NEVADA TEST SITE

SITE PROFILE

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Site profiles provide information on Department of Energy sites, including background; major environment, safety and, health initiatives and activities; items for management attention; and performance.

The electronic version of this site profile and other Office of Oversight documents referenced in this document can be accessed through the Internet at **http://www.tis.eh.doe.gov/oversight/bookcase2.html**.

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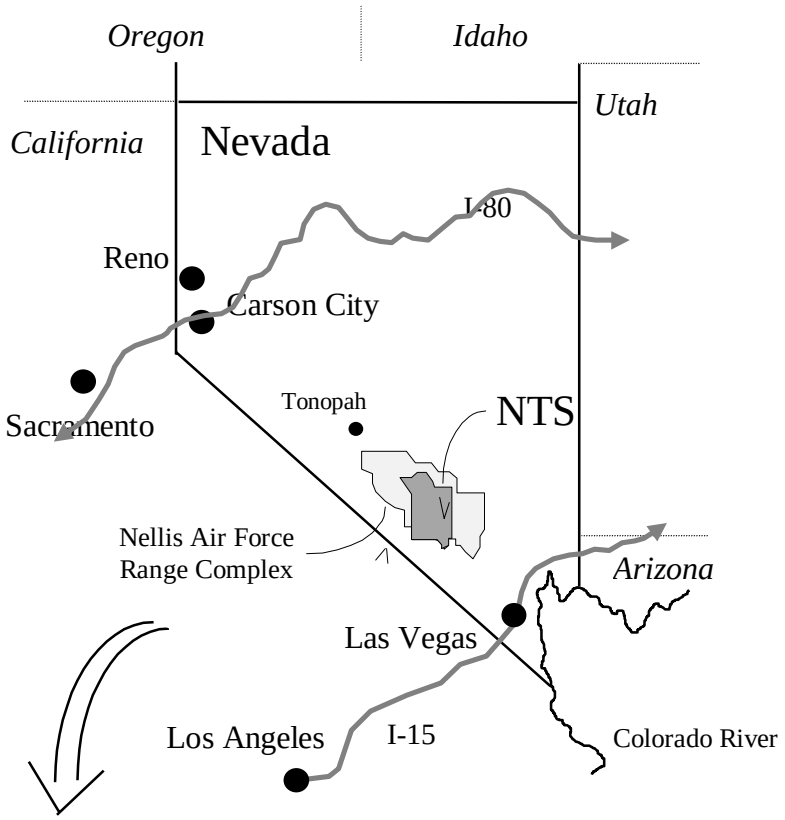

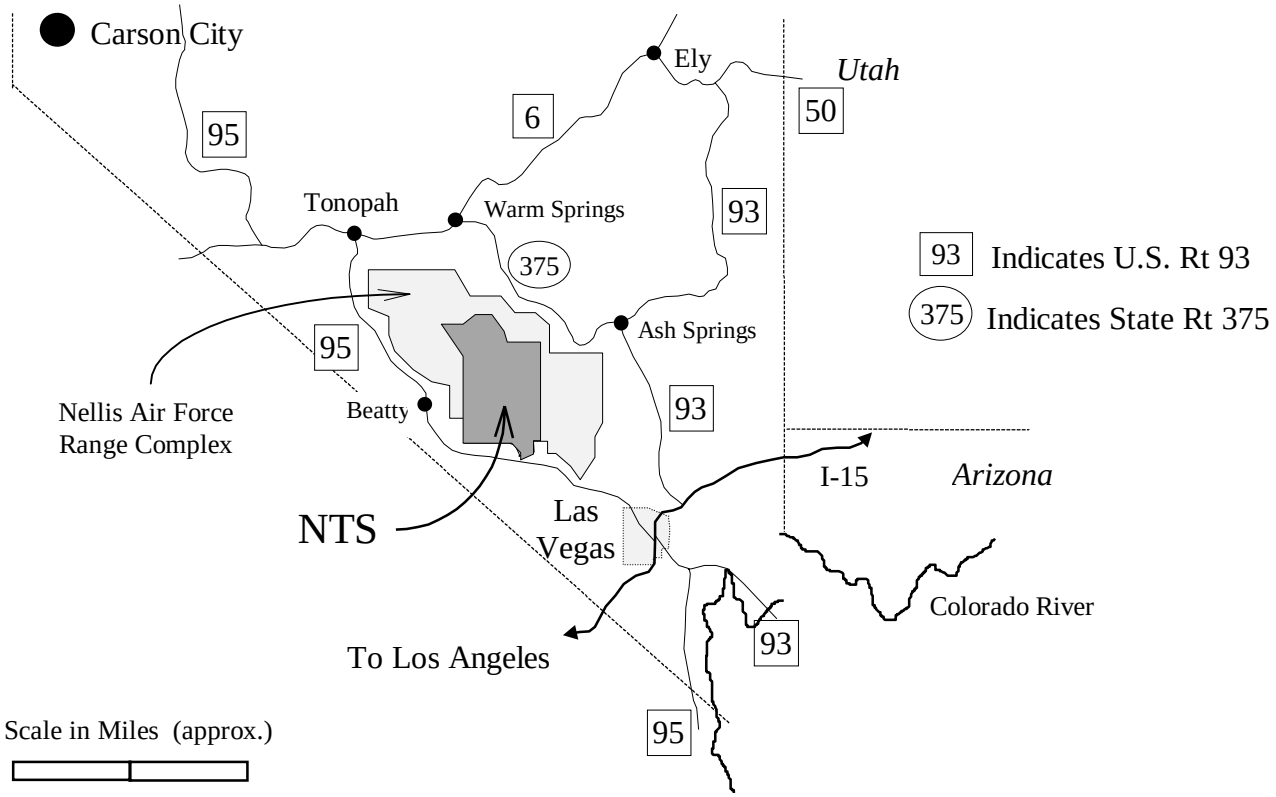

Nevada Test Site Map

NEVADA TEST SITE

BACKGROUND

Description

The Nevada Test Site (NTS) covers 1,350 square miles, or 864,000 acres, and is one of the largest secured areas in the United States. The remote site is surrounded by thousands of additional acres of land withdrawn from the public domain for use as a protected wildlife range and for a military gunnery range, creating an unpopulated land area comprising some 5,470 square miles.

Established as the Atomic Energy Commission's main proving ground, the NTS has seen more than four decades of nuclear weapons testing. Currently, the NTS is no longer conducting tests of nuclear weapons. The test site has diversified into many uses by other programs, such as subcritical experiments, hazardous chemical spill tests, emergency response training, conventional weapons testing, waste management, and environmental technology studies.

The NTS has many separate areas that are designed for specific operations. The key facilities perform activities which include low-level radioactive waste disposal and storage of transuranic and mixed wastes; simulation of accidental release of hazardous material (HAZMAT), i.e., flammable and/or liquefied gas and hazardous fluids; maintenance of the nuclear testing program at a state of readiness, with current activities using underground facilities to perform "subcritical" experiments; assembly and disassembly of nuclear explosives; and the research and development of high explosive or validation of scale-source characterization models for the disposal of munitions and/or propellants in a safe and secure manner.

The site's key facilities are described in Appendix A. Each facility's description includes its mission/status, hazard classification/authorization basis, worst-case design basis accident, and principal hazards and vulnerabilities. For the purpose of the profile, a key facility is a facility, building, or complex that is significant from an environment, safety, or health perspective.

Mission

The NTS is the cornerstone of the Department of Energy (DOE) national security mission. The Nevada Operations Office (NV) lists the five primary missions of NTS as:

National Security: to support the stockpile stewardship program through subcritical and other weapons physics experiments, emergency management, test readiness and work for other national security organizations.

Environmental Management: to support environmental restoration, groundwater characterization, and low-level radioactive waste management.

Technology Diversification: to support non-traditional Departmental programs and commercial activities that are compatible with the stockpile stewardship program.

Energy Efficiency and Renewable Energy: to support the development of solar energy, alternative fuel, and energy efficiency technologies.

Stewardship of the NTS: to manage the land and facilities at the NTS as a unique and valuable national resource.

Management

As shown in Table 1, the Department's Office of Defense Programs (DP) was designated as the lead program secretarial office for NV. Other program secretarial offices responsibilities at NTS include the Office of Environmental Management (EM) and the Office of Nonproliferation and National Security (NN).

Table 1. Headquarters Program Office Responsibilities for NTS

Office of Defense Programs – Lead Program Secretarial Office	
Office	**Responsibility**
Office of Research and Development (DP-10)	Stockpile Stewardship/Nuclear Test Readiness
Office of Military and Stockpile Support (DP-20)	National Response Missions
Office of Waste Management (EM-30)	Waste Management Activities
Office of Environmental Restoration (EM-40)	Sitewide Cleanup
Office of Nonproliferation/National Security (NN)	HAZMAT Spill Center Funding

The management and operating contractor at NTS is Bechtel Nevada (BN). BN, teamed with Lockheed-Martin Nevada Technologies and Johnson Controls Nevada, assumed responsibility for the operation of the NTS on January 1, 1996. The BN contract is a five-year performance-based cost-plus-award-fee contract with one renewal option for up to five years. The Department agreed in October 1999 to a five-year contract extension with BN until September 30, 2005.

NV (see Table 2) manages site contractor activities. Staffing of NTS as of October 13, 1999, is approximately 1,100 persons, including 22 DOE employees. These numbers change as experiments at the various facilities gear up and then conclude. The NV Assistant Manager for Technical Services (AMTS) provides environment, safety, and health (ES&H) oversight functions. The AMTS develops and interprets ES&H policy and procedures to ensure that regulations, DOE orders, mandated standards, and Headquarters program direction are implemented. In addition, the AMTS provides technical ES&H support to other line managers to help them fulfill their ES&H responsibilities.

Table 2. NTS Operating Contractors

DOE Nevada Operations Office (NV)	
Bechtel Nevada (management and operating contractor team) Overall program management	
Lockheed-Martin Nevada Technologies	Defense programs, research and development
Johnson Controls Nevada	Site services
IT Corporation	Environmental management support

Budget

The information appearing in this section (Table 3) has been gathered from a number of sources and represents the best available budget information at the time of profile publication. This information is dynamic, depending on the point in the budget cycle at which it is obtained. It is included to provide the reader with a sense of the magnitude and sources of the budget for this site. It is not intended to be the definitive source of budget information. Budget or incurred costs delineating geographic areas such as NTS do not exist.

Table 3. NTS Budget Information (in $Millions)

Organization	FY 1999 Actual	FY 2000 Request
Assistant Secretary for Defense Programs	248	245
Nonproliferation & National Security	20	17
Environmental Management	90	93
Chief Financial Officer (Work for Others)	31	48
Other DOE Headquarters offices	5	7
TOTAL	394	410

Significant Commitments to Stakeholders

Federal Facility Agreement and Consent Order

The Federal Facility Agreement and Consent Order (FFACO) was signed in May 1996 by the Department, the State of Nevada Division of Environmental Protection, and the U.S. Department of Defense (DoD). The FFACO outlines a schedule of cleanup and monitoring commitments for sites contaminated as the result of past testing activities conducted by the Department and DoD. DoD's environmental restoration responsibilities are limited to NTS areas where DoD has conducted activities. The FFACO ensures that these government entities will work together to authorize cost-effective corrective action and minimize the likelihood of litigation among the parties. The agreement also establishes a framework for identifying, prioritizing, investigating, remediating, and monitoring contaminated sites covered by the FFACO.

Federal Facility Compliance Act - Consent Order

The Federal Facility Compliance Act - Consent Order, signed by the State of Nevada Division of Environmental Protection and NV in March 1996, requires compliance with a Site Treatment Plan for waste categorized as Land Disposal Restricted mixed waste. The Order contains schedules and identifies specific facilities for treating the mixed waste streams that were stored at NTS as of March 1996.

Community Advisory Board

The Community Advisory Board (CAB) for NTS programs reviews NV plans and programs and provides citizens' recommendations regarding environmental restoration, waste management, and related NTS issues. The CAB is a forum for public involvement in NTS decision-making in order to strengthen the partnership between the Department and local stakeholders.

Defense Nuclear Facilities Safety Board (DNFSB) Recommendations

There are no outstanding site-specific DNFSB recommendations for NTS.

MAJOR ENVIRONMENT, SAFETY, AND HEALTH INITIATIVES/ ACTIVITIES

Integrated Safety Management Implementation

NV is moving toward the integration of ES&H into all activities through the integrated safety management system (ISMS) initiative. A key part of this initiative is integrated safety management (ISM) in accordance with DOE Policy 450.4, which is a formal, organized process for planning, performing, assessing, and improving conduct of work to improve safety. NV is using a two-pronged approach to get the systems in place to implement this initiative: one focuses on policy, and the other on the conduct of a comprehensive baseline self-assessment.

With respect to policy, NV has promulgated the ISM policy in a commitment to integrate ES&H into all aspects of operations at NV, as outlined in a letter from the NV Manager, dated July 7, 1997. NV relies on its Federal managers to achieve programmatic objectives through effective project/functional management. In keeping with this policy, NV modified the contracts with its operating contractors, BN and IT Corporation, the two prime contractors to NV, to add the new Department of Energy Acquisition Regulation (DEAR) clause requiring these contractors to establish an ISMS program. NV is also modifying agreements with other Federal agencies that DOE funds for support services, such as the Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Agency, and the U.S. Geological Survey. Furthermore, NV developed an action plan to address the implementation of ISM at NV based on Work Smart standards. The plan required the preparation of ISM system descriptions by each NV primary contractor, the weapons laboratories, and the Defense Threat Reduction Agency (DTRA).

Implementation of a comprehensive baseline self-assessment at NV included an ISM Implementation Review Task Force in December 15, 1997. The task force began the baseline review in February 1998 and finished in July 1998. The primary objective of the review was to identify any organizational weaknesses in the implementation of ISM. Other objectives include involving as many personnel as reasonable in order to influence an NTS-wide culture change that embraces ISM, and to identify critical organizational interfaces for ensuring that authorization agreements clearly define roles and responsibilities. Corrective actions were developed by each organization.

The Office of Oversight evaluated the safety management program at NV and its facilities during the period January through March 1999. NV requested the evaluation in order to obtain an independent perspective on the effectiveness of NV's ISM implementation. The results of the evaluation indicated that while progress has been made, additional effort is required. The issues observed are identified under Items for Management Attention.

Comprehensive Test Ban Treaty (CTBT) Safeguards

The President signed the CTBT, which is designed to strengthen U.S. and global security and create a barrier to nuclear proliferation and nuclear weapons development. However, the U.S. Senate rejected the CTBT on October 13, 1999. Despite this action, the President has promised to continue honoring CTBT commitments. Nuclear weapons will continue to be an important part of the U.S. strategic defense arsenal. Maintaining a safe and reliable nuclear stockpile, as the CTBT states, is "in the supreme national interest of the United States." The President has established a set of safeguards to define the conditions under which the United States would enter into a CTBT.

NTS continues to support the following three safeguards: (1) "Science-Based Stockpile Stewardship" applies science and advanced technology to support the stockpile and to help ensure that it will remain safe and reliable into the future; (2) Supreme national interest—a safeguard that provides consideration to exercising our "supreme national interest" rights under the CTBT in order to conduct whatever testing might be required, if a type of nuclear weapon that the Secretaries of Defense and Energy consider critical to our nuclear deterrent could no longer be certified as safe and reliable; and (3) Underground nuclear testing—to address the previous contingency, a third safeguard requires the continued maintenance of the basic capability to conduct an underground nuclear test.

Subcritical Experiments

With the cessation of underground testing on September 23, 1992, the NTS mission moved toward stockpile stewardship, which requires the periodic use of NTS for subcritical experiments. Subcritical experiments use high explosives to

reproduce some of the physical conditions, such as pressure and temperature, that nuclear materials undergo in a nuclear weapon before reaching the critical stage; however, no nuclear chain reaction occurs. The data from these experiments enable the United States to ensure the continued safety and reliability of its nuclear weapons arsenal by providing knowledge of the dynamic properties of special nuclear materials in order to assess the effects of material aging and remanufacturing techniques on weapon performance.

As part of the Stockpile Stewardship Program (SSP), the Department was authorized to conduct subcritical experiments commencing in 1997 at the NTS U1a underground complex. The first was successfully conducted on July 2, 1997. The success of this and following experiments has provided credibility to the program, which has become a key activity at NTS. Current plans are to conduct three or four subcritical experiments per year.

Following the Senate defeat of CTBT as noted above, the Secretary of Energy ordered an SSP review chaired by the Under Secretary. The review panel will examine SSP accomplishments over the past three years and the ability of the SSP programmatic structure to assure current and long-term needs associated with certifying the stockpile.

Device Assembly Facility (DAF)

The DAF supports the Department's capability to conduct the nation's nuclear testing program in a safe, secure, and efficient manner. These operations include assembly, disassembly or modification, staging, transportation, maintenance, repair, retrofit, testing, and surveillance. The DAF became operational in April 1998. Currently it is used to assemble subcritical experiments and conduct training.

HAZMAT Spill Center (HSC) Tests

The HSC provides an experimental base for simulating accidental release of flammable and/or liquefied gas. Such studies are used to determine dispersion patterns for model validation and methods for mitigation and containment of the material in areas of high population density. The facility also provides an experimental base for simulating releases of a variety of hazardous materials, and various organizations contract with the facility to test hazardous materials of interest. In addition, ongoing testing for the government is performed to improve sensor technologies used for a variety of activities.

Two exhaust stacks are available at the HSC. The exhaust stacks are used to release various test effluents, which are then tracked by a variety of sensors. The sensors are based on ground vehicles, on elevated platforms, on a hot air balloon, on helicopters, and/or on an airplane. All chemicals are released at relatively low concentrations (1,000 parts per million or less at the release point), similar to what would be observed in an industrial setting.

Waste Management

Waste management activities include disposal of low-level waste (LLW), storage and disposal of mixed low-level radioactive waste, storage of transuranic wastes (TRU), and storage of non-radioactive hazardous waste. Low-level radioactive waste is disposed of in two separate areas on the NTS. Conventional near-surface (up to 30 feet deep) disposal is conducted at the Area 5 Radioactive Waste Management Site (RWMS). In Area 3, subsidence craters from underground nuclear tests serve as disposal sites for bulk waste, where waste is buried up to 98 feet deep. Separate disposal facilities at NTS are used for classified LLW.

Waste disposal operation costs are partially offset by disposal fees (recharge basis) paid by the waste generators, and program funds are utilized to fund the remaining disposal and related activities. The possibility of operating on a full recharge basis is being evaluated.

Packaged LLW is accepted for disposal at the Area 5 RWMS. Mixed waste from the Rocky

Flats Environmental and Technology Site was disposed of under Resource Conservation and Recovery Act (RCRA) interim status in a designated cell (Pit 3) from 1987 to 1990. A revised RCRA Part B permit currently allows low-level mixed waste generated on site to be disposed of in Pit 3. A TRU waste pad stores TRU and mixed transuranic (MTRU) waste in accordance with the June 1992 settlement agreement with the State of Nevada pending shipment to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The Waste Examination Facility (WEF) is used for segregation and repackaging of the TRU/MTRU waste in anticipation of shipping this waste to WIPP for permanent disposal. A RCRA-permitted hazardous waste storage unit is located in Area 5 across from the RWMS. Waste is accumulated here before being sent off site to an EPA-licensed commercial treatment, storage, and disposal facility.

Bulk LLW is disposed of in Area 3 at U3ah/at, the active disposal unit. Uncontainerized waste was disposed of in U3ax/bl, which consisted of cleanup debris from early atmospheric testing sites. U3ax/bl, closed in 1988, is considered to be a mixed waste disposal facility because the waste is known to include heavy metals. Characterization activities to support RCRA closure are in progress.

The radioactive waste acceptance program, working with the waste operations and performance assessment personnel, sets the waste acceptance criteria (WAC). The program also fields teams that audit onsite/offsite waste generators to verify that the generator programs meet the WAC. Additional activities to support the treatment, storage, and disposal of waste at the NTS include site characterization and performance assessments. These activities include gathering, analyzing, and modeling data from boreholes, wells, geologic work, and monitoring systems to characterize the area prior to waste disposal. Active monitoring of the air and ecosystem has been in place since 1979, while groundwater monitoring has been occurring since 1992 and vadose zone monitoring for ten years. Results show no detection of contamination plumes that exceed health, safety, or environmental standards. These monitoring activities are performed to confirm the site's long-term suitability for waste disposal in accordance with Departmental requirements.

Joint Demilitarization Technology (JDT) Program

DoD and the Department have established a JDT program to find more environmentally acceptable methods of destroying non-nuclear military ordnance. NV and the Joint Ordnance Commanders Group are conducting the program. These tests were designed to provide the DoD with information regarding the emission products associated with the destruction of military ordnance as well as providing a basis for improving upon the present methods of detonation and burning. The demilitarization program also demonstrates and validates environmentally acceptable technologies for recovery of excess munitions and rocket motors.

Commercial Activities

Commercial activities at the NTS include those by the NTS Development Corporation (NTSDC), the Nevada Testing Institute (NeTI), and organizations associated with BN.

The NTSDC is a non-profit entity set up under the DOE's Community Reuse Organization (CRO) concept. This concept is to develop organizations that help mitigate the community impacts associated with the downsizing of DP activities at various DOE sites. As the CRO for Nevada, the NTSDC engages in economic development and community transition activities in the southern portion of the state. It has a 60-member Board of Directors designed to fully represent the community interests of the region. The Board includes members of state and local governments, representatives of the congressional delegation, and business interests. Two of the activities that the NTSDC is sponsoring are with Fluid Tech and Kistler Aerospace.

- Fluid Tech is a Las Vegas-based company that specializes in cleanup of equipment, mainly from the private sector, that is contaminated with low-level radioactivity. NV, NTSDC, and Fluid Tech signed an Economic Development Use Permit granting Fluid Tech permission to use a small portion of the Engine Maintenance and Disassembly (EMAD) building in Area 25 to conduct commercial operations. The State of Nevada has issued Fluid Tech a radioactive materials license for EMAD operations. Fluid Tech began commercial operations at NTS in the summer of 1998.

- NV is working with the NTSDC and Kistler Aerospace to develop a facility at the NTS for launching/recovering fully reusable aerospace vehicles for the deployment of communication satellites. An Economic Development Use Permit has been approved to locate Kistler Aerospace facilities in Area 18. Licensing by the Federal Aviation Administration, which is necessary for the launch of space vehicles, is pending. Prior to licensing, Kistler will conduct a series of test launches in Australia.

The NeTI is a not-for-profit organization pursuing opportunities in advanced underground mining and seismic activities. NeTI successfully demonstrated the Ground Motion Generator Facility in 1998 to allow researchers to simulate and study the effects of earthquakes on a variety of full-scale structures. A large-scale version is now being planned. NeTI has also sponsored several miner-training courses at the NTS in recent years. These courses take advantage of the tunnels at the test site to acclimate students to working underground. NeTI also successfully established the Ground Motion Generator Facility in the summer of 1998, which allows researchers to simulate seismic activity and study its effects upon a variety of full-scale structures.

ENVIRONMENT, SAFETY, AND HEALTH ITEMS FOR MANAGEMENT ATTENTION

This section identifies areas of concern to the Office of Oversight related to NTS ES&H programs and their implementation. Previous versions of the NTS site profile noted issues that were identified during reviews conducted by the Office of Oversight, NV, and NTS contractor line management. More recent Office of Oversight reviews include the October 1998 evaluation of emergency management programs across the DOE complex and the October 1997 review of aviation safety programs.

Such issues and the site corrective action responses are currently listed in the DOE Corrective Action Tracking System (CATS) and are available electronically through the Internet at: **http://tis.eh.doe.gov.portal/catsentry.html**. CATS data includes a description of the corrective actions for each issue, the planned completion date, and the appropriate points of contact.

A total of 13 ES&H issues were identified during the most recent Office of Oversight focused safety management evaluation of NTS, conducted during January-March 1999. This evaluation was released in April 1999 and is available electronically through the Internet at: **http://www.tis.eh.doe.gov/oversight/reviews/index.html**. These 13 issues will be tracked in accordance with the approved DOE Implementation Plan for DNFSB Recommendation 98-1.

The NTS corrective action plan (CAP) was approved by DP on July 22, 1999. Detailed information on each corrective action is available electronically through the CATS system, as noted above.

DOE Organizational Approach

The DOE organizational approach for approving work and overseeing activities at NTS is not adequately defined. Roles and

responsibilities for program managers, Facility Representatives, and ES&H support personnel are not clearly defined across the NV organization. NV safety management processes to support these activities are not rigorous or coordinated, and there is no integrated effort to develop, approve, and maintain the necessary NV directives and procedures.

Action Status

NV is developing an "umbrella" directive that will describe the NV Federal management system of requirements and will link the NV Organization Manual and Safety Functions, Responsibilities, and Authorities Manual (FRAM). This "umbrella" document will define NV position categories for Program/Project Manager, Task Manager, Functional Manager, Facility Representative, and Subject Matter Expert. This issue has 15 NV corrective actions. Eight of the 15 corrective actions have been completed, four are scheduled for completion by December 31, 1999, and the remaining three are planned for completion by May 31, 2000.

Safety Management Roles and Responsibilities

Safety management roles and responsibilities associated with complex organizational interfaces at NTS are not always clear. For facilities without an Activity Agreement, there is no definition of roles and responsibilities or established expectations for non-BN facility owners. Activity Agreements do not always match the phases of operations for facilities with multiple users.

Action Status

NV plans to revise the NV 450.X, "Activity Agreements," process to provide greater flexibility in defining the phases of its operations. Also, NV will review existing Activity Agreements and, where appropriate, revise them to more accurately reflect safety management roles and responsibilities for phases of operations that are tailored to a specific facility. Finally, NV will ensure that work control systems clearly indicate the current "phase of operation" and ensure that workers are appropriately aware of safety management roles and responsibilities for the various phases of operation. This issue has 12 NV corrective actions. Nine of the 12 corrective actions have been completed, and the remaining three are planned for completion by July 28, 2000.

Safety Management Accountability Mechanisms

NV is not fully and effectively utilizing safety management accountability mechanisms to drive improvements in safety performance at NTS. The BN Performance Evaluation Plan lacks sufficient underlying criteria to adequately define expectations, and feedback has not been effectively focused. Accountability mechanisms covering activities being conducted by the national laboratories at NTS are not effectively defined.

Action Status

NV will revise NV Policy 450.4, ISM Policy (ref. 99-1-NV-5) to institutionalize the expectation that NV define specific criteria in the NV and contractor Performance Evaluation Plan (PEP) process in order to drive necessary safety improvements. Also, NV will develop an assessment template (ref. 99-1-NV-12) to focus oversight attention on key ISM performance fee evaluation criteria. This issue has six NV corrective actions. Four of the six corrective actions have been completed, and the remaining two are planned for completion by December 31,1999.

Critical Personnel Training, Qualifications, and Competence

NV and BN line management has not ensured that personnel conducting critical safety management functions are performing these duties competently and rigorously in all cases, as evidenced by the deficiencies observed at the WEF and HSC. Required qualifications for NV

personnel have not been fully addressed in some areas. A contributing factor is that the training program for BN supervisors is weak.

Action Status

NV will develop NV-specific work process training modules in order to increase staff understanding of responsibilities, the existing programs and processes, expectations, and the importance of competence commensurate with staff function or role. This issue has 14 NV and 11 BN corrective actions. Seven of the 14 NV corrective actions have been completed, and the remaining seven are scheduled for completion by July 20, 2000. Of the 11 BN corrective actions, three have been completed. The eight remaining BN corrective actions are planned for completion by April 28, 2000.

Balance of Integrated Safety Priorities

NV has not placed sufficient priority on providing clear direction to BN to achieve integration of safety into the BN business processes governing the safe execution of work in accordance with 48 CFR 970.5204-2 and DOE Policy 450.4.

Action Status

NV will incorporate a requirement to provide its contractor/user organizations clear expectations, with appropriate incentives, to appropriately balance ES&H priorities into NV Policy 450.4, ISM Policy. In addition, NV plans to modify its FRAM to clarify NV responsibilities for providing contractor/user organizations clear expectations to appropriately balance ES&H priorities at NTS. Finally, NV has begun to reengineer the process for the development of the DP Five-Year ES&H Plan. This issue has four NV corrective actions. Three of the four have been completed, and the fourth is planned for completion by Winter 1999.

Oversight of Budget Funding Allocation

Overall, the NV procedures for monitoring and overseeing allocation of funding do not define the reporting thresholds at a low enough level for NV to play a timely and integral role in resource management decisions impacting safety.

Action Status

An NV and BN collaborative working group has been formed to develop a process that will integrate NV and BN program, budgetary, and ES&H planning utilizing the DP ES&H Five-Year planning process. To further strengthen NV involvement in the oversight of resource allocations impacting safety, BN has been tasked to develop a formal work prioritization process that will identify non-programmatic construction, maintenance, and repair activities. This issue has eight NV corrective actions. Five of the eight have been completed, and the remaining three are planned for completion by April 24, 2000.

Issue Prioritization, Tracking, and Trending

BN has not fully implemented a systematic process for issue prioritization, tracking, trending, and analysis needed to identify the systemic issues that pose the greatest implications to safety and health and to focus limited resources on those issues that can provide the greatest safety benefit.

Action Status

BN intends to modify and formalize the two existing processes for the identification of capitalized projects at the beginning of the budget cycle and the use of the BN Management Resource Review Board. Both of these processes will identify, prioritize, and track issues that are driven by safety considerations. This issue has one NV and six BN corrective actions. The NV corrective action is scheduled for completion by May 31, 2000. Of the six BN corrective actions, four have been completed, and the remaining two are planned for completion by January 31, 2000.

Site Requirements Documents

Although efforts are ongoing, Work Smart standards have not been completely incorporated into BN work performance documents and execution plans. There are also issues with Work Smart standards for sitewide explosive safety, fire prevention, and the occupational medicine program.

Action Status

NV will establish a formal procedure describing the change review process and incorporate it in the NV directive system. Additionally, NV will develop a policy for the application of WSS to subcontractor organizations that are not under contract to NV. This issue has nine NV and eight BN corrective actions. Eight of the nine NV corrective actions are complete, and the ninth is scheduled for completion by December 16, 1999. Of the eight BN corrective actions, five have been completed, and the remaining three are planned for completion by March 31, 2000.

Hazard Identification and Controls

Other than subcritical experiments, NV and BN have not implemented effective mechanisms to ensure that all potential hazards associated with facilities or projects are accurately identified in safety and hazard analyses and appropriately controlled prior to authorizing the project or facility operation. While some mechanisms exist, their effectiveness in ensuring that all identified controls are adequately implemented varies widely.

Action Status

NV will improve the quality of its review of site hazard analyses as well as its oversight of NTS operations. NV plans to develop a specific assessment template with definitive criteria focusing on assessing the implementation of controls derived from such hazard analyses. This issue has six NV and seven BN corrective actions. Two of the six NV corrective actions are complete, and the remaining four are scheduled for completion by April 13, 2000. Of the seven BN corrective actions, three have been completed, and the remaining four are planned for completion by March 31, 2000.

Premature Operation of the Waste Examination Facility

The WEF began operations before adequate hazard analysis was complete and reviewed; before procedures to implement safety requirements were developed, reviewed and approved; and before operators and supervisors received adequate training on the safety envelope for the facility.

Action Status

In reviewing the activities associated with the operations of the WEF, identified areas for improvement included adequate hazard analysis, procedures, and trained personnel. BN will address these activities before restart of the WEF. This issue has seven NV and 16 BN corrective actions. One of the seven NV corrective actions is complete, and the remaining six are scheduled for completion by May 18, 2000. Of the 16 BN corrective actions, 12 have been completed, and the remaining four are planned for completion by January 31, 2000.

Work Control Processes

Structured work control processes have not been implemented at NTS to ensure that identified hazard controls are adequately implemented in the course of all work activities.

Action Status

BN will develop and implement the criteria and guidelines for work control processes consistent with the Integrated Safety Management philosophy. These processes will interface with the current BN Management Systems. This issue has one NV and four contractor (BN) corrective actions. The NV corrective action is complete is scheduled for completion by May 31, 2000. The

four BN corrective actions are planned for completion by January 31, 2000.

NV Self-Assessment

NV does not have a management assessment program that focuses on its own activities. The NV Oversight Task Force is chartered to develop an NV order on oversight to define the NV assessment program.

Action Status

NV plans to issue a directive that defines an effective self-assessment process and integrates many of NV's new management processes into an updated NV Quality Assurance Manual. This issue has three NV corrective actions. Two of the three are complete, and the third is scheduled for completion by December 16, 1999.

Contractor Management Assessment Program

BN has not fully implemented a management assessment program in accordance with the requirements defined in the BN management assessment procedure (C-A20.003).

Action Status

NV will ensure that BN implements a management assessment program that reviews and revises BN management assessment procedures. This issue has one NV and nine BN corrective actions. The NV corrective action is scheduled for completion by May 31, 2000. Six of the nine BN corrective actions are complete, and the remaining three are planned for completion by March 31, 2000.

MAJOR RECENT EVENTS

None.

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Appendix A. Key Facility Summary

FACILITY NAME	MISSION/ STATUS	HAZARD CLASSIFICATION/ AUTHORIZATION BASIS	WORST CASE DESIGN BASIS ACCIDENT	PRINCIPAL HAZARDS AND VULNERABILITIES
U1a	**Mission:** Test bed for conducting subcritical experiments **Status:** Operational	It is not classified as a nuclear facility. U1A Complex Hazard Analysis, Rev 0, July 1998.	Potential fatalities associated with hoisting, mining, fires, and related underground accidents. Hazards are analyzed in the U1A generic (bounding) hazard analysis .	Underground mining and construction hazards.
Radioactive Waste Management Site (RWMS)	**Mission:** LLW disposal and storage of TRU and mixed wastes. **Status:** Operational	Area 3 is classified as a low-hazard facility; Area 5 is classified as a hazard Category 3 nuclear facility. Safety analysis report (SAR) (L-E10.311.HAA, Rev. 1) dated September 1998	Analyses of accidents involving the detonation of a TRU waste box or a breached wooden waste box demonstrated that exposures to the operating staff and the public were below established DOE guidelines.	Low-level radioactive and transuranic wastes; accident scenario resulting in low-level radioactive contamination of the local soil.
HAZMAT Spill Center (HSC)	**Mission:** Simulation of accidental release of flammable and/or liquefied gas and of hazardous fluids. **Status:** Operational	Low-hazard facility. SAR dated September 26, 1990, and operating procedures. Safety assessment documents	The crash of a fully loaded military aircraft into the tank farm could result in the total loss of the tank farm and personnel injuries or death. However, this accident is considered highly unlikely.	Handling of hazardous fluids.
Device Assembly Facility (DAF)	**Mission:** Assembly/ disassembly of nuclear explosives. **Status:** Operational	Moderate hazard facility SAR dated 3/31/95	Explosion of 192 kg of bare high explosive and 25 kg of plutonium in an assembly cell; results indicate 1.0 rem dose to nearest public off site and a 0.12 rem dose to a person at Mercury, NV. This accident is incredible.	Hazards related to the handling of nuclear explosives; however, there are currently no nuclear explosives on site.
Big Explosives Experimental Facility (BEEF)	**Mission:** Development of high explosives or validation of scale-source characterization models for the disposal of munitions. **Status:** Operational	Not classified as a nuclear facility. Facility Safety Assessment for Area 4 dated September 10, 1996.	Unplanned detonation of high explosives; facility capacity is 70,000 pounds (35 tons).	Hazards related to detonation of high explosives, noise, kinetic energy, overpressure.

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