NEPA Compliance Review for Proposed Modifications to the Security Perimeter Project at Los Alamos National Laboratory

March 9, 2004

Department of Energy
National Nuclear Security Administration
Los Alamos Site Office

Introduction

This review of completed environmental assessments (EAs) and their associated Findings of No Significant Impacts (FONSIs) has been prepared to determine if these Department of Energy (DOE), National Nuclear Security Administration (NNSA) National Environmental Policy Act (NEPA) analyses adequately address and bound the environmental effects of proposed modifications to the Security Perimeter Project at Los Alamos National Laboratory (LANL), or if a new EA needs to be prepared.

Council on Environmental Quality regulations at Title 40, Section 1502.9 (c) of the Code of Federal Regulations **(40 CFR 1502.9[c])** require federal agencies to prepare a supplement to an EIS when an agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are circumstances or information relevant to concerns and bearing on the proposed action or its impacts. DOE's NEPA Implementing Regulations state: "When it is unclear whether or not an EIS supplement is required, DOE shall prepare a Supplement Analysis." **(10 CFR 1021.314(c))**, and, also, with regard to programmatic NEPA documents, "DOE shall evaluate site-wide EAs by means of an analysis similar to the Supplement Analysis to determine whether the existing site-wide EA remains adequate, whether to prepare a new site-wide EA, revise the FONSI, or prepare a site-wide EIS, as appropriate" **(10CFR1021.330(e))**. In this case, several of the EAs and FONSIs under consideration are both programmatic and site-wide in nature; this NEPA compliance review will therefore be similar to a Supplement Analysis in scope.

This consideration of changes related to the Security Perimeter Project will review the environmental impacts analyzed in the following pertinent EAs: *Environmental Assessment for Proposed Access Control and Traffic Improvements at Los Alamos National Laboratory Los Alamos, New Mexico* (DOE/EA-1429) **(DOE 2002b)**; *Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory* (DOE/EA- 1431) **(DOE 2003)**; *Environmental Assessment for the Proposed TA-16 Engineering Complex Refurbishment and Consolidation at Los Alamos National Laboratory* (DOE/EA-1407) **(DOE 2002a)**; *Environmental Assessment for the Proposed Construction and Operation of a New Interagency Emergency Operations Center at Los Alamos National Laboratory (*DOE/EA-1376) **(DOE 2001)**; *Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory (*DOE/EA-1329) **(DOE 2000)**; and *Environmental Assessment for Lease of Land for the Development of a Research Park at Los Alamos National Laboratory* (DOE/EA-1212) **(DOE 1997)**. This review of adequate NEPA compliance for the changes proposed for this project will also provide an explanation of any differences between the newly proposed actions and activities described in the previous EA analyses.

The Security Perimeter Project modifications proposed would alter some aspects of the original Security Perimeter Project as it was described in the EA-1429. Specifically, this project would now establish vehicle security measures located primarily at the intersection of Diamond Drive and Jemez Road within Technical Area (TA)-3, and near the intersection of West Jemez Road (also known as State Road 501) with State Road 4 within TA-16, and reconfigure both of these intersections. NNSA would also pave and

improve a short portion of roadway that is currently unpaved to provide public access to the Pajarito Mountain ski area and Camp May without traversing West Jemez Road. The Pajarito Road access control station near White Rock that is now under construction would remain as proposed in EA-1429. The TA-03 east and west bypass roads and street modifications within TA-03 analyzed in EA-1429 would not be implemented. An additional permanent guard station would be constructed on Pajarito Road near TA-48 to replace a temporary station currently located at that site. The Security Perimeter Project as analyzed in EA-1429 is depicted in **Figure 1**. The proposed modifications to this project are shown in **Figures 2, 3** and **4** while **Figure 5** shows the location of the Pajarito Road access control station near White Rock.

Background

LANL is one of the few NNSA sites within the DOE complex where the general public has access to the core technical area of the site and where public roads pass in close proximity to Hazard Category I or II[1] facilities. Temporary measures have been implemented since the tragic events of September 11, 2001 to improve the protection of certain LANL assets, but long-term measures are required to provide an additional level of protection to the core of LANL, which houses vital national assets, government property, and critical scientific and support staff. Unauthorized (unscreened) access in the future must be controlled and site access must be capable of being restricted to minimize the possibility of a terrorist threat being introduced into the core area of LANL.

As a result of the events of September 11, 2001, the nature of the terrorist threats has changed in terms of the potential magnitude of possible attacks, the selection of potential targets, and the methods of implementation and execution of terrorist acts. The 2001 attacks on civilian targets within the United States appeared to be planned with the intent of maximizing disruption and destruction, along with civilian casualties, and included the willingness of the terrorists to conduct suicide attacks. In recognition of this increased and changed threat, NNSA has determined that there is an immediate and critical need to upgrade physical protection at LANL around critical assets located within the core of the site.

Proposed Action

The long-term solution to security concerns at LANL is to provide an integrated site access control system that would provide security for the core technical areas, special nuclear material work and storage areas, and NNSA-identified critical mission capabilities. This integrated system would establish a security perimeter around the core area of LANL, create significantly improved "stand-off" protection, allow the immediate implementation of elevated national or site specific security levels, improve the ability to maintain higher elevated security levels, improve the effectiveness of the security screening process, and reduce long-term security costs.

[1] Hazard categories are described in DOE Order 411.1. Hazard Category 1 means that a hazard analysis shows the potential for significant offsite consequences. Hazard Category 2 means that a hazard analysis shows the potential for significant onsite consequences. Hazard Category 3 means that a hazard analysis shows the potential for only significant localized consequences.

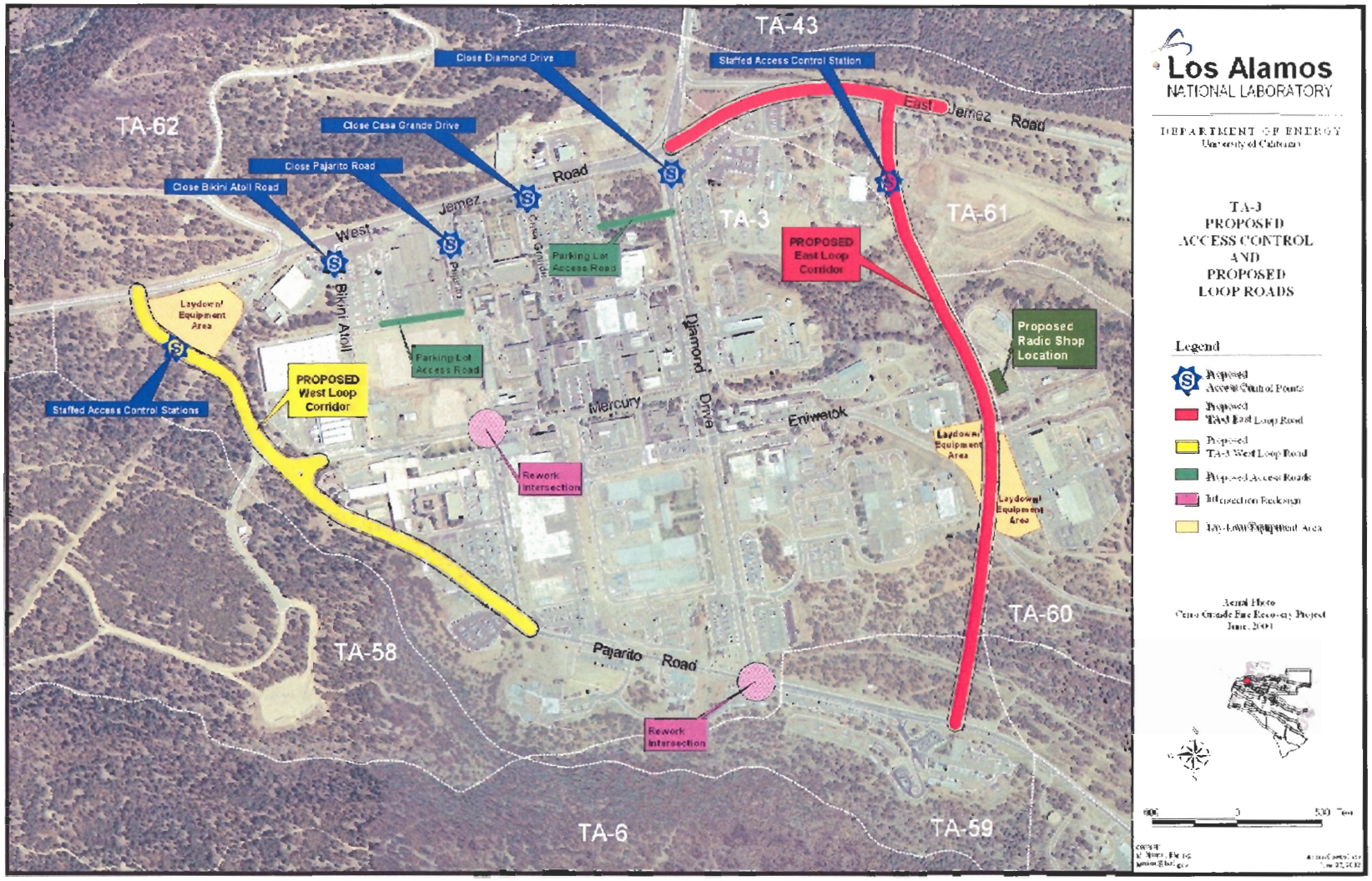

Figure 1. Access Controls and Loop Roads Around TA-03 Analyzed in EA-1429.

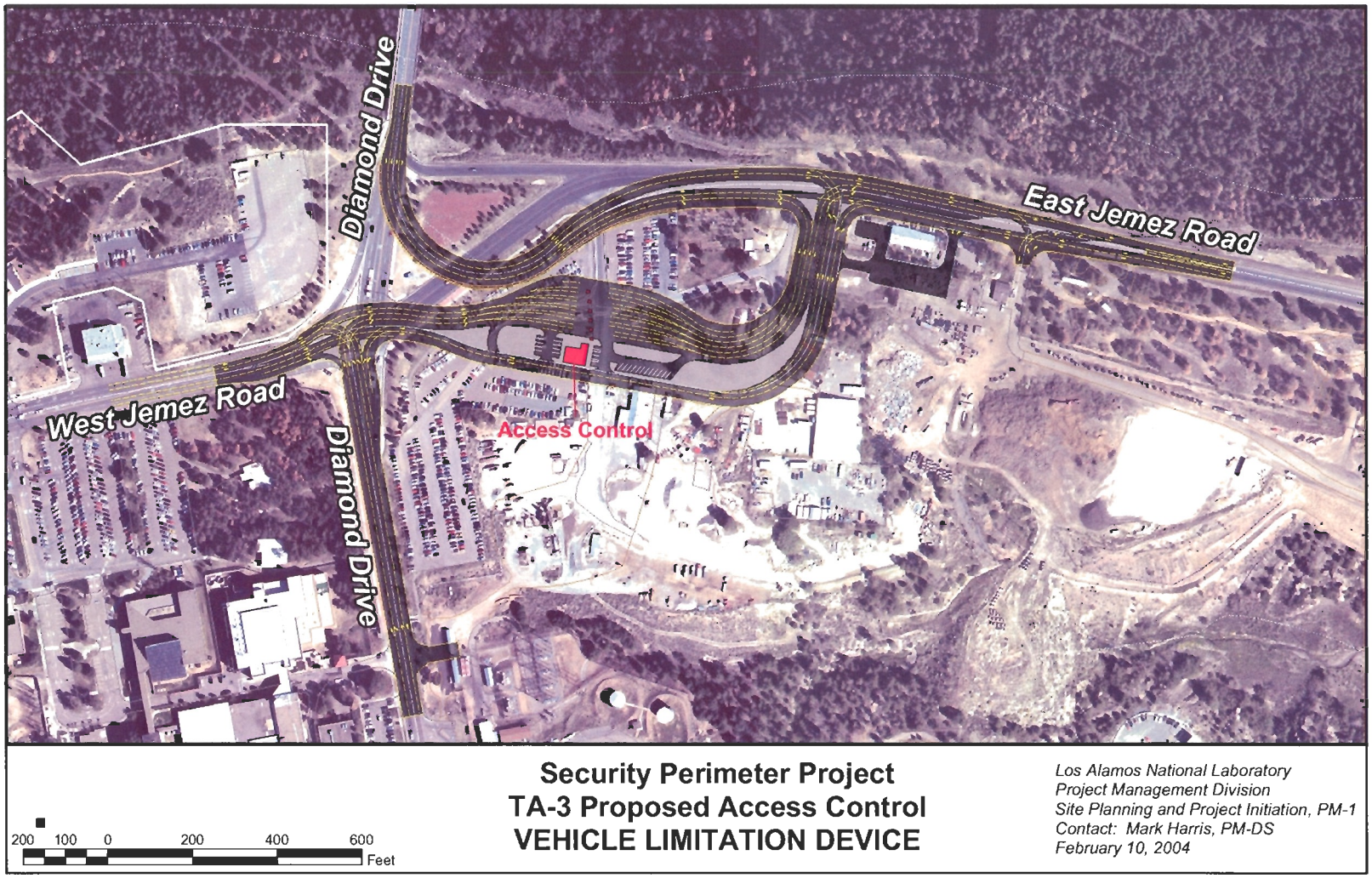

Figure 2. The Security Perimeter Project would change the intersection at Diamond Drive and Jemez Road and preclude vehicles from entering into TA-03 without passing through a new access control station.

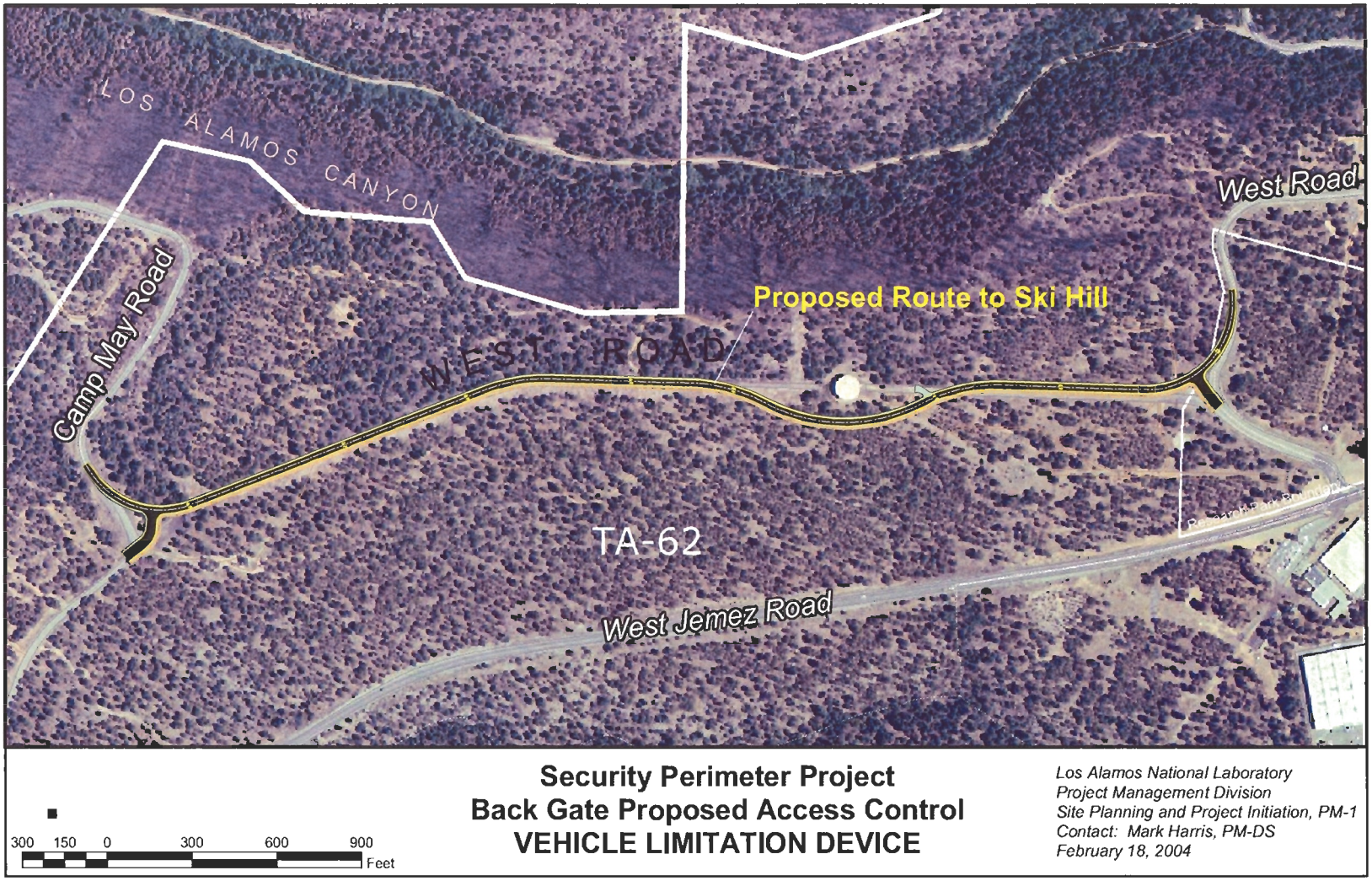

Figure 3. An existing unpaved road would be improved to connect the Ski Hill Road (Camp May Road) with West Road.

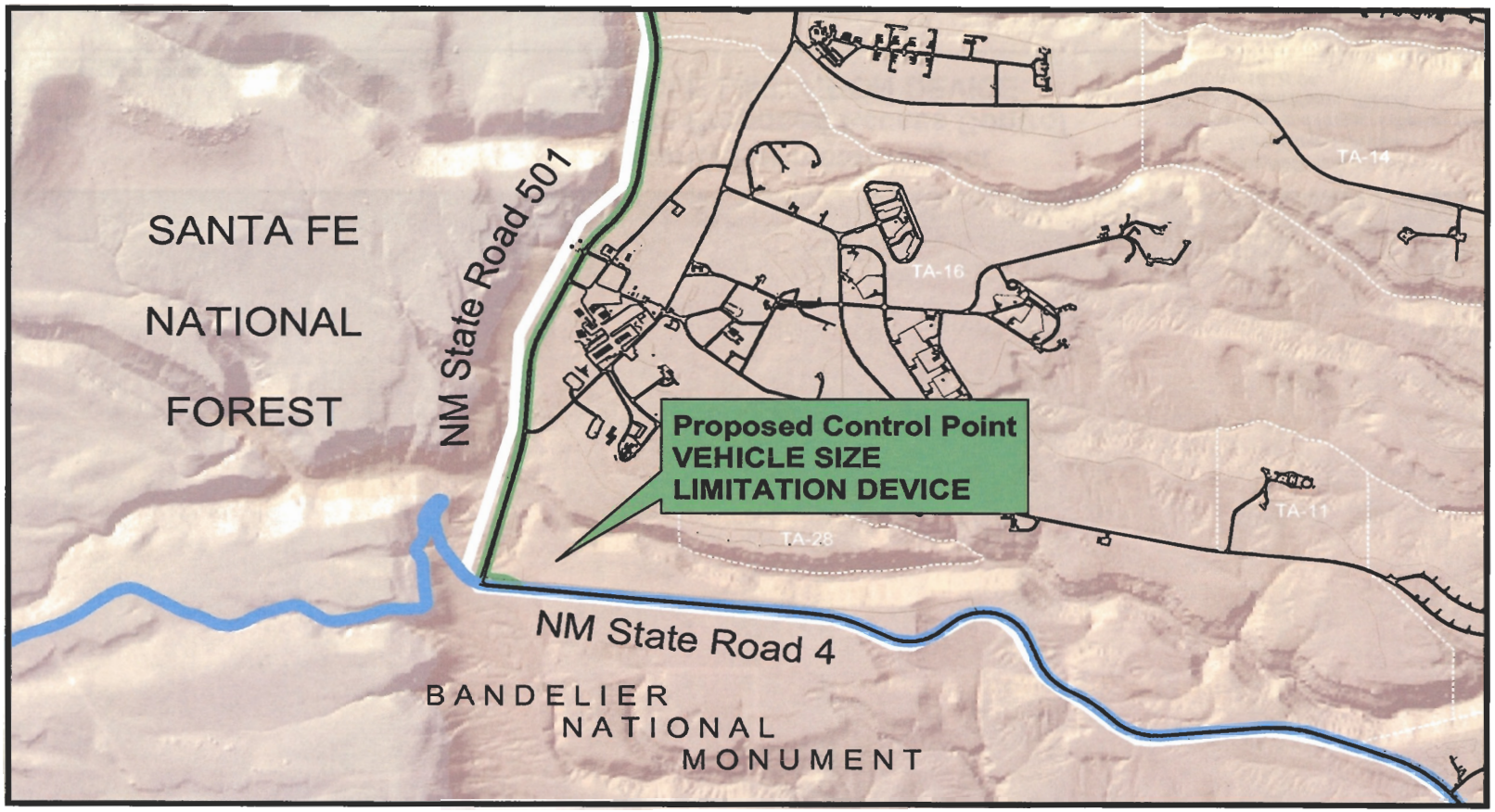

Figure 4. A new access control point would be constructed with a new intersection northeast of New Mexico State Road 4 and West Jemez Road.

Figure 5. The access control station closest to White Rock on Pajarito Road was previously analyzed in EA-1429.

In order to secure the majority of the LANL core area from access by the general public in un-screened vehicles, two goals must be accomplished: first, all vehicle traffic attempting to enter the LANL core area must be routed through access control stations; and, secondly, the LANL road system must be modified to force vehicle traffic attempting to enter LANL to go through these access control stations. Screening, badge checks, vehicle searches and other security processes would be accomplished at the access control stations as appropriate.

To achieve these necessary goals, the intersection at Jemez Road and Diamond Drive, along with the associated turn lanes, would be reconfigured. Also the Ski Hill Road, that currently provides public access to Pajarito Mountain and Camp May from West Jemez Road, would be re-configured for public access from West Road; a section of existing unpaved road would be improved and paved to accomplish this goal. West Road and the existing Ski Hill Road intersections with West Jemez would be closed by vehicle barrier and gate systems. The intersection of State Road 4 and West Jemez Road at LANL's "back gate" would be re-configured to accommodate a new access control station. The temporary access control station on Pajarito Road in TA-48 would be made permanent in order to provide continued enhanced screening of vehicles entering the Pajarito corridor, even though access may still be granted into the TA-3 area.

This project includes the following key elements:

Access Control Stations - Vehicle entry into the core area of LANL would occur at four access control stations. One permanent station presently exists on Pajarito Road west of State Road 4 near White Rock. Three new stations would be constructed, one of which would take the place of an existing temporary station located on Pajarito Road near TA-48. These four stations would control access, provide areas for more in depth screening or searches of vehicles, provide space for queuing of vehicles, and act as a primary interface area with the general public. Some capability to process visitors and the general public would be accommodated at the new access control stations.

Road Alternations - The intersection of Diamond Drive with East and West Jemez Roads, and the intersection of West Jemez Road at State Road 4 would be reconfigured so that traffic is permanently rerouted through a physical separation of the road lanes. A new intersection would be constructed on State Road 4 between 300 and 500 feet (90 to 150 meters) west of the existing intersection. A new roadway segment approximately 1,200 feet long (360 meters) would be constructed from this point to connect with West Jemez Road through the new access control station along the link. West Jemez Road would also be closed to unscreened vehicle traffic, and a small segment of the Ski Hill Road (about 1,300 feet long or 390 meters) would be closed off at West Jemez Road through the installation of vehicle access gates and barriers; however, the pavement would remain on this segment. In a separate but related action, approximately 4,000-feet (1,200 meters) of an existing unimproved road located within LANL's TA-62 would be paved to connect West Road with the existing Ski Hill Road. This action would be undertaken to maintain public access to Pajarito Mountain and Camp May, to provide an alternative evacuation route within LANL, and to provide enhanced forest access and an additional fuel break between the forested areas of western LANL and the Los Alamos town site in event of a wildfire. A guardrail would be installed along this improved road segment to preclude vehicles from leaving the roadway.

Relocation and Demolition - Minor relocation and demolition of existing structures and utilities would occur to construct the access control stations and redesign associated roads and intersections. The existing unused guard post building on West Jemez Road at its intersection with State Road 4 would be preserved and minor repairs would be made to the structure.

Review of Applicable EAs

Six environmental assessments for LANL actions completed during the past eight years by DOE and NNSA were identified as potentially having relevance with regards to analyzing the impacts of the proposed Security Perimeter Project. These EAs were reviewed to determine whether potential impacts that could result from implementing the proposed modifications to the Security Perimeter Project as it was identified in EA-1429 were either already addressed or would be bounded by these prior analyses. Copies of the executive summaries of each EA are found in **Appendix 1**. These six EA's are:

DOE/EA-1431: Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory, Los Alamos, New Mexico

This EA analyzed the proposed implementation of a Trails Management Program at LANL to address LANL trails use by the public, LANL workers, and officially invited guests. A FONSI was issued for this proposed program establishment on September 2, 2003.

DOE/EA-1429: Environmental Assessment for Proposed Access Control and Traffic Modifications at Los Alamos National Laboratory, Los Alamos, New Mexico

This EA analyzed the construction of eastern and western bypass roads around TA-03 and the installation of vehicle access controls and related modifications to enhance security along Pajarito Road and within the LANL core area. The NNSA issued a FONSI for these proposed site modifications on August 23, 2002.

DOE/EA-1407: Environmental Assessment for the Proposed TA-16 Engineering Complex Refurbishment and Consolidation at Los Alamos National Laboratory, Los Alamos, New Mexico

This EA analyzed a proposed action to construct and operate offices, laboratories, and shops within the TA-16 engineering complex where Engineering and Science Applications (ESA) Division operations would be consolidated from other locations at LANL. NNSA issued a FONSI for the Proposed Action also on April 23, 2002.

DOE/EA-1376: Environmental Assessment for the Proposed Construction and Operation of a New Interagency Emergency Operations Center at Los Alamos National Laboratory, Los Alamos, New Mexico

This EA analyzed the potential impacts of constructing and operating a new 30,000 square-foot (2,700-square-meter) Interagency Emergency Operations Center at LANL's TA-69. NNSA issued a FONSI for the proposed action on July 26, 2001.

DOE/EA-1329: Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory, Los Alamos, New Mexico

The Proposed Action (the No Burn Alternative) of this EA, which was issued together with a FONSI on August 10, 2000, consists of implementing a Wildfire Hazard Reduction and Forest Health Improvement Program at LANL.

DOE/EA-1212: Environmental Assessment for Lease of Land for the Development of a Research Park at Los Alamos National Laboratory, Los Alamos, New Mexico

This EA analyzed the potential impacts of leasing 60 acres and developing approximately 30 acres located on the north side of TA-03 between West Jemez Road and Los Alamos Canyon as a research park for private sector use. A FONSI was issued by NNSA on October 7, 1997.

Potential Consequences of Proposed Project Modifications

This section addresses the potential environmental effects of the proposed modifications to the Security Perimeter Project and compares potential impacts from implementing these changes with the impacts to resources previously analyzed in DOE/EAs-1431, 1429, 1407, 1376, 1329 and 1212. Environmental effects are identified and addressed based on the sliding scale approach discussed in DOE's NEPA guidance **(DOE 1993)**; that is, certain aspects of the Proposed Action (modifications to the Security Perimeter Project) have a greater potential for creating environmental impacts than others. Therefore, these aspects are discussed in greater detail in this NEPA Compliance Review than those aspects of the action that have little potential for effect.

Land Use: The proposed modifications to the Security Perimeter Project would not affect land uses in TA-03, along West Jemez Road, Pajarito Road, or the area around the Research Park. No land within the Research Park would be used for road construction, and the access restrictions that would be established at LANL, while possibly somewhat inconvenient for Research Park users, would not be expected to be disruptive of legitimate business activities conducted there. Access to the Research Park would be preserved using the existing driveway opposite Casa Grande Drive. The use of popular recreational lands at Camp May and the Pajarito Mountain Ski Area would continue unchanged with the newly paved access road serving as the connector road between West Road and the existing Ski Hill Road. Connectivity within TA-03 would be better since Casa Grande, Pajarito and Bikini Atoll would not need to be closed as analyzed in EA-1429.

Visual Resources: The proposed modifications to the Security Perimeter Project would not affect visual resources to the extent analyzed in EA-1429 because the bypass roads would not be constructed around TA-03. The proposed access control station on East Jemez Road remains essentially the same design. A new access control station and connector road between West Jemez Road and State Route 4 would be visible to travelers using these roads, and visitors coming to or from Bandelier National Monument via the Valles Caldera and Jemez Mountains. The proposed access control station would be constructed to appear compatible to the surroundings in accordance with LANL's Site and Architectural Design Principles (DOE 2002c) and it would be sited in the forest away from State Road 4. Forest in that area has already been thinned as reviewed in EA-1329.

Noise: The proposed modifications to the Security Perimeter Project would not result in more impacts than analyzed in EA-1429 because there would be no construction and

operation of the bypass roads across canyons that are Areas of Environmental Interest. There would be a temporary short-term increase in noise generated near State Road 4 and West Jemez Road during the construction of the proposed connector road and access control station. There would be less total short-term noise resulting from construction activities overall because fewer structures would be demolished and less earth-moving equipment would be used than was proposed and analyzed in EA-1429. There would be traffic noise originating along the proposed connector between West Road and the Ski Hill Road but this noise would otherwise have been generated along West Jemez Road located just a few hundred yards to the south.

Geology: The proposed modifications to the Security Perimeter Project would have no effect upon local geology. Seismic activity would be less of a concern than analyzed in EA-1429 since there would not be any canyon crossing structures built.

Soils: There would be less soil disturbed since the bypass roads would not be constructed. The proposed modifications to the Security Perimeter Project would have no effect upon soils beyond what was analyzed in EA-1429 or the other five related subject EAs.

Surface Water Quality: There would be less potential for erosion and sedimentation since TA-03 bypass roads and canyon crossings would not be constructed as part of the Security Perimeter Project. The proposed modifications to the Security Perimeter Project would have less of an effect upon surface water quality than analyzed in EA-1429.

Groundwater Quality: There would be less potential for pollution of groundwater since the bypass roads and canyon crossings would not be constructed as part of the Security Perimeter Project and there would be less paving. The proposed modifications to the Security Perimeter Project would have less of an effect upon groundwater quality than analyzed in EA-1429.

Air Quality: There would be fewer air emissions associated with construction since the bypass roads and canyon crossings would not be constructed and fewer buildings would be demolished as part of the Security Perimeter Project. The proposed modifications to the Security Perimeter Project reduce the amount of construction and demolition and thus would have less effect upon air quality than analyzed in EA-1429. There would be no affect upon air quality as analyzed in EAs for the EOC, TA-16 or the Research Park.

Public Health: The proposed modifications to the Security Perimeter Project would have no more effect on public health than previously analyzed in EA-1429 or related EAs because there would be less potential for accidents with fewer demolitions and without constructing canyon crossings.

Environmental Justice: The proposed modifications to the Security Perimeter Project would have no more effect on low income and minority populations subject to environmental justice considerations than previously analyzed in EA-1429 or the five related subject EAs.

Socioeconomics: The proposed modifications to the Security Perimeter Project would have no more effect upon socioeconomics than previously analyzed in EA-1429 or the five related subject EAs. The LANL area transportation system would remain intact and still serve the County of Los Alamos, and the surrounding region without long-term disruption.

Cultural Resources: The proposed modifications to the Security Perimeter Project would create no additional impacts to those previously analyzed in EA-1429 or related EAs. There are a number of archeological sites along the West Road to Ski Hill Road connector corridor so construction activities would be planned and executed to avoid and therefore protect known cultural resource sites. A qualified archeologist would identify these sites and mark them for avoidance, if appropriate, and would monitor construction activities to assure avoidance of the sites. All locations proposed for project area modifications have been previously surveyed for cultural resources. It is possible that new archeological sites would be discovered as construction proceeds. If new cultural resources were identified during construction and soil disturbance activities, site work in the vicinity of the discovery would stop until the discovered cultural resources could be assessed. NNSA would hold consultations with the SHPO and with the Pueblos as necessary with regard to further actions. A site data recovery plan, if necessary, would be prepared that would specify mitigation actions for these sites. A Memorandum of Agreement for resolution of adverse effects would be prepared following SHPO concurrence on the NRHP eligibility assessment, and the data recovery plan would be implemented. The Advisory Council on Historic Preservation would be notified of the Memorandum of Agreement and would have an opportunity to comment. No further project disturbance of any sites would occur until NNSA would prepare and implement the data recovery plan for mitigation of adverse effects. This project would also partially restore and protect the currently unused Early Cold War (1950) era "back Gate" guard station located at the intersection of NM 4 and West Jemez Road.

Waste Management: The proposed modifications to the Security Perimeter Project are bounded by the proposal previously analyzed in EA-1429 or related EAs. Specifically, there would be considerably less construction debris generated by the Project because there would be less cutting and filling and no need to build bridges across either Sandia or Mortandad Canyons. No major structures would need to be demolished to implement the Security Perimeter Project as was the case for the Proposed Action analyzed in EA-1429 where up to 33 structures would require removal to construct the bypass roads, including Building 3-40 (the Physics high-bay). The volumes of contaminated soils and vegetation that would require removal would also be less for the Project based upon the proposed intersection alignments and the use of an existing roadway corridor to link West Road with the Ski Hill Road.

Biological Resources: The proposed modifications would have less impact on biological resources than analyzed in EA-1429 because the Western and Eastern bypass roads would not be constructed through areas of environmental interest. The proposed connector road would be constructed on an existing roadbed and would have to be widened from approximately 24 feet to 36 feet to meet New Mexico State Highway and Transportation Department standards and to provide adequate drainage off the road. A new roadway segment would be built to the south of the water tank as part of the alignment. Some additional tree thinning may be required including trees larger than 8 inches in diameter. Nearby Mexican spotted owl (an endangered species) habitat use by individuals of that species may result in the need to restrict construction activity between March 1st and August 31st on the proposed West Road to Ski Hill Road connector. The affected area is limited and appropriate work scheduling could accommodate such a restriction if necessary without seriously impacting the project schedule. Informal

consultation could be required pursuant to the Endangered Species Act but no change in potential effects to the habitat area would be expected.

Transportation and infrastructure: The proposed modifications to the Security Perimeter Project would have the same effect upon the intersection of Diamond Drive with Jemez Road as previously analyzed (the intersection is redesigned so that the two streets do not intersect so that vehicles would no longer be able to access TA-03 without first passing through an access control point). There would still be pedestrian and bicycle connectivity from the Los Alamos town site to TA-03 and beyond so there is no material effect upon trails use as analyzed in EA-1431. West Jemez Road would be restricted to use by LANL workers, and the general public would be allowed to enter the site in certain sized vehicles, depending upon prevailing national and local security conditions. Larger vehicles may be allowed to enter after additional appropriate security requirements had been satisfied. Under elevated security conditions, access to the site by the general public and some employees could be restricted. There could be a slight decrease in traffic on West Jemez Road and this could reduce congestion and conflicts at the intersections used by LANL workers to access TA-8, -16 and other area TAs. LANL workers would continue to use West Jemez Road to access various TA's including TA-16, under the proposed modifications to the Security Perimeter Project. Closing West Jemez Road to unrestricted public access would not affect access or operations at the Emergency Operations Center. Utilities to support the Security Perimeter Project would be installed or modified in accordance with LANL engineering and environmental standards, and construction would be sequenced in order to avoid service disruptions where utilities need to be relocated or removed.

Table 1 compares the potential environmental consequences to resources resulting from the proposed modifications to the Security Perimeter Project with EA-1429 and the other applicable EAs previously mentioned. In all cases, the consequences are less than those previously analyzed.

Table 1. Potential Environmental Consequences of Proposed Modifications to the Security Perimeter Project compared to EA-1429 and other relevant EAs.

Resource	Environmental Consequences
Land Use	Less effect upon resource.
Visual Resources	Less effect upon resource.
Noise	Less effect upon resource.
Geology	Less effect upon resource.
Soils	Less effect upon resource.
Surface Water Quality	Less effect upon resource.
Groundwater Quality	Less effect upon resource.
Air Quality	Less effect upon resource.
Public Health	No change to resource projected.
Environmental Justice	No change to resource projected.
Socioeconomics	No change to resource projected.
Cultural Resources	No change to resource projected.
Waste Management	Less effect upon resource.
Biological Resources	Less effect upon resource.
Transportation and infrastructure	Minor changes in potential effects to traffic patterns and infrastructure.

Conclusion

This analysis has compared the potential environmental consequences to resources that would result from implementing the proposed modifications to the Security Perimeter Project with EA-1429 and the five other applicable subject EAs previously identified. In all cases, the consequences would likely be less than previously analyzed and therefore are bounded by EA-1429 and the other applicable EAs. The proposed modifications would not result in changes to affected resources that exceed what has previously been analyzed and determined to have no significant impacts. Therefore, a new EA is not required.

FINDING: The United States Department of Energy, National Nuclear Security Administration finds that the environmental effects of the newly proposed modifications to the Security Perimeter Project are adequately bounded by the analyses of impacts projected by previous DOE environmental assessments DOE/EA-1439, 1429, 1407, 1376, 1329, and 1212, and no new EA is required. The Department of Energy, National Nuclear Security Administration makes this Finding pursuant to the National Environmental Policy Act of 1969 [42 U.S.C. 4321 et seq.], the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act [40 CFR 1500] and the Department of Energy National Environmental Policy Act Implementing Procedures [10 CFR 1021].

Signed in Los Alamos, New Mexico this 9th day of March, 2004

Ralph E. Erickson, Manager
Los Alamos Site Office

References

10 CFR 1021 U.S. Department of Energy, *"National Environmental Policy Act Implementing Procedures,"* Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, D.C. (revised as of January 1, 1999).

40 CFR 1502.9 (c) Council on Environmental Quality, Executive Office of the President, *"Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act,"* (reprint 1992).

DOE 1993 U.S. Department of Energy, *"Recommendations for the Preparation of Environmental Assessments and Environmental Impacts Statements"*, U.S. Department of Energy, Office of NEPA Oversight (May 1993).

DOE 1997 U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for Lease of Land for the Development of a Research Park at Los Alamos National Laboratory* DOE/EA-1212, October 7, 1997.

DOE 2000 U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory,* DOE/EA-1329, August 10, 2000.

DOE 2001 U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for the Proposed Construction and Operation of a New Interagency Emergency Operations Center at Los Alamos National* Laboratory DOE/EA-1376, July 26, 2001.

DOE 2002a U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for the Proposed TA-16 Engineering Complex Refurbishment and Consolidation at Los Alamos National* Laboratory DOE/EA-1407, April 23, 2002.

DOE 2002b U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for Proposed Access Control and Traffic Improvements at Los Alamos National Laboratory Los Alamos, New Mexico* DOE/EA-1429, August 23, 2002.

DOE 2002c U.S. Department of Energy, Los Alamos Site Office. *Site and Architectural Design Principles* (LA-UR 01-5383), Los Alamos National Laboratory, January 2002.

DOE 2003 U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory DOE*/EA-1431, September 2, 2003.

Appendix A: Executive Summary from EAs

DOE/EA-1431- Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory, Los Alamos, New Mexico

Los Alamos National Laboratory (LANL) workers, Los Alamos County residents, and visitors have all enjoyed using area trails since the earliest days of the Manhattan Project. Some recreational trails at LANL are culturally important to the neighboring Pueblos. Some LANL trails also link with trails on lands administered by other Federal agencies, the County of Los Alamos, and adjacent Pueblos. Lack of a trails policy at LANL has led to unsanctioned trails use, trespassing, and confusion regarding trails access at LANL. Some trails are listed as State cultural properties and may be eligible for National Register of Historic Places listing. Some trails traverse or are located near potential waste release sites. Some of the trails also cross the health, safety, and security buffer zones around research sites. Some trails traverse sensitive habitats for Federally listed threatened and endangered species.

At this time, the National Nuclear Security Administration (NNSA) must consider alternatives for trails management at LANL and make a decision regarding the implementation of a Trails Management Program at LANL. This programmatic environmental assessment (EA) provides decision makers and the public with an analysis of environmental impacts as required by the *National Environmental Policy Act of 1969* (NEPA). The U.S. Department of Energy (DOE) and NNSA must balance their Congressional mission requirements with other land use and stewardship considerations at LANL. The NNSA needs to determine the permissible public use of trails within LANL in order to facilitate the establishment of a safe, viable network of linked trails across the Pajarito Plateau that traverse land holdings of various private and government entities for recreational use and for alternate transportation purposes (such as riding bikes to and from residences and worksites). Additionally, in order to facilitate the appropriate use of trails by employees and officially invited guests at LANL, NNSA needs to determine the permissible use of trails within LANL for these users. The purpose of such action would be to provide acceptable access to trails within LANL where such use is desired and appropriate without posing a threat to DOE and NNSA mission support work at LANL or disrupting LANL operations. Public safety, operational security, and the protection of sensitive natural and cultural resources would be primary considerations in the establishment of such action at LANL.

The Proposed Action would consist of implementing a Trails Management Program at LANL to address LANL trails use by the public, LANL workers, and officially invited guests. A Trails Assessment Working Group would be established. Repair, construction, environmental protection, safety, and security measures would be formulated and implemented. End-state conditions and post-repair or post-construction assessments would be performed. The Proposed Action would have a minor effect on socioeconomics. This alternative would ideally foster a more balanced use of LANL trails while allowing some recreational use to continue. The establishment of a Trails Management Program would result in enhanced protection of cultural resources with minimal to negligible effects on the other LANL resources.

The Trails Closure Alternative would result in the closing of all existing trails to the public and LANL workers for recreational use purposes while allowing limited access by workers at LANL and officially invited guests. Similar to the Proposed Action Alternative the Trails Closure

Alternative would have a minor effect on socioeconomics. There would be enhanced protection of cultural resources and minimal to negligible effects on the other LANL resources.

The No Action Alternative is presented to provide a baseline for comparative analysis as required by NEPA. Under the No Action Alternative, wildlife habitat degradation may slightly increase but there would be no adverse effect. The possibility for damages to cultural resources would continue.

An overview of accident possibilities and probabilities associated with the three alternatives is also presented in this EA. Trail construction and use are relatively low-risk activities. Accident frequencies under the Trails Closure Alternative would be reduced compared to the Proposed Action, while the No-Action Alternative presents the highest accident risks.

Evaluation of cumulative effects for the three alternatives indicates that there would likely be only minimal and slight cumulative effects on affected resources as a consequence of the aggregate of the Proposed Action and past, present, and reasonably foreseeable future actions; and some positive cumulative effects to ecological and cultural resources as a consequence of the Proposed Action or the Trails Closure Alternative. The No Action Alternative could pose slightly negative cumulative effects to cultural and ecological resources and to environmental justice concerns. In conclusion, the effects of the Proposed Action, when combined with those effects of other actions would not result in cumulatively significant impacts.

Two alternatives were considered but dismissed: opening all existing trails at LANL to the public for unrestricted use would not be consistent with NNSA's primary mission; while reviewing individual trails in this EA to make specific recommendations for repair or closure was not considered to be as effective as the proposed Trails Management Plan.

DOE/EA-1429 - Environmental Assessment for Proposed Access Control and Traffic Modifications at Los Alamos National Laboratory, Los Alamos, New Mexico

The National Nuclear Security Administration (NNSA)[1] has assigned a continuing role to Los Alamos National Laboratory (LANL) in carrying out NNSA's national security mission. It is imperative that LANL continue this enduring responsibility and that NNSA adequately safeguard LANL capabilities. NNSA has identified the need to restrict vehicular access to certain areas within LANL for the purpose of permanently enhancing the physical security environment at LANL. It has also identified the need to change certain traffic flow patterns for the purpose of enhancing physical safety at LANL.

The Proposed Action would include the construction of eastern and western bypass roads around the LANL Technical Area (TA) 3 area and the installation of vehicle access controls and related improvements to enhance security along Pajarito Road and in the LANL core area. This Proposed Action would modify the current roadway network and traffic patterns. It would also result in traversing Areas of Environmental Interest identified in the LANL Habitat Management Plan, demolition of part of an historic structure at Building 3-40, and traversing several potential release sites and part of the Los Alamos County landfill.

[1] The NNSA is a separately organized agency within the Department of Energy established by the 1999 National Nuclear Security Administration Act [Title 32 of the Defense Authorization Act for fiscal year 2000 (Public Law 106-65)].

The No Action Alternative was also considered. Under this alternative NNSA would not construct the eastern or western bypass roads, any access-control stations, or related improvements. Diamond Drive would continue to serve as the primary conduit for most vehicle traffic within the LANL core area regardless of actual trip destinations. The No Action Alternative does not meet NNSA's purpose and need for action.

The proposed bypass road corridors traverse both developed and undeveloped areas. Several potential release sites are present. These would either be sampled and remediated in accordance with New Mexico Environment Department requirements before construction or avoided to allow for future remediation. In some cases, contaminant levels may fall below remediation thresholds and the Environmental Restoration Project would set requirements for workers. Structural bridges would be used to span canyons that are Areas of Environmental Interest because they include habitat for threatened and endangered species, or because they are 100-year floodplains or wetlands. Traffic congestion is not expected to increase once construction is completed. The Proposed Action would allow for a flexible approach to vehicle access controls in response to security conditions. Traffic safety within LANL would improve because access control would screen out drivers without a need to be in the LANL TA-3 area or along Pajarito Road. There would be adequate parking for University of California personnel and construction workers. Construction and demolition wastes would be transported to a licensed commercial landfill or recycled for other construction projects at LANL or offsite. Construction for the proposed bypass roads would be expected to produce only temporary and localized air and noise emissions. The Proposed Action would have no effects on visual resources, land use, socio-economics, or environmental justice. The roadways would be designed to accommodate geologic and soil conditions. The demolition of part of Building 3-40 could have an adverse effect on historic structures since it is eligible for the National Register of Historic Places and, therefore, a treatment plan would be negotiated between NNSA and the State Historic Preservation Office.

Cumulative effects of the Proposed Action, along with past, present, and reasonably foreseeable actions, on LANL and surrounding lands are anticipated to be negligible. No increases in LANL operations are anticipated as a result of this action.

DOE/EA-1407 - Environmental Assessment for the Proposed TA-16 Engineering Complex Refurbishment and Consolidation at Los Alamos National Laboratory, Los Alamos, New Mexico

The National Nuclear Security Administration (NNSA)[2] has assigned a continuing role to Los Alamos National Laboratory (LANL) in carrying out NNSA's national security mission. To enable LANL to continue this enduring responsibility requires that NNSA maintain the capabilities and capacities required in support of its national mission assignments at LANL. These assignments include maintaining core intellectual and technical competencies in nuclear weapons and a safe, and reliable, national nuclear weapons stockpile. The NNSA fulfills this commitment through the Stockpile Stewardship Program. Several buildings and structures that house programmatic engineering and support functions that are essential to the overall LANL operations and nuclear weapons work performed for DOE and NNSA are located at Technical Area (TA) 3, TA-8, TA-11, and TA-16. These buildings have many identified structural,

[2] The NNSA is a separately organized agency within the Department of Energy (DOE) established by the 1999 National Nuclear Security Administration Act [Title 32 of the *Defense Authorization Act* for Fiscal Year 2000 (Public Law 106-65)].

systemic, and security deficiencies associated with them and some are oversized for the mission activities they house. NNSA needs to correct these problems so that the necessary programmatic, management, and support functions housed at LANL can continue to function with a high level of efficiency. Additionally, NNSA also needs to minimize wherever possible the use of energy and the cost of maintaining operations.

The Proposed Action is to construct and operate offices, laboratories, and shops within the TA-16 engineering complex where Engineering and Science Applications (ESA) Division operations would be consolidated from other locations at LANL. The Proposed Action would also remove or demolish certain vacated structures that are no longer needed. The Proposed Action consists of constructing six new buildings (two office buildings, two machine shops, a crafts support building, and a calibration laboratory) and remodeling two other buildings within the existing TA-16 engineering complex. This Proposed Action also involves modifying or upgrading existing roads, parking, fencing, and utilities within the engineering complex. In addition, when construction is complete, the engineering complex would be landscaped. ESA personnel in these technical areas would be relocated to the new or remodeled buildings in TA-16. Once temporary buildings are vacated, they would be removed from the engineering complex and made available for other uses. Permanent buildings that are vacated as part of this Proposed Action would also be made available for other uses. If no other uses are identified, these buildings would be demolished. The Proposed Action would not involve any current high-explosives processing or testing facilities. The Weapons Engineering Tritium Facility, located adjacent to the engineering complex, would not be affected.

The No Action Alternative was also considered. Under this alternative NNSA would not construct new buildings and remodel or modify existing buildings. Poor-quality office and laboratory space would continue to be used. ESA operations would continue to be conducted in dispersed facilities; there would be no reduction in the cost of facility maintenance. Expenses for repairs and replacement of aging heating, ventilation, and cooling systems and other building components would increase. As building systems and other components fail and cannot be replaced or repaired, areas of the buildings would be closed. This is not an alternative that meets NNSA's purpose and need for action.

The proposed construction sites are located in areas that were once occupied by buildings or structures, are within existing paved parking areas, or are in the areas immediately adjacent to existing buildings and parking areas. No undeveloped areas would be involved. There are several potential release sites in TA-16; however, these areas would be avoided, where possible, or, if affected by the Proposed Action, would be sampled and remediated in accordance with New Mexico Environmental Department requirements before construction. Traffic congestion in the area is not expected to increase, as the Proposed Action would only increase total current traffic by about four percent. There would be adequate parking for University of California (UC) personnel and construction workers. Construction and demolition wastes would be trucked to a licensed commercial landfill or reused for backfilling. Construction, renovation, and demolition activities for the proposed TA-16 engineering complex refurbishment would be expected to produce only temporary and localized air emissions. Once construction is complete, operational emissions may decrease due to increased efficiency with more modern equipment and facilities and to a reduction in some activities. Consolidation of operations under the Proposed Action would have no effects on visual resources, water quality, or adverse health effects on UC employees or construction workers. None of the buildings to be constructed as part of the

Proposed Action would be sited over the fault trace or within 50 ft (15 m) of any known active fault. The demolition and remodeling of various buildings could have an adverse effect on some historic structures that are eligible for the National Register of Historic Places. The importance of these buildings to LANL's history is being assessed and a plan would be developed that would include research tools to preserve the historical knowledge and features of these structures.

Cumulative effects of the Proposed Action, along with past, present, and reasonably foreseeable actions, on LANL and surrounding lands are anticipated to be negligible. No increases in LANL operations are anticipated as a result of this action.

DOE/EA-1376 - Environmental Assessment for the Proposed Construction and Operation of a New Interagency Emergency Operations Center at Los Alamos National Laboratory, Los Alamos, New Mexico

The Department of Energy, National Nuclear Security Administration[3] (NNSA) is charged with maintaining the capability and capacity required to support its national security mission assignments at Los Alamos National Laboratory (LANL). These assignments include the arrangements necessary for emergency preparedness activities and emergency event(s) response in the case of human-caused and induced accidents and natural disasters. NNSA has identified insufficiencies and inadequacies of the existing Emergency Operations Center (EOC) at LANL that need to be remedied. The EOC is also vulnerable to large-scale disasters. At the same time, LANL's EOC is critical to integrating and coordinating emergency preparedness and emergency response actions with other neighboring government entities and neighboring communities on the Pajarito Plateau by providing them with the use of the EOC.

The Proposed Action is the construction and operation of a new Interagency Emergency Operations Center (Center) at Technical Area 69. The new Center would include a 30,000-square-foot (2,700-square-meter) facility, a garage, a 130-car parking lot, and a 150-foot (45-meter) tall fire suppression water storage tank with antenna attachments on about a 5-acre (2-hectare) site. The new Center would be designed as a state-of-the-art multi-use facility housing about 30 fulltime University of California and Los Alamos County (or their contractor) staff. Under normal operating conditions, the facility would serve as the County fire, police, and 911-dispatch center and the administrative offices for the LANL Emergency Management and Response staff. Up to about 120 federal, state, local, and tribal representatives may also be accommodated at the Center in the event of an emergency on the general scale of the May 2000 Cerro Grande Fire. The new Center would be designed to meet and withstand, to the extent practical, any anticipated emergency such that emergency response actions would likely not be compromised by the emergency itself.

The No-Action Alternative was also considered. Under this alternative the existing EOC would continue to be used as it is currently configured. This is not an alternative that meets NNSA's purpose and need for action.

The new Center and associated structures are anticipated to have minimal traffic, visual, and environmental effects. The site is currently vacant but disturbed because of prior tree-thinning operations in this area and fire access roads. The small number of involved employees and the access point that would be built for this Proposed Action would cause very little change in the

[3] The NNSA is a separately organized agency within the DOE established by the 1999 National Nuclear Security Administration Act [Title 32, of the Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65)].

overall traffic circulation in this area. The fire suppression water storage tank would be visible from the townsite and other high points in the area, though it would be designed and painted to visually blend in with the background. The proposed Center itself however, would be relatively low, would be landscaped with native vegetation, and would not contrast with skylines or other natural scenic features. Built against the lower slopes of the Jemez Mountains, the proposed storage tank would not be visible from higher areas of the nearby Bandelier National Monument and Dome Wilderness areas.

Cumulative effects of the Proposed Action along with past, present, and reasonably foreseeable actions on LANL and surrounding lands are anticipated to be negligible. No increase in LANL operations are anticipated as a result of this action.

DOE/EA-1329 - Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory, Los Alamos, New Mexico

Five major wildfires have ignited within the local area outside the boundaries of Los Alamos National Laboratory (LANL) over the past 50 years. In 1954, a wind-driven wildfire known as the Water Canyon Fire, burned about 3,000 acres (ac) (1,200 hectares [ha]) adjacent to the western boundary of LANL and raged over a period of several days. In the 1977 La Mesa Fire, about 15,300 ac (6,120 ha) of forest burned, including about 2,500 ac (1,000 ha) within LANL located near high explosive bunkers and other key facilities. Flame lengths exceeding 200 feet (ft) (60 meters [m]) and rates of spread over 2,300 ft per hour (690 m per hour) were observed in that wildfire, which was finally contained on the fifth day. In 1996, the Dome Fire exploded and grew from 300 ac (120 ha) consumed in the first day to over 6,000 ac (2,400 ha) on the second day. About 16,000 ac (6,400 ha) of forests near LANL were burned before this wildfire was finally contained. In 1998, the Oso Fire burned about 5,300 ac (2,120 ha) to the north of LANL and the Los Alamos townsite. In May 2000, the Cerro Grande Fire burned approximately 43,000 ac (17,200 ha) of land, of which approximately 7,500 ac (3,000 ha) were located within the LANL boundaries (BAER 2000). This fire burned acreage in Bandelier National Monument (BNM), Santa Fe National Forest (SFNF), Los Alamos County, San Ildefonso and Santa Clara Pueblos, the Baca Ranch, and other small private holdings, causing the evacuation of over 20,000 people and the loss of over 230 private residences.

In general, most buildings, structures, and utilities at LANL are susceptible to wildfire damage because of the extreme density of the existing tree stands; the type of trees that grow in the forests; the continuity of surface vegetation such as grasses, herbs, and shrubs; the abundance of downed, dead trees; the proximity of the forest to the various buildings and structures where operations and employees are housed; the occurrence of unfavorable climatic conditions (including the high incidence of lightning strikes) at least once a year; and the proximity of forests at LANL to both SFNF lands and BNM lands where public recreation, including camping and campfires, is usually allowed except under extreme conditions (and even then can occur).

As stated in the *Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory*, the potential for regional and local wildfires poses a substantial risk to the current operational capabilities that ensure mission requirements are met at LANL (DOE 1999a). Furthermore, as a federal government agency and steward of the natural resources that are included within the boundaries of LANL, the United States Department of Energy has a statutory obligation to protect and contribute to the sustainable and ecologically healthy

condition of these resources. Consequently, there is a defined need to (1) reduce the risk of damage and injury to property, human life and health, and biological resources at LANL from high-intensity wildfires and (2) enhance forest health at LANL.

The Proposed Action (the No Burn Alternative) would consist of implementing a Wildfire Hazard Reduction and Forest Health Improvement Program at LANL that would not use fire as a treatment measure. This ecosystem-based management program would initially be composed of a series of individual, small-scale projects using mechanical and manual thinning methods that would be conducted over about 10 years with ongoing, long-term maintenance projects conducted thereafter. These carefully planned initial projects would be conducted to bring the forests at LANL to the desired end-state for wildfire risk followed by an on-going maintenance program to maintain the forests in this desired state with enhancements to improve overall forest health. An estimated 35 percent, approximately 10,000 ac (4,000 ha), of LANL would be treated under this program using forest thinning and the construction of access roads and fuel breaks as treatment measures. Wood materials generated by the treatment measures would be either donated or salvaged; waste wood materials (slash[4]) would primarily be disposed of through chipping and used as mulch on-site. Wood contaminated by depleted uranium could be disposed of at Technical Area 54, Area G.

The Limited Burn Alternative (Forest Waste Only) would be similar to the Proposed Action in terms of planning, implementation, and the spectrum of available treatment measures. This alternative would allow limited burning for slash pile disposal with burns conducted only under controlled weather conditions and with strict on-site suppression resources (fire trucks, personnel, etc.).

The Burn Alternative (Both Treatment and Forest Waste) would be similar to the Proposed Action but initial treatment measures and long-term maintenance treatment measures would be expanded to include the use of carefully controlled burns to reduce ground fuels, and would include the burning of slash waste piles produced by tree thinning treatments. Ten thousand ac (4,000 ha) would be treated under this alternative. Under this alternative, controlled burning would primarily be used as a maintenance tool to remove forest litter (such as leaves and pine needles) and seeding tree growth. Controlled burning involves the use of fire under both controlled and selected conditions. Only where site conditions are favorable would controlled burning be used as a primary treatment measure.

Under the No Action Alternative, the fuels inventory would continue to increase unless and until it was consumed in a wildfire or decayed in place. There would be very limited mechanical and manual tree cutting (only within a 100-ft [30-m] area next to structures, roads, and parking facilities as required by general "good housekeeping" practices) with minimal associated slash disposal by chipping.

Various additional alternative methods of achieving fuel load reduction were considered for implementation but dismissed as being unreasonable within the context of the *National Environmental Policy Act of 1969*. Reasonable alternatives address the purpose and need for action and include those that are practicable or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the

[4] Slash is defined here to include small limbs, branches, and miscellaneous pieces of wood.

applicant (46 Federal Register [FR] 18026, March 23, 1981, as amended, 51 FR 15618, April 25, 1986).

No long-term adverse effects are expected to occur from implementing the Proposed Action, the Limited Burn, or Burn Alternatives. The Proposed Action and the alternatives are not expected to have short- or long-term adverse effects on air quality, visual resources, water quality, soil erosion, cultural resources, waste management, human health, socioeconomics, or utilities and infrastructure at LANL. Only biological resources may be affected by the Proposed Action or the Limited Burn and Burn Alternatives. These alternatives would have a long-term beneficial effect on a variety of resources at LANL. Correspondingly, there would be long-term beneficial contributions to any cumulative effects on resources resulting from actions at LANL or by surrounding land managers. The No Action Alternative would not reduce the risk of catastrophic wildfire that could have a serious adverse local or cumulative effect on resources at or in the vicinity of LANL.

DOE/EA-1212 - Environmental Assessment for Lease of Land for the Development of a Research Park at Los Alamos National Laboratory, Los Alamos, New Mexico

As part of its initiative to fulfill its responsibilities to provide support for the incorporated County of Los Alamos (the County) as an Atomic Energy Community, while simultaneously fulfilling its obligations to enhance the self-sufficiency of the County under authority of the Atomic Energy Community Act of 1955 (42 USC §§ 2342, 2343, 2391, and 2392) and the Defense Authorization Act (Public Law 104-106, § 3161), the U.S. Department of Energy (DOE) proposes to lease undeveloped land in Los Alamos, New Mexico, to the County for private sector use as a research park.

The Proposed Action is intended to accelerate economic development activities within the County by creating regional employment opportunities through offering federal land for private sector lease and use. As a result of the proposed land lease, any government expenditures for providing infrastructure to the property would be somewhat supplemented by tenant purchase of Los Alamos National Laboratory (LANL) expertise in research and development activities. The presence of a research park within LANL boundaries is expected to allow private sector tenants of the park to be able to quickly and efficiently call upon LANL scientific expertise and facility and equipment capabilities as part of their own research operations and LANL research personnel, in turn, would be challenged in areas complementary to their federally funded research. In this way a symbiotic relationship would be enjoyed by both parties while simultaneously promoting economic development for the County through new job opportunities at the Research Park and at LANL, new indirect support opportunities for the community at large, and through payment of the basic building space leases.

A "sliding-scale" approach (DOE 1993) is the basis for the analysis of effects in this Environmental Assessment (EA). That is, certain aspects of the Proposed Action have a greater potential for creating adverse environmental effects than others; therefore, they are discussed in greater detail in this EA than those aspects of the action that have little potential for effect.

The Proposed Action would result in an increase of as many as 1,500 new direct jobs and, as many as 2,565 indirect jobs could be created from the development of a research park. Lease of the tract would not reduce the size of LANL or change its site boundary. However,

approximately 30 ac (12 ha) of a 60-ac (24-ha) tract would be changed from an undeveloped to a developed status.

Under the No Action Alternative, no transfer or lease of Federal lands would occur. LANL would not have the benefit of its research personnel working on a variety of complementary research efforts beyond their federally funded responsibilities. No new jobs would be created from proposed development activities. Undeveloped lands would remain in their current condition.

Two hypothetical accidents were analyzed that evaluated a potential chemical release and radiological doses to the public from hypothetical accidents at the proposed Research Park. Neither accident scenario resulted in potentially serious health effects for workers or the public at the proposed Research Park.

The cumulative effects of the Proposed Action as well as reasonably foreseeable related actions could result in potential adverse health effects. Environmental effects would be limited to the loss of a small amount of wildlife habitat. Additional economic development would be expected to occur.