIS.

1.7.3 Public Comment Process

The DOE released the Draft SWEIS in April 1999 for review and comment by the state of New Mexico, Native American tribes, local governments, other Federal agencies, and the general public. The formal public comment period lasted 60 days, ending on June 15, 1999.

The DOE considered all comments, including those it received after the end of the comment period, to evaluate the accuracy and adequacy of the Draft SWEIS and to determine whether it needed to correct, clarify, or otherwise revise the SWEIS text. The DOE gave equal weight to spoken and written comments, all of which were reviewed for content and relevance to the environmental analysis in the SWEIS.

Commenters raised several topics that the DOE has addressed in the following *Summary of Comments and Responses* section.

1.7.4 Summary of Comments and Responses

This section contains an overview of comments and responses on the Draft SWEIS. Typically, the following subsections discuss resource areas for which the DOE received multiple comments, often from several commenters. These subsections do not capture all specific comments, but provide the reader with the essence of public concerns on the Draft SWEIS.

In addition to the comments summarized below, the DOE also received comments on other topics. A breakdown of all comments received, by issue category, is presented in Table 1.3–1 of the Comment Response Document, Volume III of this Final SWEIS.

1.7.4.1 Alternatives

Some commenters took issue with the alternatives evaluated, maintaining that there were not enough differences among alternatives or that the Reduced Operations Alternative should have gone further toward scaling back SNL/NM activities. For example, one commenter stated that the “SWEIS does not clearly distinguish between the alternatives.” Another stated that in “the majority of instances, on a project-by-project basis, there are far more similarities...than there are differences” in operations at facilities among the different alternatives. A commenter also noted that “the Draft SWEIS admits that for some facilities, ‘reduced operations’ would actually be increased operations

Table 1.7–1. Summary Public Scoping Comments

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
<i>General</i>	Discuss the effects of Sandia National Laboratories/New Mexico (SNL/NM) on the environment.
	Examine current and future energy requirements and conservation potential.
	What are your proposed activities now and 10 years from now?
<i>Alternatives</i>	Return all or part of the withdrawn U.S. Forest Service lands to public use.
	Consider zero production.
	Evaluate neutron generator production if manufactured at a higher level than indicated in the Nonnuclear Consolidation Environmental Assessment (EA).
	Consider reduced operations.
	Consider relocating and/or outsourcing of some current activities.
	Consider closure of SNL/NM.
	Continue some operations and increase/decrease others.
	Concern was expressed about the DOE's objectivity in defining "minimum" operations.
	Expand renewable energy, energy efficiency, and waste management research facilities.
	Dedicate vast unused lands owned by SNL as an Environmental Research Park.
<i>Land Use</i>	Give full consideration of the use and impacts to U.S. Forest Service land.
	Consider impacts from testing/operations on land use, including tribal lands.
<i>Geology</i>	The potential for seismic activity along earthquake faults in the Manzanos makes the Manzano facility unsuited for nuclear storage.
<i>Water Resources</i>	Discuss water use, conservation, and cleanup.
	Consider the effects of testing on water in the East Mountain area.
	SNL should expand its research on wastewater treatment and water reuse technologies.
	Studies must include effects of an accident on groundwater quality.
	What impact will waste discharges to groundwater have on Isleta, and what impact will current and future surface water discharge have on the Rio Grande?
	Determine the extent of groundwater contamination.
	Is there a groundwater monitoring program in place?

Table 1.7–1. Summary Public Scoping Comments (continued)

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
<i>Water Resources (continued)</i>	What is the current and future water use, and what is its impact on the Albuquerque Basin?
	How many acre feet of water rights do you currently have? Do you anticipate purchasing more in the future?
	Provide data on the present number of wells, including depth, water quantity, and water quality. Will more wells be needed?
	Is surface water currently used, including water from the Rio Grande? Will it be used in the future?
	Is there any surface water contamination?
	Is there a surface water monitoring program in place?
<i>Biological Resources</i>	Consider implication of traffic associated with Sandia and Kirtland Air Force Base (KAFB) on water resources.
	Consider impacts on migratory birds such as the burrowing owl and gray vireo.
	Evaluate any research involving the capture and rendering of animals on KAFB for chemical or other analysis.
	What are the types of wildlife on your lands and how will they be impacted by future activities? If they migrate, where would they go?
<i>Cultural and Religious</i>	Have there been any tissue studies performed on any of the wildlife to determine if they have chemical concentrations that might be harmful to humans?
	Consider impacts to Native American archaeological sites and artifacts.
	Evaluate how impacts to cultural resources and properties, which may be historically significant, will be minimized.
	Full consideration must be given to Native American cultural and religious sites.
	Address cumulative impacts to traditional cultural properties.
	Consideration should be given to loss of access for Pueblo of Isleta to traditional cultural properties.
<i>Air Quality</i>	A full ethnographic survey of impacted lands should be conducted.
	Air quality must be addressed openly, otherwise public suspicion is fostered.
	Impacts of the open burn facility on the adjacent public use areas and the East Mountain area, including black smoke and forest fires, must be considered.
	Air conformity issues related to onsite transportation must be considered.
	Air conformity issues related to offsite transportation must be considered.
Consider the cumulative impacts to Pueblo of Isleta due to discharges of hazardous air pollutants, including radionuclides.	

Table 1.7–1. Summary Public Scoping Comments (continued)

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
<i>Air Quality</i> (continued)	How many air pollutants are currently emitted and how will they be increased if activities are expanded?
<i>Health and Safety</i>	Could there be an increased incidence of thyroid cancer in the nearby community due to operation on KAFB?
	Have SNL/NM operations increased the incidence of child deformities?
	What is the current physical condition of the laboratories?
	How does the current condition of these laboratories compare with industry standards?
	What kind of environmental risk is posed by operating laboratories in their current physical condition?
	Are there criteria to ensure that a lab operation is appropriate to the condition of the lab?
	Is there a real option for a researcher or lab manager to stop work in a lab because it is unsafe?
	How has the maintenance or replacement budget for the individual labs fared and what is its future?
	The integrity of radioactive waste storage areas has to be examined to prevent environmental health hazards.
	Risks to surrounding neighborhoods in the case of an accident need to be studied.
	Cleanup standards for U.S. Forest Service land must consider ecological risks, not just the industrial human health cleanup standard.
	What types and quantities of nuclear materials and chemicals are used at SNL/NM?
	Does SNL/NM have an emergency response plan in place in the event of an emergency, and is the lab prepared for an evacuation if necessary?
Are employees trained to handle a nuclear and/or chemical emergency?	
What are the potential public and worker exposures to radiological and/or hazardous materials?	
<i>Transportation</i>	How can SNL/NM assist in developing more efficient, less intrusive transportation corridors?
	In what ways can SNL/NM assist in implementing a Southeast Corridor bypass?
	Discuss the effects of onsite transportation of radioactive and hazardous materials and wastes on the site workforce and the general public.
	Discuss impacts related to offsite transportation of radioactive and hazardous materials and wastes.
	Address the impact of SNL operations in relation to city and county policies regarding transportation planning.
	Is it in the best interest of the community to transport mixed waste to SNL/NM for treatment?

Table 1.7–1. Summary Public Scoping Comments (continued)

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
<i>General</i>	Discuss the effects of Sandia National Laboratories/New Mexico (SNL/NM) on the environment.
	Examine current and future energy requirements and conservation potential.
	What are your proposed activities now and 10 years from now?
<i>Alternatives</i>	Return all or part of the withdrawn U.S. Forest Service lands to public use.
	Consider zero production.
	Evaluate neutron generator production if manufactured at a higher level than indicated in the Nonnuclear Consolidation Environmental Assessment (EA).
	Consider reduced operations.
	Consider relocating and/or outsourcing of some current activities.
	Consider closure of SNL/NM.
	Continue some operations and increase/decrease others.
	Concern was expressed about the DOE's objectivity in defining "minimum" operations.
	Expand renewable energy, energy efficiency, and waste management research facilities.
	Dedicate vast unused lands owned by SNL as an Environmental Research Park.
<i>Land Use</i>	Expand some activities by making them available to other Federal agencies and move other activities that are underutilized to some other location.
	Broaden scope to anticipate research and development of new technologies to ensure leading-edge competency at SNL.
	Give full consideration of the use and impacts to U.S. Forest Service land.
<i>Geology</i>	Consider impacts from testing/operations on land use, including tribal lands.
	The potential for seismic activity along earthquake faults in the Manzanos makes the Manzano facility unsuited for nuclear storage.
<i>Water Resources</i>	Discuss water use, conservation, and cleanup.
	Consider the effects of testing on water in the East Mountain area.
	SNL should expand its research on wastewater treatment and water reuse technologies.
	Studies must include effects of an accident on groundwater quality.
	What impact will waste discharges to groundwater have on Isleta, and what impact will current and future surface water discharge have on the Rio Grande?
	Determine the extent of groundwater contamination.
	Is there a groundwater monitoring program in place?

Table 1.7–1. Summary Public Scoping Comments (continued)

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
Environmental Restoration/Waste and Waste Management (continued)	The DOE needs to include thorough studies of potential cleanup sites and develop implementation strategies for cleanup of waste storage facilities.
	Studies must include effects of contamination on soils.
	If Mesa del Sol is contaminated from any SNL/NM sources, SNL/NM has a duty to clean it up.
	When considering returning U.S. Forest Service land to public access, the necessary decontamination and decommissioning must be carried out.
	Concerns relating to the Medical Isotope Production project need to be addressed including the life of the project, where and how spent fuel rods will be stored, how many spent fuel rods will be generated, has the disposal cost been considered, and which DOE program would pay for it.
	Consider impacts to Isleta property from soil contamination due to waste discharges.
	Consider heavy metal and depleted uranium contamination from overshot and explosives debris.
Regulatory Compliance	What are current waste management practices, and are hazardous materials currently stored or disposed of onsite?
	Consider SNL/NM's and KAFB's compliance with environmental laws, including the <i>Clean Air Act</i> and <i>Clean Water Act</i> . A study of Native American traditional cultural properties on KAFB and the U.S. Forest Service withdrawn land must consider not only the <i>National Historic Preservation Act</i> , but also the relevant aspects of the <i>American Indian Religious Freedoms Act</i> .
Public Involvement	Consider SNL/NM's and KAFB's compliance with environmental laws, including the <i>Clean Air Act</i> and <i>Clean Water Act</i> .
	A study of Native American traditional cultural properties on KAFB and the U.S. Forest Service withdrawn land must consider not only the <i>National Historic Preservation Act</i> , but also the relevant aspects of the <i>American Indian Religious Freedoms Act</i> .
	Make technical data more available, including by computer access.
	Public involvement and input must be considered.
	There should be total public disclosure of activities.
	Information should be disseminated to the local Hispanic community and be available in Spanish.
	Copies of <i>National Environmental Policy Act</i> (NEPA) documents and supporting analyses should be available to the public for independent review.
	All comments, DOE responses, and other documents should be available on the Internet.
Public Involvement	Will there be public participation meetings?
	A work plan or some other similar document should be made available for public comment by the Fall of 1997 that would identify schedules, alternatives, facilities to be analyzed, contractors preparing the SWEIS, roles of other Federal agencies, and other NEPA documents the DOE intends to prepare during preparation of the SWEIS.
	The DOE should actively cooperate with and involve the Pueblo of Isleta in the preparation of the draft SWEIS.

Table 1.7–1. Summary Public Scoping Comments (concluded)

COMMENT CATEGORY/ RESOURCE AREA	COMMENT
<i>Public Involvement (continued)</i>	The DOE should provide for ongoing public input during the SWEIS process and keep the public informed on SWEIS progress.
	The “Open House” format of the June 23, 1997, public meeting permitted good communication and should be continued.
	The DOE should demonstrate during the NEPA process a respectful, continuing government-to-government relationship with the Pueblo of Isleta.
<i>Mission, Policy and Management</i>	Technology transfer between SNL/NM and Bernalillo county and local governments should continue to be encouraged.
	SNL/NM should stop open burn tests and any and all reclamation of plutonium pits from warheads.
	The DOE should set time limits for each constituent part of the SWEIS with the total time not to exceed 15 months.
	SNL/NM is a good place to work.
	Concern was expressed over ethics of experiments such as human radiation experiments on people living around SNL/NM.
	The DOE should reassign SNL/NM's mission statement and make it concentrate on energy and material efficiency, renewable resource research, waste management and recycling, and development of biodegradable and reusable materials.
	SNL/NM should make a commitment to engage in an arms control program, work on weapons disarmament, and seek improvements to the recent test-ban agreement.
<i>Document Preparation</i>	The SWEIS should be extended to cover business incubator activities.
	In the event of a war, would SNL/NM be a target?
	It should be explained in the SWEIS how the DOE will ensure that all proposed actions will receive the appropriate level of NEPA review after the document is completed.
	A description of how the DOE intends to condition funding for mitigation, if proposed, and a progress report on mitigation should be included in the SWEIS or a mitigation action plan.
	The many other project-specific NEPA documents that SNL/NM has prepared, other than the two called out in the Notice of Intent, should be considered.
	Any relationship between SNL/NM and contractors selected to prepare the SWEIS should be described in the disclosure statement.
	A classified appendix is not warranted.

Source: HNUS 1997

compared with the base period activities,” and that the DOE should have considered an alternative of “returning all or part of the withdrawn Forest Service lands to public use.” Commenters also noted that the No Action Alternative is described as possibly involving increased activity, which contradicts the concept of no action.

The three alternatives represent the same mission assignments carried out at different levels. Other than the proposed expansion of the MDL to include the MESA Complex (a developing proposal that is still undergoing conceptual design but is presented under one of two configurations in the Expanded Operations Alternative,

as discussed in Section 3.3.1.2 of the Final SWEIS), there would be very little construction of new facilities; and, even in those cases, construction would occur largely in previously disturbed areas. Renovations to existing buildings could also occur.

In general, implementation of any of the alternatives would use the existing physical plant. In many cases, the actual changes in levels of activities represent a very small change in relation to current levels, so the change in impacts would be relatively small. The DOE believes the Reduced Operations Alternative accurately reflects the minimal level of operation possible at SNL/NM to maintain the capabilities identified in the Stockpile Stewardship and Management PEIS. Some facilities in the Withdrawn Area are unique to the DOE nuclear weapons complex, such as the Lurance Canyon Burn Site and the Aerial Cable Facility. Because of the uniqueness and necessity of the facilities located in the Withdrawn Area, the DOE does not anticipate moving these facilities or suspending activities at them within the time frame analyzed in the SWEIS. For this reason, the DOE does not believe it is reasonable to return all or part of the Withdrawn Area to the public and, therefore, did not analyze it in the SWEIS. The rationale for not considering return of withdrawn lands to public use has been added to the Final SWEIS as Section 3.5.3.

The No Action Alternative in the SWEIS considers SNL/NM activities at currently planned levels of operations. This includes some activities or projects that have been planned and approved, but are not yet operational. This is intended to present a realistic picture of the continuing activity at the current congressionally approved level. If these planned operations are implemented in the future, they could result in increased activity above present levels.

1.7.4.2 Water Use

A number of comments dealt with reducing the quantity of water used by SNL/NM. One commenter focused on water conservation, stating “I hope that [SNL/NM]... actually implements this 30 percent conservation reduction that is mentioned more than once in the document,” and that SNL/NM “should join the rest of us in significant [water] conservation efforts over the next few years.” Another commenter asked “can SNL/NM justify expending critical water resources for programs such as those conducted at the Microelectronics Development Laboratory?”

Based on 1996 usage, SNL/NM’s goal is to reduce annual water use from 440 M gal to 308 M gal by 2004. This goal will be achieved through a variety of conservation efforts, especially at higher water use facilities such as the MDL. The MDL provides custom and radiation-hardened microelectronics—a critical capability to the nuclear weapons stockpile maintenance program. In part due to SNL/NM’s signing of the water conservation memorandum of understanding with the city of Albuquerque and KAFB, the MDL began to implement a series of steps to reduce water use. In 1996, work began on improving the MDL’s reverse osmosis water treatment system. The MDL is currently researching a water-recycling project to further reduce water consumption by 70 percent to 80 percent. This project uses sophisticated sensors to monitor the quality of water before it enters the recycling loop, preventing the introduction of contaminants into the recycled water system. Another project originally designed in 1996 would take some of the process wastewater at the MDL and pump it for reuse in an adjacent cooling tower, resulting in savings of approximately 12 M gal per year.

1.7.4.3 Groundwater

A number of comments addressed the issue of groundwater quality at SNL/NM, particularly groundwater contamination at the Chemical Waste Landfill (CWL) and other locations around KAFB. Several commenters took issue with the SWEIS characterization of areas of groundwater contamination, which indicated the CWL was the only location of groundwater contamination definitely attributable to SNL/NM activities. For example, one commenter stated that he “believes that sufficient data have been developed to support the attribution to known SNL/NM activities [in] other tech areas in addition to [TA]-III as sources of ground water contamination.” Another commenter inquired about concentrations of potassium-40 that have “recently been over the DOE guideline in four wells.”

The SWEIS presents data from four other locations of known or suspected groundwater contamination, in addition to the CWL, where SNL/NM activities were the possible cause of contamination. Based on groundwater monitoring data published in 1999, the SWEIS has been revised to state that nitrate contamination at TA-V and petroleum hydrocarbon component contamination at the Lurance Canyon Burn Site are the result of SNL/NM activities. The source of trichloroethene (TCE) contamination at “Sandia North” is still unknown. Concentrations of metals and

radioisotopes exceeding groundwater standards, such as potassium-40, have been noted at other locations around KAFB; however, these are naturally occurring elements that appear to be unrelated to human activities.

1.7.4.4 Surface Water

Several comments focused on the adequacy of surface water sampling and analyses that SNL/NM has performed, the methodology used in the surface water impacts analysis, and exceedance of permit limits in runoff from TAs-I, -II, and -IV. One commenter questioned the conclusions of the analysis, stating that “[t]he two important areas, III and V, have no routine surface water monitoring or surface water monitoring stations,” and that “[t]aking occasional surface water samples at the CWL does not provide the same level of assurance as provided by continuous monitoring.” Another commenter stated “[i]t is... unclear whether relevant analyses were conducted on surface waters (priority pollutants, organic compounds, tritium, gross alpha) in order to determine if water quality concentrations exceeded those known to be toxic or that are protective.” One commenter criticized the comparison of surface water sample analyses to New Mexico Water Quality Control Commission standards, stating the “analysis of impacts to surface water quality was unnecessarily restricted to regulatory limits.” Several commenters took issue with the SWEIS statement that there was no evidence of contamination of runoff from SNL/NM activities. One commenter asserted that this “statement is directly contradicted by SNL/NM own report... The analytical results... show that iron and zinc exceeded permit limits... by a large margin.”

The DOE believes that the sampling program discussed in the SWEIS provides the best available data and methods for determining the contribution of contaminants from SNL/NM facilities. The surface water quality analysis was not restricted to regulatory limits. In addition to regulated constituents, surface water sampling data used in the analysis included 12 metals, 7 anions, 11 explosives, and 7 radionuclides for which there are no regulatory limits. These data provide no evidence of contamination from SNL/NM facilities. As to exceedance of permit limits in runoff from TAs-I, -II, and -IV, low flow at these monitoring stations requires placement of the sample intake tube on the bottom of the drainage channel. This has caused the introduction of a greater amount of suspended solids than is representative of the runoff. During the laboratory analysis of these samples, minerals naturally

occurring in the suspended solids, such as zinc and iron, can appear at higher concentrations as well. There are no known SNL/NM activities or discharges to surface water in the areas monitored by these stations that would cause permit exceedances of zinc and iron.

1.7.4.5 Biology

A number of commenters requested that the SWEIS include more quantitative information about biological resources onsite and the potential impact to these resources and further support of statements made in the SWEIS about beneficial biological impacts of SNL/NM activities. One commenter stated, “[t]he amount of improvement in grassland quality, vegetative productivity, and beneficial changes to the grassland community was not quantified or is without citation.” Another commenter asked “[i]s the quality of grasslands, the reintroduction of the gramma grass cactus, the siting of a raptor, and the absence of contaminant loads of radionuclides in rodents ample enough evidence to apply such a broad sweeping statement to the 60-odd species of plants and animals mentioned in the study?”

Studies and reports used in arriving at the conclusion that “beneficial impacts to biological and ecological resources would occur under all alternatives” were prepared by several entities, including the DOE, SNL/NM, the USAF, and the USFS. These studies and reports are cited in the SWEIS.

1.7.4.6 Socioeconomics

Socioeconomic comments centered primarily on the definition of the region of influence (ROI). One commenter stated, “[d]efining the SNL/NM socioeconomic [ROI] as Bernalillo, Sandoval, Torrance and Valencia counties overstates, in my view, the socioeconomic impact of SNL/NM in central New Mexico. For example, the northwestern portion of Sandoval county includes the eastern extent of Navajo Indian trust lands and the southernmost part of the Jicarilla Apache Indian Reservation. The socioeconomics of this area are not impacted in the least by SNL/NM’s operations, as would also be the case for most of Torrance county more than a few miles south of the I-40 corridor.” Further, he stated, “by not including the southernmost part of Santa Fe county along I-40 in the ROI, the SWEIS excludes from consideration the burgeoning community of Edgewood, which certainly is home to many SNL/NM employees.”

The current four-county ROI is a reasonable basis for assessing SNL/NM-related socioeconomic impacts because 97.5 percent of SNL/NM employees reside in the four-county area. The analysis performed in the SWEIS mirrors annual studies prepared by New Mexico State University, which are publicly available (*The Economic Impact of Sandia National Laboratories on Central New Mexico and the State of New Mexico: Fiscal Year 1996* [DOE 1997b]; *The Economic Impact of Sandia National Laboratories on Central New Mexico and the State of New Mexico: Fiscal Year 1997* [DOE 1998j]). These studies provide an excellent basis for comparing economic activity, income, and employment changes resulting from the three alternatives within the four-county area. In addition, refining the analysis to add or subtract parts of other counties would not visibly change the results of the four-county analysis nor the conclusions of this analysis.

1.7.4.7 Environmental Justice

Comments on environmental justice criticized two aspects of the methodology: the use of a high threshold in defining a minority area, and the logic of stating that there can be no significant environmental justice issues within a particular resource analysis because no significant environmental impacts were identified. One commenter stated “[a] 25 percent minority population threshold was utilized in the [environmental justice] analyses of both the Pantex and Los Alamos National Laboratory SWEIS’, so why is this more sensitive standard not used in the SNL/NM SWEIS? The treatment of Environmental Justice in the Draft SWEIS is nothing more than a whitewash, literally and figuratively, in my opinion.” This commenter further states “[w]ith only a few exceptions mainly in the northeast part of Albuquerque, nearly every 1990 Census tract within the 50-mile radius circle has a population which is at least 25 percent minority, thus warranting scrutiny from an Environmental Justice perspective.” Questioning the logic of the environmental justice analysis, the commenter states “[t]he flow of the arguments is as follows: there are no adverse impacts in the ROI as a whole (for each resource area), so therefore, there can be no disproportionate and adverse impacts for any minority or low income subarea of the ROI...Not true, as minimal knowledge of the history of the Environmental Justice movement would reveal in case after case historically, a large area around, say, an oil refinery appeared environmentally sound, but in neighborhoods immediately adjacent to the refinery, a

low income minority population was devastated by contaminants from the facility.”

In determining the threshold for identifying minority populations, the analysis considered the guidance contained in *The Environmental Justice Guidance Under the National Environmental Policy Act* (CEQ 1997). This document suggests identifying areas where “...the minority population of the affected area exceeds 50 percent.” *Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analyses* (EPA 1998d) also recommends identifying areas where minority populations exceed 50 percent. The DOE recognizes there are different approaches for analyzing environmental justice impacts. However, because the 1990 Census reported New Mexico’s minority population at 49 percent, it was determined that 49 percent should be the threshold. All resources were analyzed on an individual basis for environmental justice impacts and, in addition, five were evaluated in detail (water resources, cultural resources, air quality, human health, and transportation). Only one resource area, water resources, was determined to have adverse impacts, and the impacts affect all communities equally. No disproportionately high and adverse impacts were identified for any of the alternatives.

1.7.4.8 Cumulative Effects

Many of the comments on cumulative effects centered on questions about accidents. One commenter asked if there was even a remote possibility, “that an airplane crash into [TA-V] could trigger nuclear reactions” at a nearby KAFB munitions storage facility. The commenter further asks “could a severe earthquake in the area result in a similar sequence of events?” Another commenter wanted more specific information on accidents involving large military aircraft at KAFB, particularly accounting for fuel load and cargo capacity, to better understand the potential risks.

A USAF-prepared EA (USAF 1986) for the munitions storage facility states that the innovative physical design of the facility “all but eliminates” the possibility of a falling aircraft penetrating such a below-ground structure. The aircraft accident analysis did not have to include the impact of aircraft fuel or cargo, because it assumed that the impact of any aircraft, regardless of fuel load or cargo, would create worst-case conditions that would affect all of a building’s hazardous material at risk.

1.7.5 Changes to the Draft SWEIS

The DOE revised the Draft SWEIS in response to the comments received from other Federal agencies; tribal, state, and local governments; nongovernmental organizations; the general public; and internal reviews. The text was changed to provide additional environmental baseline information, correct inaccuracies, make editorial corrections, and provide additional discussions of technical considerations to respond to comments and clarify text. In addition, the DOE updated information due to events or decisions made in other documents since the publication of the Draft SWEIS for public comment in April 1999.

Where appropriate, the DOE corrected the Final SWEIS in response to comments.

1.7.5.1 Preferred Alternative

The DOE did not present a Preferred Alternative in the Draft SNL/NM SWEIS. The DOE has now selected the Expanded Operations Alternative, exclusive of the MESA Complex, as its Preferred Alternative. Under the Expanded Operations Alternative, the DOE would expand operations at SNL/NM as the need arose (until 2008), subject to the availability of congressional appropriations, to increase the level of existing operations to the highest reasonable foreseeable activity levels that are analyzed in the SWEIS. The Preferred Alternative would only implement expansion at the existing MDL facility, without addition of the MESA Complex.

1.7.5.2 The Microsystems and Engineering Sciences Applications (MESA) Complex of the Microelectronics Development Laboratory

In the Draft SWEIS, the MDL was identified as operating as a research, development, and fabrication facility. A single configuration with no new construction was presented and MDL operations were described as focusing on the fabrication of approximately 7,500 silicon-based wafers. In the Final SWEIS, the Expanded Operations Alternative has two configurations: 1) to support R&D and production of silicon-based microelectronic devices; or 2) to support R&D and production of silicon-based microelectronic devices along with producing war reserve microsystems-based components with specialty alloys (such as gallium arsenide and indium arsenide).

Under the first configuration, there would be no construction of new facilities for the expanded wafer

production and the CSRL (Building 893) would remain in operation at its present location.

The second configuration (a developing proposal) would result in the construction of a new laboratory and other buildings comprising the MESA Complex.

The MESA Complex configuration (including R&D) would produce a mix of 7,500 silicon/specialty alloy wafers per year. The DOE has identified a need related to the surety improvements in weapon systems incorporating microelectronics, microoptics, and microelectromechanical systems in these silicon/specialty alloy wafers. The estimated \$300 million project would integrate and leverage the scientific and technological capabilities existing separately at the MDL and CSRL in a new laboratory, replacing the outdated CSRL, collocated adjacent to the current MDL. The project would include retooling existing operations. Related infrastructure needs would include laboratories, offices, and gas storage. If the developing proposal for the MESA Complex configuration were to become operational (about 2003), the DOE would phase out and eventually decommission and decontaminate the existing CSRL.

For more information regarding the DOE's NEPA strategy, see the *Proposed Action and Alternatives Section* of the Summary and Section 1.3 of the Final SNL/NM SWEIS.

1.7.5.3 Microsystems and Engineering Sciences Applications (MESA) Complex Impacts

The Expanded Operations Alternative analysis presents impacts of constructing and operating the MESA Complex project, primarily water usage and accident scenarios, based on preliminary information from the ongoing conceptual design work.

Water use would increase from 495 million gallons per year to 499 million gallons per year if the MESA Complex became operational; however, the DOE and SNL/NM are committed to reducing SNL/NM-wide water use by 30 percent based on 1996 usage. Accident scenarios are discussed below.

The impacts of chemical accident and site-wide earthquake scenarios have changed, primarily due to changes in Emergency Response Planning Guideline Level 2 (ERPG-2) and the addition of the MESA Complex into one of the configurations under the Expanded Operations Alternative. The ERPG-2 guidelines for some chemicals, including arsine and phosphine, became more restrictive after the Draft

SWEIS was published. The stricter guidelines affected which chemical accident scenarios would have the greatest impacts and increased the impacts of the site-wide earthquake chemical releases under all alternatives.

Further, the addition of the proposed MESA Complex into one configuration under the Expanded Operations Alternative, which would include the relocation of CSRL as part of the MESA Complex, affected the dominant chemical accident scenarios.

1.7.6 Next Steps

The SWEIS ROD, which the DOE will publish no sooner than 30 days after the EPA issues the Notice of Availability of the Final SWEIS, will explain all factors, including environmental impacts, that the DOE considered in reaching its decision. In addition, the ROD will identify the environmentally preferred alternative or alternatives.

1.8 RELATED NEPA DOCUMENTS

The following NEPA documents analyzed ongoing programs and activities at SNL/NM:

- *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (DOE/EIS 0236-F) (DOE 1996a).
- *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F) (DOE 1997i).
- *Medical Isotopes Production Project: Molybdenum-99 and Related Isotopes Environmental Impact Statement* (DOE/EIS-0249-F) (DOE 1996b).
- *Nonnuclear Consolidation Environmental Assessment* (DOE/EA-0792) (DOE 1993c).
- *Environmental Assessment of the Environmental Restoration Project at Sandia National Laboratories/New Mexico* (DOE/EA-1140) (DOE 1996c).
- *Final Rapid Reactivation Project Environmental Assessment* (DOE/EA-1264) (DOE 1999a).
- *Environmental Assessment of the Radioactive and Mixed Waste Management Facility* (DOE/EA-0466) (DOE 1993a).
- *Environmental Assessment for Operations, Upgrades, and Modifications in SNL/NM Technical Area-IV* (DOE/EA-1153) (DOE 1996g).

- *Environmental Assessment for the Processing and Environmental Technology Laboratory (PETL)* (DOE/EA-0945) (DOE 1995d).
- *Neutron Generator/Switch Tube Prototyping Relocation Environmental Assessment* (DOE/EA-0879) (DOE 1994a).

1.8.1 **Stockpile Stewardship and Management Programmatic Environmental Impact Statement (DOE/EIS-0236-F)**

The DOE prepared the SSM PEIS and evaluated stockpile stewardship activities required to maintain a high level of confidence in the safety, reliability, and performance of nuclear weapons in the absence of underground testing and to be prepared to resume underground testing of nuclear weapons if directed by the President (DOE 1996a). Stockpile management activities include maintenance, evaluation, repair, or replacement of weapons in existing stockpiles.

The SSM PEIS examined the existing basic capabilities of the DOE laboratory and industrial complex, including those of SNL. The ROD for the PEIS determined SNL would continue as one of three weapons laboratories possessing most of the core intellectual and technical competencies of the U.S. in nuclear weapons.

1.8.2 **Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (DOE/EIS-0200-F)**

In the Waste Management Programmatic Environmental Impact Statement (WM PEIS), the DOE evaluated the environmental impacts of alternatives for managing five types of radioactive and/or hazardous waste generated by defense and research activities at a variety of DOE sites around the U.S. SNL/NM manages four of the five waste types: low-level waste (LLW), low-level mixed waste (LLMW), transuranic (TRU) waste, and hazardous waste. The DOE decided on January 23, 1998, that SNL/NM TRU waste would be sent to Los Alamos National Laboratory for storage pending disposal (63 FR 3629), and on August 5, 1998, that SNL/NM would continue to ship its hazardous waste offsite for treatment (DOE 1998m). The DOE has not yet decided on a national strategy for treatment and disposal of LLW and LLMW; but under the preferred alternatives for both waste types, SNL/NM would treat its own waste onsite, then ship it offsite for disposal.

1.8.3 Medical Isotopes Production Project Environmental Impact Statement (DOE/EIS-0249-F)

The DOE prepared the Medical Isotopes Production Project (MIPP) EIS and evaluated the domestic production of molybdenum-99 and related medical isotopes (DOE 1996b). The MIPP EIS's five alternatives regarding the production of a reliable domestic supply of molybdenum-99 included a baseline production level of 10 to 30 percent of the current U.S. demand and the capability to increase production to supply 100 percent of the U.S. demand.

The MIPP EIS evaluated the ACRR capabilities, target fabrication, target processing at the Hot Cell Facility (HCF), and waste management capabilities at SNL/NM. The ROD for the MIPP EIS determined SNL/NM would become a domestic producer and supplier of molybdenum-99 (61 FR 48921).

1.8.4 Nonnuclear Consolidation Environmental Assessment (DOE/EA-0792)

The DOE prepared the *Nonnuclear Consolidation Environmental Assessment* and evaluated the consolidation of nonnuclear component manufacturing, storage, and surveillance functions (DOE 1993c). The EA discussed six categories of capabilities: electrical/mechanical; tritium handling; detonation; beryllium technology and pit support; neutron generators, cap assemblies, and batteries; and special products.

The Finding of No Significant Impact (FONSI) for the EA determined the significance of impacts for the continuation of SNL/NM's existing research, development, testing, and prototyping capability, which would be augmented to provide the necessary fabrication capability for future neutron generators, cap assemblies, and other nonnuclear components (DOE 1993c).

1.8.5 Environmental Assessment of the Environmental Restoration Project at SNL/NM (DOE/EA-1140)

The DOE prepared the Environmental Restoration (ER) Project EA and FONSI. The EA evaluated the environmental impacts of site restoration characterization and waste cleanup activities (corrective actions) at

SNL/NM (DOE 1996c). The corrective actions included a range of waste treatment options at a currently estimated 182 ER Project sites. The corrective measures implement treatment technologies that are reasonable, feasible, and capable of being implemented to achieve regulatory compliance.

1.8.6 Rapid Reactivation Project Environmental Assessment (DOE/EA-1264)

The Rapid Reactivation Project EA analyzed alternatives for continued neutron generator production. The DOE's FONSI covers the proposed alternative that increases the annual neutron generator production capacity from its current level of 600 to 2,000. Existing buildings and infrastructure would be used to the maximum extent possible to meet the additional production needs. The addition of approximately 26,290 gross square feet of facility space and other facility modifications would be necessary to achieve the proposed production capacity.

1.8.7 Environmental Assessment of the Radioactive and Mixed Waste Management Facility (DOE/EA-0466)

The DOE prepared the Radioactive and Mixed Waste Management Facility (RMWMF) EA and FONSI for the proposed completion of construction and subsequent operation of the RMWMF in TA-III. The RMWMF was designed to receive, store, characterize, conduct limited bench-scale treatment of, repackage, and certify LLW and LLMW for shipment to an offsite disposal or treatment facility.

1.8.8 Environmental Assessment for Operations, Upgrades, and Modifications in SNL/NM Technical Area-IV (DOE/EA-1153)

The EA for Operations, Upgrades, and Modifications in SNL/NM Technical Area-IV and the FONSI were prepared by the DOE for continuing existing operations, modifying an existing accelerator (Particle Beam Fusion Accelerator II) to support defense-related Z-pinch experiments, and constructing two transformer oil storage tanks to support the expansion of the Advanced Pulsed Power Research Module.

1.8.9 Environmental Assessment for the Processing and Environmental Technology Laboratory (PETL) (DOE/EA-0945)

In the EA for the PETL at SNL/NM, the DOE analyzed alternatives for the building and operation of the PETL. The DOE proposed constructing the PETL on KAFB and relocating operations from existing facilities to the new building in TA-I. The DOE issued a FONSI associated with the proposed alternative.

1.8.10 Neutron Generator/Switch Tube Prototyping Relocation Environmental Assessment (DOE/EA-0879)

The Neutron Generator/Switch Tube Prototyping Relocation EA analyzed two alternatives for expanded prototyping of neutron tubes, neutron generators, and switch tubes. The DOE's proposed action would relocate neutron tube, neutron generator, and switch tube prototyping operations from Buildings 891 and 878 to a Building 870 annex. A prototyping capability for electronic neutron generators would be established in Building 878. The DOE prepared a FONSI for this action.

1.9 COOPERATING AGENCIES

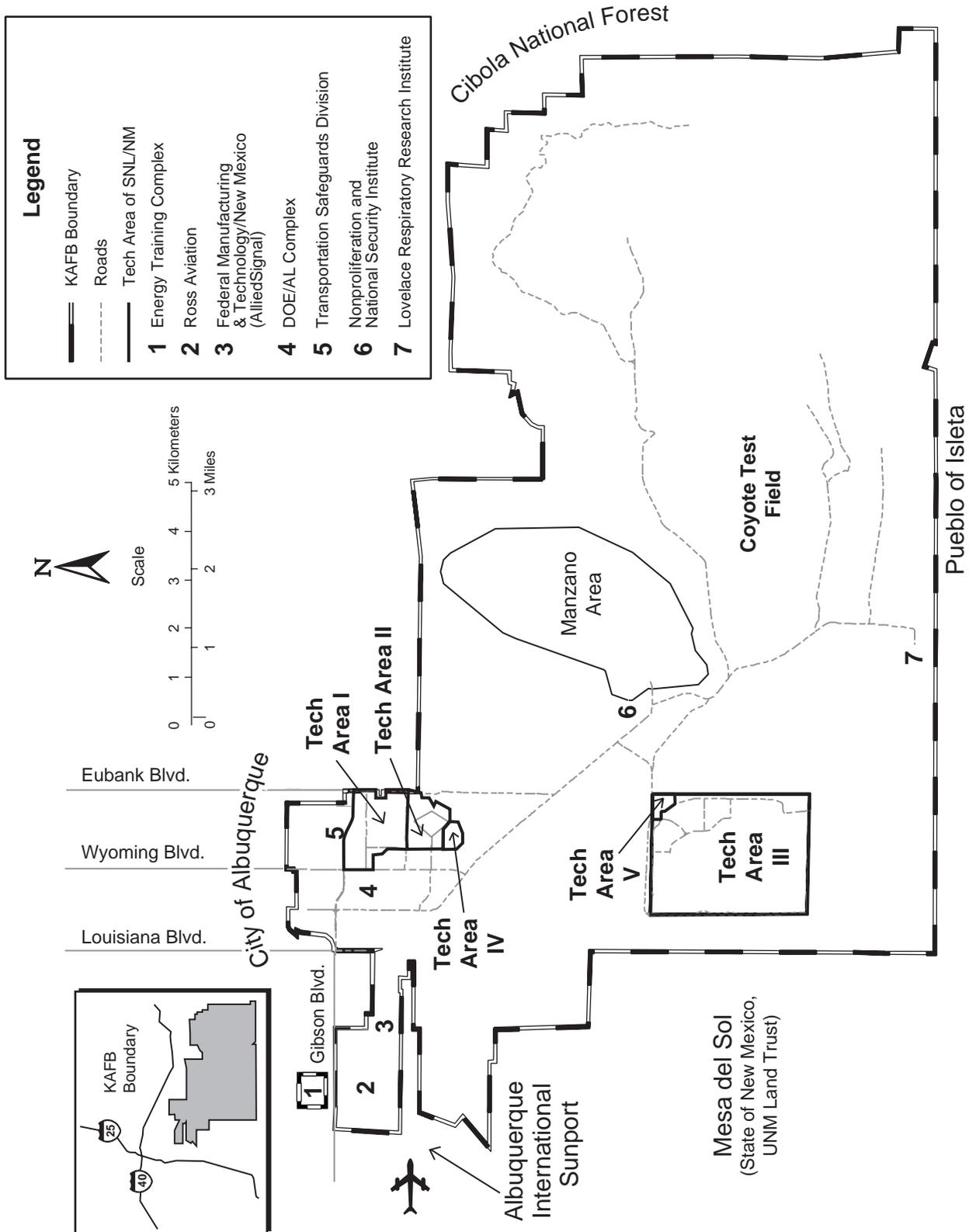
On May 30, 1997, the NOI announced the USAF as a cooperating agency because of the interdependence of KAFB and the DOE planning for SNL/NM. The USAF has participated in planning meetings, developing analytical methodologies and data projections, and reviewing analyses for and predecisional drafts of the SWEIS.

1.10 OTHER DOE OPERATIONS AT KAFB

In addition to SNL/NM, the following DOE-funded facilities are located on KAFB. The impacts from these facilities are not analyzed in Chapter 5 because they are not under the management of SNL. They are analyzed as part of cumulative effects in Chapter 6.

- The Lovelace Respiratory Research Institute, formerly the Inhalation Toxicology Research Institute, is a private business that leases space from the DOE. The Institute began operations in the 1960s as a research facility or determining the long-term health impacts of inhaling radioactive particles. It has since become a recognized center for inhalation toxicology and related fields.
- The Nonproliferation and National Security Institute ensures the efficient and effective training of Safeguards and Security Division personnel from throughout the DOE complex who are, or might become, involved in the protection of materials and facilities vital to the nation's defense.
- The Transportation Safeguards Division (TSD) coordinates, implements, and operates the DOE Safeguards Program that oversees the transport of special nuclear materials (SNM). The TSD coordinates and plans weapons distribution with the DoD and coordinates SNM shipments for all DOE field offices.
- Federal Manufacturing & Technology/ New Mexico, a division of AlliedSignal, is an applied science and engineering organization engaged in research, analysis, testing, and field operations. A major portion of this work is in the design, fabrication, and testing of electro-optic and recording systems for capturing fast transient signals.
- Ross Aviation is the DOE's support contractor providing air cargo and passenger service. Ross transports cargo between production plants, national laboratories, test sites, and military facilities and provides special passenger and cargo flights on request.
- The DOE's Albuquerque Operations Office complex houses DOE and contractor staff.
- The Energy Training Complex consists of classrooms for DOE training.

Figure 1.10–1 shows the approximate locations of these facilities. The above operations, along with KAFB activities, are discussed in more detail in Chapter 6.



Source: SNL/NM 1997]

Figure 1.10–1. Seven Additional DOE Facilities at KAFB
Other DOE-funded operations not related to SNL/NM are located within the boundaries of KAFB.

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