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Sandia National Laboratories, California Environmental Planning and Ecology Annual Program Report for Calendar Year 2005

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Sandia National Laboratories, California Environmental Planning and Ecology Annual Program Report for Calendar Year 2005

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ABSTRACT

The annual program report provides detailed information about all aspects of the SNL/CA Environmental Planning and Ecology Program for a given calendar year. It functions as supporting documentation to the *SNL/CA Environmental Management System Program Manual*. The 2005 program report describes the activities undertaken during the past year, and activities planned in future years to implement the Planning and Ecology Program, one of six programs that supports environmental management at SNL/CA.

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1 Program Summary

The Environmental Planning and Ecology Program (Planning and Ecology) is one of six programs under the Environmental Management Department at Sandia National Laboratories, California (SNL/CA). The program oversees activities associated with the National Environmental Policy Act (NEPA), ecological resources, and cultural resources. Planning and Ecology is part of the SNL/CA Environmental Management System (EMS), and maintains responsibility for general environmental reporting that spans all six program areas. It is an indirectly funded program, supported through the Integrated Enabling Services Strategic Management Unit.

This program description provides detailed information about all aspects of Planning and Ecology operations. It functions as supporting documentation to the *SNL/CA EMS Program Manual.* The Program Description is updated annually to reflect the dynamic nature of program operations, accomplishments, and goals.

1.1 NEPA

Under NEPA, all Federal agencies are required to evaluate the impacts of their proposed actions on the environment. In 2003, DOE issued the *Final Site-Wide Environmental Assessment of the Sandia National Laboratories, California* (SWEA) and Finding of No Significant Impact (FONSI). The SWEA evaluates the impacts of site operations over a ten-year period, and the FONSI concludes that continuation of site operations is not a major federal action significantly affecting the quality of the human environment.

Each year, Planning and Ecology evaluates the bounding impact scenario presented in the SWEA for continued applicability to site operations. Actual site data is compiled and compared against the projected impacts. Where actual operations exceed, or are close to, projected operations, relevant impact areas are further evaluated to determine if potential impacts have occurred or are projected to occur in future years. The information from this comparison can then be used to change site activities and minimize or eliminate environmental impacts resulting from site operations. This comparison is presented in the annual site environmental report.

At SNL/CA, new projects or programs and significant changes in existing projects or programs are subjected to an internal NEPA review. All NEPA reviews are accomplished electronically, using the ISMS NEPA Module (http://www-irn.sandia.gov/iss/isms_software/). The project proponent completes the electronic project information form and submits it for review to the NEPA Subject Matter Expert (SME). The NEPA SME determines if the project falls within the scope of an existing NEPA document or if it requires a DOE NEPA review. The majority of projects proposed at SNL/CA fall within the scope of the SWEA. Actions that are not covered by existing NEPA documentation are submitted electronically to the DOE/Sandia Site Office (DOE/SSO) for a NEPA determination. Planning and Ecology provides a recommendation for the NEPA determination, but DOE/SSO makes the final determination.

The NEPA review process supports identification of potential environmental impacts associated with proposed actions. Through the ISMS NEPA Module, an action owner is directed to complete a series of questions specifically designed to identify impacts. Because NEPA reviews are conducted during project planning, mitigation measures can be implemented to minimize or eliminate impacts before an action begins.

1.2 Ecological Resources

SNL/CA provides habitat for a range of wildlife species and maintains a 106-acre wildlife reserve. The wildlife-reserve was designated as part of the Endangered Species Act consultation process with the US Fish and Wildlife Service (USFWS) (commonly referred to as Section 7 Consultation). The wildlife reserve is shown on Map 1 included in Appendix A. Disturbance in the wildlife reserve is minimal and includes routine mowing and weed control for fire management, and access by Planning and Ecology to conduct wildlife surveys.

Arroyo Seco, which traverses SNL/CA from southeast to northwest, is another ecological resource at the site. An established riparian area containing many native trees and other vegetation is present along the eastern stretch of the arroyo within the wildlife reserve. Arroyo improvements and habitat enhancements are planned as part of an existing Arroyo Seco Improvement Program expected to be completed over a ten-year period.

Planning and Ecology conducts wildlife and habitat monitoring to document species diversity and richness at the site, and to keep abreast of listed and sensitive plants and animals found at SNL/CA. Early identification of threatened, endangered, and sensitive species allows Planning and Ecology to evaluate appropriate protections that will minimize or eliminate impacts to these species and their habitats. Planning and Ecology uses monitoring data to establish requirements to address potential project-specific short-term effects as well as potential long-term effects from site operations. SNL/CA also uses monitoring information to enhance campus safety for personnel and visitors by reducing the potential for wildlife/human encounters.

Wildlife monitoring is conducted year-round to document species living and foraging on site. Monitoring is accomplished with field surveys, trapping, track stations, fence line checks, and the use of trail cameras. SNL/CA uses a variety of field survey methods including visual observation, bird counts, transect surveys, aquatic surveys, protocol surveys, and nest/den identification. SNL/CA also monitors specifically for areas where mountain lions could access the developed areas of the site. When identified, access points are closed to reduce the potential for a lion to enter human occupied areas.

Planning and Ecology visually monitors habitat conditions throughout the year while conducting field surveys. Changes in habitat conditions and wildlife use are tracked. This information, together with wildlife monitoring data, is used to identify habitat enhancement measures in appropriate areas at the site.

Monitoring of plant species at SNL/CA is completed every five to ten years, as needed for updating site-wide NEPA impact analyses. Because there are no threatened or endangered plant species at SNL/CA, annual monitoring is not done. The most recent plant survey was completed in 2001.

1.3 Cultural Resources

Two cultural resource assessments have been conducted at SNL/CA. A complete site assessment for historic resources was completed in 1990. No historic or prehistoric resources were identified during the 1990 assessment. In 2001, SNL/CA completed an historic building survey. None of the buildings at SNL/CA were identified as historically significant or eligible for the National Register of Historic Places.

Although there are currently no known cultural resources present on site, the 1990 assessment did identify the potential for buried resources at SNL/CA that could be unearthed during construction and excavation activities. Sandia's construction specifications outline special procedures for preservation of cultural resources, should any be unearthed during a project. Sandia is also preparing a Cultural Resources Management Plan (CRMP) to outline, in general, the process that would be followed for inadvertent discovery of buried resources. The schedule for completion of the draft CRMP is September 30, 2005.

1.4 Environmental Reporting

Planning and Ecology maintains responsibility for preparing and distributing environmental reports that span all environmental program areas. These include the annual site environmental report (a DOE requirement), SNL/CA input for the Sandia corporate ES&H report (a corporate requirement), and the quarterly environmental scorecard (a best management practice). These reports provide environmental information to DOE, site personnel, and external stakeholders. Additional information about these reports is provided in Section 4.

1.5 EMS Core Team Responsibilities

Planning and Ecology is responsible for documenting EMS program development, implementation, and improvement in the *SNL/CA EMS Program Manual*, which is updated annually. The Planning and Ecology Program Lead is an active member of the EMS Core Team, assists with setting environmental objectives and targets, maintains responsibility for developing and updating project schedules, and coordinates EMS Core Team activities.

2 Compliance Drivers

Environmental compliance drivers include laws, regulations, orders, directives, and other corporate and site-specific requirements. Drivers that are applicable to Planning and Ecology are listed and summarized in Table 1.

Planning and Ecology uses a variety of sources to stay current on applicable compliance drivers. The primary source used is the Sandia corporate notification service provided by the legal staff. Sandia legal monitors DOE requirements and federal, state, and local government publications for regulatory issues applicable to SNL operations. Planning and Ecology receives notifications weekly, which are then reviewed for applicability to SNL/CA operations. Planning and Ecology also receives and reviews the *California Environmental Insider*, a California-specific publication, issued twice per month, which summarizes current regulatory issues and changes

that affect activities in the state. Both federal and state issues of concern are addressed in this publication. Additional sources of information on regulatory changes include direct communication with DOE and regulating agencies, and periodic review of agency web sites. New requirements are incorporated into program activities and communicated to the site through electronic notifications, the ES&H Interdisciplinary Team process, self-assessments, and targeted presentations.

During 2004, several changes occurred in compliance drivers applicable to Planning and Ecology responsibilities. On July 26 2004, the U.S. Fish and Wildlife Service (USFWS) listed the California tiger salamander as a threatened species. This species is known to occur at SNL/CA. Listing of the species provides protection under the Endangered Species Act. On December 8, 2004, the USFWS issued a biological and conference opinion for continued operations at SNL/CA. The opinion establishes additional requirements for monitoring, reporting, and protecting the tiger salamander, California red-legged frog, and red-legged frog critical habitat. Attachment A summarizes the requirements of the opinion. On September 22, 2004, DOE issued DOE G450.1-3, *Environmental Guidelines for Development of Cultural Resource Management Plans - Update*. Planning and Ecology and DOE/Sandia Site Office (SSO) staff reviewed and discussed the guidance, determining that a plan is required for all sites, including SNL/CA. A CRMP for the site is scheduled for preparation during 2005. See Section 1.3 for additional information.

Planning and Ecology is audited occasionally by DOE, Sandia Corporation, and Lockheed Martin, Sandia's parent company. There are no recurring audits of the program from external regulating agencies. As part of an overall ES&H audit conducted by Lockheed Martin, Planning and Ecology was last audited in December 1996. For Planning and Ecology, the focus of the audit was on NEPA. Results of the audit found the NEPA program to be commendable.

The Program Lead communicates with SSO counterparts regularly to keep them informed of issues and trends of importance to the program. Program staff works side-by-side with SSO to resolve concerns and to develop effective approaches to program implementation. Planning and Ecology and SSO maintain an open and cooperative relationship.

Table 1 Compliance Drivers for Environmental Planning and Ecology Program

Driver / Effective Date	Summary	Regulating Authority
Federal Laws		
National Environmental Policy Act (NEPA) / 1969	National charter for protection of the environment, requires all federal agencies to evaluate the affects of agency actions on the human environment (physical, socioeconomic, and cultural)	Council on Environmental Quality, Executive Office of the President (CEQ)
National Historic Preservation Act / 1966	Requires federal agencies to consider potential effects of agency actions on cultural resources	National Park Service
Archaeological Resources Protection Act / 1979	Provides for protection of archaeological resources and to prevent looting and destruction of resources	Department of Interior
Endangered Species Act / 1973	Provides for the designation and protection of wildlife and plant species, requires federal agencies to consult on projects with the potential to affect threatened and endangered species	USFWS
Migratory Bird Treaty Act / 1916	Provides for protection of migratory bird species	USFWS
Federal Regulations[a]		
10 CFR 1021 DOE NEPA Implementing Procedures / 1997	NEPA procedures for DOE facilities	DOE
40 CFR 1500 – 1508, CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act / 1978	Provides requirements for federal agencies to implement NEPA	CEQ
36 CFR 800, Protection of Historic Properties / 2000	Procedures define how federal agencies meet statutory responsibilities for historic preservation	Delegated to State Historic Preservation Office
50 CFR 17, Endangered and Threatened Wildlife and Plants / 2004	Identifies protected species and habitat	USFWS
50 CFR 402, Interagency Cooperation – Endangered Species Act / 1986	Procedures for consultation process with Fish and Wildlife Service	USFWS
10 CFR 1022, Compliance with Floodplain and Wetlands Environmental Review Requirements / 2003	DOE procedures for complying with Executive Order 11988 and 11990, DOE policy regarding consideration of floodplain/wetlands factors in planning and decision-making	DOE
Executive Orders (EO)		
EO 11593, Protection and Enhancement of the Cultural Environment / 1992	Details the responsibilities of federal agencies to preserve, restore, and maintain the historic and cultural environment	DOE as responsible federal agency for SNL facilities
EO 11988, Floodplain Management / 1977	Directs federal agencies to reduce the risk of flood loss, minimize impact to human safety, preserve natural value of floodplains, requires federal agencies to evaluate affects of agency actions on floodplains	DOE as responsible federal agency for SNL facilities

[a] The effective date for federal and state regulations represents the most recent revision

Table 1 Compliance Drivers for Environmental Planning and Ecology Program

Driver / Effective Date	Summary	Regulating Authority
Executive Orders (cont)		
EO 11990, Protection of Wetlands / 1977	Directs federal agencies to minimize destruction, loss, or degradation of wetlands and to evaluate affects of agency actions on wetlands	DOE as responsible federal agency for SNL facilities
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations / 1994	Requires federal agencies to consider the affects of agency actions on minority and low-income populations	DOE as responsible federal agency for SNL facilities
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds / 2001	Details the responsibilities of federal agencies to protect migratory birds	DOE as responsible federal agency for SNL facilities
DOE Directives		
Order 450.1, Environmental Protection Program / 2003	Outlines the basic strategy for environmental compliance at DOE facilities, requires DOE facilities to implement an EMS that addresses protection of site resources and long-term stewardship of these resources	DOE
Policy 141.1, Management of Cultural Resources, 2001	Establishes requirement for Cultural Resources Management Plan for all DOE sites	DOE
Order 231.1A, Environment, Safety, and Health Reporting / revised 2003	Requires collection, reporting, analysis, and dissemination of information on ES&H issues at DOE facilities	DOE
California Laws and Regulations[a]		
California Endangered Species Act / 1984	Provides for the designation and protection of wildlife and plant species in California	California Department of Fish and Game
California Fish and Game Code / 2004	Details the requirements related to all aspects of wildlife and habitat in California	California Department of Fish and Game
14 CCR Division 1, Subdivision 3, Chapter 6, 1998	Implementing regulations for the California Endangered Species Act	California Department of Fish and Game
California Environmental Quality Act / 1970	Requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, applicable to SNL/CA operations through state and local agency permitting processes	State / local agencies issuing permits or approvals
Other Requirements		
CPR 400.1.2, Integrated Safety Management System Description / 2005	Defines the requirement to implement NEPA at all SNL locations	SNL
Biological and Conference Opinion for SNL/CA Operations / 2004	Details the requirements for protection of listed species and critical habitat at SNL/CA established through consultation under Section 7 of the Endangered Species Act	USFWS
SNL/CA Requirements for Interacting with Wildlife / 2003	Defines the do's and don'ts of interacting with wildlife at SNL/CA to ensure safety of the workforce and respect for wildlife	SNL/CA VP
No-till policy / 2000	Ensures protection of ground-dwelling amphibians in the outer perimeter areas of SNL/CA	DOE

[a] The effective date for federal and state regulations represents the most recent revision.

3 Operational Controls

Planning and Ecology uses technical work documents, administrative and engineered controls, and specialized equipment as operational controls. Table 2 lists the technical work documents applicable to Planning and Ecology operations. They include the corporate ES&H manual, operating procedures, preliminary hazard screening documents, hazard assessments, and other site-specific requirements. Fences are used as engineered controls to minimize contact between the site population (visitors and employees) and wildlife. Administrative controls include access lists to the outer perimeter areas where encounters with wildlife are highest. Trail cameras function as specialized equipment to provide information on wildlife. This information is used to assess safety conditions in the outer perimeter areas of the site and to support decisions to delay or proceed with wildlife surveys during night hours.

Sandia also includes an administrative control in many project-funding processes to trigger a NEPA review before a project starts. NEPA triggers are included in processes for work-for-others, laboratory directed research and development, cooperative research and development agreements, integrated contract orders, defense programs, and construction programs.

Table 2 Technical Work Documents for the Environmental Planning and Ecology Program

Title	Current Version
OP471343, Operating Procedure for Conducting NEPA Reviews at SNL/CA	Update pending
PHS SNL3A00248 Conducting Wildlife Surveys	2004
Hazard Assessment, Wildlife Surveys	2004
OP471793, Operating Procedure for Safely Conducting Wildlife Surveys in the Outer Perimeter Area of SNL/CA	Issue C, 2005
ES&H Manual, Section 10B, NEPA, Cultural Resources, and Historic Properties	November 2003
ES&H Manual, Section 10C, Migratory Birds, Protected Species, and Other Biota	November 2003
SP473544, Standard Operating Procedure for Roof Access	Issue A, 2005
Mountain Lion Action Plan	April 19, 2004
SNL/CA Requirement for Interacting with Wildlife	June 17, 2003

4 Documents Produced

Table 3 identifies the documents and reports generated by Planning and Ecology. The Cultural Resources Management Plan was the only new document added to the program in 2004. There were no significant changes to other documents or reports in 2004.

Table 3 Environmental Planning and Ecology Program Documents and Reports

Document	Due Date	Frequency of Distribution	Distribution	Purpose
Site-wide Environmental Assessment of SNL/CA: provides bounding impact scenario for site operations for ten years	None	Every 10 years	Unlimited public release	DOE requirement
Biological Assessment for Continued Operation of SNL/CA: Analysis of impacts to protected wildlife and habitat	None	Every 10 years	DOE and Internal	Regulatory requirement

Table 3 Environmental Planning and Ecology Program Documents and Reports, continued

Document	Due Date	Frequency of Distribution	Distribution	Purpose
Cultural Resources Management Plan: Identifies the process that will be followed if cultural resources are found	September 30	Every 5 years	DOE/SSO	DOE requirement
EP Program Description: Summary of program elements	January 30	Annual	Site	Supports EMS Program
EMS Program Manual: Concise description the overall EMS Program	March 10	Annual	Site	Supports EMS Program
Wildlife Survey Report: Documents results of annual wildlife monitoring	March 30	Annual	EP Program	Supports regulatory requirement
SNL/CA Site Environmental Report (final draft): Summary of environmental compliance, program, and monitoring activities	June 1	Annual	Unlimited public release	DOE requirement
Environmental Scorecard: Provides highlights of environmental program actions	30 days after quarter end	Quarterly	SNL/CA Mgrs, SNL/NM Environmental Mgrs	Informational
SNL/CA Input to Corporate ES&H Report: Provides summary of audit activities, injuries/illnesses, and occurrences	30 days after quarter end	Quarterly	SNL/NM Performance Assurance	Corporate requirement
NEPA Report: Documents NEPA project reviews	15 days after month end	Monthly	DOE /SSO	Informational

5 Job Descriptions, Qualifications, and Training

Job assignments in Planning and Ecology include Program Lead, Program Technologist, Wildlife Biologist, Wildlife Technologist, and Wildlife Biology Intern. Job descriptions and qualifications for each assignment follow. Appendix B provides a list of personnel supporting each job assignment.

Sandia views training, development, and education as a strategic investment in Sandia's future. The policy of Sandia Corporation is to maintain a high level of technical and administrative competence in support of its mission. In support of this policy, Sandia maintains a set of general corporate training requirements that cover a wide range of areas such as security (physical, information, computer), business ethics and diversity, general ES&H, and general business processes. Standard corporate requirements are identified for each individual in the online Corporate Education, Development, and Training database at https://hrprod.sandia.gov/cfdocs/prod/hris/ctd/apps/cedtweb/cedtmain/index.cfm. The online database tracks completion status for all corporate training requirements and provides electronic reminders when a course is due to all Planning and Ecology personnel. Sandia training coordinators identify corporate training requirements for new hires. Sandia has developed online training courses to meet these requirements.

In addition to corporate training requirements, each program assignment has job-specific training requirements. These training requirements address safety as well as specific job functions. The

Environmental Management Department Manager, Program Lead, or Department ES&H Coordinator may identify job-specific training requirements. Most of these requirements are tracked in the online database. Table 4 presents job-specific training requirements for Planning and Ecology.

5.1 Planning and Ecology Program Lead

The Program Lead is responsible for management and oversight of all program activities, interacting with the NNSA/SSO on all NEPA, ecological, and cultural resource issues, interacting with state and federal regulatory agencies, and participating on the ES&H Interdisciplinary Team. Management and oversight responsibilities encompass a range of activities including budgeting, monitoring costs, identifying investments needs, task assignment and oversight, contract management, conducting program self assessments, maintaining the program website, reporting, developing operational controls, and participating in special site events and department projects. The Program Lead serves as the NEPA subject matter expert for SNL/CA. The Lead is responsible for monitoring changes in program compliance drivers and for communicating these changes to the site.

At a minimum, the Program Lead is required to hold a Bachelor of Art degree with at least 10 years experience in an environmental field, or a Bachelor of Science degree in an engineering, environmental, or science field with three years of related work experience. Desirable qualifications for this position include proficiency in technical writing, project management skills, and NEPA expertise. Registration as an environmental manager is optional, but encouraged, for the Program Lead position.

5.2 Program Technologist

The Program Technologist supports various aspects of the Planning and Ecology. The Program Technologist serves as the back-up NEPA subject matter expert by completing NEPA reviews and attending Interdisciplinary Team meetings during the Program Leads absence. The Program Technologist is responsible for technical editing on reports generated by the Planning and Ecology, provides assistance with technical writing, and prepares two program reports, the Environmental Scorecard and SNL/CA input to the corporate ES&H report. The Program Technologist is also responsible for assisting in developing presentation and display materials for site and department events.

At a minimum, the Program Technologist is required to hold an Associate of Art degree. It is also desirable for the Program Technologist to be proficient in technical writing and have a minimum of three years work experience in an engineering, environmental, or science field.

5.3 Wildlife Biologist

The Wildlife Biologist is responsible for all aspects of wildlife monitoring, conducting wildlife surveys, documenting the results of monitoring and surveys, and providing training to maintenance personnel to meet requirements established in the Biological and Conference Opinion for SNL/CA operations. The Wildlife Biologist serves as the contact for SNL/CA

workers to report observations of California red-legged frogs, California tiger salamanders, and other wildlife.

The Wildlife Biologist is required to hold, at a minimum, a Bachelor of Science degree in wildlife biology or ecology. The physical demands of this position include walking off-path in steep terrain, riparian habitat, and grassland areas. Consequently, the Biologist must be physically capable of withstanding the physical demands of the job. Regulatory standards for obtaining a scientific collecting permit and conducting training require that a qualified field biologist (as determined by the USFWS) hold this position. Desirable qualifications for this position include familiarity with California fauna and experience with Federal and state regulations relating to wildlife.

5.4 Wildlife Technologist

The Wildlife Technologist assists the Wildlife Biologist with wildlife monitoring and surveys. This position supports the two-person rule for access to the outer perimeter area.

The physical demands of this position include walking off-path in steep terrain, riparian habitat, and grassland areas. Consequently, the Wildlife Technologist must be physically capable of withstanding the physical demands of the job. Desirable qualifications for this position include three years work experience in an engineering, environmental, or science field, and an interest in wildlife or ecology.

5.5 Wildlife Biology Intern

The Wildlife Biology Intern assists with wildlife monitoring and surveys under the direction of the Wildlife Biologist. The intern position also assists the Program Lead with distributing wildlife posters and other informational materials to the site. This position supports the two-person rule for access to the outer perimeter area.

Student interns at SNL/CA must be currently enrolled students with a grade point average of 3.0 or better. This intern position also requires a college student with coursework in biology, ecology, or a related field. The physical demands of this position include walking off-path in steep terrain, riparian habitat, and grassland areas. Consequently, the Wildlife Biology Intern must be physically capable of withstanding the physical demands of the job. Desirable qualifications for this position include an interest in wildlife or ecology.

Table 4 Environmental Planning and Ecology Program Training Matrix

Training Requirement	Training Method	Program Lead	Program Technologist	Wildlife Biologist	Wildlife Technologist	Wildlife Biology Intern
ENV120 NEPA Awareness	Online	●	●			
FRP106 Fire Extinguisher Training Hands-On	SNL classroom	●		●	●	●
SBS700 Sandia Delegated Reps: What SDRs Need to Know	SNL classroom	●				
WRT101 Effective Writing Skills	SNL classroom	●	●			
WRT100 Writing Nuts'N Bolts: Mastering the Basics	SNL classroom	●	●			
FPP105CA Fall Protection and Prevention	SNL classroom			●	●	
## Confined Space	SNL classroom			●	●	
Animal Track Identification	Outside expert	●		●	●	
Animal Track Awareness (provided by Wildlife Biologist)	On the job training				●	●

6 Performance Measures

EMS objectives that are applicable to Planning and Ecology include full compliance with environmental requirements and enhancement of the natural habitat. To assess performance in meeting these objectives, Planning and Ecology measures NEPA compliance and species richness. Measures and the rationale for selecting them follow.

6.1 NEPA Compliance

The intent of the NEPA process is to foster decisions based on an understanding of the environmental consequences of an action. To foster good decisions, the DOE NEPA policy includes application of the NEPA review process during project planning so that environmental consequences are identified early, and actions can be implemented to protect, restore, and enhance the environment before a project starts. Planning and Ecology measures SNL/CA's performance in applying the NEPA review process during project planning by tracking lead-time given for a review. Planning and Ecology tracks the number of days between initiation of a NEPA review and the scheduled project start date. For most projects, 10 days is sufficient lead-time to complete a NEPA review. Figure 1 shows SNL/CA's lead-time performance since 1997. Data represents the percent of projects for which customers allowed 10 or more days of lead-time to complete a NEPA review. As shown, lead-times have been inconsistent over the period shown, fluctuating from year-to-year between a low of 55 percent (1998) to a high of 91 percent (2001). High lead-time percentages indicate that many project owners are considering ES&H issues during project planning, resulting in a higher level of compliance with NEPA, and

potentially a greater understanding of the environmental consequences associated with their operations. Lower lead-times suggest the opposite.

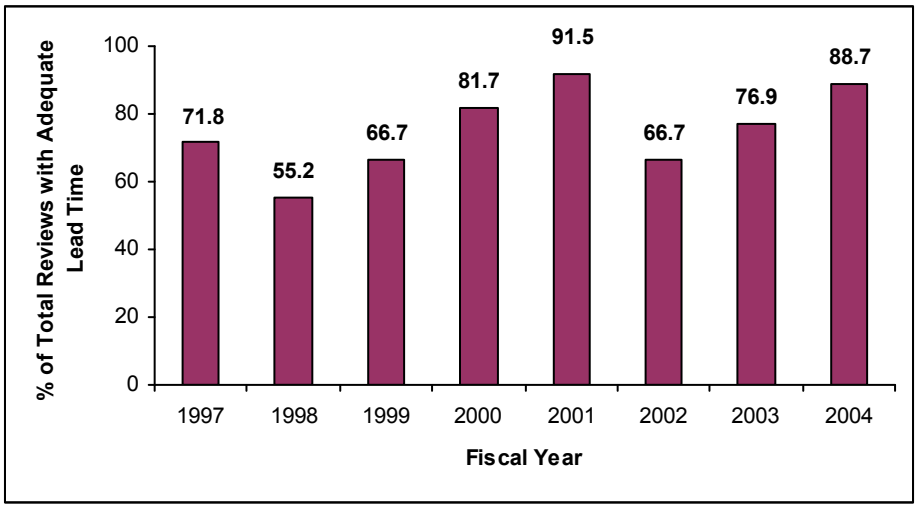


Figure 1 Lead Time Performance for NEPA Reviews

6.1.1 NEPA Data Gaps

NEPA reviews are required for all new projects, and for changes to projects that create new or different ES&H effects. Planning and Ecology uses various mechanisms to identify new and changing projects at SNL/CA. These include the ES&H Interdisciplinary Team, NEPA triggers inserted into project funding processes, annual review of field work proposals[1], the primary hazard screening tool available with Sandia's Integrated Safety Management System, and self-assessment data. While these mechanisms identify most projects that require NEPA review, they do not capture all projects. SNL/CA does not maintain a complete count or list of projects; consequently, Planning and Ecology is unable to calculate the NEPA compliance rate for the site. Although the compliance rate cannot be determined, Planning and Ecology continues to track the number of NEPA reviews completed each fiscal year. Figure 2 presents the number of NEPA reviews completed since 1995. As shown, Planning and Ecology reviewed more projects in 2004 than any previous year. This is attributed to an increase in the number of research projects reviewed in 2004 and an increase in laboratory relocation and remodeling projects.

[1] Field work proposals are funding proposals for DOE's energy and environment sector. At SNL/CA, these are used to fund many projects at the Combustion Research Facility. The field work proposal is a DOE form and currently does not include a NEPA trigger.

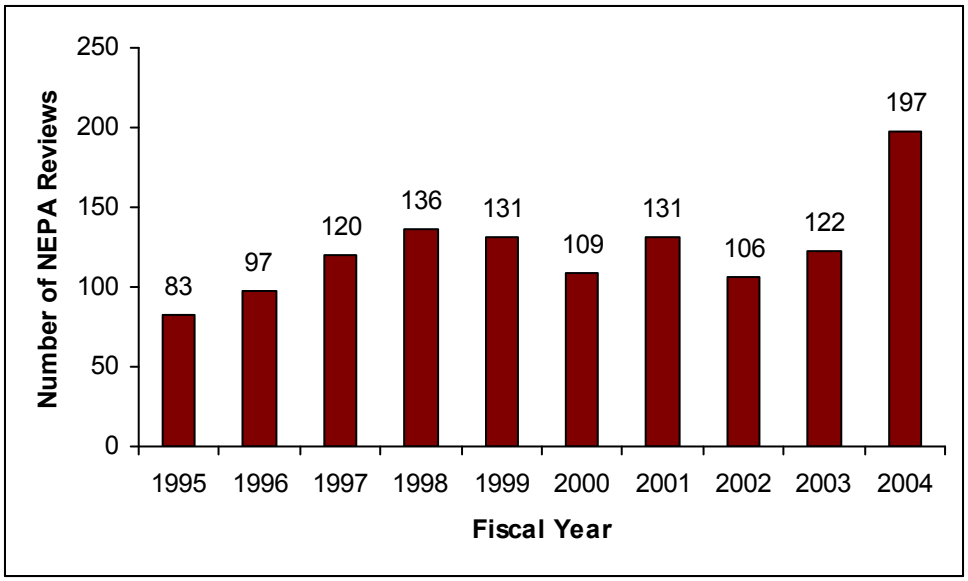


Figure 2 NEPA Reviews Completed, 1995 through 2004

6.1.2 Advances in NEPA Compliance

Funding for SNL/CA operations is provided primarily by the DOE, National Nuclear Security Administration (NNSA). In 2004, Sandia added a NEPA trigger to the project authorization process for NNSA funds. Project owners are now prompted to complete a NEPA review and to provide a NEPA identification number on Nuclear Weapon Strategic Management Unit project authorization forms. As a result of this new trigger, Planning and Ecology reviewed 72 additional projects[2] that fund activities at SNL/CA.

6.2 Species Richness

SNL/CA has an objective to enhance the natural habitat thereby increasing the health of the ecosystem. To measure the health of the ecosystem found at SNL/CA, Planning and Ecology measures the richness of bird species using the site from year-to-year. Birds were chosen as a measure because they are found in every habitat type and they are the most active and visible. Planning and Ecology has been conducting bird surveys since 2001. The 2001 survey provides a baseline of bird richness for the site. As shown in Figure 3, bird richness has experienced slight fluctuations since 2001. Planning and Ecology attributes these fluctuations to normal variances in observing migratory and foraging bird species.

[2] Many of these projects were combined into one broad NEPA review under one NEPA identification number. Fifteen of these projects were given separate NEPA numbers that are reflected in the data provided in Figure 2.

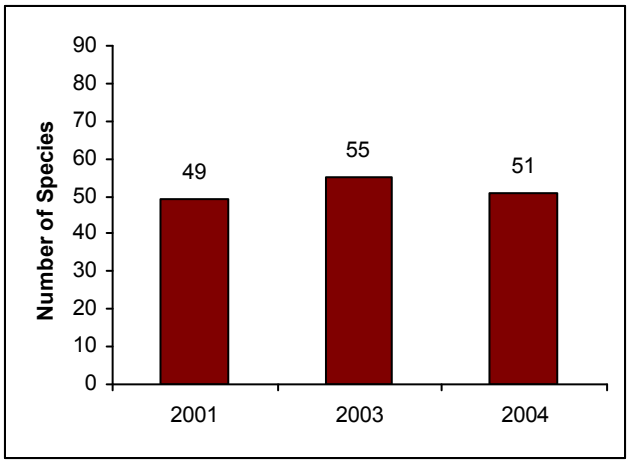


Figure 3 Bird Richness at SNL/CA

6.2.1 Additional Measures of Ecological Health

During 2005, Planning and Ecology will evaluate the existing bird richness data to identify different methods that could be used to measure ecological health of SNL/CA. For instance, tracking data by habitat or common bird groupings may result in a more accurate measurement of the ecological health of the site and changes resulting from improvements to grassland or riparian areas. Planning and Ecology also will review riparian and grassland habitat conservation plans, and other existing literature sources, to identify methodologies that may support data collection, analyses, and measurements.

7 Quality Assurance

Planning and Ecology applies the following program-specific elements to assure quality is maintained in data collection, analyses, and reporting.

- Online tools ensure that a standard process is followed for collection and evaluation of project information for all NEPA reviews.
- Internal reports and documents are subjected to internal review and technical editing before finalizing.
- Published reports are reviewed by DOE/SSO, applicable SNL/CA staff, and technical editors before finalizing.
- Standard industry and regulatory protocols are followed for conducting wildlife surveys.
- Wildlife survey forms are completed by the Wildlife Biologist in the field.

8 Program Assessments

Prior to 2005, Planning and Ecology did not maintain a routine schedule for program assessment. The last formal program assessment was completed in 2000. Informal assessments of technical work documents have been completed annually for the last seven years, as needed. Beginning in 2005 as part of EMS implementation, Planning and Ecology will complete two routine

assessments annually, a program self assessment and a line implementation assessment. The 2005 program self assessment will be completed by September 30, 2005. The self assessment will include a review of all technical work documents, processes, and web pages. Program self assessments will be documented on the Program Document Review Form (Attachment C). The line implementation assessment will be completed by November 30, 2005. This assessment will evaluate a sample of laboratory operations for NEPA compliance. Additionally, compliance with the site wildlife requirements will be evaluated between June 1 and August 30 by conducting one or more campus walkthroughs. The results of the program assessments for 2005 will be reported in the 2006 version of this program description.

9 Accomplishments

Over the last 12 months (June 2004 through May 2005), Planning and Ecology accomplished the following activities.

- On December 8, 2004, the USFWS issued a biological and conference opinion for continued operation of SNL/CA. The opinion outlines the required mitigation measures needed to ensure protection of the California red-legged frog, red-legged frog habitat, and the California tiger salamander. With implementation of these mitigation measures, the opinion states that proposed operations at SNL/CA will not likely jeopardize the continued existence of the frog or salamander, and will not likely destroy or adversely modify proposed red-legged frog critical habitat. Issuance of the biological opinion represents completion of the formal consultation process required under Section 7 of the Endangered Species Act. DOE/SSO and SNL/CA initiated the consultation process with submittal of a site-wide biological assessment to the USFWS in July 2002. The biological assessment is a collaborative effort between the SNL/CA Environmental Operations, Facilities Engineering, Facilities Operations, and DOE/SSO.
- In January 2005, Planning and Ecology began using a web-based application for NEPA reviews. This application, or NEPA Module, is a component of the ISMS tool set. The online module guides the customer (or project coordinator) through a series of questions to provide information needed to complete a NEPA review. After the customer completes the online form, the system prompts him or her to submit the information for review, and automatically notifies the SNL/CA NEPA SME that a review is pending. The application is also accessible by the DOE/SSO NEPA Compliance Officer, allowing DOE to review projects and make NEPA determinations in a timely manner. Electronic records of NEPA reviews are also maintained in the module.
- On May 2, 2005, DOE/SSO verbally approved the SNL/CA Site Environmental Report for 2004. Planning and Ecology completed the annual report 30 days ahead of DOE's already aggressive schedule that identified completion of the final draft by June 2, 2005.

10 Trends

Over the last two years, several changes occurred that affect NEPA review activities at SNL/CA. Issuance of the SWEA in 2003 (see Section 1.1) provided the site with a broad envelope for operations over a ten-year period. With the SWEA, Planning and Ecology has the ability to

review more than 95 percent of site projects internally, without the need for a DOE NEPA determination. Internal reviews are completed quickly (usually within a few hours). Customers experience fewer project delays as a result of the NEPA process, and potential ES&H issues are surfaced early for further evaluation through the ES&H Interdisciplinary Team process. These trends are likely to continue as long as the SWEA impact analyses remains valid.

A second change that affected NEPA review activities is the on-line NEPA application discussed in Section 9.0. The NEPA Module clearly defines the type of information needed from a project proponent eliminating the need for multiple iterations of information collection activities. Over the long-term as the SNL/CA workforce becomes familiar with using the module, Planning and Ecology expects the NEPA review process to gain efficiency and quality. Since the module was launched at SNL/CA, the NEPA SME has experienced a decrease in time spent to complete project reviews. This trend is likely to continue.

Planning and Ecology is not aware of any upcoming state or federal regulatory changes affecting wildlife or plant species present at SNL/CA.

11 Goals and Objectives

Planning and Ecology is subject to internal goals and objectives established by Sandia's Integrated Enabling Services Strategic Management Unit and by SNL/CA's EMS Program. For fiscal year 2005, Sandia established an integrated service milestone to develop a process and tool to streamline NEPA reviews of NWSMU projects. Because this milestone applies to Sandia as a whole, SNL/NM is taking the lead to develop the process and toolset. Planning and Ecology will provide input, as needed. This milestone is scheduled for completion in 2008. To date, SNL has held preliminary discussions with DOE/SSO on preparing comprehensive NEPA documents that could cover multiple projects.

Table 5 presents SNL/CA EMS objectives, targets, and actions that support Planning and Ecology elements. When selecting EMS objectives, the SNL/CA EMS Core Team identified both high-risk improvement areas and low-risk opportunity areas that would support reduction in use of resources and resource enhancements. The first objective supports high-risk improvement areas. The last three objectives support enhancement and long-term stewardship of natural resources. Selected targets and actions are intended to increase the quality of site habitat for native species, decrease pest species found onsite, and promote long-term sustainability of resources through building design.

Table 5 EMS Objectives, Targets, and Actions Supporting EP Program Elements

Objective	Target	2005 Action Items	2006 Action Items
Meet or exceed environmental requirements	Conduct annual program assessment.	Complete assessment by November 30, 2005	Complete assessment by November 30, 2006
	Create corrective action plan for all non-compliance issues	TBD	TBD
	Receive zero findings from DOE or external regulatory audits	Incorporate program assessment corrective actions into program	Incorporate program assessment corrective actions into program
	Receive no Notices of Violation from any external regulatory audit	Incorporate program assessment corrective actions into program	Incorporate program assessment corrective actions into program
Enhance the natural habitat	Incorporate the requirements of the USFWS biological opinion into site operations	Summarize mitigation requirements identified in the biological opinion and provide to Facilities Engineering for incorporation into facilities planning documents (completed)	Prepare Wildlife and Habitat Management Plan
	Complete the most critical actions identified in the Management Plan for Arroyo Seco by September 30, 2014	Resubmit JARPA to the US Army Corp of Engineers by January 31, 2005 (completed)	TBD
	By the end of FY 07, test two integrated pest management techniques for weed and pest abatement.	None	Prepare cost estimate for two techniques and present to management
	Establish a demonstration garden using native plants and integrated pest management techniques by October 31, 2008	None	Identify possible locations for a demonstration garden
	By December 31, 2008, revise and update the site Landscape Master Plan to better integrate industrial landscaping with native plants	None	Facilities Engineering will prepare estimates or bids to update the Landscape Master Plan and identify funding sources.

Table 5 EMS Objectives, Targets, and Actions Supporting Program Elements, continued

Objective	Target	2005 Action Items	2006 Action Items
Enhance the natural environment	By the end of FY 09, remove 25% of the milk thistles in the outer perimeter area and reseed areas with native grasses	Prepare an estimate of acres containing milk thistle in the outer perimeter area	TBD
	Return all disturbed areas to pre-test conditions within 90 days of completion of testing / experimental activities	Prepare a standard notification for outdoor testing activities that can be distributed as part of the IDT evaluation (completed)	TBD
Incorporate exterior building features into new construction to discourage pigeon roosting and nesting	Anti-pigeon roosting concepts will be used for all future new construction projects	None	EP Program will identify anti-roosting designs and provide to Facilities Engineering
Design and construct all buildings using "green" principles	100% of all future new building and renovation project designs will meet at least LEED Bronze level design/construction point value	None	Facilities engineers to obtain LEEDS training

TBD – to be determined.

Planning and Ecology is also subject to one external objective established by the USFWS in the site biological opinion. The objective is to minimize the potential for harassment, harm, or mortality of California red-legged frogs and California tiger salamanders. The biological opinion identifies the following ten non-discretionary terms and conditions to meet this objective.

1. SNL/CA operations will be implemented as described in the biological opinion and associated documents, including all conservation measures.
2. New buildings and infrastructure shall be confined to the minimum area necessary to achieve their purpose.
3. Where construction areas abut the wildlife preserve, SNL/CA shall install fencing to prevent workers from entering the preserve.
4. Landscaping in new construction areas shall be designed to minimize water consumption to reduce irrigation runoff to Arroyo Seco.
5. A Service-approved SNL/CA employee or contractor will conduct a training session for all construction, landscape, and maintenance personnel prior to any construction, landscaping, or maintenance activities that may affect the red-legged frog or tiger salamander. Training will include a description of the red-legged frog and tiger salamander, their habitats, and the protective measures to be implemented for these species.
6. Plastic mono-filament erosion control matting shall not be used where red-legged frogs and tiger salamanders may become entangled or trapped in it, particularly in Arroyo Seco.
7. Any individuals handling red-legged frogs or tiger salamanders shall hold a valid 10(a)(1)(A) Scientific Collection Permit from the Service. All capturing and relocation protocols utilized shall be approved by the Service and California Department of fish and Game prior to implementation.

8. The SNL/CA shall appoint a representative who will be the contact source for any employee or contractor who might inadvertently kill or injure a red-legged frog or tiger salamander or who finds a dead, injured or entrapped individual. The representative shall be identified during the employee education program. The representative's name and telephone number shall be provided to the Service prior to the initiation of ground disturbance activities.
9. Within five days prior to de-watering and/or other construction related activity, all suitable red-legged frog and tiger salamander aquatic habitat shall be surveyed. All size classes of red-legged frogs and tiger salamanders will be moved out of the work area to a suitable pool away from the construction site. No more than 14 days prior to construction, SNL/CA shall notify the Service of the location and condition of this pool habitat. No frogs or salamanders shall be moved before the Service has approved the relocation site.
10. SNL/CA shall initiate a bullfrog control program. All potential bullfrog breeding habitat shall be surveyed annually for bullfrog egg masses, larvae, juveniles, and adults. All age classes of bullfrogs shall be removed and killed.

Appendix A

Requirements from Biological and Conference Opinion

Summary of Wildlife and Habitat Mitigation Measures
Biological and Conference Opinion for Sandia National Laboratories, California
December 8, 2004

General mitigation measures

- This opinion applies to site operations as designated on the attached map.
- The 106-acre wildlife reserve is not available for public access or recreational use.
- Only individuals with a valid Scientific Collection Permit can handle (capture and release) California red-legged frogs or California tiger salamanders.
- Provide training to all construction, landscape, and maintenance personnel conducting activities that may affect red-legged frogs or tiger salamanders. Training to include species description, habitat description, and protective measures for the species. The trainer must be approved by the Fish and Wildlife Service (i.e. qualified wildlife biologist).
- Capture and relocation protocols shall be approved by the Fish and Wildlife Service and the California Department of Fish and Game prior to implementation.
- Prior to relocating individual red-legged frogs or tiger salamanders, the Fish and Wildlife Service must approve the relocation site.
- Report to the Fish and Wildlife Service immediately when:

  any listed species is found onsite
  accidental take or injury of a red-legged frog or tiger salamander occurs
  a dead red-legged frog or tiger salamander is found onsite
- SNL/CA shall appoint a representative to serve as a contact for site personnel on all red-legged frog and tiger salamander related issues.
- Report all new sightings of red-legged frogs and tiger salamanders to both the Fish and Wildlife Service and California Natural Diversity Database.
- SNL/CA shall initiate a bullfrog control program, including annual surveys for potential breeding habitat, egg masses, larvae, juveniles, and adults, and removal of all age classes.
- Notify the Fish and Wildlife Service of conservation measures that have been implemented to benefit the red-legged frog and tiger salamander.
- Monitor survival and growth of riparian vegetation planted along Arroyo Seco.
- Prepare a wildlife and habitat management plan.

Construction-related mitigation measures

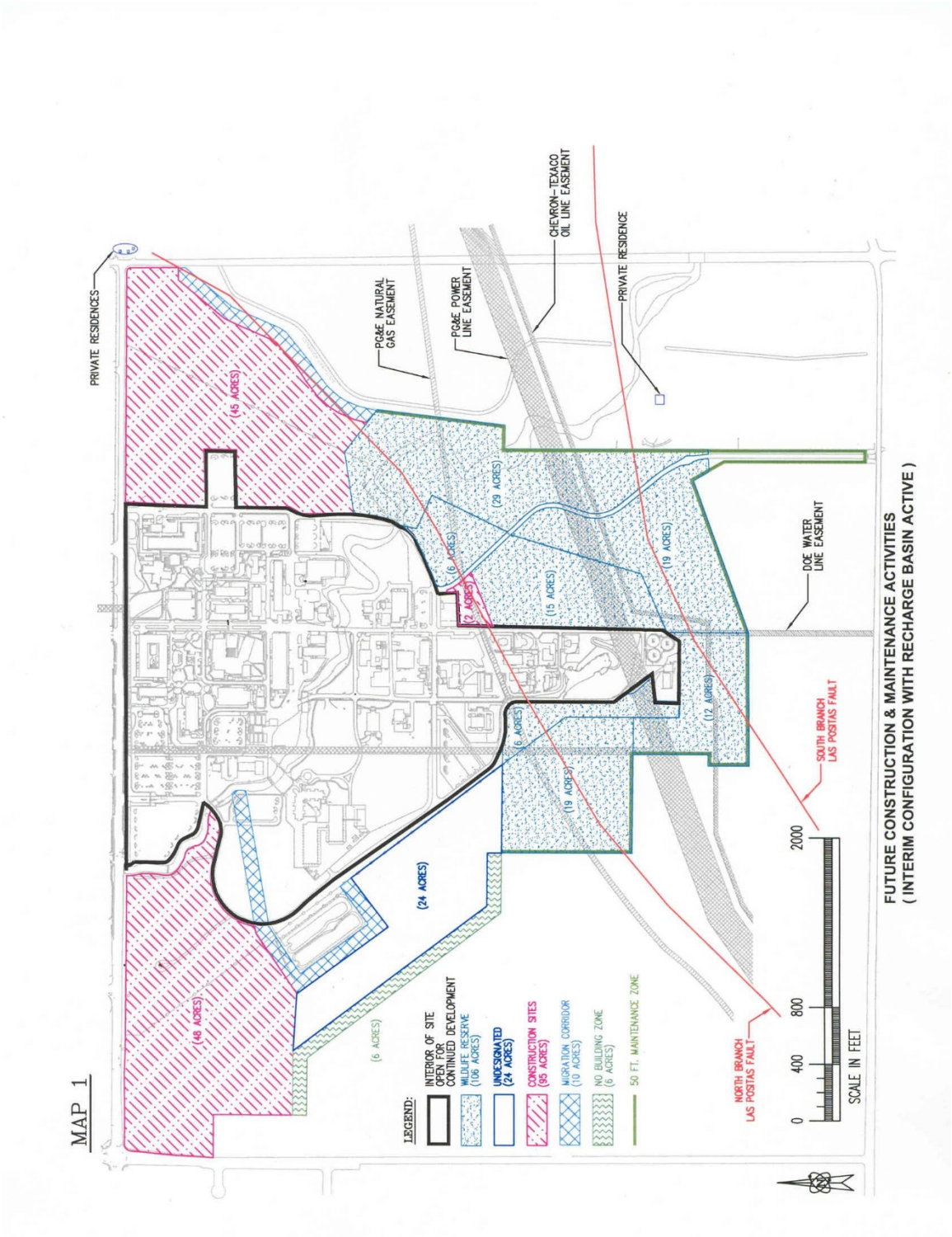
- Stockpiling of soil can occur in the 95-acre construction zone.
- Annual and pre-activity surveys for California red-legged frogs and California tiger salamanders are required prior to construction activities.
- Planting in and along Arroyo Seco will use only native riparian vegetation. Plants will be a mixture of riparian species commonly found at SNL/CA such as arroyo willow, Gooding's

black willow, red willow, Fremont cottonwood, western sycamore, valley oak, mugwort, rush, and native grasses.

- Construction activities within and along Arroyo Seco will be conducted from June 1 through September 30.
- Construction activities will occur during daylight hours.
- New buildings and infrastructure shall be confined to the minimum area necessary to achieve their purpose.
- Where construction areas abut the wildlife reserve, fencing shall be installed to prevent workers from entering the reserve.
- Landscaping in new construction areas shall be designed to minimize water consumption and reduce irrigation runoff to Arroyo Seco.
- Plastic mono-filament erosion control matting shall not be used where red-legged frogs and tiger salamanders may become entangled or trapped, particularly in Arroyo Seco.

Maintenance-related mitigation measures

- Composting of landscape debris can occur in the 95-acre construction zone.
- Ground squirrel control will not occur in the wildlife reserve.
- Ground squirrel control on the site interior will consist only of trapping and removing.
- Feral cats will be trapped and removed, as needed.
- Maintenance activities within and along Arroyo Seco will be conducted from June 1 through September 30.
- Wetland or riparian vegetation will not be mowed.
- Individual animals will not be sprayed with Round-up or other herbicides.
- Areas within the arroyo channel will not be sprayed with Round-up or other herbicides.
- Ground squirrel burrows will be surveyed for California red-legged frogs and California tiger salamanders prior to backfilling. Surveys will be done by site wildlife biologist using an infrared optical probe.


MAP 1
FUTURE CONSTRUCTION & MAINTENANCE ACTIVITIES
(INTERIM CONFIGURATION WITH RECHARGE BASIN ACTIVE)
PRIVATE RESIDENCES
PG&E NATURAL GAS EASEMENT
PG&E POWER LINE EASEMENT
CHEVRON-TEXACO OIL LINE EASEMENT
PRIVATE RESIDENCE
DOE WATER LINE EASEMENT
SOUTH BRANCH LAS POSITAS FAULT
NORTH BRANCH LAS POSITAS FAULT
(45 ACRES)
(48 ACRES)
(6 ACRES)
(24 ACRES)
(29 ACRES)
(6 ACRES)
(2 ACRES)
(15 ACRES)
(19 ACRES)
(6 ACRES)
(19 ACRES)
(12 ACRES)
LEGEND:
INTERIOR OF SITE OPEN FOR CONTINUED DEVELOPMENT
WILDLIFE RESERVE (106 ACRES)
UNDESIGNATED (24 ACRES)
CONSTRUCTION SITES (95 ACRES)
MIGRATION CORRIDOR (10 ACRES)
NO BUILDING ZONE (6 ACRES)
50 FT. MAINTENANCE ZONE
0
400
800
2000
SCALE IN FEET

Appendix B

Personnel Assignments

Table 6 EP Program Assignments

Job Assignment	Personnel	Back-Up
Program Lead	Barbara Larsen	Leslee Gardizi
Program Technologist	Sandy Leo	None
Wildlife Biologist	Joanne Mount-Sartor	None
Wildlife Technologist	John Chavarria	None
Wildlife Biology Intern	Rebeccah Schermesser	None

Appendix C

Program Self Assessment Document Review Form

Document Type	Document Title	Review Complete	Changes Made
Operating Procedure	NEPA Reviews of Proposed Projects at SNL/CA (OP471343)	☐	☐ Yes ☐ No
	Safely Conducting Wildlife Surveys in the Outer Perimeter Area (OP471793)	☐	☐ Yes ☐ No
PHS	SNL3A00248-002 Wildlife Surveys at SNL/CA (due 9/30/05)	☐	☐ Yes ☐ No
Other Program Documents	Program Description (in prep)	☐	☐ Yes ☐ No
	Cultural Resources Management Plan (in prep)		☐ Yes ☐ No
Web Pages	NEPA Web Page	☐	☐ Yes ☐ No
	Wildlife Web Page	☐	☐ Yes ☐ No

Organization: 8516

Program: Environmental Planning and Ecology

Calendar Year:_____

Signature:_____
Program Lead