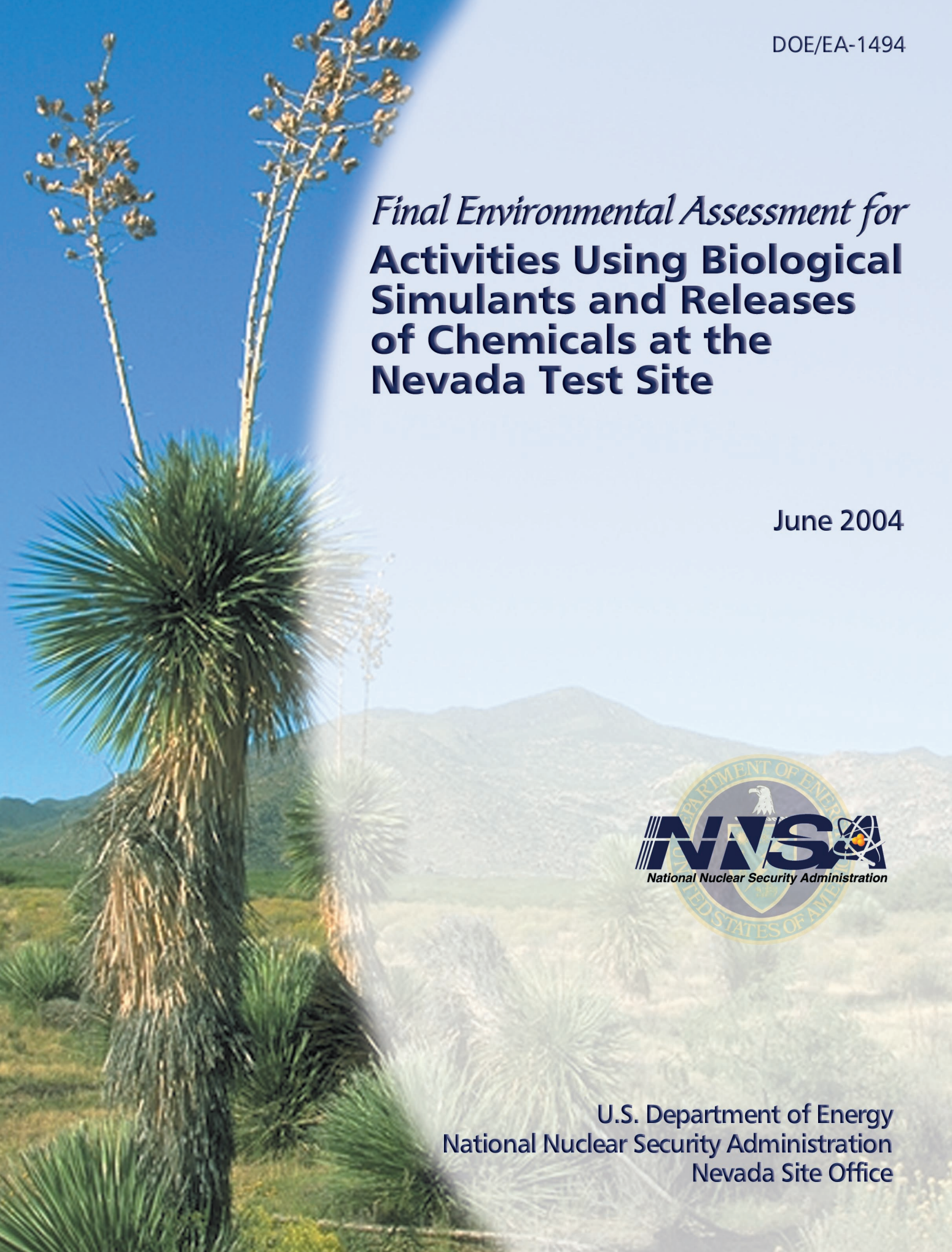

DOE/EA-1494

Final Environmental Assessment for

Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site

June 2004

National Nuclear Security Administration

U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office

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Prepared by Tetra Tech Inc.
Contract No. DE-AM04-02AL68285
Task Order No. DE-AT52-03NA99295

U.S. DEPARTMENT OF ENERGY
FINDING OF NO SIGNIFICANT IMPACT

ACTIVITIES USING BIOLOGICAL SIMULANTS AND RELEASES OF CHEMICALS AT THE NEVADA TEST SITE

The United States Department of Energy, National Nuclear Security Administration (NNSA) has prepared an Environmental Assessment (DOE/EA-1494) (EA) which analyzes the potential environmental effects of conducting tests, experiments, training, and other similar activities using biological simulants (non-infectious bacteria, fungi, viruses, and similar materials) and controlled releases of various chemicals at the Nevada Test Site. The EA evaluates the potential impacts of using six biological simulants and unspecified chemicals. Three alternatives were evaluated. Two of the alternatives were subsets of the proposed action: (1) Conduct chemical releases only, and (2) Conduct only activities using biological simulants. The third alternative addressed in the EA is No Action. The purpose and need for the proposed action are addressed in Chapter 1.0 of the EA. A detailed description of the proposed action and alternatives is in Chapter 2.0. Chapter 3.0 describes the affected environment and the environmental consequences, including cumulative impacts, of the proposed action and alternatives. Chapter 4 addresses mitigation measures and monitoring requirements. Statutes, regulations, consultations, and other requirements are addressed in Chapter 5.0 of the EA. Cumulative effects are addressed in Section 5.0. Mitigation measures are addressed in Section 6.0.

The NNSA determined that the proposed action as described in the EA, i.e., undertaking activities using biological simulants and releases of chemicals in the environment, best meets the needs of the agency in accomplishing its mission of supporting national security while maintaining adequate controls to protect worker and public health and safety and protect the environment.

FINDING:

Based on the information and analysis in the EA, the NNSA finds that neither the proposed action nor the alternatives would constitute a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). Thus, an environmental impact statement is not required.

Signed in Las Vegas, Nevada, this 30th day of June, 2004

for Kathleen A. Carlson, Manager
NNSA Nevada Site Office

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ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
BAPC	Bureau of Air Pollution Control
BLM	Bureau of Land Management
BN	Bechtel/Nevada
CDC	Centers for Disease Control and Prevention
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	Chemical Weapons Convention
DHHS	U.S. Department of Health and Human Services
DHS	U. S. Department of Homeland Security
DNWR	Desert National Wildlife Range
DoD	U. S. Department of Defense
DOE	U.S. Department of Energy
DTRA	Defense Threat Reduction Agency
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMG	Emergency Management Guide
EMS	Environmental Management System
EPA	U. S. Environmental Protection Agency
ES&H	Environment, Safety, and Health
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FONSI	Finding of No Significant Impact
FR	Federal Register
HAP	Hazardous air pollutants
HAZMAT	Hazardous Materials
HSC	HAZMAT Spill Center
HS&DD	Homeland Security and Defense Division
IDLH	Immediately Dangerous to Life or Health
ISMS	Integrated Safety Management System
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NARAC	National Atmospheric Release Advisory Center
NEPA	National Environmental Policy Act
NIOSH	National Institute of Occupational Safety and Health
NNSA/NSO	National Nuclear Security Administration Nevada Site Office
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTS	Nevada Test Site
NTTR	Nevada Test and Training Range
OP	Operating Permit
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
REL	Recommended exposure limit

ROD	Record of Decision
SOP	Standard Operating Procedure
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time-weighted average
USDA	U. S. Department of Agriculture
WMD	Weapons of mass destruction

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GLOSSARY

This glossary lists in alphabetical order many of the terms used in the EA and their definitions.

aerosol – a dispersion of very fine colloidal particles suspended in the air or in some gas.

agent – see biological agent and chemical agent.

anaerobic – able to live and grow without air or free oxygen, such as certain bacteria.

anthrax – an infectious disease of cattle, sheep, etc. which can be transmitted to humans.

bacteriophage – a virus that infects bacteria.

biological agent – a pathogenic micro-organism and any naturally occurring, genetically manipulated, or synthesized component of biological origin that is capable of causing:

- Death, disease, or other biological malfunction in humans, animals, or plants
- Deterioration of food, water, equipment, or supplies

biological simulant – a biological substance, or microorganism that shares at least one physical or biological characteristic of a biological agent, has been shown to be non-pathogenic, and can be used for biological defense testing to replace the agent under study.

biosafety level – a category developed by the Centers for Disease Control and Prevention that consists of combinations of laboratory practices and techniques, safety equipment, and laboratory facilities. Each combination is specifically appropriate for the operations performed, the documented or suspected routes of transmission of the infectious agents, and for the laboratory function or activity.

chemical agent – a chemical substance which is intended for use in military operations to kill, seriously injure, or incapacitate persons through its physiological effects. Excluded from consideration are riot control agents, chemical herbicides, smoke, obscurants, and flame retardants.

chemical simulant – a chemical substance that shares at least one characteristic of a chemical agent but with a reduced physiological effect.

Chemical Weapons Convention – international treaty that bans the production, acquisition, stockpiling, transfer, and use of chemical weapons for offensive measures. The CWC does not prohibit the manufacture and use of small amounts of chemical agent for defensive testing purposes.

half-life (lives) – (biology) The length of time it takes for half of a given substance deposited in a living organism to be metabolized or eliminated (chemistry). The time required for a given chemical reaction to affect half of the reactants present.

hazardous air pollutants (HAPs) – HAPs are pollutants, identified by Congress, which present or may present a threat of adverse effects to human health and/or the environment. HAPs are regulated under Section 112 of the Clean Air Act. As of January 1, 1999, 188 air pollutants were listed as HAPs.

Immediately Dangerous to Life or Health Condition (IDLH) – NIOSH defines IDLH as a situation that poses a threat of exposure to airborne contaminants when that exposure is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment.

low concentration release – for purposes of this EA, any release of chemicals that comply with the criteria described in Section 2.1.5.2 Chemical Release Criteria.

pathogen – any biological organism capable of producing disease, especially a living microorganism.

Permissible exposure limits (PELs) – OSHA time-weighted average concentrations that must not be exceeded during any 8-hour work shift for a 40-hour workweek.

personal protective equipment (PPE) – protection equipment that prevents injury, sustains life, and allows for continued operational capability in environments that would be potentially hazardous to human health. Equipment may include protective masks and clothing used by individual soldiers and/or civilians.

range – area equipped for practice in shooting at targets. In this meaning, also called target range.

Recommended exposure limits (RELs) – NIOSH time weighted average concentrations for up to a 10-hour workday during a 40-hour work week.

scoping – an early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. The process requires appropriate public participation.

simulant – see biological simulant and chemical simulant.

Short term exposure limits (STELs) – an OSHA or NIOSH 15-minute time weighted average that cannot be exceeded at any time during the workday.

suspended aerosols – Biological simulants that have been treated to remove their surface charge. Because of the lack of a surface charge these particles tend to drift in the atmosphere longer than nontreated material. See also aerosols.

Threshold limit value (TLV) – the amount of chemical in the air established by the American Conference of Industrial Hygienists that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types:

- TLV-TWA (TLV-Time-Weighted Average), which is averaged over the normal eight-hour day/forty-hour workweek.
- TLV-STELs are 15-minute exposures that should not be exceeded for even an instant. It is not a stand-alone value but is accompanied by the TLV-TWA. It indicates a higher exposure that can be tolerated for a short time without adverse effect as long as the total time weighted average is not exceeded.
- TLV-C or Ceiling limits are the concentration that should not be exceeded during any part of the working exposure.

EXECUTIVE SUMMARY

This Environmental Assessment (EA) documents an analysis of the potential effects of a proposal by the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Site Office (NNSA/NSO), to conduct tests and experiments involving the release of biological simulants and low concentrations of chemicals at various locations within the Nevada Test Site (NTS). "Low concentration" for a particular release is defined as the release meeting the criteria established in Section 2.1.5.2 of this EA. NNSA anticipates approximately 5 to 20 test series per year. Additionally, the Proposed Action would modify the release parameters under which the HAZMAT Spill Center (HSC) currently operates. No construction, permanent land disturbance, or land use changes would occur with implementation of the Proposed Action or the alternatives. No more than two new employees would be required.

There are two action alternatives to the Proposed Action; neither would fully meet the NNSA purpose and need although both would partially meet it. One alternative is to release only biological simulants and the other alternative is for chemical releases only. The No Action Alternative is to continue NTS and HSC operations as they are currently.

NNSA issued a Notice of Intent to prepare an EA on October 1, 2003. The formal scoping period ran from October 1, 2003, through October 31, 2003. Public scoping meetings were held on October 15, 2003 in Las Vegas, Nevada, and on October 16, 2003, in Pahrump, Nevada.

In April 2004, NNSA/NSO published and released the preapproval draft EA to the public for a 33-day review and comment period. A total of 146 copies of the EA were distributed to interested individuals, special interest groups, and federal, state, and local officials. A total of 33 comment letters were received and copies of the comments received and NNSA/NSO's responses are provided in Appendix C of this EA.

NTS occupies approximately 1,375 square miles (880,000 acres) in southern Nevada, approximately 65 miles northwest of Las Vegas, making it one of the largest restricted-access areas in the United States. This site is surrounded on three sides by about 2.9 million acres of land withdrawn from the public domain for the Nevada Test and Training Range (an area for armament and high hazard testing; aerial gunnery, rocketry, electronic warfare, and tactical maneuvering training; and equipment and tactics development and training) and a protected wildlife range (Desert National Wildlife Range).

Following the terrorist attacks of September 11, 2001 there was a recognized need for more operational testing, contamination and decontamination testing, forensics testing, personal protective equipment (PPE) testing, enclosed environment detection and decontamination training, and counter-terrorism training as they relate to biological or chemical agents. DOE and NNSA activities, as well as Work for Others activities at the NTS are anticipated to focus on addressing these needs. A critical step in the development of detection instrumentation, decontamination techniques, and operational methods is to conduct tests, experiments, and training in scenarios that are as realistic as possible. The NTS provides a remote, secure setting, facilities, infrastructure, terrain and other features that accurately simulate the kinds of environments that could be encountered in the "real world." In addition to the terrain, facilities and capabilities available at the NTS, the ability to release chemicals and biological simulants is required to meet these national security needs. Thus, NNSA/NSO is proposing to develop release parameters for six biological simulants and to augment the existing chemical release parameters in order to conduct such testing and training.

The Proposed Action and Alternatives would not expose personnel to biological simulants or chemicals during normal operations.

Six biological species have been proposed as appropriate simulants for biological agents. They are:

- *Bacillus subtilis* var. *niger* - a common soil bacterium that is not classified as pathogenic.

> *Bacillus subtilis* var. *niger* is no longer a recognized name, and at least some of these isolates are now called *B. atrophaeus*. *B. globigii* is no longer a recognized name, and at least some of these now are called *B. subtilis* (but not *B. subtilis* var. *niger*).

- *B. thuringiensis* - a naturally occurring soil bacterium, some varieties of which are used as microbial insecticides, that is not toxic to humans or most non-target species.

- *Clostridium sporogenes* - a bacterium found in soil, and as normal flora in the lower intestinal tract of humans.

- *Erwinia herbicola* - a biological control agent against fire blight on apple and pear trees and a normal component of bacterial systems

- Bacteriophage MS2 - a bacterial virus that only targets bacteria and would not be expected to affect human health.

- Noninfectious (killed) Influenza A Virus – a noninfectious (killed) Influenza A Virus used to track infectious influenza viruses. It has no adverse human health effects.

These organisms are not typically classified as human pathogens and were selected based on their documented lack of toxicity to healthy humans. Releases would be conducted in areas and under conditions that would preclude exposure of non-involved workers and the public. Sufficient time would be allowed between biological simulant releases conducted in the same area for the recovery of natural resources.

Suspended aerosols of biological simulants could be released, and could disperse beyond NTS boundaries. However, given the low concentrations that would be released and rapid dispersion, the biological simulants would not be expected to be detected or differentiated from concentrations of naturally-occurring organisms outside of the NTS boundaries.

A chemical release conducted under the restrictions of this EA would have to meet these release criteria:

- The permitted chemical concentrations during a test would be the most conservative among the Occupational Safety and Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), and American Conference of Governmental Industrial Hygienists, Inc. (ACGIH) limits.

- Chemical concentrations would not exceed Immediately Dangerous to Life and Health (IDLH) concentrations beyond 100 meters from the release point. This zone would be classified as an exclusion zone for all non-involved workers, personnel without appropriate PPE and training, and a need to be present.

- Chemical concentrations would not exceed the short-term exposure limit (STEL) value beyond 300 meters from the release point. Non-involved workers would be excluded from this zone.

- Chemical concentrations would not exceed the more conservative of the permissible exposure level (PEL), NIOSH recommended exposure limits (REL), or threshold limit values (TLV) beyond 500 meters from the release point.

- With the exception of activities conducted at the HAZMAT Spill Center, chemical concentration levels would be at or below PEL values at the nearest NTS border.

- Chemicals released within the HSC's authorized release boundaries would be required to meet the standards for human occupational exposures to hazardous materials. However, chemical releases would not be required to meet the existing HSC predominant wind direction criteria if the test documentation can demonstrate that the release concentrations do not exceed the PEL, REL, or TLV values at the HSC's authorized release boundaries.

- No chemical would be considered for release that has cumulative, long-term persistence in the environment, unless it can be demonstrated that the chemical would be completely contained, neutralized, or cleaned up at the conclusion of the test.

- Sufficient time would be allowed between chemical tests conducted in the same area to permit the recovery of natural resources.

- For non-static release points (e.g., moving vehicles or aerial releases) the exclusion zone would be based on the total area subject to the release and measured from any point along the travel corridor. Chemical concentrations would not exceed the more conservative of the PEL, REL, or TLV values beyond 500 meters (1,640 feet) along any release line from point "a" to point "b" for any given test.

Environmental Effects of the Proposed Action

Land Use

For the Proposed Action and each Action Alternative, releases could occur anywhere on the NTS provided that the site met release criteria. After materials were released, affected land would be monitored and if necessary, remediated. No impacts to land use are expected.

Cultural Resources

Cultural resources located on the NTS include archaeological sites, architectural or engineering features, and Native American religious or sacred places. Prior to any release the proposed site and surrounding environs would be evaluated for the presence or probability of undiscovered sites. Impacts to significant cultural resource sites would be avoided to the extent feasible. Unavoidable impacts to significant cultural sites would be mitigated.

Water Resources

There are no perennial streams or naturally occurring surface water bodies at NTS. There are a number of springs on NTS, but flow from the springs travels only a short distance before evaporating or infiltrating into the ground. Additionally, there are manmade waste disposal ponds and open reservoirs for industrial water. Past biological material releases into Cambric ditch and two sewage systems have occurred. One of the releases was designed to detect long-term residual material. No evidence of persistence of biological materials or adverse environmental effects was observed. Any impacts to surface water would be of short duration. Because of the depth of the water table beneath the NTS and the small quantity of chemicals that would be used, it is unlikely that there would be any impacts to groundwater. However, if materials with long-term persistence in the environment were released they would be monitored and, if necessary, cleaned up; therefore, there would be no impacts to groundwater. No chemical releases to water resources are proposed.

Soil Resources

The potential contamination of soils would be considered as part of the release approval process. Suitable clean-up plans, if

contamination were expected, would be required before approval of the test. No long-term impacts to soil resources or geology would be expected.

Air Resources

Chemical releases and possibly biological simulant releases would be subject to provisions of the NTS Air Quality Operating Permit. Releases could include biological simulants that act like suspended aerosols. Suspended aerosols could move off the NTS site, however, due to the low concentrations released and the wide dispersal area, the biological simulants' concentrations would not increase the concentrations of particulate matter above background levels outside the NTS boundaries. No impacts to air quality standards would be expected to occur outside of NTS.

Ecological Resources

Prior to a release, the proposed release site would be surveyed by qualified biologists to ensure that no species of special interest or sensitive habitat would be adversely affected. Particular care would be taken to ensure the Federally-threatened desert tortoise would not be adversely affected by any release. An approved post-release monitoring plan would be developed to specifically address the biological simulant or chemical released. Plants and animals in any given area would typically not be exposed to multiple releases and therefore, better able to recover from any adverse impacts. The release of some chemicals could adversely affect individuals of non-protected animal or plant species or temporarily degrade habitat in the immediate area of the release, however, human activity in the area around the release site would cause larger species to flee the area and smaller species to seek shelter. The release of *B. thuriengensis* could result in mortality for a small number of insects, such as flies or moths in the immediate proximity of the release. No release would be conducted that would adversely affect the population of a species commonly found in the area or adversely affect an individual of a federal- or state-protected species.

Socioeconomics

At most, two additional employees could be required. No impacts to the local economy, regional employment, housing or community services would occur.

Transportation

Biological simulants and chemicals discussed in this EA would be received from offsite sources. Most of these shipments would be of very small quantities. All of these shipments of biological simulants and chemicals, both to and from the NTS would be conducted in accordance with applicable U.S. Department of Transportation regulations.

Human Health and Safety

The health and safety of NTS workers is protected by adherence to the requirements of federal and state law, DOE orders, and the plans and procedures of each organization performing work on the NTS. In addition, workers are protected from the specific hazards associated with their jobs by training, monitoring, personal protective equipment, and administrative controls. Contact with chemical or biological test materials could occur primarily during test preparation, post-test evaluation, and site clean-up. Personal protective equipment would be used in accordance with test plan guidance and Material Safety Data Sheet recommendations. Potential worker exposure levels would be restricted by the appropriate regulatory limits (e.g., OSHA, NIOSH, etc.).

During releases, administrative and access controls, and area monitoring would prevent exposures to involved and non-involved workers and the general public. No impacts to NTS involved or uninvolved workers or the public from injury or illness would be expected.

Waste Generation

The releases would generate primarily sanitary solid waste that would be disposed of in the NTS Area 23 landfill. This landfill has excess capacity; therefore, disposal of the Proposed

Action's sanitary solid waste would have minimal impact. Waste biological simulants would be managed as sanitary solid waste and disposed of in the NTS Class II landfill. If hazardous waste was generated it would be shipped offsite to a permitted commercial facility for treatment/disposal. Wastewater could result from decontamination activities and water-borne release tests. Decontamination could generate small amounts of wastewater that would be added to NTS's wastewater lagoon system. The impact from decontamination wastewater would be negligible. Instantaneous (explosive) releases would be designed so that all explosive material would be detonated, leaving no explosive waste material. However, in the event that explosive material remained once the release was completed, the explosive waste would be treated or disposed at a permitted commercial facility or at NTS's permitted explosive waste treatment facility. Remaining explosive waste could also be detonated as part of the release cleanup activities. No impacts to the waste disposal capabilities of NTS would be expected.

Environmental Effects of Alternative Actions

Two alternatives considered either the release of biological simulants or the release of low concentrations of chemicals, respectively. The potential effects from either alternative would be similar to those of the Proposed Action, but smaller. None of the consequences described for chemical releases would occur under the biological release alternative. None of the consequences described for biological simulant releases would occur under the chemical release alternative. There would be no release to waterways under the chemical release alternative. Under either of these alternatives the NTS/NSO national security mission would not be fully implemented.

NTS's baseline operations and management in support of its national security mission would not change under the No Action Alternative.

Biological releases would not occur. Chemical releases would continue to occur at the HSC under existing parameters. Military and first responder training and equipment development would not be fully realized.

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CHAPTER 1.0
PURPOSE AND NEED FOR ACTION

This Environmental Assessment (EA) documents an analysis of the potential effects of a proposal by the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Site Office (NNSA/NSO), to conduct tests and experiments involving the release of low concentrations of chemicals and biological simulants at various locations within the Nevada Test Site (NTS). The analysis has been conducted in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA as found in 40 Code of Federal Regulations (CFR) Parts 1500-1508 and DOE's NEPA implementing procedures published in 10 CFR 1021. The purpose of an EA is to provide the federal decision-makers with sufficient evidence and analysis to determine whether to prepare an Environmental Impact Statement (EIS) or issue a Finding of No Significant Impact (FONSI). Based on the analysis contained in this EA, NNSA will either issue a FONSI and proceed with the selected action or prepare an EIS.

1.1 Introduction

This Chapter provides the objectives of this EA, background information that will aid the reader in understanding the purpose and need for the Proposed Action, the Purpose and Need statement, the public involvement process and concludes with the organization of the EA.

The objectives of the EA are to:

- Describe the purpose and need for NNSA action
- Describe the Proposed Action and reasonable alternatives that satisfy the purpose and need for NNSA action
- Describe baseline environmental conditions at NTS
- Analyze the potential direct, indirect, and cumulative effects to the existing environment from implementation of the Proposed Action or an alternative
- Compare the effects of the Proposed Action with those of the other alternatives, including the No Action Alternative

Additionally, the EA process provides environmental information that can be used to develop mitigation measures, if necessary, to avoid or minimize adverse effects on the quality of the human environment and natural ecosystems should NNSA decide to proceed with the release of low concentrations of chemicals and biological simulants. Monitoring requirements that would verify that impacts to the environment were minimal are also identified. Ultimately, the goal of NEPA is to provide adequate information to NNSA so its decisions are based on an understanding of environmental consequences and therefore include actions necessary to protect, restore, or enhance the environment.

1.2 Background

Location

The NTS occupies approximately 1,375 square miles (approximately 880,000 acres) in southern Nevada (Figure 1-1), making it one of the largest restricted-access areas in the United States. This remote site is surrounded on three sides by about 2.9 million additional acres of land withdrawn from the public domain for the Nevada Test and Training Range, (an area for armament and high hazard testing; aerial gunnery, rocketry, electronic warfare, and tactical maneuvering training; and equipment and tactics development and training) and a protected wildlife range (Desert National Wildlife Range [DNWR]). The NTS is approximately 65 miles northwest of Las Vegas. Numerous offices, laboratories, and

SUPPLEMENT ANALYSIS FOR THE NTS AND OFF-SITE NEVADA LOCATIONS FEIS

Figure 1-1. NTS Site Location.

support buildings are spread across the NTS. NTS areas and key facilities are shown on Figure 1-2.

Missions and Activities

NNSA enabling legislation describes the Congressionally-authorized responsibilities of the agency. These include "[d]etecting the proliferation of weapons of mass destruction worldwide" (50 U.S.C. 2405). A part of the NNSA mission is to develop, demonstrate, and deliver technologies and systems to improve domestic defense capabilities and, ultimately, to save lives in the event of a chemical or biological attack. NNSA is responsible for national programs to detect proliferation of, and to reduce and counter threats from weapons of mass destruction (nuclear, biological, and chemical weapons [WMD]).

Currently activities supported by NNSA/NSO to combat terrorism fall into three major categories: (1) training and exercises, (2) testing and evaluation, and (3) applied technologies. These activities support programs within DOE and NNSA, as well as cost-reimbursable "Work for Others." Work for Others encompasses non-DOE and non-NNSA sponsored work performed in support of other federal agencies, state and local governments, universities, institutions, and commercial firms, that is compatible with NNSA mission work and that cannot reasonably be performed by the private sector.

Training and exercise activities develop responses to WMD environments and events and increase the operational readiness of military units. The NTS is a charter member of the National Domestic Preparedness Consortium, and is designated as the National Center for Exercise Excellence by the Department of Justice, Office for Domestic Preparedness (now under Department of Homeland Security [DHS]). As such, NNSA/NSO works with the DHS to implement the national WMD response-training program. Training and exercise services provide classes and field drills to identify, respond to, avoid, enter into, decontaminate, mitigate, collect samples, and advise on a WMD event. Hands-on drills/exercises occur in existing radioactive contaminated areas and areas simulating WMD contamination. This training is provided to federal, state and local agencies and emergency response organizations. Recently, other federal agencies that respond to, or need to be aware of WMD situations, such as the U.S. Customs Service, the Federal Bureau of Investigation, the National Guard Civil Support Teams, the U.S. Marine Corps Chemical and Biological Incident Response Force, and emergency medical teams, have been provided training and exercise services. Courses are developed and executed to fit specific agency requirements for training.

Testing and evaluation programs provide consistent and reliable independent services which support research, development, and laboratory and field-testing evaluations, of emerging and commercially available equipment and technologies. Testing and evaluation projects are conducted for DOE/NNSA, DoD, DHS, intelligence agencies, and other federal and state agencies, and private companies.

NNSA laboratories develop and apply technical solutions to national security and counter terrorism requirements. Specialties include nuclear materials science, surveillance and technology development, remote sensing science and technology, counterterrorism sciences and technology, data and communications technologies, and diagnostics systems development and operation. Types of testing and evaluation activities that can occur are:

- WMD Test and Evaluation: test and evaluate equipment, technology and integrated systems; provide logistical and operations support for tests and evaluations in laboratory and field conditions. Figure 1-2. NTS Areas and Key Facilities

- Defense Systems Testing, Evaluation and Training: Support DoD in the development, demonstration, and evaluation of procedures, equipment, technologies and weapons systems for demilitarization and unexploded ordnance support; contained

burn/contained detonation experiments; explosives experimentation; advanced weapons simulation and diagnostics; operational and live-fire tests; evaluation and effects assessments; hardened and deeply buried target detection and defeat; instrumented targets and ordnance platforms; and battle damage assessments.

- Hazardous Materials Spills, Testing, and Training: use controlled releases of hazardous chemicals for the purpose of equipment, technology and hazardous materials research, development, testing, and training.

- Hard/Buried/Critical Target Detection, Defeat, and Defeat Assessment: research, test and evaluate methods, equipment, technologies and weapons systems to detect, defeat, and neutralize hard/buried/critical targets.

- Intelligence and Counter Terrorism Technologies Testing: develop sensors and detection systems, pre-field operational testing; develop and confirm techniques, tactics and procedures; explosives diagnostics and render safe methods; develop investigative forensics technology; and provide proof-of-concept demonstrations for security and monitoring systems.

- Environmental Clean-up and Prediction Technology: develop air dispersion models, test decontamination technologies, evaluate material degradation/persistence in the environment, etc.

NTS EIS

As the federal agency charged with operating and managing the NTS, DOE published the Final EIS for the Nevada Test Site and Off-Site Locations in the State of Nevada (DOE 1996a). The Record of Decision (ROD) for the NTS EIS stated: "The DOE Nevada Operations Office Work for Others Program will continue to be an important aspect of Nevada Test Site related activities. These ongoing activities primarily involve the Department of Defense, the Defense Special Weapons Agency (now Defense Threat Reduction Agency [DTRA]), and other federal agencies. The primary focus of these activities is treaty verification, nonproliferation, counter-proliferation, demilitarization, and defense related research and development." The ROD also states: "Other defense related research and development activities include tests and training exercises employing weaponry, such as small arms, artillery, guns, aircraft, armored vehicles, demolitions, rockets, bazookas, and air-dropped armaments, as well as a variety of electronic imagery and sensory technologies, including, but not limited to, infrared lasers and radar. It is expected that these types of experiments and tests would take place in appropriately zoned areas of the Nevada Test Site and would be compatible with surrounding land use" (DOE 1996b).

In accordance with DOE NEPA Implementing Procedures (10 CFR 1021), NNSA/NSO conducted a 5-year review of the NTS EIS. That review was documented in *Supplement Analysis for the Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada* (DOE 2002a). Based on that analysis, NNSA determined that the NTS EIS continues to adequately address the environmental impacts of activities being conducted and anticipated at the NTS.

Previous NTS Release EAs

One of the NTS missions is to provide the capability to conduct chemical release tests to assess risks from accidental releases of hazardous materials, provide data on sensor development and provide first responder training (DOE 2002b). Since 1981 chemical releases have been conducted at the HAZMAT Spill Center (HSC) in Area 5 of the NTS (Figure 1-2). Six EAs and associated FONSIs have been prepared for activities conducted at the HSC. Proposed actions analyzed in the six EAs included the following:

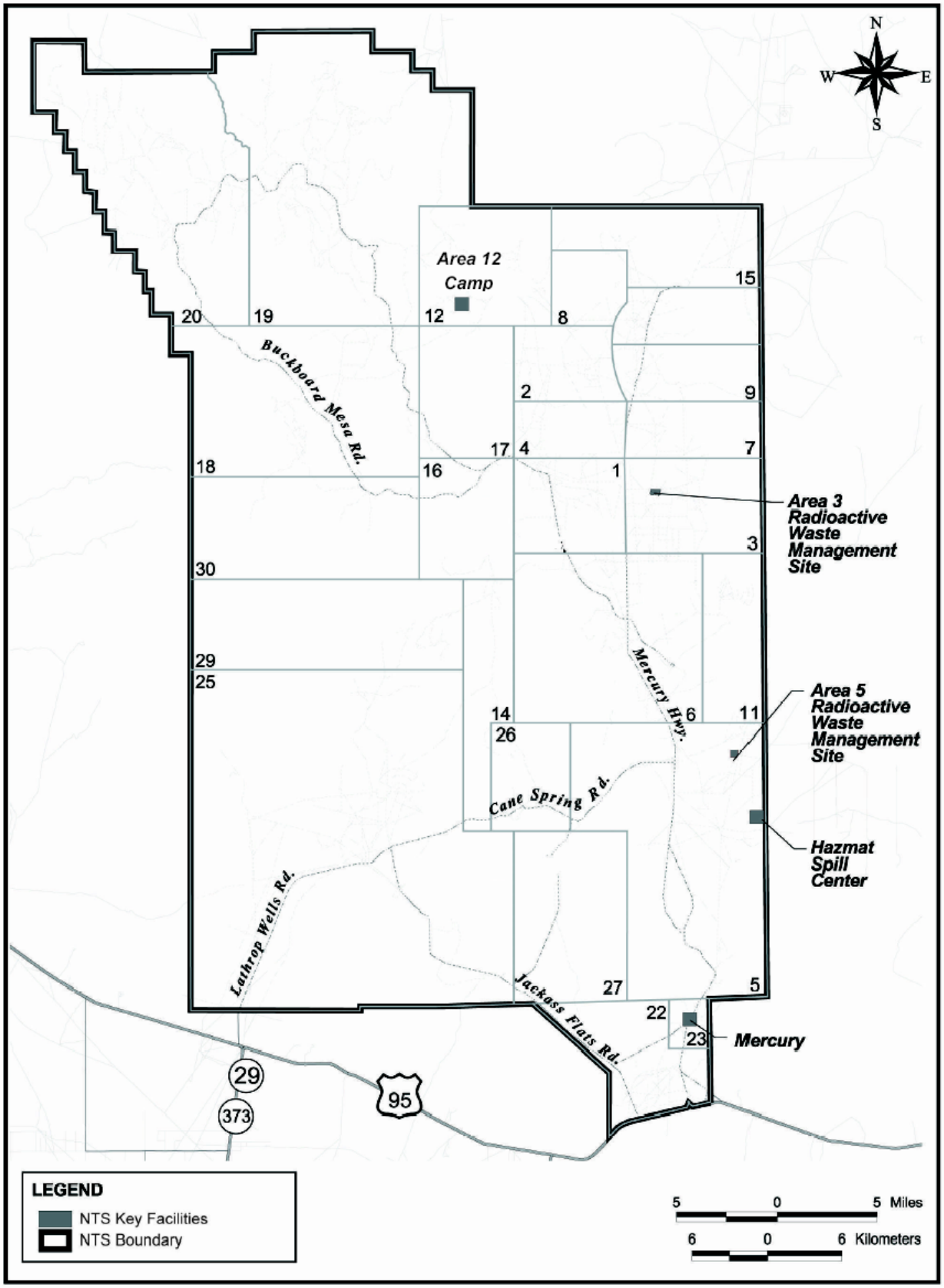

Figure 1-2. NTS Areas and Some Key Facilities

- Construction and operation of a temporary small-scale test facility Identification of chemicals to be released
- Establishment of geographic concentration zones and release durations
- Establishment of general limits for environmental exposures from planned hazardous and toxic materiel releases

The analysis in each EA supported a FONSI determination.

The September 2002 EA for the HSC referenced use of a bacteria (*Bacillus thuringiensis*) that would be used in streambed transport and effluent studies within a man-made waterway, Cambric Ditch (DOE 2002b).

1.3 Purpose and Need

The NTS has been the site of much work relating to national security and combating terrorism as addressed in the NTS EIS (DOE 1996a) and its ROD. Training and exercises, including military operational readiness and response to WMD events and testing, evaluation and development of technology have been conducted at the NTS under the auspices of the ROD. The United States requires the capability at all levels of government to respond decisively and in a coordinated manner to the threat of terrorism and its consequences. The NTS is a large, restricted access, and remote location, ideal for classified operations and exercises; has a long history of safely conducting high-hazard work of all kinds; has realistic environments and test beds for training, exercises, and experimentation; has applied technology laboratories that develop counter-terrorism technologies for the field; and has strong relationships with key agencies involved in combating terrorism.

Following the terrorist attacks of September 11, 2001 there was a recognized need by DOE, NNSA, and many other federal agencies (DPG 2002a) and the military for increased levels of operational testing, contamination and decontamination testing, forensics testing, PPE testing, enclosed environment detection and decontamination training, and counter-terrorism training as they relate to biological and chemical agents. A critical step in development of detection instrumentation, decontamination techniques, and operational methods is to conduct tests, experiments, and training in scenarios as close-to-real as possible. The NTS provides a remote and secure setting, facilities, infrastructure, varied terrain, and other features that accurately simulate the kinds of environments that could be encountered in the "real world."

As part of its role in national security, and in support of national counterterrorism and counterproliferation goals, NNSA/NSO proposes to provide facilities, infrastructure and support at the NTS for tests, experiments, and training that require releases of biological simulants and low concentrations of chemicals.

1.4 Public Involvement

Public involvement in the NEPA process is critical for informing the public about proposed actions, and ensuring any public concerns are given adequate consideration and analysis. Public involvement activities are conducted pursuant to NEPA, as amended (42 U.S.C. 4321 et seq.) in accordance with the CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), DOE NEPA Implementing Procedures (10 CFR 1021) and guidance in *Effective Public Participation Under the National Environmental Policy Act* (DOE 1998). Public participation for this EA includes scoping activities, and public review and expressed comment on the draft EA.

1.4.1 Scoping Process

NNSA provided the public a notice of intent (NOI) to prepare an EA and hold public scoping meetings. NNSA issued the NOI to prepare the EA via a press release to numerous media providers in Nevada on October 1, 2003. Public notices also were posted in the Las Vegas Review Journal and the Pahrump Valley Times. The public scoping process ensures consideration of the full range of issues and

alternatives that should be evaluated in the NEPA analysis and helps identify the potential for significant environmental impacts. To this end, the NNSA/NSO invited interested parties, the public, and government agencies to comment on the proposed action and those issues and alternatives which should be considered. The formal scoping period ran from October 1, 2003, through October 31, 2003.

Public scoping meetings were held on October 15, 2003 in Las Vegas, Nevada, and on October 16, 2003, in Pahrump, Nevada. Comments were submitted by letter or on scoping meeting comment response forms by the public and government agencies. Every comment received was given equal weight in the scoping process. In addition to public scoping, the NNSA/NSO coordinated with various federal, state, and local agencies. These consultations are summarized in Section 5.1 of this EA.

Twenty-five members of the public attended the Las Vegas scoping meeting and seven attended at Pahrump. Fifteen comments were received at the two scoping meetings. Ten written comments were submitted to the NNSA/NSO. Overall, the comments from the public were favorable concerning the proposed action. One commentor expressed concern about potential environmental consequences that could occur as a result of the proposed action, including a concern that the increased activities could result in migration of radioactive contamination from the site, a concern for elderly persons and those with chronic diseases who might be exposed should accidental releases occur, and consideration that the population has been shifting to northwest Las Vegas (closer to the NTS). Other comments received during the scoping meeting supported the proposed action, lamented the lack of publicity, expressed concern that DOE would do what it wanted regardless of public input, and a general interest in the NEPA process.

1.4.2 Public Review and Comment on the Preapproval Draft EA

The preapproval draft EA was released to the public for a 33-day review and comment period. Comments received on the draft EA were reviewed and the final EA has been modified, as needed, to address public and agency comments. Copies of the comments received and NNSA/NSO's responses are in Appendix C of this EA.

1.5 Organization of This EA

The EA is presented in six chapters. This Chapter provided background information and describes the purpose and need. Chapter 2 discusses each of the alternatives. Chapter 3 describes the affected environment and the environmental consequences of each action alternative. Chapter 4 describes mitigation measures and monitoring requirements. Chapter 5 addresses statutes, regulations and other requirements applicable to the proposed action and the action alternatives. Chapter 6 lists the references cited in the EA. Appendix A includes the consultation letters received by NNSA from state and federal agencies. Appendix B describes the federal and state statutes, regulations and restrictions that would apply to the proposed action or the action alternatives. Appendix C includes copies of all of the comments received on the preapproval draft EA and NNSA/NSO's responses.

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CHAPTER 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and the alternatives to the Proposed Action. The NNSA's Proposed Action is the release of biological simulants and low concentrations of chemicals at various NTS locations (Section 2.1). Alternative 2 is the release of biological simulants at various NTS locations (Section 2.2) and Alternative 3 is the release of chemicals in low concentrations at various NTS locations (Section 2.3). Alternatives 2 and 3 would only partially meet the NNSA purpose and need. The No Action Alternative (Section 2.4) would continue NTS operations as they are currently. It would not meet NNSA's purpose and need.

It is important to note that NNSA/NSO has conducted chemical releases at the HSC since 1981. The Proposed Action and one of the action alternatives described in this EA would modify some of the chemical release parameters at the HSC as they apply to low concentration releases. The HSC will continue to operate under its existing EA for larger chemical releases that cannot meet the criteria for low concentration releases as defined in this EA.

Information in this chapter, when combined with analyses provided in Chapter 3.0, Affected Environment and Environmental Consequences, meets the EA goal of informing decision-makers and the public about NTS operations and potential impacts associated with the proposed release of biological simulants and chemicals.

The Proposed Action and Alternatives would not expose uninvolved personnel to biological simulants or chemicals during normal operations. Only project personnel with appropriate training and PPE would handle biological simulants or chemicals or be allowed at the release site. All proposed releases would be conducted in accordance with the International Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxic Weapons and Their Destruction.

NTS's large size, remote location, and extensive infrastructure offer a practical test, technology development, and training site. NNSA/NSO is proposing to expand existing services to current and new customers and is increasingly serving the needs of non-DOE customers. Customers include all military branches of the U.S. Department of Defense (DoD), National Aeronautics and Space Administration, U.S. Department of Justice, state and local first responders, private entities, and academia requiring test, technology development and training services. Both DOE and non-DOE customers are requesting NNSA/NSO support for tests and training events related to new military and terrorist threats, and first responder training. The Proposed Action would enable NNSA/NSO to effectively respond to the requirements of their current and diversifying mission.

Many of the proposed events would be classified in the interests of national security. Training or testing events typically would be classified because of the equipment or procedure being used or tested and not because of the biological simulants or chemicals proposed for use.

2.1 Proposed Action - Release of Biological Simulants and Low Concentrations of Chemicals at Various NTS Locations

NNSA/NSO proposes two categories of releases – biological simulants and chemicals. Based on scientific information regarding potential effects to human and ecological receptors, NNSA/NSO has determined that six microorganisms used as simulants for biological agents would provide adequate source material for its customers and are proposing them for use. It is important to understand that these organisms are considered non-infectious in healthy humans. NNSA/NSO does not know which specific chemicals could be required for testing or training. Therefore, rather than compile an exhaustive list of possible chemicals that could be released, NNSA has

developed detailed criteria for chemical release events that would be protective of the environment, workers and the public.

Both biological simulants and chemicals could be released at a variety of locations and structures within NTS. Releases would take advantage of existing facilities and infrastructure, and NTS terrain to simulate a particular geography or area of interest. Locations such as Areas 5, 12, 16, and 25 are of particular value (Figure 1-2). Structures, such as Test Cell C in Area 25, could be used to simulate emissions characteristic of a chemical factory. Existing tunnels could be used as mock subway facilities or to simulate a covert chemical or biological weapons production factory. The NTS also has a variety of terrains typical of arid lands in many parts of the world. Conducting releases in the various terrains would provide data on how to best search for and identify releases in similar locations elsewhere.

The Proposed Action would result in the modification of the release parameters under which the HSC currently operates as specified in the 2002 EA (DOE 2002b). Chemical releases under this EA would be required to stay within the HSC's authorized release boundaries (Figure 2-1) and meet the standards for human occupational exposures to hazardous materials. However, chemical releases would not be required to meet the existing HSC predominant wind direction criteria if the test documentation demonstrates that release concentrations do not exceed the PEL, REL, or TLV values at the HSC's authorized release boundaries. In addition to chemicals the HSC could also be used as a release site for biological simulants.

NNSA anticipates approximately 5 to 20 events per year of the type addressed in this EA. NNSA/NSO would ensure that tests, experiments, and training conducted as part of the proposed action would use low concentrations of chemicals. The chemicals used may simulate a chemical weapon or may be an expected emission/effluent from a chemical weapons production facility or other process or facility type of interest. In no case would a toxic chemical listed in Schedule 1 or Schedule 2 of the Chemical Weapons Convention be used. Biological simulants as defined in this EA would be used to mimic the behavior and/or other identifieable characteristic but not the effect of higher risk biological agents that might be used in a weaponized form by terrorists or other potential adversaries.

2.1.1 Support Activities

Biological simulant and chemical releases would support the following types of activities:

- Contamination and Decontamination Testing – Test decontaminants, decontamination equipment, tactics, techniques, and procedures for their effectiveness, or to determine the ability of equipment to withstand repeated biological/chemical contamination and decontamination.

- Forensics Testing – Testing would support analysis of potential biological and chemical threats identified by military or first responders.

- Operational Testing - Field-testing the performance and reliability of biological and chemical detection, identification, and early warning defense equipment. Testing would be designed to study the effects of weather conditions on droplet size, dispersion patterns, equipment operation, decontamination procedures, or material penetration into equipment.

- Personal Protective Equipment (PPE) Testing – Testing would determine the effectiveness of PPE under different conditions.

- Counter-Terrorism Training – Testing newly developed biological or chemical defense detection and protection equipment for use by the military or first responders for potential terrorist incidents. Training would include:

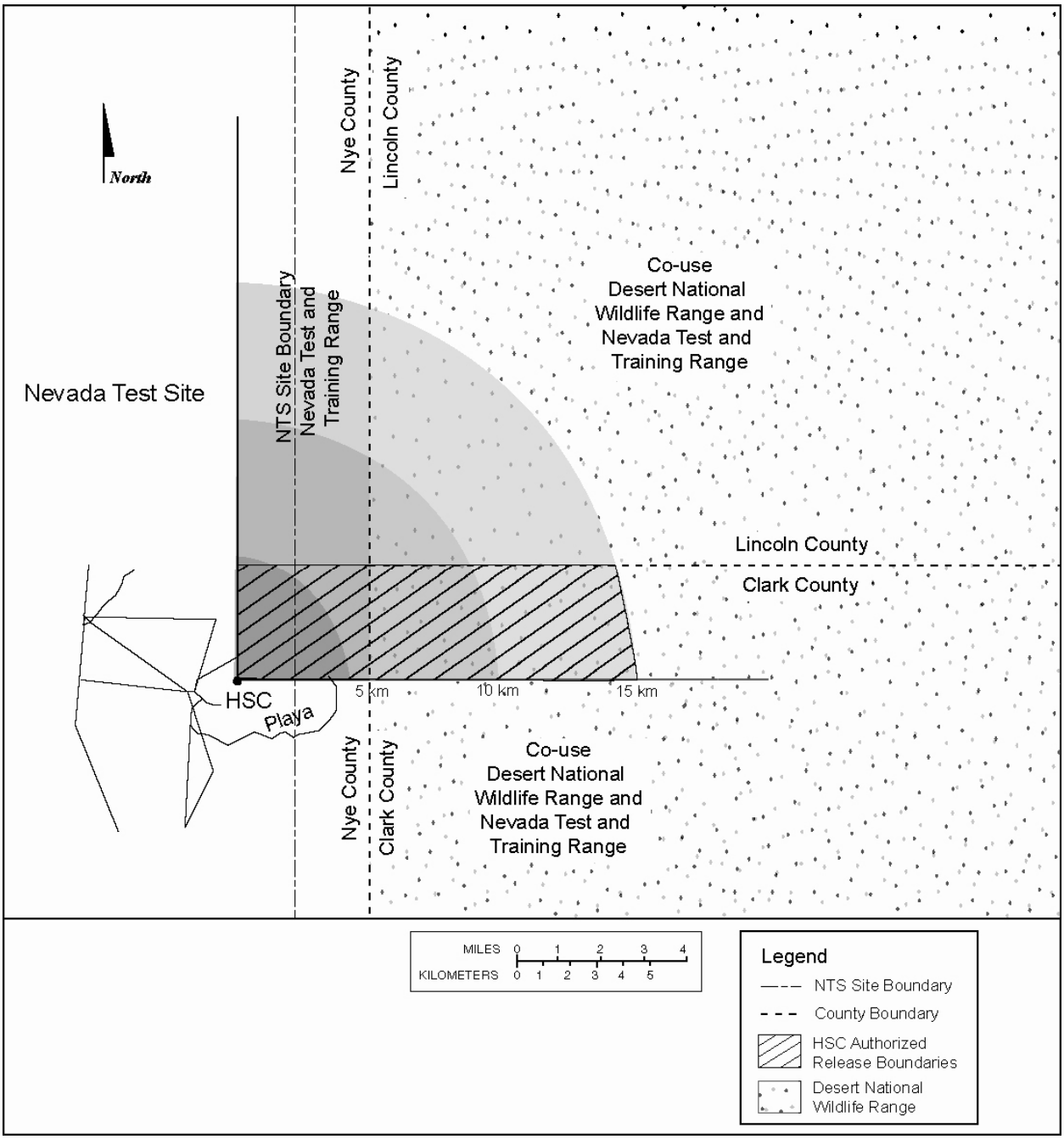

Figure 2-1. HSC Authorized Release Boundaries for Modified Wind Direction Parameter, in Relation to Existing HSC Geographic Impact Zones

- techniques, tactics, procedures and operational issues.

- Enclosed Environment Detection and Decontamination Training – Training the military or first responders in biological/ chemical detection and decontamination techniques and procedures within facilities.

- Environmental Clean-up and Prediction Technology: develop air dispersion models, test decontamination technologies, evaluate material degradation/persistence in the environment, etc.

2.1.2 Release Scenarios

Potential release scenarios and examples of a condition a release test could simulate would be:

- Stack Release – Portable plume generators would release the material of interest out of a facility stack. This scenario would mimic a clandestine biological or chemical laboratory.

- Building/Tunnel Release – The material of interest would be released inside a building or tunnel. The release would simulate a contaminated facility or subway.

- Open Pan/Ground Spill Release – Releases would occur from ground level in an open environment to simulate a deliberate release of biological or chemical material in open-air conditions or a spill event.

- Water-Borne Release – Releases would be directly into a man-made water body. Only biological simulants would be released to imitate waste products from a clandestine laboratory or deliberate contamination of a waterway. Chemicals would not be released into a water body.

- Instantaneous Release – The entire inventory of material would be released such as in an explosive event. An instantaneous release would simulate a terrorist action or an accident.

- Ground Transportation Release – Release would occur from a moving vehicle, simulating a deliberate release or a transportation accident.

- Aircraft Releases – Releases would occur from an aircraft to simulate a real release from an aircraft.

2.1.3 Test Series

A test series is defined as a unique effort undertaken to achieve customer objectives with defined start and end points. A release is a discrete activity within a test series that may involve dispersal of biological simulants or chemicals into the environment via one of the release scenarios described in Section 2.1.2. The purpose of a test series would be to successfully conduct one or more releases in order to achieve customer objectives. A release could be a one-time single-point event or multiple releases from a single or multiple points. Training and exercises, while not precisely a test or experiment would be considered “test series” for the purposes of this EA. The release(s) would not exceed pre-determined maximum concentration(s) within defined concentration zones radiating outward from the release point and within a defined time period. Multiple releases or release sites for the same biological simulants or chemical for the same purpose within a defined temporal period and conducted by the same customer would be considered a single test series. However, the customer would be required to model each release location separately and cumulatively with the other release point(s) concentrations/quantities. Potential human health and safety and ecological impacts would be evaluated from each single release point and collectively from all release points. Should other test series occur within the same temporal period with geographic overlap, each customer would evaluate the effects of all test series collectively. Acceptable meteorological conditions would be determined by modeling

prior to each release unless worst-case modeling had already identified acceptable conditions for a test series.

2.1.4 Test Process Planning and Management

To ensure each test series would be properly planned and managed by the customer, and that potential environmental impacts were considered, customer test process planning and management would be evaluated by NNSA. Test and training plans would be developed with consideration of environmental impacts. These considerations would include impacts from setup activities, test activities, chemical or biological release choices, cleanup activities, or other test or training related activities that could potentially adversely impact the environment. A test series generally includes:

- Planning
- Preparation, including environmental review
- Testing
- Test closure and reporting

Planning

Before any test could begin, NNSA would require a Test Plan from the customer. This document would provide information and data regarding test planning and preparation. The planning phase for the NNSA would begin when NNSA staff received the Test Plan from the customer, which would identify the test parameters. The Test Plan would include, but not be limited to:

- Test objectives
- Test design
- Biological simulant(s) or chemical(s) to be used
- Proposed location(s) of the test
- Safety and environmental documentation
- Release modeling

The role of the existing NNSA Project Advisory Panel (Panel) that reviews all test events at the HSC would be expanded to also evaluate proposals for the releases considered in this EA. The current Panel would be augmented with appropriate expertise such as bacteriologists, virologists, ecologists, and modelers. Prior to any release the customer would be required to submit the Test Plan to the Panel for review. Only after review and approval of the Test Plan by the Panel would the customer be allowed to conduct a release. The Panel would have the authority to deny, approve, or recommend modification to the customer based on human health, safety, and environmental protection considerations. The Panel has as part of its' formal charter a defined process and criteria for release approval.

If additional biological simulants not specifically addressed in this EA are proposed for release at NTS then the appropriate level of NEPA analysis and documentation will be performed. No release of a biological simulant would occur prior to completion of a NEPA determination for materials that are not specifically addressed in this EA.

The NTS test planning process requires the development, review, and approval of a test plan for each proposed test to ensure that the potential human health and environmental impacts are identified. The final test plan would include guidelines and procedures that must be followed during the test to protect worker safety and safeguard the public and the environment. After environmental review, if it is determined that adverse impacts to the environment could occur, the test procedure or materials used must be altered or an appropriate mitigation strategy developed, or the approval of the release would be denied.

Modeling done in support of the releases would be an important component of the Test Plan approval process and would provide NNSA assurance that the release would meet the test

criteria. The models used to determine biological simulant or chemical concentration and dispersion would be selected by the customer. The customer would be responsible for modeling the meteorological conditions at the time of release to ensure compliance with all release criteria. Model results would be designed to be conservative and would not be predictive. Thus, the model would overestimate the concentration and distribution of the release material, ensuring protection of human health and the environment and that the release criteria defined in Section 2.1.5 would be met. The modeling data provided by the customer would undergo an independent review if deemed necessary by NNSA/NSO. In some cases additional modeling by an independent source could be conducted. For example, independent modeling of specified chemical releases from the HSC is currently performed at the University of Arkansas.

Preparation

The preparation phase would include activities such as:

- Pre-operational data review
- Completion of safety and environmental requirements
- Pre-release safety survey
- Transport and installation of test support equipment at the test site(s)
- Operational readiness inspection
- Test readiness review
- Notification and coordination with applicable federal and state agencies, if required

Approval of the test plan and successful completion of the operational readiness inspection and the test readiness review by NNSA would indicate successful completion of the preparation phase of the test process.

Testing

Testing would be the actual release event and follow-up analysis. The testing phase of the process would be complete when the test objectives, as defined in the Test Plan, were achieved or the test terminated.

Test Closure and Reporting

The test closure and reporting phase of the test process would begin when the test was completed. During this phase the test series sponsor would be responsible for such things as equipment decontamination and removal, removal of excess chemicals/biological sample materials, site monitoring and restoration, waste disposal in compliance with federal and state regulations, and submittal of all required data, as identified in the Test Plan, to the NNSA.

2.1.5 Release Criteria

NNSA would establish the release criteria for any test series. No release would be permitted that would jeopardize human health and safety or result in a significant impact to the environment without approved mitigation. Prior to a release, the proposed release site would be evaluated to ensure no species of special interest or sensitive ecological parameters would be adversely affected by the release, and documentation would be prepared to support the evaluation. A post-release monitoring requirement would be developed to specifically evaluate the potential long-term effects from a release. A release would not be approved if there was a reasonable potential for long-term persistence in the environment unless the customer submitted plans to remediate the release site after the test series was completed.

2.1.5.1 Biological Release Criteria

An understanding of the terms “biological agent” and “biological simulant” is essential to understand the proposed biological release criteria.

The term biological agent is used in this EA to mean a pathogenic microorganism or any

naturally-occurring, genetically-manipulated, or synthesized component of biological origin that is capable of causing:

- Death, disease, or other biological malfunction in humans, animals, or plants
- Deterioration of food, water, equipment, or supplies

The term biological simulant is used in the EA to mean a biologically-derived substance or microorganism that shares at least one physical or biological characteristic of the biological agent it is simulating, that has been shown to be non-pathogenic, and that can replace the biological agent in testing. Biological simulants are intended to mimic the behavior of potentially more lethal or severely debilitating biological agents that may be used in warfare or by terrorist organizations. For example, *Bacillus thuringiensis* is a naturally-occurring soil bacterium that is used commercially as a microbial insecticide (DPG 2002a,b). *B. thuringiensis* is an excellent simulant for the bacterium that causes anthrax.

Six species have been selected as appropriate simulants for biological agents (see Table 2-1). These organisms are not typically classified as human pathogens and were selected based on their documented lack of toxicity to healthy humans. However, very little information is available on acceptable concentrations of these biological simulants in an occupational setting. Occupational exposure limit data could be found only for *Bacillus subtilis* var. *niger*, which identifies an American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)-Ceiling(s) limit of 0.00006 mg/m^3 (NIOSH 2000). However this concentration is considered too restrictive for the proposed action evaluated in this EA and poses difficulties in sampling and evaluation. The Occupational Safety and Health Administration (OSHA) provides guidance for "particulates not otherwise regulated" in 29 CFR §1910.1000, Air Contaminants. This regulation lists an 8-hour time weighted average (TWA) of 15 mg/m^3 for total dust and 5 mg/m^3 for respirable dust. No ceiling or short-term exposure limits are provided. In the absence of more definitive organism-specific data, the 5 mg/m^3 limit would be the controlling limit for concentrations at the outer perimeter of the release site for the release of biological simulants (see Section 2.1.5.2 Chemical Release Criteria for definitions of release site perimeters and threshold criteria). Allowable concentrations for the other proposed biological simulants would be reviewed and approved by NNSA/NSO and the Project Advisory Panel (through the use of appropriate experts). This would allow the limits to be adjusted as new data became available and could either lower or raise the allowable concentrations at the compliance boundary. The National Institute of Occupational Safety and Health (NIOSH) *Pocket Guide to Chemical Hazards (*DHHS 1997) discusses immediately dangerous to life or health (IDLH) values relative to the *NIOSH Respirator Decision Logic* (DHHS 1987). For respirator selection criteria, IDLH values are equivalent to concentrations 2000 times the OSHA permissible exposure limit (PEL) or NIOSH recommended exposure limit (REL). Applying the same criteria to biological simulants as to chemical releases, yields concentrations of biological simulants in the exclusion area that could approach 10^4 mg/m^3 or 2000 times the OSHA TWA, as long as the concentration diminishes to the 5 mg/m^3 level at the outer perimeter. With the exception of the HSC's authorized release area, concentration levels for biological simulants would not exceed 5 mg/M^3 at the nearest NTS boundary. Releases would be in low concentrations in isolated areas where non-involved workers and the public would not be allowed. Sufficient time would be allowed between test series conducted in the same area to permit the recovery of natural resources.

For non-static release points (e.g., moving vehicles or aerial releases) the exclusion zone would be based on the total area subject to the release and measured from any point along the travel corridor. Biological concentrations would not exceed the 5 mg/M^3 limit beyond 500 meters (1,640 feet) along any release line from point "a" to point "b" for any given test.

Table 2-1. Biological Simulants

***Bacillus subtilis* var. *niger* (formerly *Bacillus globigii*)**

B. subtilis is a common cylindrical spore-forming soil microorganism that is not classified as pathogenic and contributes to nutrient cycling (DPG 2002a,b). *B. subtilis* var. *niger* has historically been used as a biological tracer, designed to test susceptibility to chemical or biological warfare agents. *B. subtilis* is noninfectious and characterized as a National Institute of Health/U. S. Centers for Disease Control and Prevention BioSafety Level 1 (on a scale of 1 to 4) bacterium. *B. subtilis* var. *niger* is regulated under the Toxic Substances Control Act (TSCA) for the purposes of application as a pesticide.

Bacillus thuringiensis

B. thuringiensis is a naturally occurring soil bacterium, several varieties of which are used as microbial insecticides (DPG 2002b). *B. thuringiensis* is considered ideal for pest management because of its specificity to pests and because of its lack of toxicity to humans or the natural enemies of many crop pests (EXTOXNET 1996). *B. thuringiensis* is considered a General Use Pesticide, classified as EPA toxicity class III – slightly toxic (on a scale of IV to I, I being the highest toxicity class). Particular strains of *B. thuringiensis* can be used to control particular insects, including mosquitoes, moths, butterflies, beetles, blackflies, midges, and boll weevil. Approximately 150 insects are known to be susceptible to *B. thuringiensis.* *B. thuringiensis* is regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for the purposes of application as a pesticide. *B. thuringiensis* is considered to be non-toxic to humans and animals, other than some species of insects (EXTOXNET 1996).

Clostridium sporogenes

Clostridium is a genus of anaerobic (anaerobic organisms grow in the absence of oxygen; in fact, oxygen may even kill them) spore-forming bacteria in the family Bacillaceae (DPG 2002b). In the American Society for Microbiology's Manual of Clinical Microbiology 8th ed., *C. sporogenes* is listed as the third most frequent *Clostridium* species found in soil, and as normal flora in the lower intestinal tract of humans. It is found worldwide, particularly in areas where contaminated soil is likely. The mode of introduction for this bacterium is through a wound. Hosts for this bacterium include humans and animals with reservoirs including intestines, soils, and animal feces.

***Erwinia herbicola*, (also known as *Pantoea agglomerans*)**

E. herbicola is a vegetative, non-spore stage of phytopathogenic bacteria highly effective as a biological control agent against *E. amylovora*, the cause of fire blight on apple and pear trees. *E. herbicola* is considered a fungicide where it acts to colonize and consume the same resources as plant pathogens (DPG 2002a,b). It is considered a normal flora in a bacterial system, often living in the guts of organisms (similar to *Escherichia coli* [*E. coli*]). *E. herbicola* is regulated under FIFRA for the purposes of application as a fungicide and is considered harmless to humans within the normal context as a vegetative stage of bacteria.

Bacteriophage MS2

A bacteriophage is a bacterial virus. It belongs to a class of virus that infects only bacteria (DPG 2002a,b). MS2 is host-specific and capable of infecting only F+ or "male" *E. coli* bacteria. It is part of a group of small RNA phages, which are used to study viral attachments to host cells, genetic control and virus assembly. Bacteriophage MS2 has been used as an aerosol viral simulant for assessing viral protection in the development of battlefield evacuation systems. As a surrogate human virus, Bacteriophage MS2 only targets bacteria and would not be expected to affect human health.

Noninfectious (killed) Influenza A Virus

Noninfectious (killed) Influenza A Virus is used to track/trace what occurs when infectious influenza viral agents are released. There are no adverse human health effects.

Biological simulants released within the HSC's authorized release area, illustrated in Figure 2-1, would be required to meet applicable requirements for human health and safety. At the boundary of the authorized release area, concentration of biological simulants released at the HSC would not exceed 5 mg/m^3.

Biological simulants that have been treated to remove their surface charge, referred to in this EA as suspended aerosols, would be considered for use in any of the release scenarios. When the charge is removed from biological organisms, releases can result in longer suspension times in the atmosphere. Therefore these biological simulants could disperse beyond the NTS boundaries, especially during an aircraft release. Release customers and NNSA have not identified a model to address aircraft releases nor do they have a model that addresses suspended aerosols. NNSA/NSO occasionally uses the National Atmospheric Release Advisory Center (NARAC) to support their modeling activities. NARAC studies incidents involving a wide variety of hazards, including nuclear, radiological, chemical, and biological. Customers or NNSA could request NARAC support for biological modeling. If necessary, NNSA/NSO could assume a worst-case approach and model an aircraft release using a point source model close to the ground which would probably overestimate air concentrations available to humans or animals. The potential dispersion of suspended aerosols is even more difficult to model. However given the low concentrations that would be released, the biological simulants would not be expected to be distinguishable from background concentrations outside of the NTS boundaries. In the absence of a suitable model, bio-aerosols would be treated as gases with no settling. This would result in a conservative estimate of airborne concentrations at a distance.

Biological releases would be evaluated and approved or disapproved based on whether the release meets the general release criteria stated above.

2.1.5.2 Chemical Release Criteria

Chemical releases could include simulants or the actual chemical of interest. A chemical release would have to meet the chemical release criteria stated below.

Occupational exposure to chemicals is addressed in 29 CFR §1919.100, General Industry Air Contaminant Standard. The requirements identified in this standard represent legal limits that may not be exceeded under any conditions. In addition to the OSHA requirements, additional information related to occupational chemical exposures is contained in the NIOSH *Pocket Guide to Chemical Hazards* (DHHS 1997) and the ACGIH Guide to Occupational Exposure Values (ACGIH). These two documents are in general agreement with OSHA requirements, although differences do exist.

The ACGIH is an organization of industrial hygiene and occupational health and safety professionals. The ACGIH developed, as guidelines, TLVs and Biological Exposure Indices to assist in the control of health hazards. They were not developed for use as legal standards and ACGIH® does not advocate their use as such. However, it is recognized that in certain circumstances individuals or organizations may wish to make use of these recommendations or guidelines as a supplement to their occupational safety and health program.

Limits for chemical exposures drawn from each of the three sources are presented using slightly different terminology. The following is a brief description of these terminologies.

OSHA

The OSHA PELs are TWA concentrations that must not be exceeded during any 8-hour work shift for a 40-hour workweek. A TWA is an individual's average airborne exposure in any 8-hour work shift of a 40-hour workweek, and shall not be exceeded. A STEL represents a 15-minute TWA exposure and cannot be exceeded at any time during the workday. OSHA ceiling concentrations must not be exceeded during any part of the workday; if instantaneous monitoring

is not feasible, the ceiling must be assessed as a 15-minute TWA exposure. In addition, there are a number of substances that have PEL ceiling values that must not be exceeded, except for a maximum peak over a specified period (e.g., a 5-minute maximum peak in any 2 hours).

OSHA defines IDLH concentrations as follows:

- "An atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere" (29 CFR 1910.120).

NIOSH

The NIOSH RELs are TWA concentrations for up to a 10-hour workday during a 40-hour workweek. A STEL is a 15-minute TWA exposure that should not be exceeded at any time during the workday. A ceiling REL should not be exceeded at any time.

The current NIOSH definition for an IDLH is a situation "that poses a threat of exposure to airborne contaminants when that exposure is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment." It is also stated that the purpose of establishing an IDLH is to "ensure that the worker can escape from a given contaminated environment in the event of failure of the respiratory protection equipment." Furthermore, NIOSH identifies parameters for defining an IDLH-type concentration in the absence of a defined value to include concentrations 2000 times the OSHA PEL or NIOSH REL.

ACGIH

ACGIH has developed TLVs that are in most cases analogous to PELs and RELs. A TLV is the concentration of chemical in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types:

- TLV-TWA is averaged over the normal 8-hour day/40-hour workweek.

- TLV-STELs are 15-minute exposures that should not be exceeded for even an instant. It is not a stand-alone value but is accompanied by the TLV-TWA. It indicates a higher exposure that can be tolerated for a short time without adverse effect as long as the total time weighted average is not exceeded.

- TLV-C limits are the concentrations that should not be exceeded during any part of the working exposure.

The ACGIH has not developed guidance on IDLH atmospheres.

Criteria

Chemical releases would be governed under the following criteria:

- The occupational chemical exposure values would draw on values available from OSHA, NIOSH, and ACGIH. Values for chemicals considered for testing would be obtained from each of the appropriate references and the most conservative values would be used. However, because the OSHA values are legal requirements, in no cases would a less restrictive recommendation be used in place of an OSHA limit. Recommended values that are more conservative than OSHA values could be used. If any questions exist concerning which values should be used, the OSHA values will be used by default.

- Chemical concentrations would not exceed IDLH concentrations beyond a radius of 100 meters (328 feet). This zone would be classified as an exclusion zone for all non-involved workers, personnel without appropriate PPE and training, or a need to be present.

- Chemical concentrations would not exceed STEL values beyond 300 meters

(1,000 feet) from the release point. Non-involved workers would be excluded from this zone.

- Chemical concentrations would not exceed the more conservative of the PEL, REL, or TLV values beyond 500 meters (1,640 feet). With the exception of activities conducted at the HSC, chemical concentrations would be at or below PEL values at the nearest NTS border.

- Chemicals released within the HSC's authorized release boundaries (as illustrated Figure 2-1) would be required to meet the standards for human occupational exposures to hazardous materials. However, chemical releases would not be required to meet the existing HSC predominant wind direction criteria if the test documentation can demonstrate that the release concentrations do not exceed the PEL, REL, or TLV values at the HSC's authorized release boundaries as illustrated in Figure 2-1.

- No chemicals would be considered for releases that have cumulative, long-term persistence in the environment, unless the customer can demonstrate that the materials would be completely contained, neutralized, or cleaned up.

- Sufficient time would be allowed between chemical releases test series conducted in the same area to permit the recovery of natural resources.

- For non-static release points (e.g., moving vehicles or aerial releases) the exclusion zone would be based on the total area subject to the release and measured from any point along the travel corridor. Chemical concentrations would not exceed the more conservative of the PEL, REL, or TLV values beyond 500 meters (1,640 feet) along any release line from point "a" to point "b" for any given test.

2.1.6 Emergency Management

NNSA/NSO has a comprehensive and integrated emergency management system to ensure an effective and efficient response to emergencies at NTS. The Consolidated Emergency Management Plan (DOE 2003a) specifies the implementing procedures for all elements of the emergency response organization. The NNSA/NSO Homeland Security and Defense Division (HS&DD) would be notified of the presence and storage locations of biological simulants and chemicals. Accident analysis for the on-site transportation and storage (either at a central warehouse, temporary storage location, or at the proposed release site) of biological simulants or chemicals would be modeled by the NNSA/NSO HS&DD. NNSA/NSO uses appropriate and approved models to perform analyses of accident/ emergency consequences. The accidental and instantaneous release of the entire inventory of interest would be modeled as the worst-case scenario.

NTS maintains meteorological measurement and modeling capabilities to determine atmospheric transport and dispersion of materials released into the atmosphere during an accident. Accidental release modeling is conducted by NNSA/NSO for chemical materials that are onsite. All modeling analyses are conducted in accordance with guidance and procedures specified in the DOE Emergency Management Guide (EMG) (DOE 1997).

Modeling results are used to define emergency action levels, emergency planning zones, and identify other critical information such as environmental receptors. Additionally, the modeling results are used to develop timely, initial consequence assessments of emergency situations to ensure that the consequence assessment provides representative results for making decisions to protect workers and the general public.

The NNSA/NSO currently uses the Emergency Prediction Information Code (EPIcode®) model to address accident scenarios involving releases of chemical materials that are kept onsite. EPIcode® is used in emergency planning and

response for a fast risk assessment and estimate of the concentrations resulting from the release of chemical materials. EPIcode® is intended for use as a screening tool for initial assessment of emergency situations. The model is applicable for distances of 0.1 to 30 km (0.06 to 18.5 miles) from the source. EPIcode® contains a library of approximately 600 chemical substances; some biological agents, and additional chemicals can be added to the database. EPA has used this model, however, many models are available and appropriate for use. DOE has identified over 90 atmospheric models that could be used.

2.2 Alternative 2 - Release Of Biological Simulants at Various NTS Locations

The description of biological simulants release criteria and processes would be the same as described in the Proposed Action. However, there would be fewer total test series because this alternative would exclude the release of low concentrations of chemicals at the NTS, except at the HSC. The NNSA/NSO national security missions to develop, test and evaluate technology to combat terrorism, develop equipment and systems; and train our nation's responders and military units would not be fully implemented.

2.3 Alternative 3 - Release of Chemicals in Low Concentrations at Various NTS Locations

The description of the chemical release criteria and processes would be the same as described in the Proposed Action, however, there would be fewer total test series. Releases to waterways would not occur. This alternative would exclude the release of biological simulants at the NTS and would therefore result in fewer total tests than the Proposed Action. The NNSA/NSO national security missions to develop, test and evaluate technology to combat terrorism; develop equipment and systems; and train our nation's responders and military units would not be fully implemented.

2.4 No Action Alternative

Pursuant to NEPA and CEQ regulations, the No Action Alternative must be considered. Under this alternative, NTS's baseline operations and management in support of its national security mission would not change. Chemical releases would continue to occur at the HSC under the current criteria. In general, the range of military and first responder training and equipment development would not be fully realized.

CHAPTER 3.0
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Methodology

A sliding scale approach (DOE 1993) is the basis for the analysis of potential environmental and socioeconomic effects in this EA. Specific aspects of the Proposed Action and alternatives have a greater potential for causing an environmental effect than others; therefore, they are discussed in greater detail than those aspects of the action that have little potential for effect. For example, implementation of the Proposed Action would entail development and evaluation of human health and safety standards; thus, this topic is addressed in greater detail than is socioeconomics, which would be little affected.

Impacts from Alternatives 2 and 3 were analyzed by comparing their actions to the Proposed Action. Because Alternatives 2 and 3 together comprise the Proposed Action, impacts associated with Alternative 2 or 3 individually would be smaller than impacts associated with the proposed action. Differences in impacts between the Proposed Action and Alternatives 2 and 3 are included in Sections 3.3 and 3.4, respectively.

No Action is discussed in Section 3.5, and Cumulative Impacts are discussed in Section 3.6.

All potential impacts in each resource category would be within the bounds of impacts evaluated in the 1996 NTS EIS (DOE 1996a).

3.2 Alternative 1 – Biological Simulant and Chemical and Releases (Proposed Action)

Historically, environmental research, counter proliferation and nonproliferation activities at the NTS have included tests and experiments designed to detect evidence of the production, storage or use of biological and chemical agents and weapons by other countries. On several occasions, the NTS has supported tests and experiments involving the use and release of small quantities of non-pathogenic biological simulants. Locations where these activities have taken place include the Cambric Ditch in Area 5, the Area 12 Camp, and the Mercury Sewage Lagoons in Area 23. Non-radioactive hazardous chemicals have been released primarily at the HSC in Area 5.

For the Proposed Action, test release events (test series) may occur anywhere on the NTS provided that they meet the criteria specified in Section 2.1.5 and have prior approval of the Safety Review Panel.

The following sections describe the NTS environment and environmental impacts that could occur if the Proposed Action (described in Section 2.1) were implemented.

3.2.1 Land Use, Visual Resources, and Noise

3.2.1.1 Affected Environment

NTS is located on approximately 1,375 square miles (879,990 acres) in southern Nye County, Nevada, in a transition area between the Mojave Desert and the Great Basin. The topography of the site consists of a series of north-south-oriented mountain ranges separated by broad, low-lying valleys and flats. The area surrounding NTS is unpopulated to sparsely populated desert and rural land. Federal lands surround NTS, with the Nevada Test and Training Range located on the north, east, and west, and U.S. Bureau of Land Management lands on the south and southwest. Beyond the Federal lands surrounding NTS, principal land uses in Nye County in the vicinity of the site include mining, grazing, agriculture, and recreation. Rural communities located within the vicinity of NTS include Alamo, 69 km (43 miles) to the northeast; Pahrump, 42 km (26 miles) to the south; Beatty, 26 km (16 miles) to the west, Indian Springs, 27 kilometers

(17 miles) to the southeast, and Amargosa Valley, 5 km (3 miles) to the south. Las Vegas, located in Clark County is about 105 km (65 miles) to the southeast (DOE 2003b).

Major sources of noise at NTS include equipment and machines, blasting and explosives testing, and aircraft. The acoustic environment in areas adjacent to NTS can be classified as either uninhabited desert or small rural communities. Generally wind is the predominant noise source. Noise at the site boundaries from most sources on the NTS is barely distinguishable from background.

3.2.1.2 Environmental Consequences to Land Use

After materials have been released, affected land would be monitored, remediated, if necessary, and returned to its original use. No construction, permanent land disturbance, or permanent land use changes would be associated with the Proposed Action, therefore this alternative would not adversely affect land use.

3.2.1.3 Environmental Consequences to Visual Resources

No construction, permanent land use, or building changes would be associated with the Proposed Action. Effects to the visual environment would result from travel to and from the release site, placement of temporary equipment, and activities as the release site. Any effects would be minor, temporary and cease once the test series was complete. Test series, estimated at 5 to 20 per year, and associated activates, would not be distinguishable from other NTS activities. No visual impacts would be perceived by the public.

3.2.1.4 Environmental Consequences from Noise

Noise impacts from chemical and biological simulant release activities are expected to be similar to those from existing operations on the NTS except that there would be an increase in the frequency. Noise impacts would be minimal.

3.2.2 Socioeconomics

3.2.2.1 Affected Environment

Ninety-seven percent of NTS employees reside in Nye (7 percent) or Clark (90 percent) counties. Between 1990 and 2000 the Nevada population grew 66.3 percent; Nye County grew 82.7 percent and Clark County grew 85.6 percent. Population growth in Nevada is expected to exceed average national trends for the foreseeable future. The growth in Clark County is expected to slow, but remain well above national averages. In 2001 per capita income was $24,968 in Nye County and $28,992 in Clark County, compared to a Nevada average of $30,128. Unemployment in Nye and Clark Counties in 2001 was 5.5 percent (BEA 2003).

3.2.2.2 Environmental Consequences

No construction personnel would be required as no construction would be required. No additional operations personnel would be required initially. As many as two additional employees could be hired in approximately 5 years. There would be a slight increase in the number of customer representatives and technical personnel associated with tests that would travel to the area and utilize hotels, restaurants, and related businesses. Implementation of the Proposed Action would have imperceptible impacts on the local economy, employment, housing, and community services.

3.2.3 Cultural Resources

3.2.3.1 Affected Environment

Cultural resources are prehistoric or historic sites, buildings, structures, districts, objects, or places considered to be important to a culture or community. Cultural resources located on the NTS include archaeological sites, architectural or engineering features, and Native American religious or sacred places. Federal legislation requires agencies to consider the effect of proposed projects on cultural resources that are considered eligible for listing on the National Register of Historic Places (NRHP).

To date, more than 400 cultural resource investigations have been conducted on the NTS. Approximately 4 percent of the NTS has been investigated, mostly by 100 percent coverage pedestrian surveys, with some data recovery excavation and Native American ethnographic consultation. A total of almost 2,200 cultural resources have been recorded; of those nearly half are eligible for inclusion on the NRHP listing of historic properties. Ninety-six percent of the resources are prehistoric, with the remainder either historic, recent significant, unknown, or multi-component (DOE 1999; DOE 2000; DOE 2002c; FAA 2000).

3.2.3.2 Environmental Consequences

Impacts to cultural resources could include physical destruction, visual intrusions, and contamination of cultural materials. Physical destruction could occur from ground disturbance associated with travel off existing roads, temporary use of undeveloped land as a staging area for storage of equipment and supplies, and clean-up activities. Additionally, contamination of resources by chemicals or biological simulants could occur as a result of the releases. Contamination of archaeological materials, specifically organic materials such as carbon, plant, and animal remains, could affect the materials and the information they contain, resulting in an adverse impact to the resource. Contamination of a site such that it could not be investigated further would decrease the information potential of the resource. Finally, contamination of religious or sacred resources likely would impact their "sacredness". NNSA/NSO will comply with the provisions of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, prior to initiating any proposed activities. Prior to any release the proposed site and surrounding environs would be evaluated for the presence or probability of undiscovered sites. Areas containing significant cultural resources would be avoided, if possible, during activities that could affect those resources. If a potentially significant cultural resource were considered unavoidable, NNSA/NSO would consult with the Nevada State Historic Preservation Officer and the Advisory Council on Historic Preservation, as appropriate, to identify protective or mitigative measures. Workers associated with release activities would be briefed to avoid off-road driving, and on the importance of cultural resources and historic preservation. For these reasons, impacts to cultural resources from implementation of the Proposed Action would be minimal.

3.2.4 Water Resources

3.2.4.1 Affected Environment

NTS is located within a closed hydrographic basin that covers much of Nevada (see Section 3.2.5). There are no perennial streams or naturally occurring surface water bodies at NTS. Precipitation at NTS is low, ranging from approximately 10 cm (4 in) on Frenchman Flat (DOE 2002b) to 23 cm (9 in) at the higher elevations (DOE 1996a). Much of the runoff from snowmelt and precipitation quickly infiltrates rock fractures or surface soils, or is lost by evapotranspiration. Some runoff is carried down alluvial fans in arroyos, or drains into playas where it may stay for weeks as an ephemeral lake. Runoff in the eastern half of NTS collects in the playas at Frenchman Flat and Yucca Flat. In the northeastern area of NTS, runoff drains off the site and onto the Nevada Test and Training Range Complex. In the western half and southernmost part of NTS, runoff is carried off towards the Amargosa Desert (DOE 2003b). There are a number of springs on NTS, but flow from the springs travels only a short distance before evaporating or infiltrating into the ground. Additionally, there are manmade waste disposal ponds and open reservoirs for industrial water at the NTS.

Groundwater beneath NTS exists in three groundwater subbasins of the Death Valley Basin flow system. The depth to groundwater varies from about 79 m (260 ft) below the land surface in the extreme northwest part of the site, and about 160 m (525 ft) below land surface in Frenchman and Yucca Flats, to more than 610 m (2,000 ft) under upland portions of Pahute Mesa. Groundwater flows generally south and southwest with flow rates that are quite variable,

ranging from 2 to 200 m (7 to 660 ft) per year (DOE 2003b).

Groundwater is the only local source of potable water on NTS. Drinking water at NTS is provided by 9 potable water wells. For remote areas not connected to an NTS drinking water system, water is transported to the area by permitted water haul trucks (DOE 2003c) or supplied as bottled water (DOE 2003b).

There are no National Pollutant Discharge Elimination System (NPDES) permits for the NTS, as there are no wastewater discharges to onsite or offsite surface waters. Discharges of wastewater are regulated by Nevada under the Nevada Water Pollution Control Law. Additional discussion of wastewater management is included in Section 3.1.12, Waste Management.

Bacillus thuringiensis was introduced into the unlined Cambric ditch in 1998. Post-test monitoring identified no observable effects or environmental degradation. In 1999 and 2000 *B. thruringiensis* and *B. subtilis* var. *niger* (also known as *B. globigii*) were introduced into two sewage systems, one in Area 12 and the other in Area 23. There were no observed effects on the operation of the sewage systems. The sewage lagoons provide a natural treatment process. One of the tests was to detect long-term residual material. There was no evidence of persistence of either organism, and no environmental effects were observed (Pergler 2004). No chemicals have been deliberately introduced into the NTS sewage system or NTS surface waters (Pergler 2004).

3.2.4.2 Environmental Consequences

No significant impacts to water resources are expected as a consequence of the Proposed Action. Although there may be an increase in water use, the increase would be slight compared to total water use at the NTS and well within the bounds of water resource impacts evaluated in the 1996 NTS EIS (DOE 1996a).

No chemical releases would be made into water resources on the NTS. Biological simulants could be released into an existing man-made ditch as part of stream transport studies. However, most liquid releases would be to lined sewage lagoons or ponds. There will be no releases to naturally occurring springs, arroyos, playas, or ephemeral lakes. Pre-activity surveys will be conducted to search for nesting birds, and there will be no releases of chemicals or biological simulants within 30 meters (100 feet) of any water resources that contain nesting birds. Any liquid releases to the environment would be evaluated as part of the test plan, and no releases would be permitted that would harm human health or safety, protected species or wildlife populations. No materials with long-term persistence in the environment would be released unless residual material remaining in the environment after completion of the test series were cleaned up; therefore, there would be no impacts to groundwater.

No chemical releases to water resources are proposed.

3.2.5 Geology and Soils

3.2.5.1 Affected Environment

Geology

The NTS is within the southern part of the Great Basin. The NTS is generally characterized by more or less regularly spaced, generally north-south trending mountain ranges separated by alluvial basins that were formed by faulting. There are three primary valleys on the NTS; Yucca Flat, Frenchman Flat, and Jackass Flats. The alluvium- and tuff-filled valleys are rimmed mainly by Precambrian and Paleozoic sedimentary rocks and Cenozoic volcanic rocks.

The relief of the NTS ranges from less than 1,000 m (3,280 ft) above sea level in Frenchman Flat and Jackass Flats to about 2,339 m (7,675 ft) on Rainier Mesa and about 2,199 m (7,216 ft) on Pahute Mesa.

The geology of the NTS consists of a thick section (more than 10,597 m [34,768 ft]) of Paleozoic and older sedimentary rocks, locally intrusive Cretaceous granitic rocks, a variable

assemblage of Miocene volcanic rocks, and locally thick deposits of postvolcanic sands and gravels that fill the present day valleys (DOE 1996a).

The geologic conditions that could affect the stability of the ground and infrastructure at NTS, including volcanic activity, seismic activity (earthquakes), slope stability, surface subsidence, and soil liquefaction are well described in the NTS EIS (DOE 1996a). These conditions do not influence the decisions being made through this EA and, therefore, are not described further in this document.

Soils

In general, the soils of the NTS are similar to those of surrounding areas. According to the NTS EIS (DOE 1996a), the soils of the southern NTS reflect the mixed alluvial sediments upon which they form. In general, soils texture is gradational from coarse-grained soils near the mountain fronts to fine-grained soils in the playa areas of the Yucca Flat and Frenchman Flat. Most soils are underlain by a hardpan of caliche. Soil loss through wind and water erosion is a common occurrence throughout the NTS and surrounding areas. None of the soil series in southwestern Nye County are considered prime farmland (EBS 1999).

3.2.5.2 Environmental Consequences

The scope of past, current, and expected impacts to geology and soils at the NTS established in the NTS EIS (DOE 1996a) was extensive. The amount of soil impact associated with the Proposed Action would be within the envelope of impacts evaluated in the NTS EIS.

The potential contamination of soils by either chemical or biological simulants would be considered as part of the decision matrix associated with deciding whether a test should be performed. Suitable clean-up procedures, if required, would be added to each test protocol before approval of the test. Impacts to soil or geology resources from implementation of the Proposed Action would be minimal.

3.2.6 Air Resources

3.2.6.1 Affected Environment

Climate and Meteorology

Annual precipitation at NTS ranges from approximately 10 cm (4 in) to 23 cm (9 in) including snow accumulation. Snow accumulations are sporadic, lasting only a few days in the southern portions of the NTS but several weeks on the higher plateaus in the north. Precipitation in the summer, primarily in July and August, is largely the result of isolated thunderstorms. A tropical storm occasionally will move northeastward from the coast of Mexico, bringing heavy precipitation during September or October.

Elevation influences temperatures at NTS, resulting in a wide range of temperatures. The annual average temperature in the NTS area is 19°C (66°F). Monthly average temperatures range from 7°C (44°F) in January to 32°C (90°F) in July. Relative humidity ranges from 11 percent in June to 55 percent in January and December (DOE 2003b).

Average annual wind speeds and direction vary with location. At higher elevations on Pahute Mesa, the average annual wind speed is 4.5 meters per second (m/s) (10 mph). The prevailing wind direction during winter months is north-northeasterly, and during summer months winds are southerly. In Yucca Flat the average annual wind speed is 3 m/s (7 mph). The prevailing wind direction during winter months is north-northwesterly, and during summer months is south-southwesterly. At Mercury, the average annual wind speed is 4 m/s (8 mph) with northwesterly prevailing winds during winter months, and southwesterly prevailing winds during summer months. Wind speeds in excess of 27 m/s (60 mph), with gusts up to 48 m/s (107 mph), may be expected to occur once every 100 years (DOE 2003b).

Severe weather in the region includes occasional thunderstorms, lightning, tornadoes, and sandstorms. Severe thunderstorms may produce large amounts of precipitation that continues for

an hour or so and may create a potential for flash flooding. Few tornadoes have been observed in the region, and they are not considered significant events.

Regulatory Compliance

The Clean Air Act of 1970, as amended, is intended to protect and enhance the quality of the nation's air resources and to promote the public health and welfare and productive capacity of its population. The United States Environmental Protection Agency (EPA) sets National Ambient Air Quality Standards (NAAQS) for pollutants harmful to public health and the environment. Six criteria pollutants (carbon monoxide, nitrogen dioxide, lead, ozone, sulfur dioxide, and particulate matter) are evaluated under the NAAQS. The Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Air Pollution Control (BAPC) administers the Clean Air Act within the state of Nevada. The Nevada Ambient Air Quality Standards (AAQS) are found at NAC 445B.22097. The Nevada AAQS is similar to the Federal list with the addition of hydrogen sulfide. The State of Nevada also regulates Hazardous Air Pollutants (HAP) (NAC 445B.2201) and has adopted the Federal list of HAP found at 42 U.S.C. § 7412(b).

NTS is located in the Nevada Intrastate Air Quality Control Region. Ambient air quality at NTS is not currently monitored for criteria pollutants or hazardous air pollutants, with the exception of radionuclides. Elevated levels of ozone or particulate matter may occasionally occur because of pollutants transported into the area or because of local sources of fugitive particulates. Ambient concentrations of other criteria pollutants (sulfur dioxide, nitrogen oxides, carbon monoxide, and lead) are low because there are no large sources of these pollutants nearby (DOE 2003b). The region is classified as an attainment area for all six criteria pollutants.

The nearest Prevention of Significant Deterioration (PSD) Class I areas to NTS are the Grand Canyon National Park, 208 km (130 mi) to the southeast, and the Sequoia National Park, 169 km (105 mi) to the west southwest.

BAPC has primacy over air quality programs in Nye County (Nevada Revised Statutes 445B.100 through 445B.825, inclusive, and Nevada Revised Statutes 486A.010 through 486A.180, inclusive). The BAPC oversees releases of all regulated pollutants currently covered under several NTS Air Quality Operating Permits (OP). The HSC is currently regulated under a separate Class II air quality-operating permit. Emissions are regulated by placing restrictions on operating hours and production amounts and by imposing opacity limits and recordkeeping and reporting requirements. In 1999, the HSC received a conditional waiver for the opacity limits, due to the nature of its operations (DOE 2003b). A new NTS Class II Air Quality Operating Permit is expected to be issued in the near future, which will combine all NTS permits, including the one governing the HSC, into a single permit. Once the new permit is issued, different opacity requirements may be specified.

A BAPC letter, dated October 17, 2003, concerning the "Notification of Intention to Prepare an Environmental Assessment (EA)" for the Proposed Action, is included in Appendix A. The BAPC requires that opacity concerns be addressed in the release of any simulants including non-pathogenic and chemical simulants (Appendix A). The BAPC stipulates that planned releases outside the boundaries of the HSC would require an application for modification of the NTS OP. In addition, the BAPC states that there are concerns that the releases could potentially adversely affect areas outside the boundaries of the NTS (e.g., Desert National Wildlife Range and the Nellis Test and Training Range).

3.2.6.2 Environmental Consequences

Biological simulants and chemical releases, as defined in the Proposed Action, would be subject to release criteria developed as part of the NTS Air Quality OP. Releases would not occur unless the meteorological conditions at the release site were appropriate for the biological or

chemical releases. Climatic conditions, wind direction, surface meteorological conditions and air dispersion characteristics would be modeled prior to any releases of chemical or biological simulants. Releases would be designed to be in compliance with the proposed release criteria. In addition, all Nevada Class II OP requirements, including submittal of a test plan before the planned test, monitoring and recording quantities of test chemicals and emissions, submittal of final analysis of each chemical release test to the BAPC, and notification to the BAPC within 24 hours of any malfunction or upset of the test process that results in an emission above allowable limits, would be adhered to strictly (DOE 2002b).

When the charge is removed from biological organisms, releases can result in longer suspension times for the particles in the atmosphere. Aerosols are minute particles suspended in the atmosphere. Suspended aerosols have a potential to move off the NTS site. However, due to the low concentrations of biological simulants that would be released and their wide dispersal, the biological simulants are not expected to be distinguishable from background levels outside NTS boundaries. No impacts to air quality standards are predicted to occur beyond the NTS boundaries.

3.2.7 BIOLOGICAL RESOURCES

Terrestrial Resources

NTS is in the transition zone between the Mojave Desert and the Great Basin Desert. As a result, it has a diverse and complex mosaic of plant and animal communities representative of both deserts, as well as some communities common only in the transition zone between them. This transition zone extends to the east and west far beyond the boundaries of NTS. Thus, the range of almost all species found onsite also extends beyond the site, and there are few rare or endemic species present.

Mojave Desert plant communities are found at elevations below approximately 1,200 m (4,000 ft) in Jackass Flats, Rock and Mercury Valleys, and Frenchman Flat. Creosote bush (*Larrea tridentata*) is the visually dominant shrub and is associated with a variety of other shrubs, including white bursage (*Ambrosia dumosa*) at NTS, depending on soil type and elevation. Two plant communities are unique to the transition zone. The first, which occurs at elevations from approximately 1,200 to 1,500 m (4,000 to 5,000 ft), is dominated by blackbrush (*Coleogyne ramosissima*). The second occurs in the bottom of enclosed Frenchman and Yucca Flats basins, where trapped winter air is too cold for typical Mojave Desert plants. The most abundant shrubs in these areas include three species of wolfberry (*Lycium* spp.). Little or no vegetation grows on the playas in these basins. Plant communities typical of the Great Basin Desert occur at elevations generally above 1,500 m (5,000 ft). Communities dominated by saltbush (*Atriplex* spp.), rabbitbrush (*Chrysothamnus* spp.), sagebrush (*Artemisia* spp.), and pinion pine (*Pinus monophylla*)/sagebrush occur with increasing elevation. Over 700 plant taxa have been found at NTS.

Three hundred thirty-three species of terrestrial vertebrates have been recorded at NTS, including 60 species of mammals, 239 species of birds, and 34 species of reptiles. Typical Mojave Desert species found at the site include kit fox (*Vulpes macrotis*), Merriam's kangaroo rat (*Dipodomys merriami*), desert tortoise (*Gopherus agassizii*), chuckwalla (*Sauromalus obesus*), western shovelnose snake (*Chionactis occipitalis*), and sidewinder rattlesnake (*Crotalus cerastes*). Typical Great Basin Desert species include Townsend's ground squirrel (*Spemophilus townsendii*), Great Basin pocket mouse (*Perognathus parvus*), mule deer (*Odocoileus hemionus*), northern flicker (*Colaptes auratus*), scrub jay (*Aphelocoma coerulescens*), Brewer's sparrow (*Spizella breweri*), western fence lizard (*Sceloporus occidentalis*), and striped whipsnake (*Masticophis taeniatus*). About 40 wild horses (*Equus caballus*) live on the northern part of NTS (DOE 2001).

Large carnivorous birds such as the turkey vulture (*Cathartes aura*) and rough-legged hawk (*Buteo lagopus*), and carnivorous mammals such

as the long-tailed weasel (*Mustela frenata*) and bobcat (*Lynx rufus*) are ecologically important groups on the site. A variety of migratory birds have been recorded at NTS (DOE 2003b).

Wetlands

Twenty-four springs or seeps are known at NTS, most of which support wetland vegetation such as cattail (*Typha latifolia*), sedges (*Carex* spp.), and rushes (*Juncus* spp.). It is likely that these would constitute wetlands as defined under Section 404 of the Clean Water Act (CWA).

One newly identified wetland, an historic borrow pit that catches water in large enough quantities and for long enough periods of time to sustain wetland vegetation, has been identified (DOE 2003b).

Aquatic Resources

Known natural water sources on NTS are 24 springs or seeps, 4 tanks (natural rock depressions that catch and hold surface runoff), and intermittent playas. Man-made impoundments on NTS, which are scattered throughout the eastern half of the site, support three introduced species of fish: bluegill (*Lepomis macrochirus*), goldfish (*Carassius auratus*), and golden shiner (*Notemigonus crysoleucas*). Eighty-one species of plants and 138 species of animals (not all of which are aquatic species) have been documented at or near aquatic sites on NTS (DOE 2003b). Water holes, both natural and manmade, are important to many species of wildlife.

Threatened and Endangered Species

No Federally-listed endangered species are known to inhabit the NTS. The only Federally-listed threatened species at NTS is the Mojave Desert population of the desert tortoise. Desert tortoises are found throughout the southern one-third of the site (Figure 3-1). The abundance of tortoises at NTS is low to very low compared to other areas within the range of this species. NTS contains less than 1 percent of the total desert tortoise habitat of the Mojave Desert population (DOE 2003b).

3.2.7.1 Environmental Consequences

Prior to a release, the proposed release site would be evaluated to ensure that no species of special interest or sensitive habitat would be adversely affected by the release, and documentation would be prepared to support the evaluation.

Prior to the release, a pre-activity survey would be conducted by qualified biologists to ensure that no species of special interest were present. Particular care would be taken to search for desert tortoise burrows in the area of potential impact. The pre-activity surveys would be conducted in accordance with the 1996 or subsequent Biological Opinions for NTS activities. If desert tortoises were present, mitigation measures would be implemented in compliance with the Biological Opinion.

Species of special interest include, but are not limited to, certain species of bats, burrowing owls, and breeding bird species protected under the Migratory Bird Treaty Act. If these species were found inhabiting an area where they could be adversely impacted by a proposed release, NNSA/NSO would develop mitigation measures in coordination with the U.S. Fish and Wildlife Service to protect the animals or move the release site to avoid impacts. For example, a 60-meter (200 foot) buffer would be established around any occupied burrows of the burrowing owl, and there would be no releases within this buffer during breeding season. Furthermore, releases would not be conducted in areas where active nests of other bird species protected under the Migratory Bird Treat Act are located.

As discussed in Chapter 2, NNSA intends to manage the program such that the proposed releases would occur in different areas. Flora and fauna in any given area would typically not be exposed to multiple releases and therefore, better able to recover from any adverse impacts. However, activities associated with locating ground-based equipment would affect some vegetation resources. The proposed activities are expected to occur in habitats that are well represented at the local and regional levels, and thus the spatially-limited effects would

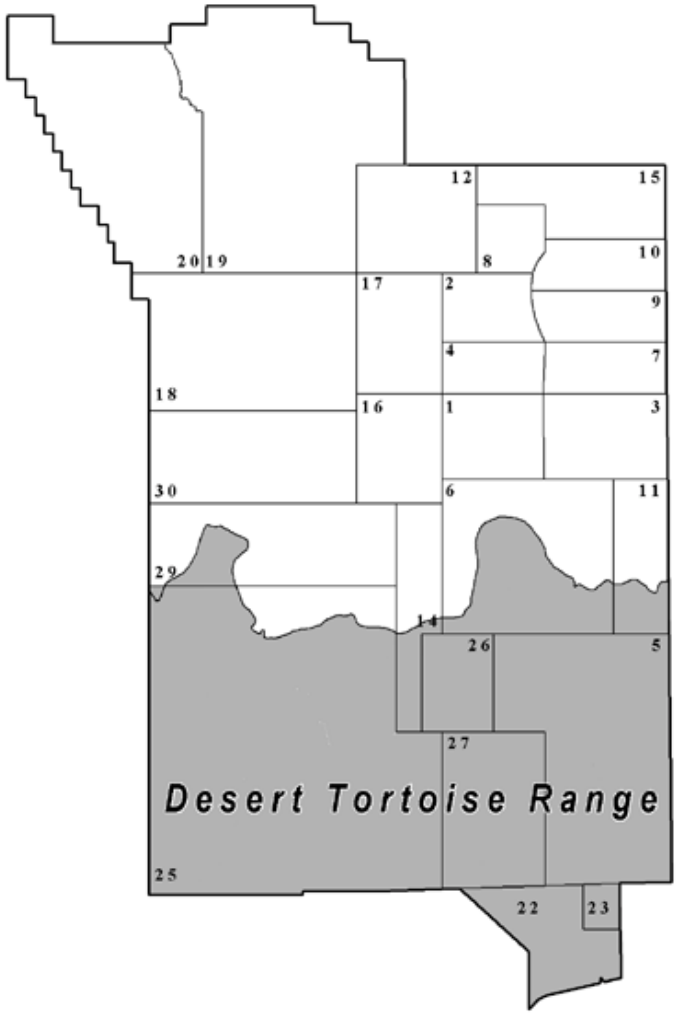

Figure 3-1. Desert Tortoise Range at Nevada Test Site

minimally impact the habitat type. Natural succession of colonizing species following releases of chemicals or biological simulants is expected to prevent permanent vegetation disturbance. The release of some chemicals could adversely affect individuals of non-protected animal or plant species or temporarily degrade habitat in the immediate area of the release; however human activity in the area around the release site prior to the release would cause larger species to flee and smaller species to seek shelter. The release of *B. thuriengensis* could result in mortality of a small number of insects, such as flies or moths in immediate proximity of the release. No release would be conducted that would adversely affect the population of a species commonly found in the area, or adversely affect an individual of a federal- or state-protected species.

Potential ecological impacts would be evaluated from each single release point and collectively from all release points. Should other test series occur within the same time period with geographic overlap, the synergistic effects of these test series would be evaluated. Test series that would include the release of chemicals or biological simulants that could persist in the environment for more that a few weeks would require a remediation plan to be developed and implemented in coordination with the U.S. Fish and Wildlife Service. Depending on the severity of the contamination and impacts to habitat, remediation could include reclamation of the site using plant species native to the area.

B. thuringiensis and *Erwinia herbicola* are bacteria that are regulated pesticides, and are consequently subject to federal and state laws. If proposed application methodology and rates of these two biological simulants are different from those approved by the EPA, an exemption or permit(s) may be required. Any release of *B. thuringiensis* or *E. herbicola* would be accomplished according to Section 5 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

3.2.8 Traffic and Transportation

3.2.8.1 Affected Environment

Regional Transportation Infrastructure

NTS is approximately 65 miles northwest of Las Vegas, Nevada (Figure 1-1). The route to NTS from many locations from the east goes through the Las Vegas metropolitan area. Interstate highway I-15 passes through Las Vegas in a southwest northeast direction. A beltway, Clark County 215/I-215, is being constructed to encircle all but the east side of Las Vegas. The Mercury interchange on U.S. 95 provides the principal access into NTS. Completion of a new bridge (planned for 2006) for U.S. 93 across the Colorado River, just south of Hoover Dam, and the new Clark County 215/I-215 around Las Vegas would simplify the routing to and from NTS.

Local Traffic Conditions

Ninety-five percent of all commuters and shipments to NTS arrive from the Las Vegas area on U.S. 95, a four-lane highway from Las Vegas to the Mercury interchange. Traffic is light and free flowing once clear of Las Vegas. Commuters, however, can experience gridlock within the beltway, especially at the interchanges of U.S. 93, U.S. 95, I-15, and I-515. With approximately 3,800 employees, the NTS contribution to the traffic congestion in Las Vegas is minimal.

Hazardous Waste and Materials Transportation

The term “hazardous” as used in this section is the same as that defined by the U.S. Department of Transportation, which is a substance or material determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported. This definition would include radioactive and other materials or wastes not considered hazardous by the Resource Conservation and Recovery Act (RCRA).

Materials and chemicals used at NTS are shipped there from offsite sources across the country. Explosives, fuels, corrosives, compressed gas, radioactive calibration sources, special nuclear material, and depleted uranium are examples of such materials. Most of these shipments are of very small quantities that arrive by mail, express carriers, or delivery vans and trucks. Some items, such as fuels, arrive in bulk quantities by common carrier. Common carriers transporting shipments to the NTS are required to comply with all applicable regulations governing the materials in transit. It is not expected that the number of shipments nor the materials being transported would exceed the bounds of the transportation study and identified potential impacts in the NTS EIS (DOE 1996a).

The waste disposal facilities at NTS are not permitted to receive any non-radioactive RCRA-hazardous waste. Therefore, all non-radioactive RCRA waste, including potentially ignitable, corrosive, toxic, reactive, or other wastes designated as RCRA hazardous, is shipped to offsite permitted facilities for treatment and disposal. Hazardous waste is shipped under constraints imposed by the U.S. Department of Transportation.

3.2.8.2 Environmental Consequences

Traffic

The Proposed Action would incur no additional NTS commuters for the first 5 years. After 5 years two additional employees could be added. The numbers of shipments of hazardous chemicals and biological simulants would be approximately 5 to 20 per year. These incremental shipments are not sufficient to have any impact on the current traffic.

Transportation

Other than traffic impacts, transport of biological simulants and chemicals could only affect public health if the materials were released by some incident such as a traffic accident. Shipments of chemicals and biological simulants addressed in this EA to and from the NTS would be conducted in full compliance with all applicable laws and regulations. These laws and regulations are designed to ensure to the extent feasible, the safe transportation of hazardous materials. Waste shipments within the NTS would be small in number and volume and within the bounds of the current baseline.

3.2.9 Human Health and Safety

3.2.9.1 Affected Environment

It is the policy of NNSA to operate NTS in a manner that protects the health and safety of employees and the public, preserves the quality of the environment, and prevents property damage. Environment, safety and health (ES&H) are priorities in the planning and execution of all work activities at NTS. It is also the policy of NTS to comply with applicable ES&H laws, regulations, and requirements; and with directives promulgated by DOE regarding occupational safety and health.

NNSA requires work at the NTS to be performed according to the safety and health requirements of OSHA as codified in 29 CFR Parts 1910 and 1926. DOE Orders also provide direction for worker safety and health programs.

To integrate the activities of a number of contractors and NTS users and to avoid discontinuities in the health and safety program, NTS operates under standard operating procedures (SOPs) for DOE facilities. The relevant procedures include the following:

- 5401 Environment, Safety, and Health Coordination Responsibilities
- 5409 Management of Hazardous Materials and Hazardous Wastes
- 5410 Industrial Hygiene
- 5412 Explosive Safety
- 5415 Safety and Fire Responsibilities

NNSA/NSO has implemented an Integrated Safety Management System (ISMS) in accordance with DOE Procedure 450.4 to

"…systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment." The ISMS is a systematic approach to defining the scope of work; identifying, planning, and performing work that provides for early identification of hazards; and identifying associated control measures for hazardous mitigation or elimination. The ISMS process also forms the basis for work authorization and provides for both internal and external assessment through a continuous feedback and improvement loop that identifies both failures and successes and incorporates lessons learned into subsequent activities.

The health and safety of NTS workers is protected by adherence to the requirements of federal and state law, DOE orders, and the plans and procedures of each organization performing work on the NTS. A program of self-assessment for compliance with these requirements is conducted by contractors and by NNSA/NSO. In addition, workers are protected from the specific hazards associated with their jobs by training, monitoring the workplace environment, using appropriate PPE, and using administrative controls to limit their exposures to radioactive or chemical pollutants. Worker access to areas of the NTS with working conditions requiring special hazard control is restricted through the use of signs, barriers, and fences, as appropriate.

Visitors to the NTS, including individuals and tour groups, are subject to essentially the same safety and health requirements as workers. Safety briefings are provided as appropriate (e.g., tunnel entry), PPE is provided when necessary, and radiation dosimeters may be issued along with badges as part of the visitor-control process. Secondary access control is provided when necessary for safety or security reasons. Visitor access to areas of the NTS where working conditions require special hazard controls (e.g., the HSC) is restricted through the use of signs, fences, or barricades.

The potential for activities at the NTS to impact the health and safety of the general public is minimized by a combination of the remote location of the NTS, the sparse population surrounding it, and a comprehensive program of administrative and design controls.

3.2.9.2 Environmental Consequences

The NTS EIS (DOE 1996a) contains an analysis of NTS workforce injuries and illnesses. Under the proposed action no additional impacts to injury and illness categories would be expected.

General health and safety protocols for NTS personnel are detailed in DOE regulations and site and facility SOPs. During release tests, the primary means of personnel protection would consist of administrative and access control to the test area, personnel clear zones, and the use of PPE.

With the potential exception of the instantaneous release scenario, operations workers would not be exposed to noise levels higher than the acceptable limits specified by OSHA in its noise regulations (DOE 2003b). Workers would be protected from high noise through implementation of existing hearing protection programs to minimize noise impacts on workers.

Contact with chemical and biological test materials would occur primarily during test preparation, post-test evaluation, and site clean-up. Concentrated test materials are generally eye, skin, and respiratory irritants and potentially toxic via various pathways. PPE would be used in accordance with test plan guidance and Material Safety Data Sheet recommendations.

During the tests, administrative and access controls and area monitoring would prevent exposures to involved and non-involved workers and the general public. Chemical concentrations within the exclusion area (100-meter radius from the release point) could exceed IDLH concentrations. At the 100-meter radius (exclusion area) boundary chemical concentrations would be limited to at or below IDHL stated concentration. Access and administrative controls would prevent personnel from entering the exclusion area until chemical concentrations were reduced to the required

occupational levels defined in the test plan. No impacts to involved workers would occur during these operations.

Chemical concentrations within the buffer area (from the 100-meter radius to the 300-meter radius) would be limited to below the IDHL for the chemical of concern. At the 300-meter radius boundary, chemical concentrations would be limited to at or below STEL concentrations. Access and administrative controls would prevent personnel from entering the exclusion areas until the chemical concentrations were reduced to the required occupational levels defined in the test plan. There would be no impacts to workers and members of the public.

Chemical concentrations at the buffer area perimeter (300-meters from the release point) would not exceed the more conservative of the PEL, REL, or TLV values for the chemical of concern. Access and administrative controls for personnel entering the buffer area during tests would provide adequate protective measures for worker exposure control. Under these conditions, there would be no impacts to involved and non-involved workers and members of the public.

The biological simulants identified for use under the proposed action are described in Table 2-1. These biological organisms are not typically classified as human pathogens. However, some pathogenicity has been demonstrated in immuno-depressed individuals for *B. subtillis* var. *niger*. Some of the simulants are commercially available as pesticides (*B. thuringiensis*) or fungicides (*E. herbicola*). *E. herbicola* has been associated with allergic alveolitis in humans and identified as a causative agent in Grain Handler's Lung. *Clostridium sporogenes* is a benign microorganism in the environment. No reports in the literature suggest that *C. sporogenes* is a pathogen of humans, animals or plants. The remaining biological simulants do not represent human pathogenic risks.

With appropriate administrative, access and test controls in place, there would be no impact to involved and non-involved workers and members of the public.

3.2.10 Environmental Justice

3.2.10.1 Affected Environment

Under Executive Order 12898, DOE is responsible for identifying and addressing disproportionately high and adverse impacts on minority or low-income populations. Minority persons are those who identify themselves as Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; or another non-white race; or persons of Hispanic or Latino ethnicity. Persons whose incomes are below the federal poverty threshold are designated low-income.

At NTS, the 80-km (50 mi) radius includes portions of Clark, Nye, and Lincoln Counties in Nevada and a portion of Inyo County, California. In 2002, minority populations comprised 30.9 percent of the U.S. population, and the same percentage of the Nevada population. The percentage of minority populations in the area surrounding the NTS is greater than that in the United States or Nevada; however, the minority populations in the area are concentrated in the Las Vegas metropolitan area, outside the 80-km (50 mi) impact area (DOE 2003b).

Low-income populations comprised 12.4 percent of the U.S. population, based on 1999 income, and 10.5 percent of the Nevada population. Within the counties surrounding NTS, 10.8 percent of the population lives below the poverty level (DOE 2003b).

3.2.10.2 Environmental Consequences

The Proposed Action would have minimal or no adverse impacts on any resource area therefore, no disproportionately high and adverse impacts to minority or low-income communities would occur.

3.2.11 Site Infrastructure

3.2.11.1 Affected Environment

Infrastructure at NTS consists of transportation (roads, railroads, and airports) and utilities. Utility infrastructure comprises electricity and fuel (natural gas, liquid fuels, and coal).

NTS has 1,127 km (700 mi) of roads, with 644 km (400 mi) paved (DOE 2003b). NTS has no railway connection (DOE 2002c). NTS has two airstrips and has ready access to several additional airports in the area, including McCarran International Airport in Las Vegas and the onsite Desert Rock Airport that is capable of landing and taking off jet aircraft (DOE 2003b).

Electric power is supplied to the NTS under contracts with the Nevada Power Company and Western Area Power Administration (Valley Electric Cooperative).

Fuels used at the NTS consist of unleaded gasoline, JP-8 aviation fuel, and diesel fuels.

3.2.11.2 Environmental Consequences

Existing infrastructure at facilities or areas associated with the Proposed Action are sufficient. No new infrastructure would be required.

3.2.12 Waste Management

3.2.12.1 Affected Environment

This section describes the types of waste that are generated at NTS and the NTS waste management activities and capabilities. NTS manages the following types of waste: transuranic, low-level radioactive, mixed (both radioactive and hazardous), hazardous, sanitary solid, and medical. No mixed, radioactive, or polychlorinated biphenyls waste would be generated as part of the proposed action.

Hazardous Waste

NTS stores hazardous waste onsite prior to shipping it to a permitted commercial facility for treatment/disposal. NTS received its RCRA permit for storage in 1995 and renewed it in 2000. NTS is also permitted to treat certain explosive hazardous wastes.

Sanitary Solid Waste

NTS has three landfills permitted for the disposal of sanitary solid waste (nonhazardous). The Hydrocarbon Disposal Site in Area 6 and the Area 9 U10c Disposal Site are permitted as Class III (industrial solid waste) landfills. Hydrocarbon-contaminated materials are disposed in the hydrocarbon landfill, and inert debris (such as construction and demolition debris) is disposed in the Area 9 landfill. The third landfill is a Class II (municipal solid waste) landfill in Area 23 that receives sanitary solid and regulated asbestos waste. In a recent NEPA analysis (DOE 2002a), DOE concluded that the projected waste volumes through 2011 would consume less than 20 percent of the available sanitary waste disposal capacity at NTS and that the projected waste volumes through 2011 would consume about 12 and 14 percent of the Area 6 and 9 landfills, respectively.

Medical Waste

The medical services provided for employees at NTS generate a small amount of medical waste each year. This waste is managed in accordance with applicable requirements and disposed of at offsite permitted facilities

Biological Waste

NTS does not use biological products that would result in waste that would have to be managed separately from solid waste.

Wastewater

Wastewater at the NTS is disposed of either in one of 16 septic systems located throughout the site or in one of two lagoon systems located in Areas 23 and 6. The septic systems, which

receive sanitary sewage only, have capacities of 750 to 5000 gallons per day (Soong 2001). The average daily flow at the lagoons, which receive sanitary sewage and industrial wastewater, is less than 40,000 gallons per day (Soong 2001). Sludge removed from the systems is disposed in the Area 23 sanitary landfill or the Hydrocarbon Disposal Site, depending on hydrocarbon content. At areas not serviced by a permanent wastewater system, portable sanitary units are provided.

3.2.12.2 Environmental Consequences

The release scenarios for chemicals and biological simulants testing would generate primarily sanitary solid waste. Some hazardous waste could be generated if a chemical that exhibits one or more hazardous characteristics or is listed as hazardous by EPA is used in a test. A chemical could be the test substance itself or a carrier solvent for the test chemical or the biological simulant.

The tests are not expected to generate radioactive wastes, however, if tests were conducted in areas with radioactive materials or contamination, radioactive waste potentially could be generated. The potential for generating radioactive waste would be evaluated during test planning.

Wastes would be composed of empty containers, measuring devices, testing equipment, PPE, test props, and decontamination wastewater. The water-borne and instantaneous-release scenarios could also generate wastewater and explosive waste, respectively. In addition, if cleanup of a release area were required, cleanup wastes could include contaminated soil and vegetation.

Hazardous Waste

Chemicals that result in hazardous waste would be managed in the same manner as the hazardous wastes currently generated. If review of the proposed test plan identified a hazardous waste that NTS currently is not authorized to manage, a revised notification of regulated waste activity and RCRA Part A permit application, if necessary, would be provided. However, if a proposed test included a material not currently listed on the RCRA Part A permit, NNSA/NSO would require the customer to remove any excess from the NTS. If it became necessary to generate a hazardous waste during one of the tests, it would be accumulated at the generation area or transferred to the RCRA-permitted storage facility in Area 5, if the waste type is authorized under the RCRA permit, prior to shipping offsite for treatment and/or disposal. Given this existing accumulation and storage practice and availability of offsite permitted treatment and disposal facilities, the impact on the NTS storage facility and offsite treatment and disposal facilities from hazardous waste resulting from the proposed action is expected to be negligible.

Instantaneous (explosive) release tests would be designed so that all explosive material would be detonated, leaving no explosive waste material. However, in the event that explosive material remained once the test was completed, the explosive waste would be handled as an emergency situation and be treated in place, following consultation and approval of the Nevada Division of Environmental Protection.

Biological Waste

The proposed biological simulants would be unlikely to cause illness in humans or animals and could be managed as ordinary sanitary solid waste.

Sanitary Solid Waste

Sanitary solid waste generated by the proposed action would be disposed of in the Area 23 landfill. This landfill has available capacity because only about 20 percent of its capacity is projected to be used for disposal of current NTS waste streams through 2011. Therefore, disposal of the Proposed Action's sanitary solid waste is expected to have minimal impact.

If cleanup of test areas is required, contaminated soil and vegetation could require disposal. NTS Class III landfills, the Hydrocarbon Disposal Site in Area 6 and the U10c Disposal Site in Area 9, could be used for disposal of wastes

compatible with their permits. These landfills have available capacity; therefore, only minimal impact would be expected.

Wastewater

Wastewater could result from decontamination activities and water-borne release tests. Decontamination would be limited to non-disposable equipment, generating small amounts of wastewater compared to the average daily flow at NTS wastewater treatment systems. Wastewater from decontamination activities would be characterized and if it meets the requirements of the NTS wastewater permit, would be disposed in the NTS Area 23 or Area 6 sewage lagoon systems. Wastewater that would be considered hazardous or biological waste would be managed in accordance with all applicable State and Federal regulations. As discussed in Section 3.2.12.1, the average daily flow at the lagoons is less than 40,000 gallons per day. The impact from decontamination wastewater would be negligible.

3.3 Alternative 2 - Release of Biological Simulants at Various NTS Locations

The potential effects from the release of biological simulants analysis presented in Section 3.2 (Proposed Action) would be the same under this alternative. However, there would be no release of low concentrations of chemicals. Thus, there would be fewer total test series events and none of the consequences specified under the Proposed Action for chemical releases. NNSA/NSO's national security mission activities related to developing, testing and evaluating technology, equipment and systems to combat terrorism, and NNSA/NSO support of Work for Others activities, including training our nation's first responders and military units to respond to weapons of mass destruction events, would not be fully implemented.

3.4 Alternative 3 - Release of Chemicals in Low Concentrations at Various NTS Locations

The potential effects from the release of chemicals in low concentrations analysis presented in Section 3.2 (Proposed Action) would be the same under this alternative. However, there would be no release of biological simulants. Thus, there would be fewer total test series events and none of the consequences from biological simulant releases addressed under the Proposed Action. One release scenario, release to waterways, would not occur. NNSA/NSO's national security mission activities related to developing, testing and evaluating technology, equipment and systems to combat terrorism, and NNSA/NSO support of Work for Others activities, including training our nation's first responders and military units to respond to weapons of mass destruction events, would not be fully implemented.

3.5 Alternative 4 - No Action Alternative

Under this alternative, NTS's baseline operations and management in support of their National Security and Work for Others missions would not change and there would be no change in the current conditions with respect to human health and safety and the environment. Chemical releases would continue to occur at the HSC under existing release criteria. NNSA/NSO's National Security mission activities related to developing, testing and evaluating technology, equipment and systems to combat terrorism, and NNSA/NSO support of Work for Others activities, including training our nation's first responders and military units to respond to weapons of mass destruction events, would not be fully implemented.

3.6 Cumulative Effects

Cumulative effects are the consequences of multiple impacts, each of which could be insignificant, but when taken together, become potentially significant. Cumulative effects analyzed for the Proposed Action include impacts to soil, water resources, biological resources, air, cultural resources, and human health and safety.

The tests and experiments using biological simulants and releases of chemicals comprising

the Proposed Action would consist of a series of tests, each designed to have no measurable effect on the environment. The test procedures would require that the frequency and duration of test releases be low enough to avoid cumulative impacts. A recovery period would be specified between tests of such a magnitude that they could have an effect on plants or animals. This procedure ensures that the capacity of the environment to recover is not exceeded.

Most of the test materials released would be volatile or degrade quickly in the environment, and would not accumulate in the soil. Neither plants nor animals accumulate such materials in their body tissues; therefore, effects would be limited to acute exposures. Test materials with the potential to accumulate in soil, water, plants, animals, or humans would not be released to the environment if there were a reasonable potential for long-term persistence in the environment, unless the release site underwent remediation after the test series was completed. The total quantity of repeated releases of test materials would not cause a measurable increase in air pollution in areas where the public has access. The test materials would disperse rapidly, therefore there would be no cumulative effect to air resources.

A formal biological monitoring program to identify any impacts from activities at HSC has been in place since 1996. To date, no noticeable cumulative effects to biota have been noted (DOE 2003c). The monitoring plan includes field surveys to determine test impacts on plants and animals and to verify that the HSC program complies with pertinent state and federal environmental protection legislation. NTS biologists are tasked to review chemical release test plans to determine if field monitoring along the treatment transects is required for each test as per the monitoring plan criteria. Since 1996, the majority of chemical releases at the HSC use such small quantities that downwind test-specific monitoring has not been necessary (DOE 2003c).

During the first 41 years of the existence of the NTS, 928 nuclear tests were conducted; 100 above ground and 828 underground (DOE 1994b). Most of the radioactive products of nuclear fission from atmospheric tests have short half-lives and have decayed to background levels. Although there were some releases of radioactivity from underground tests, in the vast majority of those tests, all radioactivity was contained hundreds to thousands of feet beneath the ground surface. Areas of the NTS with ground surface radioactive contamination have been mapped and access to such areas is controlled, based on the level of radioactivity present. Given the history of the NTS, areas of radioactive contamination are very few and localized. Viable populations of plants and animals occur on these contaminated areas.

Areas with radioactive contamination from past atomic bomb testing would be avoided when possible, because of the potential to re-entrain radioactive soil or dust into the air. However, in the unlikely event that contaminated soil were to be disturbed, the maximum air concentration of Plutonium-240 has been estimated at 1,000 times less than protective guidelines (DOE 1986).

The most evident impact of nuclear testing at the NTS is the presence of subsidence craters from underground testing. The formation of these craters is described in detail in the NTS EIS (DOE 1996a). Although these craters disturbed the natural topography of a portion of the NTS, primarily Yucca Flat, most of them have stabilized and naturally revegetated, creating a greater diversity of habitat for fauna at the NTS.

The NTS encompasses approximately 1,375 square miles (880,000 acres). As of 1996 the total amount of land disturbed on the NTS was approximately 60,000 acres (DOE, 1996a). This represents about 7 percent of the total NTS area. The activities proposed in this EA could result in some short-term disturbance of previously undisturbed land; however, it is anticipated that most of the locations used for releases of biological simulants and/or chemicals would be existing facilities or previously disturbed areas. As mentioned above, NNSA/NSO would schedule tests to allow recovery of habitat that may be affected by releases. Other projects anticipated at the NTS that may disturb the land

include the Radiological/Nuclear Countermeasures Test and Evaluation Complex (50 to 100 acres) and the Area 6 Aerial Operations Facility (about 80 acres). The combined effect of these projects would represent an additional 0.023 percent of the total area of the NTS. Thus, the cumulative addition to disturbance of lands on the NTS by the proposed action would be negligible.

The potential impacts to cultural resources that could occur as a result of the Proposed Action would be additive to these effects from previous disturbances, but by themselves would be minimal. The Proposed Action would be accomplished in accordance with federal laws and regulations, and DOE implementing regulations and policies, thereby avoiding, reducing, or mitigating any potential impacts.

The increase in traffic from the proposed action, combined with the increase from foreseeable projects, would not result in impacts beyond the baseline established in the 1996 NTS EIS. Employment at the NTS has decreased to approximately one-half of the 1993 employment level and has resulted in a proportional decrease in traffic at the NTS.

Other than traffic, transport of biological simulants and chemicals could only affect public health if the materials were released by some incident such as a traffic accident. Because these shipments would be conducted in full compliance with all applicable laws and regulations, including packaging, handling and shipping, no impacts from transportation are anticipated either incrementally or cumulatively.

Biological simulants could be released as suspended aerosols and could travel beyond the NTS boundaries. However, given that the biological simulants were selected because of their documented lack of toxicity to healthy humans, their low release quantities, and that their concentrations would be non-detectable beyond the NTS boundaries, no impacts to the public would be expected. All other biological releases would remain on-site and not affect involved and non-involved workers or members of the public. No impacts from chemical releases to involved and non-involved workers or members of the public were identified for either individual tests or cumulatively. Therefore, there are no cumulative impacts to human health and safety.

CHAPTER 4.0
MITIGATION MEASURES
MONITORING REQUIREMENTS

As indicated in Chapter 3, no adverse environmental impacts have been identified for the action alternatives; therefore, no mitigation measures are required. Rather than mitigating environmental consequences, the action alternatives would incorporate restrictions, criteria, monitoring, and other elements that are protective of the environment into the planning, preparation, and testing phases to avoid environmental consequences. These elements are summarized in Table 4-1.

NNSA recognizes the need for monitoring for environmental consequences from the proposed testing program. Therefore, NNSA would expand the NTS Ecological Monitoring and Compliance Program to include monitoring and assessment of NTS ecological systems for impacts attributable to the testing program. If adverse impacts were identified, test activities in the area would be suspended until appropriate mitigation measures could be implemented.

Table 4-1. Environmental protection elements incorporated into the action alternatives.

Applied During the Planning Phase

- Develop a test plan that includes modeling of candidate chemicals and biological simulants to determine release amounts and rates that do not exceed the release criteria set forth in this EA (Section 2.1.5)
- Review proposed release sites by NNSA/NSO to ensure that the following criteria are met:
  a. A release would not adversely affect populations of species commonly found in the area or adversely affect an individual of a Federal- or state-protected species.
  b. A release would not adversely affect the known springs and seeps that serve as important sources of water for wildlife
  c. A release site would not be used repeatedly if there was evidence that the biological resources could not recover from the repeated impacts
  d. Avoid areas with radioactive contamination when possible. If it is necessary to conduct a release of chemicals or biological simulants in a radioactive contamination area, develop and implement a plan to eliminate or reduce to the extent feasible re-entrainment of radioactive soil or dust into the air.
- Evaluate proposed release site(s), including an ecological survey to ensure that no species of special interest and no sensitive habitat would be adversely affected by the release.
- Review proposed release site(s) against cultural resource inventory and conduct cultural resource surveys of any previously unsurveyed potentially affected areas. Consult with the Nevada State Historic Preservation Officer and, if applicable, the Advisory Council on Historic Preservation, to develop appropriate mitigation for any significant cultural resource sites that cannot be avoided.
- Develop a post-release monitoring plan, as necessary, to identify if unanticipated adverse impacts are occurring. The monitoring plan would assess each single release point and all release points collectively. The monitoring plan would also ensure compliance with the NTS air permit monitoring requirements.
- Establish suitable clean-up procedures if test plans or NNSA/NSO's review of the test plan indicated the need for remediation.
- Establish PPE and training requirements for use during handling and release of chemicals or biological simulants.
- Delineate administrative control areas and their associated exposure limits and monitoring requirements to ensure those exposure limits are maintained.
- Establish acceptable meteorological conditions for the release site, based on modeling, that ensures exposure limitations and other release criteria would be met.
- Review potential contribution of proposed release to cumulative impacts, with consideration given to optimizing test frequencies to prevent cumulative effects.
- Evaluate the synergistic effects of test if other test series occur within the same time period with geographic overlap.

Applied During the Preparation and Testing Phases

- Off-road travel would be planned, based on input from qualified biologist, to reduce damages to habitat and would be limited to that required to set up testing infrastructure, plume tracking equipment, and recovery activities.
- Personnel would be briefed not to harm, harass, or collect plants or animals.
- Personnel would be briefed on the importance of cultural resources and historic preservation.
- Evacuations and roadblocks would be established prior to each test to protect employees and the public.
- Immediately prior to release a site-walkover would be conducted to ensure that no species of special interest were present and to frighten away birds and large mammals.

CHAPTER 5.0
STATUTES, REGULATIONS, CONSULTATIONS, AND OTHER REQUIREMENTS

5.1 Consultations and Coordination

5.1.1 Consultation and Coordination During the NEPA Process

NNSA consulted federal agencies that have jurisdiction by law or special expertise and state and local agencies authorized to develop and enforce environmental standards. This section summarizes consultations and coordination with federal and state agencies.

The coordination and consultations with federal, state and local agencies began with the NOI issued on October 1, 2003 (see Section 1.4). In response to the NOI, Nevada's Department of Conservation and Natural Resources, Division of Environmental Protection, and the U. S. Department of the Interior, Fish and Wildlife Service, Nevada Fish and Wildlife Office sent comments. These letters are attached to this EA in Appendix B.

Presentations concerning the EA and the Proposed Action have been made to the following local and state agencies:

- Nevada Office of the Bureau of Land Management (BLM), February 4, 2004 -- Attendees included local representatives of BLM, Fish and Wildlife Service, U.S. Air Force, Nevada Department of Wildlife, Nevada Division of Environmental Protection, NNSA/NSO, Bechtel Nevada, and TetraTech, Inc.

- Joint Military Affairs Committee Meeting, February 12, 2004 – Attendees included representatives from the U.S. Air Force, U.S. Army, U.S. Army Corps of Engineers, U.S. Navy, Nevada National Guard, Army National Guard, the State of Nevada Clearinghouse, Nevada Division of State Lands, Nevada Division of Environmental Protection, BLM, Fish and Wildlife Service, Nevada Committee on Economic Development, Nevada Division of Water Resources, Nevada State Historic Preservation Office, Congressman Gibbons, Senator Ensign, and NNSA/NSO.

- Department of Conservation and Natural Resources, Division of Environmental Protection, February 17, 2004 – Attendees included representatives from the Nevada Division of Environmental Protection (including the Bureau of Air Quality Planning, Bureau of Air Pollution Control, Bureau of Federal Facilities, and Bureau of Waste Management), Nevada Health Division, Inter-Tribal Council of Nevada, Nevada Committee on Economic Development, Nevada Division of State Lands, Nevada Division of Water Resources, Nevada Department of Administration Budget and Planning Clearinghouse, Bechtel Nevada, Tetra Tech, Inc., and NNSA/NSO.

- Bureau of Land Management, Tonapah, March 5, 2004 – Attendees included representatives from the BLM Tonopah Field Station, Nevada Department of Wildlife, Nye County, Esmeralda County, Bechtel Nevada, and NNSA/NSO.

- Nye County, March 16, 2004 – NNSA/NSO provided a briefing on the status of preparation of the EA for the Nye County Commissioners in Pahrump, NV. In addition to the Commissioners, attendees included Nye County staff, members of the public, and the news media. The briefing was reported in the Las Vegas Sun and Pahrump Valley Times.

5.1.2 Operational Consultation and Coordination

NNSA/NSO will coordinate and consult with appropriate Federal and state agencies and obtain all required permits to conduct activities described under the proposed action. Further, NNSA/NSO will undertake other, non-regulatory, measures to ensure that activities are conducted in a manner that is protective of the health and safety of workers, non-involved workers and the public, and protects the integrity of the environment.

Most, if not all, of the activities described under the Proposed Action would be subject to regulation by the State of Nevada under Nevada Administrative Code 445B.001 through 445B.3497. The Nevada Bureau of Air Pollution Control regulates emissions to the air from activities at the NTS via a Class II General Air Quality Operating Permit. NNSA/NSO will apply for a modification to that permit to address emissions from the proposed action in this EA. Once the permit is modified, NNSA/NSO will comply with all applicable conditions and requirements. NNSA/NSO paid all required fees associated with application for and issuance of the NTS AOP. In addition, any application for modification of that permit will be accompanied by the appropriate fees.

As described in section 2.1.2, Release Scenarios, there may be releases of biological simulants to manmade waters on the NTS. Those waters include sewage lagoons and a ditch in Area 5. Prior to allowing any such release to a sewage lagoon, NNSA/NSO would notify the Nevada Division of Environmental Protection (NDEP), Bureau of Federal Facilities, to ensure compliance with the provisions of the Water Pollution Control General Permit (GNEV93001), which regulates all sewage lagoon operations at the NTS. Coordination with NDEP would be conducted under the existing Agreement in Principle (AIP) between NNSA/NSO and the State of Nevada and would not adversely impact NDEP.

The Nevada Bureau of Health Protection Services regulates septic systems, septic haulers, public water systems, and potable water haulers on the NTS. Under the proposed action, there would be no chemical releases to septic systems. If a release of a biological simulant into a septic system were to be proposed, NNSA/NSO would coordinate with BHPS to ensure that the permit conditions are not exceeded and the integrity of the septic system is not compromised. Likewise, NNSA/NSO protects the integrity and quality of its public water systems and would not allow any activity to adversely impact those systems. From a regulatory perspective, there would be no impact to BHPS from the proposed action.

Pursuant to DOE Order 151.1B, NNSA/NSO informs the Nevada Division of Emergency Management (NDEM) in the event an emergency is declared at the NTS. In general, other than receiving the notification of declared emergency and maintaining coordination, NDEM would not become involved in an emergency at the NTS. It is more likely that NNSA/NSO would request onsite support from the U.S. Air Force Nevada Test and Training Range, the Bureau of Land Management, and/or local counties, with which there are Memorandums of Understanding for such mutual support. Given the small volumes of chemicals and/or biological simulants that would be used in activities under the proposed action, it is very unlikely that an emergency affecting offsite areas could occur. Impacts of the proposed action on NDEM would be none to very slight.

In the event of a declared general emergency (one which could have offsite impacts) that had a potential to impact U.S. Highway 95, south of the NTS, NNSA/NSO would inform the Nevada Highway Patrol (NHP). If the NHP determined that it were necessary, they would block the highway to prevent exposure of the public to an accidental release of chemical or biological simulant. Again, given the small volumes of materials that would be involved in activities under the proposed action and the release criteria described in this EA, it is highly unlikely that even an accidental release could affect offsite areas. Therefore, the likely effect of the proposed action on NHP is negligible.

5.2 Pertinent Federal and State Statutes, Regulations and Restrictions

Regulatory requirements were screened for applicability to the action alternatives. This section identifies the major laws, regulations, executive orders, DOE and NNSA orders, and other pertinent guidelines that may apply to the proposed action and the other action alternatives. Appendix B provides brief descriptions of the applicable statutes and regulations and a discussion of how NNSA/NSO complies with those regulations. In addition, this section discusses a requirement that is not applicable and the rationale for determining that it does not apply to the action alternative.

5.2.1 Requirements Pertinent to the Action Alternatives

The action alternatives concern the procurement, transport, storage, use, release, and disposal of non-pathogenic biological simulants and of low concentrations of various chemicals at the NTS. The use and release points for both the non-pathogenic biological simulants and the low concentration chemicals could be at various locations on the site. Requirements apply to each of these actions: procurement, transport, storage, use, release into the environment, and disposal and cleanup. The requirements serve to protect workers, nearby communities, and environmental, natural, and cultural resources.

5.2.2.1 General Requirements

Some of the requirements are generally applicable to the action alternatives, not just to a specific action such as transport. These requirements include:

- National Environmental Policy Act
- Archaeological Resources Protection Act
- National Historic Preservation Act
- Native American Graves Protection and Repatriation Act
- American Indian Religious Freedom Act
- Executive Order 13175, Consultation and Coordination with Indian Tribal Governments
- DOE Order 1230.2, American Indian Tribal Government Policy
- DOE Policy 141.1, DOE Management of Cultural Resources
- Executive Order 12898, Environmental Justice

5.2.2.2 Requirements Applicable to Procurement, Transport, Storage, and Use

The requirements that are potentially applicable to the procurement, storage, and use of biological simulants and chemicals include, depending on the type and quantity:

- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Hazardous Materials Transportation Regulations
- Emergency Planning and Community Right-to-Know Act
- Occupational Health and Safety Act
- Noise Control Act
- DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees

5.2.2.3 Requirements Applicable to Environmental Release

The requirements that are potentially applicable to the release into the environment of biological simulants and chemicals include:

- Clean Air Act
- Nevada Air Pollution regulations

- Clean Water Act
- State of Nevada Sewage Disposal Regulations
- Emergency Planning and Community Right-to-Know Act
- Endangered Species Act
- State of Nevada Regulations Protecting Native Vegetation
- Fish and Wildlife Conservation Act
- Migratory Bird Treaty Act
- National Wildlife Refuge System Administration Act
- DOE Order 450.1, Environment Protection Program

5.2.2.4 Requirements Applicable to Disposal

The requirements that are potentially applicable to the disposal of biological materials and chemicals and derived waste from unused or used biological materials and chemicals include:

- Resource Conservation and Recovery Act
- Solid Waste Disposal Act
- Nevada Solid Waste Disposal Regulations
- Hazardous Materials Transportation Regulations

5.2.2 Requirements Not Applicable to the Action Alternatives

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107–188) was reviewed for applicability. Title II of Public Law 107–188, ‘‘Enhancing Controls on Dangerous Biological Agents and Toxins’’ (Sections 201 through 231), provides for the regulation of certain biological agents and toxins by the U.S. Department of Health and Human Services (Subtitle A, Sections 201–204) and the U.S. Department of Agriculture (Subtitle B, Sections 211–213), and provides for interagency coordination between the two departments regarding overlap agents and toxins (Subtitle C, Section 221). For the U.S. Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC) has been designated as the agency with primary responsibility for implementing the provisions of the Act; the Animal and Plant Health Inspection Service is the agency fulfilling that role for the U.S. Department of Agriculture (USDA). The USDA must establish by regulation a list of biological agents and toxins that have the potential of a severe threat to animal or plant health or to animal or plant products. The CDC must also establish a similar list for those that post a severe threat to human health. The biological agents and toxins that appear on the USDA and CDC lists include such pathogens as Ebola virus, various hemorrhagic fever viruses, botulinum neurotoxin, Bovine Spongiform Encephalopathy agent, Foot and Mouth Disease virus, Smallpox virus, and *Bacillus anthracis*, which causes anthrax.

The non-pathogenic biological simulants that could be used under the action alternatives do not pose a severe risk to human, animal, or plant health as do the biological agents and toxins on the CDC and USDA lists. As long as the non-pathogenic biological simulants do not appear on the list of select agents and toxins list, Public Law 107-188 is not applicable.

5.2.3 Regulatory Permits

Current environmental permits for the NTS are presented annually in the NTS Annual Site Environmental Report. The latest listing is found in the Nevada Test Site Annual Site Environmental Report for Calendar Year 2002 (DOE 2003d), available online at http://www.nv.doe.gov/.

CHAPTER 6.0
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APPENDIX A

CONSULTATION LETTERS

ALLEN BIAGGI, *Administrator*

(775) 687-4670

Administration
Facsimile 687-5856

Water Pollution Control
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Mining Regulation and Reclamation
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STATE OF NEVADA
KENNY C. GUINN
Governor

R. MICHAEL TURNIPSEED, *Director*

Waste Management
Corrective Actions
Federal Facilities

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Air Quality Planning
Water Quality Planning

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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706

October 17, 2003

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P. O. Box 98518
Las Vegas, NV 89193-8518

Re: Notification of Intention to Prepare an Environmental Assessment (EA)

Dear Mr. Suiter:

The Nevada Division of Environmental Protection, Bureau of Air Pollution Control (BAPC) has received the referenced notification and offers the following comments for consideration in preparing the EA.

- All releases of regulated pollutants must be covered under the Nevada Test Site (NTS) Air Quality Operating Permit (OP).
- Opacity concerns must be addressed in the release of any simulants, including non-pathogenic and chemical simulants.
- BAPC has formally informed NNSA (letter, Elges to Hoar, dated June 5, 2003) that any planned releases outside the bounds of the HSC would require an application for modification of the NTS OP.
- BAPC has concerns with expanding the scope of the current Hazardous Spill Center EA (DOE/EA-0864, September 2002). This document is referenced in the current Draft NTS OP. Given the current usage of interferents and types of chemicals which may be released from HSC and allowing greater wind angles and wind speeds than currently allowed may adversely impact areas outside the boundaries of the NTS (eg., Desert National Wildlife Refuge and the Nellis Test and Training Ranges).
- The referenced EA must address potential modifications to the NTS OP, impacts of planned releases to locations outside the boundaries of the NTS and releases of regulated pollutants (including PM_{10}) and opacity.

- The location of each planned release must be evaluated and included as part of the complete EA, as the NTS has varied terrain and surface meteorological conditions, and therefore, air dispersion characteristics.

If you have any questions or comments feel free to call Matthew A. DeBurle, of my staff, at (775) 687-9391, or me at (775) 687-9337.

Sincerely,

Mehrdad Moghimi
Permitting Supervisor,
Bureau of Air Pollution Control

MM/mad

CERTIFIED MAIL # 7002 2410 0005 6673 4603

cc: Kenneth Hoar, Director, Environment, Safety & Health Division, NNSA
Michael Skougard, Functional Manager for Environmental Compliance, NNSA
Mike Elges, Chief, Air Pollution Control
Paul Liebendorfer, Chief, Bureau of Federal Facilities

United States Department of the Interior

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TAKE PRIDE IN AMERICA

October 30, 2003
File No. DOE 7

Mr. William C. Suiter, NEPA Document Manager
National Nuclear Security Administration
Nevada Site Office
Post Office Box 98518
Las Vegas, Nevada 89193

Subject: Notice of Intention to Prepare an Environmental Assessment for Proposed Biological Materials Activities at the Nevada Test Site, Clark County, Nevada

Dear Mr. Suiter:

This responds to your letter dated October 1, 2003, requesting scoping comments from interested agencies and parties on the Notice of Intention to prepare an Environmental Assessment (EA) for proposed biological materials activities, including testing, experiments, training, release of chemicals, and other related actions. Our comments are provided under the authorities of the National Environmental Policy Act of 1969, as amended, the Endangered Species Act of 1973, as amended (Act), and the Migratory Bird Treaty Act of 1918, as amended.

Based on the limited amount of information provided in your letter dated October 1, 2003, we may have serious concerns regarding adverse effects or impacts of the proposed activities to the federally threatened desert tortoise (*Gopherus agassizii*) (Mojave population), migratory bird species, and sensitive species in the State of Nevada. Information regarding sensitive species in Nevada can be obtained from the State of Nevada's Natural Heritage Program website at www.heritage.nv.gov or by contacting the State agency at 1550 East College Parkway, Suite 137, Carson City, NV 89706, (775) 687-4245. Direct and indirect effects from the proposed activities to the desert tortoise, migratory birds, and sensitive species in Nevada should be fully considered and evaluated in the EA. For example, it would be important to know specific details on the various biological materials, including their persistence in the exposed environment, to assist in determining potential effects to these species.

During project planning, measures should be included to avoid or minimize adverse impacts to all of these species. If it is determined by your agency that a listed species may be affected by the proposed activities, then section 7 consultation should be initiated pursuant to 50 CFR § 402.14.

Mr. William C. Suiter File No. DOE 7

Please ensure that the draft EA will be made available to our agency for comments. If you have any questions regarding this correspondence, please contact Amy LaVoie in our Southern Nevada Field Office at (702) 515-5230.

Sincerely,

for Robert D. Williams
Field Supervisor

APPENDIX B

FEDERAL AND STATE STATUES, REGULATIONS AND RESTRICTIONS

APPENDIX B
FEDERAL AND STATE STATUES, REGULATIONS AND RESTRICTIONS

This appendix provides very brief descriptions of the applicable statutes and regulations, and of how NNSA/NSO would meet the requirements if the proposed action was implemented.

B.1 General Requirements

B.1.1 National Environmental Policy Act of 1969, 42 United States Code (U.S.C.) 4321, enacted by Public Law (Pub. L.) No. 91-190 as amended

The National Environmental Policy Act (NEPA) of 1969 establishes a policy promoting awareness of the environmental consequences of major federal activities on the environment and consideration of the environmental impacts during the planning and decision making stages of a project. The CEQ and DOE promulgated regulations for implementing NEPA (40 CFR 1500-1508, and 10 CFR 1021, respectively). DOE Order 451.1B, National Environmental Policy Act Compliance Program, establishes DOE internal requirements and responsibilities for implementing the NEPA and the CEQ and DOE-promulgated regulations. This EA was prepared in accordance with NEPA requirements.

B.1.2 Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470ll, enacted by Pub. L. No. 96-95 as amended

The Archaeological Resources Protection Act of 1979 protects archaeological resources located on U.S. public lands and American Indian lands, including sites under DOE control.

B.1.3 National Historic Preservation Act as amended (16 U.S.C. 470 et.seq.)

The National Historic Preservation Act, as amended, provides that sites with significant national historic value be placed on the *National Register of Historic Places*. No permits or certifications are required under the Act. However, if a particular federal activity could impact an historic property, consultation with the Advisory Council on Historic Preservation will usually generate a Memorandum of Agreement, including stipulations that must be followed to minimize adverse impacts.

B.1.4 Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001)

This law directs the Secretary of Interior to assume responsibility for repatriation of federal archaeological collections and collections held by museums receiving federal funds that are culturally affiliated with Native American Tribes. Major actions to be taken under this law include (1) establishing a review committee with monitoring and policy-making responsibilities; (2) developing regulations for repatriation, including procedures for identifying lineal descent or cultural affiliation needed for claims; (3) overseeing museum programs designed to meet the inventory requirements and deadlines of this law; and (4) developing procedures to handle unexpected discoveries of graves or grave goods during activities on federal or tribal lands.

B.1.5 American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996 et seq., enacted by Pub. L. No. 95-341

The American Indian Religious Freedom Act of 1978 is a policy statement intended to reaffirm American Indian rights regarding religious freedom. The purpose of the Act is to ensure that American Indians have access to and protection for physical locations and resources that are sacred and sometimes required for the practice of American Indian religious rites and ceremonies.

B.1.6 Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments)

This Order establishes regular and meaningful consultation and collaboration with tribal officials in developing federal policies. It also requires each federal agency to have an answerable process to ensure meaningful and timely input by tribal officials in developing Federal policies and other activities that have tribal implications (65 FR 67249).

B.1.7 DOE Order 1230.2, American Indian Tribal Government Policy

This Order provides guidance for consulting and coordinating with Indian tribal governments in compliance with federal statutes and regulations. The policy directs all DOE officials, staff, and contractors regarding fulfilling trust obligations and responsibilities arising from Departmental actions that may potentially affect American Indians' or Alaska Natives' traditional, cultural, and religious values and practices; natural resources; and treaties and other federally recognized and reserved rights.

B.1.8 DOE Policy 141.1, DOE Management of Cultural Resources

This policy ensures that DOE and NNSA programs integrate cultural resource management into their missions and activities, and raises the awareness of the importance of the Department's cultural resource-related legal and trust responsibilities. The policy directs that all DOE programs and missions will be implemented in a manner consistent with federal statutes, regulations, orders, DOE Orders, and implementation guidance protecting cultural resources.

B.1.9 Executive Order 12898 (Environmental Justice)

This Order directs federal agencies to achieve environmental justice by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. The order creates an Interagency Working Group on environmental justice and directs each federal agency to develop strategies within prescribed time limits to identify and address environmental justice concerns.

B.2 Requirements Applicable to Procurement, Transport, Storage, and Use

B.2.1 Toxic Substances Control Act of 1976, 15 U.S.C. 2601, et seq., enacted by Pub. L. No. 94-469 as amended

The Toxic Substances Control Act (TSCA) of 1976 regulates all chemical applications not specifically exempted in the Act. Language in the Act has been interpreted to include microorganisms (i.e., bacteria, fungi, protozoa, microscopic algae, and viruses). TSCA also covers other biologically derived substances, such as chemicals extracted from plants or animals. The applications that are exempted involve food, drugs, cosmetics, animal drugs and feed additives, and pesticides. In addition, national defense activities for which the President has granted a waiver are also exempted.

Under TSCA, the EPA has the authority to prohibit or limit the manufacture, import, processing, distribution in commerce, use, or disposal of a chemical when it is found to pose an unreasonable risk of injury to human health or the environment. It also requires manufacturers, processors, and users who become aware of a substantial threat from a chemical to immediately notify EPA.

B.2.2 Federal Insecticide, Fungicide, and Rodenticide Act of 1972, 7 U.S.C. 136, enacted by Pub. L. No. 92-516 as amended

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1972 establishes an extensive regulatory system for controlling the sale, distribution, and application of pesticides.

Various strains of microorganisms are registered microbial pesticides, including *B. thuringiensis* and *E. herbicola*, which are proposed for release as biological simulants. FIFRA requires that pesticides be labeled in an approved manner and makes it unlawful for anyone to use the pesticide in a manner inconsistent with its labeling. Labeling may also include recommendations for disposal. Other provisions provide for certification of pesticide applicators, and regulations to promote safe storage and disposal. However, Section 5 of FIFRA, and its associated regulations (40 CFR 172) allows for some experimental uses of pesticides. Some of the experimental uses require the issuance of an Experimental Use Permit.

NNSA/NSO would consult EPA regarding use of a registered pesticide for experimental purposes and apply for an Experimental Use Permit as needed. NNSA/NSO would also follow applicable manufacturer recommendations regarding application and disposal.

B.2.3 Hazardous Materials Transportation Regulations

Transport of hazardous materials, substances, and wastes are governed by U.S. Department of Transportation and EPA regulations. These regulations may be found in 49 CFR 100-178, 10 CFR 71, and 40 CFR 262, respectively.

U.S. Department of Transportation regulations contain requirements for identification of a material as hazardous. These regulations may refer to the EPA regulations for identification of material. However, U.S. Department of Transportation hazardous material regulations govern the hazard communication (for example, marking, hazard labeling, vehicle placarding, and emergency response telephone number) and transport requirements (such as required entries on shipping papers or on the EPA waste manifest).

EPA regulations pertaining to hazardous waste transportation are found in 40 CFR Part 262. These regulations deal with the use of the EPA waste manifest, which is the shipping paper used when transporting RCRA hazardous waste.

DOE issued Order 460.1B, “Packaging and Transportation Safety” and Order 460.2, “Departmental Materials Transportation and Packaging Management” addressing the transportation of hazardous materials.

B.2.4 Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11001, enacted by Pub. L. No. 99-499

This act was included as Title III of the Superfund Amendments and Reauthorization Act. Under Subtitle A of this Act, Federal facilities, including those owned by the NNSA, provide various information, such as inventories of specific chemicals used or stored and releases that occur from these sites, to the state Emergency Response Commission and to the local Emergency Planning Committee to ensure that emergency plans are sufficient to respond to unplanned releases of hazardous substances.

In addition, under Subtitle B of the Act, material safety data sheet reports, emergency and hazardous chemical inventory reports, and toxic chemical release inventory reports must be provided to appropriate Federal, state, and local authorities.

B.2.5 Occupational Safety and Health Act of 1970, 29 U.S.C. 657, et seq., enacted by Pub. L. 91-596

The Occupational Safety and Health Act (OSHA) of 1970 establishes the authority for assuring, so far as possible, safe and healthful working conditions for employees. OSHA regulations establish specific standards telling employers what must be done to achieve a safe and healthful working environment. DOE emphasizes compliance with these regulations at its facilities and prescribes through DOE orders the Occupational Safety and Health Act standards that contractors shall meet as applicable to work at government-owned, contractor-operated facilities.

B.2.6 Noise Control Act of 1972, 42 U.S.C. 4901-4918, enacted by Pub. L. 92-574 as amended.

The Noise Control Act of 1972, as amended, directs all federal agencies to carry out, "to the fullest extent within their authority," programs within their jurisdictions in a manner that furthers a national policy of promoting an environment free from noise that jeopardizes health and welfare. Any explosive releases would be conducted in compliance with the Act.

B.2.7 DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees

The Order establishes the framework for an effective worker protection program that will reduce or prevent injuries, illnesses, and accidental losses by providing NNSA federal and contractor workers with a safe and healthful workplace. The Order addresses construction safety, fire protection, industrial hygiene, and other areas. The Order calls for compliance with ACGIH *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* (most recent edition), when ACGIH TLVs are lower (more protective) than OSHA PELs. (When ACGIH TLVs are used as exposure limits, DOE operations shall nonetheless comply with the other provisions of any applicable OSHA-expanded health standard.)

B.3 Requirements Applicable to Environmental Release

B.3.1 Clean Air Act, 42 U.S.C. 7401, enacted by Pub. L. No. 90-148 as amended

The Clean Air Act, as amended, is intended to "protect and enhance the quality of the nation's air resources so as to promote the public health and welfare and the productive capacity of its population." Section 118 of the Clean Air Act, as amended, requires that each federal agency with jurisdiction over any property or facility that might discharge air pollutants, such as the NNSA, comply with "all federal, state, interstate, and local requirements" with regard to the control and abatement of air pollution.

The law requires EPA to establish national primary and secondary ambient air quality standards as necessary to protect public health, with an adequate margin of safety, from any known or anticipated adverse effects of a regulated pollutant (42 U.S.C. 7409). EPA sets standards for the regulated pollutants, which include particulate matter. The proposed release tests that generate aerosols would have to comply with current particulate matter standards.

The Clean Air Act also requires establishment of standards for emission of hazardous air pollutants (42 U.S.C. 7412). In addition, the Clean Air Act requires specific emission increases to be evaluated to prevent a significant deterioration in air quality (42 U.S.C. 7470). To comply with these requirements, the EPA issued National Emission Standards for Hazardous Air Pollutants that establishes limits of materials such as radioactivity, asbestos, beryllium, and mercury (40 CFR 61). Prior to approval of test plans, the hazardous air pollutant standards applicability would be determined and means for compliance established as necessary.

The Clean Air Act requires each state to develop implementation plans to control air pollution and air quality in that state and submit them for approval to EPA. Under EPA regulations, the State of Nevada has been delegated authority under the Clean Air Act to maintain the Primary and Secondary National Ambient Air Quality Standards (40 CFR 52, Subpart N), to issue permits under the Prevention of Significant Deterioration (40 CFR 52.683), and to enforce performance standards for new stationary sources.

B.3.2 Nevada Air Pollution regulations:

Nevada Administrative Code: Chapter 445B, Air Controls; Air Pollution:

- Definitions-445B.001 through 445B.211

- General Provisions-445B.220 through 445B.283
- Permits Operating Permits Generally-445B.287 through 445B.331
- Class I Operating Permits-445B.3361 through 445B.3447
- Class II Operating Permits-445B.3453 through 445B.3477
- Class III Operating Permits-445B.3485 through 445B.3497
- These regulations implement both state and federal clean air statutes, and identify the requirements for permits for each air pollution source (unless it is specifically exempted) as well as ongoing monitoring requirements. The State of Nevada issued an air quality permit for the entire NTS. The permit is being renewed and discussions between NNSA and the State of Nevada are ongoing. Releases carried out under the action alternatives would be conducted in accordance with the air quality permit in effect at the time.

B.3.3 Clean Water Act of 1977, 42 U.S.C. 1251, et seq. enacted by Pub. L. No. 95-917 [amendments to the Federal Water Pollution Control Act of 1972]

The Clean Water Act of 1977, which amended the Federal Water Pollution Control Act, was enacted to "restore and maintain the chemical, physical, and biological integrity of the Nation's water." The Clean Water Act prohibits the "discharge of toxic pollutants in toxic amounts" to navigable waters of the United States. Section 313 of the Clean Water Act, as amended, requires all branches of the federal government engaged in any activity that might result in a discharge or runoff of pollutants to surface waters to comply with federal, state, interstate, and local requirements.

B.3.4 Nevada Administrative Code: Chapter 444, Sanitation: Sections 750-840, Sewage Disposal

This regulation establishes the standards, regulations, permits, and requirements for septic tanks and other sewage disposal systems for single-family dwellings, communities, and commercial buildings. NNSA would comply with their wastewater treatment permit when using the existing NTS facilities for treatment of wastewater generated by the action alternatives as well as water borne release tests that involve sewage lagoons.

B.3.5 Endangered Species Act of 1973, 16 U.S.C. 1531-1543, enacted by Pub. L. No. 93-205 as amended

The Endangered Species Act of 1973, as amended, is intended to prevent the further decline of endangered and threatened species and to restore these species and their habitats. The U.S. Departments of Commerce and Interior jointly administer the Act. Section 7 of the Act requires consultation to determine whether endangered and threatened species are known to have critical habitats onsite or in the vicinity of the proposed action. NTS conducts biological surveys as part of its Ecological Monitoring and Compliance Program. The surveys have identified the presence of the threatened desert tortoise. Section 3.2.7.2 discusses how impacts to the desert tortoise would be avoided under the proposed action.

B.3.6 Nevada Administrative Code: Chapter 527, Protection and Preservation of Timbered Lands, Trees, and Flora

This regulation provides for the broad protection of indigenous flora. Those plants, declared to be threatened with extinction, are placed on Nevada's list of fully protected species. A permit is required before engaging in any activities that could result in the removal or destruction of any plant on the list or disturbance of any management area established for a listed plant.

B.3.7 Fish and Wildlife Conservation Act of 1980, 16 U.S.C. 2901, enacted by Pub. L. No. 96-366 as amended

The Fish and Wildlife Conservation Act of 1980 encourages all Federal entities (in cooperation with the public) to protect and conserve the nation's fish and wildlife. NTS's Ecological Monitoring and Compliance Program is designed to ensure compliance with laws and regulations related to plants, animals, and ecosystems.

B.3.8 Migratory Bird Treaty Act of 1918, 16 U.S.C. 703, et seq., 40 Stat. 755

The Migratory Bird Treaty Act of 1918 governs the taking, killing, or possession of migratory birds. The Act prohibits the harm of any migratory birds, their nests, or eggs without authorization by the Secretary of the Interior. Over 20 bird species that are protected under the Act are known to occur just in the Frenchman Flat portion of NTS. NTS conducts biological surveys at part of its Ecological Monitoring and Compliance Program. The surveys identify the presence of breeding birds and identify mitigation actions necessary to comply with the Migratory Bird Treaty Act. The existing Biological Monitoring Plan for the HSC is used to document the activity of birds and the presence of their nests within a downwind impact zone associated with tests preformed at the HSC, either before and after each test, each series of tests, or quarterly each year depending upon the materials and quantities being tested. This same approach and existing protocols would be used for the action alternatives.

B.3.9 National Wildlife Refuge System Administration Act of 1966, 42 U.S.C. 668dd, enacted by Pub. No. 91-135 as amended

The National Wildlife Refuge System Administration Act of 1966 provides guidelines and directives for the administration and management of all lands within the system, including "wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas." The Act forbids a person to knowingly disturb or injure vegetation or kill vertebrate or invertebrate animals, their nests, or eggs on System lands unless permitted by the Secretary of the Interior. The nearest boundary of the Desert National Wildlife Range (DNWR) is approximately 5 km (8 miles) downwind of NTS's HSC where some biological simulants or chemicals could be released under the action alternatives. Releases from other NTS locations could also be in close proximity of the DNWR. The Biological Monitoring Plan developed in 1996 will continue to be used to verify that tests conducted as part of the action alternatives do not result in downwind air concentrations of toxic chemicals that could harm biota on the DNWR.

B.3.10 DOE Order 450.1, Environmental Protection Program

The Order strives to implement sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by DOE/NNSA operations and by which DOE/NNSA cost effectively meets or exceeds compliance with applicable environmental; public health; and resource protection laws, regulations, and DOE/NNSA requirements. This objective must be accomplished by implementing Environmental Management Systems (EMSs). An EMS is a continuing cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals. These EMSs must be part of ISMS established pursuant to DOE P 450.4, Safety Management System Policy.

B.4 Requirements Applicable to Disposal

B.4.1 Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, enacted by Pub. L. No. 94-580 as amended

The Resource Conservation and Recovery Act (RCRA) was enacted to ensure the safe and environmentally responsible management of hazardous and nonhazardous solid waste, and to promote resource recovery techniques to

minimize waste volumes. Regulations issued by EPA under RCRA set forth a comprehensive program to provide "cradle to grave" control of hazardous waste by requiring generators and transporters of hazardous waste, as well as owners and operators of treatment, storage, and disposal facilities, to meet specific standards and procedures. Hazardous waste is defined under RCRA as a waste that poses a potential hazard to human health or the environment when improperly treated, stored, or disposed.

B.4.2 Hazardous Waste and Solid Waste Amendments Act of 1984, 42 U.S.C. 6901, enacted by Pub. L. No. 98-616

The Hazardous Waste and Solid Waste Amendments Act of 1984 are amendments to RCRA that authorize regulations or require that regulations be promulgated on waste minimization, land disposal of hazardous wastes, and underground storage tanks.

Nevada hazardous and solid waste regulations:

Nevada Administrative Code: Chapter 444, Sanitation:

Sections 842-8746, Facilities for the Management of Hazardous Waste

Sections 8752-8788, Program for Reduction of Hazardous Waste

These regulations establish fees, variances, restrictions, and permits and adopt EPA waste management regulations, 40 CFR 260 to 270 as a part of the Nevada Administrative Code.

Nevada Administrative Code: Chapter 444, Sanitation:

B.4.3 Sections 570-748, Solid Waste Disposal

This regulation sets forth the definitions, methods of disposal, collection and transportation standards, and classification of landfills. The regulation also addresses the disposal of special wastes including sewage sludge, septic tank pumpings, and medical wastes.

B.4.4 Hazardous Materials Transportation Regulations

U.S. Department of Transportation regulations addressing hazardous waste are discussed above.

The transportation of infectious substances and biological materials is also addressed in the regulations. The U.S. Department of Transportation uses the World Health Organization (WHO) risk group classifications in identifying infectious substances and biological products that are subject to its Federal transportation regulations (49 CFR 173). The transportation regulations do not apply to Risk Group 1 substances; these wastes can be managed as sanitary solid wastes. The biological simulants to be used in the tests or experiments are classified as Risk Group 1 by the WHO.

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APPENDIX C

PUBLIC COMMENTS AND RESPONSES

APPENDIX C
PUBLIC COMMENTS AND RESPONSES

In April 2004, the U.S. Department of Energy's National Nuclear Security Administration Nevada Site Office (NNSA/NSO) published the *Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site* (DOE/EA-1494) and invited public comment on the document.

News releases were issued by NNSA/NSO to notify the public of both the start of the Environmental Assessment process and the availability of the draft Environmental Assessment. Fact sheets were mailed to interested individuals, special interest groups, and federal state and local officials. A total of 146 copies of the preapproval draft Environmental Assessment were distributed and an electronic copy of the draft Environmental Assessment was posted on the NNSA/NSO web page (www.nv.doe.gov). NNSA/NSO received written comments from 31 individuals and organizations. NNSA/NV considered all comments in preparing this final Environmental Assessment.

This appendix provides the comments received and NNSA/NSO's responses. Written comments and their responses are summarized below. In this appendix, each written comment letter is reproduced, with individual comments, questions, and suggestions labeled; responses to them are provided on the pages that follow each comment letter. Table C-1 lists the comment letters and provides the letter numbers and commenter names.

Table C-1. Written Comments on the Preapproval Draft Environmental Assessment.

Comment Source Number*	Commenter	Page Number
L-1	Robert D. Williams, U.S. Department of the Interior, Fish and Wildlife Service	C-5
L-2	Michael J. Stafford, State of Nevada, Department of Administration, Nevada State Clearinghouse Coordinator	C-13
L-3	Alice M. Baldrica, State of Nevada, Department of Cultural Affairs, Nevada State Historic Preservation Office	C-17
L-4	Tim Hunt, State of Nevada, Water Resources	C-19
L-5	Joseph C. Strolin, State of Nevada, Office of the Governor, Agency for Nuclear Projects, Administrator, Planning	C-21
L-6	Don D. Canfield III, State of Nevada, Department of Conservation and Natural Resources, Division of State Lands	C-29
L-7	Allen Biaggi, State of Nevada, Department of Conservation and Natural Resources, Division of Environmental Protection	C-32
L-8	Rep. Jackie Biskupski, House of Representatives, State of Utah	C-40
L-9	Jessica Sandler, People for the Ethical Treatment of Animals	C-42
L-10	John M. Fowler, Stoller-Navarro Joint Venture	C-44
L-11	David R. Gang, University of Arizona, Department of Plant Sciences and Institute for Biomedical Science and Biotechnology	C-46
L-12	Bonnie Adamsson Vorwaller (1), Individual	C-49
L-13	Bonnie Adamsson Vorwaller (2), Individual	C-56

Table C-1. Written Comments on the Preapproval Draft Environmental Assessment. (Continued)

Comment Source Number*	Commenter	Page Number
L-14	Robert K. Musil, Physicians for Social Responsibility	C-60
L-15	Susan K. Hand, Individual	C-63
L-16	Craig Axford and Laura Bonham, Utah Democratic Progressive Caucus	C-66
L-17	Mary Dickson, Individual	C-72
L-18	Russell M. Beesley, Individual	C-74
L-19	Tamara Berry, Individual	C-76
L-20	Thomas Forsythe, Individual	C-78
L-21	Jan Lovett, Individual	C-80
L-22	Edward J. Austin, Individual	C-82
L-23	Melissa D. Chesley, Individual	C-84
L-24	Elizabeth Sword, Children's Health Environmental Coalition	C-86
L-25	Donald B. Young, Individual	C-88
L-26	Patricia T. Austin, Individual	C-90
L-27	Katherine L. Young, Individual	C-92
L-28	Celeste Adamsson Vorwaller	C-94
L-29	Charles P.H. Scurich, Individual	C-96
L-30	Allen E. Wickman, Department of the Air Force, Nellis Air Force Base	C-99
L-31	Steve Erickson, Director, Citizens Education Project	C-104
L-32	Jennifer Kaufman, Individual	C-108
L-33	James R. Marble, Nye County Department of Natural Resources & Federal Facilities, Natural Resources Office	C-110

*Unique codes were given to each of the letters received. Individual comments are coded L-1-1, etc.

FROM ESHD (MON) 5. 17' 04 14:23/ST. 14:20/NO. 4860748639 P 8

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
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TAKE PRIDE IN AMERICA

May 14, 2004
File No. DOE 7

Mr. William C. Suiter, NEPA Document Manager
National Nuclear Security Administration
Nevada Site Office
Post Office Box 98518
Las Vegas, Nevada 89193

Dear Mr. Suiter:

Subject: Comments on the Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Release of Chemicals at the Nevada Test Site, Nye County, Nevada

This is in response to your request dated April 12, 2004, for comments on the Preapproval Draft Environmental Assessment (EA) for Activities Using Biological Simulants and Release of Chemicals at the Nevada Test Site (NTS). The NTS is managed by the U.S. Department of Energy, National Nuclear Security Administration (NNSA) and is located in Nye County, Nevada. The Fish and Wildlife Service (Service) understands that the proposed project or Alternative 1 in the EA would result in conducting tests and experiments involving the release of biological simulants and low concentrations of chemicals at the NTS. Release parameters for biological simulants would be developed and the existing chemical release parameters would be augmented to conduct the tests and training. The NTS provides a remote and secure setting, facilities, infrastructure and terrain to meet the need for more operational testing, contamination and decontamination testing, forensics testing, personal protective equipment testing, enclosed environment detection and decontamination training, and counter-terrorism training as they relate to biological or chemical agents.

There would be approximately 5 to 20 test series per year at a variety of locations and structures within the NTS, particularly Areas 5, 12, 16, and 25. Each test series could involve single or multiple releases of biological simulants or chemicals. It is estimated that each release would potentially impact less than one acre. The types of biological simulant or chemical release scenarios include: stack release, building/tunnel release, open pan/ground spill release, water-borne release, instantaneous release, ground transportation release and aircraft release. For the releases to proceed, certain release criteria would need to be met (Pages 2-6 to 2-11). Six biological species are proposed at this time as simulants for biological agents: *Bacillus subtillis* var. *niger*, *Bacillus thuringiensis*, *Clostridium sporogenes*, *Erwinia herbicola*, Bacteriophage

MS2, and noninfectious (killed) influenza A virus. The specific types of chemicals to be released are not known at this time and could include simulants or the actual chemical of interest. The proposed project would be managed such that releases would occur in different areas to avoid multiple exposures to the flora and fauna in a specific area. Natural resources would be given sufficient time between biological and chemical releases to recover. The No Action alternative was evaluated in the EA, along with two other action alternatives. Alternative 2 would involve release of biological simulants only, and Alternative 3 would involve release of chemicals only.

Service comments are provided under the authorities of the National Environmental Policy Act of 1969, as amended, the Endangered Species Act of 1973, as amended (ESA), and the Migratory Bird Treaty Act of 1918, as amended (MBTA) (16 U.S.C. 703 et seq.). In general, we recognize the purpose of and need for the proposed project and NNSA customers' attraction to use the NTS for such testing.

1. **Impacts Analysis.** We recognize that some of the chemicals to be released at low concentrations throughout the NTS are not known at this time and any potential chemicals considered would result in an exhaustive list (Pages 2-1 and 2-2). However, it is difficult to determine any concerns the Service may have regarding potential project impacts to species, especially listed or sensitive species, if the specific chemicals or types of chemicals are not described in the EA. L-1-1

   Additionally, the EA lacks a detailed analysis of specific impacts that the proposed biological simulants or chemicals could have on plants and wildlife species. *Bacillus thuringiensis* is the only biological simulant for which toxicological or ecological impacts are detailed and referenced. To provide justification for the impacts analysis in the EA, past testing at NTS or another NNSA or military installations, and scientific literature and studies from universities and other government agencies, should be discussed or at least referenced in the EA for each biological simulant and chemical proposed for release. If specific details regarding impacts are unknown, it should be clearly stated in the EA. L-1-2

2. **Release Criteria.** Most of the release criteria for both biological simulants and chemicals were developed to protect workers and the public. We recognize the importance of evaluating and setting these criteria and concentrations according to health and human safety regulations. Where possible, these criteria and concentrations should also be established or adjusted to avoid or minimize impacts to plant and wildlife species. The strategy to allow the NNSA to adjust the limits as new data becomes available, which could either lower or raise the allowable concentrations at the compliance boundary, is an important adaptive management tool that we support (Page 2-7). We recommend, though, that adjustments to the limits and concentrations also be made in consideration of environmental impacts because: a) impacts to natural resources from the proposed biological simulants and L-1-3

chemicals may not be known until post-release monitoring; b) the specific chemicals to be released are unknown and not analyzed in detail in the EA; and, c) additional biological materials that are unknown at this time could also be included under this project in the future if the release concentrations and criteria are met (Page 2-5). L-1-3

3. **Conservation Measures.** We recognize that certain conservation measures have been incorporated into the proposed project to avoid, minimize or mitigate for potential impacts to natural resources on the NTS. Specifically, we support the following:

- Test and training plans would be developed by NNSA customers with consideration of environmental impacts, including setup activities, test activities, chemical or biological release choices, cleanup activities, or other test and training activities. This process and planning would be managed by the NNSA. If it is determined that adverse impacts to the environment could occur, the test procedure or materials used must be altered or an appropriate mitigation strategy developed; otherwise, the approval of the release would be denied by the NNSA (Page 2-5).

- Releases would take advantage of existing facilities and infrastructure as release locations (Page 2-2), which is important to avoid or minimize new surface disturbance or damage to natural resources.

- No release would be permitted that would jeopardize human health and safety or result in a significant impact to the environment without approved mitigation (Page 2-6).

- Prior to a release, the proposed release site would be surveyed by qualified biologists to ensure that no species of special interest or sensitive habitat would be adversely affected (Pages 2-6 and 3-8). L-1-4

- Sufficient time would be allowed between biological simulant and chemical tests conducted in the same area to permit the recovery of natural resources (Pages 2-7 and 2-11).

- The potential ecological impacts would be evaluated from each single release point and collectively from all release points. Additionally, if test series were to overlap geographically, the effects of all test series would be analyzed collectively (Page 2-4).

- A biological simulant or chemical release would not be approved if there was a reasonable potential for cumulative, long-term persistence in the environment, unless it could be demonstrated that the biological simulant or chemical would be completely contained, neutralized, or cleaned up at the conclusion of the test (Pages 2-6 and 2-11). The latter of this mitigation measure should only be authorized when it can be demonstrated that the containment, neutralization or clean-up could be accomplished without significant damage, meaning the natural resources would be able to recover or be

restored. Any restoration or reclamation activities should be accomplished with native plant species (Page 3-10).

- Species of special interest include, but are not limited to, certain species of bats and burrowing owls. If these species were found inhabiting an area where they could be adversely impacted by a proposed release, mitigation measures would be developed to protect the animals or the release site would be moved to avoid impacts (Page 3-8). L-1-4
- The NTS Ecological Monitoring and Compliance Program would be expanded to include monitoring and assessment of NTS ecological systems for impacts attributable to the proposed testing program. If adverse environmental impacts were identified, test activities in the area would be suspended until appropriate mitigation measures could be implemented (Page 4-1).

4. **Desert tortoise** (*Gopherus agassizii*). The Mojave population of the desert tortoise is listed as threatened under the ESA. As detailed in the EA, this threatened species occurs in low density throughout the southern one-third of the NTS. It is proposed to have pre-test surveys conducted by qualified biologists to ensure that no desert tortoises were present in the release location, and if desert tortoises were present, they would be relocated to an area of suitable habitat outside of the potential impact area (Page 3-8). Even if all desert tortoises could be located in a specific release area, relocating individuals may not be the best option for the species, depending on the details of the test series and releases. Temporarily removing desert tortoises from the location and later returning the individuals might provide less overall effects to the species and the population of desert tortoises on the NTS and in adjacent areas. L-1-5

   Secondly, the EA states that the desert tortoise would not be adversely affected by any release (Page ES-4). Based on the limited information contained in the EA regarding specific effects that could occur to individual desert tortoises or their habitat, we are uncertain that an accurate effects determination can be made at this time. Additionally, moving desert tortoises under the proposed project would constitute *take* of this listed species, as defined under the ESA. The project as proposed and analyzed would require consultation under section 7(c) of the ESA. We recommend you contact us to discuss the project in more detail, so that we may assist you in formulating measures to avoid, minimize and/or compensate for any project effects to the desert tortoise. L-1-6

5. **Migratory birds**. Based on the Service's conservation responsibilities and management authority for migratory birds under the MBTA, we are concerned about potential impacts the proposed project may have on migratory birds. Under the MBTA, migratory birds may not be killed, and nests (nests with eggs or young) of migratory birds may not be harmed. The potential exists for direct mortality to migratory birds due to exposure to concentrated levels of the biological simulants or chemicals that are released at the various test locations. The potential also exists for indirect effects to migratory birds if releases move beyond the test L-1-7

location into adjacent areas where migratory birds may be present. Additionally, we are concerned that migratory birds may be indirectly killed or harmed if the proposed biological simulant and chemical releases affect their prey base (insects, rodents, plants, etc.). If migratory birds consume a number of affected prey, biological simulants and chemicals may accumulate in their systems and lead to their mortality or injury. L-1-7

Additionally, we understand that no chemical releases would be made to water resources on the NTS as part of the proposed project. Biological simulants could be released into an existing man-made ditch; however, it is proposed that most releases would be to lined sewage lagoons or ponds (Page 3-4). We recommend that biological simulant testing directly in or adjacent to naturally occurring springs, arroyos, playas or ephemeral lakes on the NTS should not be allowed or approved in order to protect the integrity and biological functions of these systems. Furthermore, biological simulant and chemical releases should be avoided near any water resources (natural or man-made) that contain breeding or nesting migratory birds. Depending on the details of the release and test series, a buffer zone of at least 100 feet (30 meters) should be maintained around these water resources during breeding season. L-1-8

Finally, the locations of burrowing owls and burrow locations are well studied and monitored on the NTS. To protect this sensitive and protected species, we recommend a 200 foot (60 meter) buffer be established around any occupied burrowing owl burrows, especially during breeding season. This buffer is based on flushing distance data collected during burrowing owl monitoring studies at the NTS.[1] L-1-9

6. **Desert National Wildlife Range**. The eastern boundary of the NTS is adjacent to the Desert National Wildlife Range (DNWR). To protect the sensitive species and natural resources on the adjacent DNWR lands, the proposed test series and releases should be located a sufficient distance from the DNWR boundary to avoid exposure of these lands to the biological simulants and chemicals. This should include provisions to protect the DNWR from dispersal of biological simulants via suspended aerosols. For health and human safety issues, any biological simulant or chemical releases at the HAZMAT Spill Center should be coordinated with the Refuge Manager of the DNWR at (702) 879-6110 as part of the preparation phase as described in the EA. L-1-10

[1] Hall, D.B., P.D. Greger, A.V. Cushman, and C.A. Wills. 2003. Ecology of the Western Burrowing Owl on the Nevada Test Site. Prepared by Bechtel Nevada Ecological Services for the Department of Energy, National Nuclear Security Administration, Nevada Site Office, Las Vegas, NV.

FROM ESHD (MON) 5. 17' 04 14:25/ST. 14:20/NO. 4860748639 P 13

Mr. William C. Suiter

File No. DOE 7

We appreciate the opportunity to comment on the proposed project. If you have any questions regarding this correspondence, please contact Amy LaVoie in our Southern Nevada Field Office at (702) 515-5230.

Sincerely,

Cynthia T. Martinez

for Robert D. Williams
Field Supervisor

cc:
Project Leader, Desert National Wildlife Refuge Complex, U.S. Fish and Wildlife Service, Las Vegas, Nevada
Refuge Manager, Desert National Wildlife Range, U.S. Fish and Wildlife Service, Las Vegas, Nevada

6

Response to comment L-1-1: The EA indicates that the allowable concentration for a specific chemical will be determined on a case-by-case basis for each test. This determination will be based on the chemical toxicity and test constraints (e.g., wind direction, wind speed, etc.). The concentration will be chosen so that the specified exclusion zone, identified in this EA, can be maintained. This exclusion zone will be surveyed for sensitive or endangered species for each specific test. This exclusion zone will also be maintained to be protective of human health during the tests. This approach is protective of potential adverse impacts to human health and the environment outside the exclusion zone and off the NTS by enforcing a compliance boundary at the edge of the exclusion zone.

It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-1-2: The biological simulants chosen for potential release under the proposed actions were specifically chosen based on the current understanding of their low potential for adverse impacts to human health and the environment as stated in the EA.

Response to comment L-1-3: It was intended that these evaluations would include consideration of impacts to the environment as well as potential human health impacts.

Response to comment L-1-4: This comment is noted and will be considered by NNSA in evaluating the subject Environmental Assessment (EA) to determine if a Finding of No Significant Impact (FONSI) can be issued, if the no-action alternative will be chosen, or if an Environmental Impact Statement will be required to evaluate the proposed actions.

Response to comment L-1-5: A Biological Opinion issued in 1996 by the U.S. Fish and Wildlife Service for NTS activities (File No. 1-5-96-F-33) describes procedures for protecting the desert tortoise during activities conducted by NNSA/NSO. The second paragraph of Section 3.2.7.1 has been revised to state that activities associated with releases of chemicals and biological simulants will be conducted in accordance with the 1996 or subsequent Biological Opinions, and states that if pre-activity surveys determine that desert tortoises occur in the release area, appropriate mitigation measures will be implemented in compliance with the Biological Opinion.

Response to comment L-1-6: As requested, NTS representatives have contacted the U.S. Fish and Wildlife Service to discuss concerns regarding the desert tortoise. Also, see the response to L-1-5. Section 3.2.7.1 has been revised so that tortoise relocation is not mentioned, and instead states that mitigation activities will be in accordance with a Biological Opinion issued by the U.S. Fish and Wildlife Service.

Response to comment L-1-7: Releases of chemicals or biological simulants during breeding season would be preceded by pre-activity surveys to search for active bird nests. The text in Section 3.2.7.1 has been revised to state that releases will not be conducted in areas where active nests are located. Regarding the concern that chemicals or biological simulants might reduce the abundance of food items (e.g., insects, rodents, plants) of birds, the proposed releases are expected to impact small areas and any given area would typically not be exposed to multiple releases (see third paragraph of Section 3.2.7.1). Thus, potential impacts due to reduced prey populations would be expected to be negligible. For tests that would include the release of chemicals or biological simulants that could persist in the environment for more that a few weeks, a remediation plan would be developed and implemented in coordination with the U.S. Fish and Wildlife Service.

Response to comment L-1-8: The second paragraph of Section 3.2.4.2 has been revised as

requested to state that there will be no releases to naturally occurring springs, arroyos, playas, or ephemeral lakes; pre-activity surveys will be conducted to search for nesting birds; and there will be no releases of chemicals or biological simulants within 30 meters (100 feet) of any water resources that contain nesting birds.

Response to comment L-1-9: The third paragraph of Section 3.2.7.1 has been revised to state that a 60-meter (200 foot) buffer would be established around occupied burrows of the burrowing owl, and there would be no releases within this buffer during breeding season.

Response to comment L-1-10: The boundary of the DNWR is not adjacent to the NTS, but is located almost two-miles east of the NTS boundary. The portions of DNWR that could be affected by a release from the HAZMAT Spill Center are managed as joint use lands with the U.S. Air Force (USAF), Nevada Test and Training Range. Access into those areas is controlled by the USAF. Currently, NNSA/NSO coordinates with the USAF prior to conducting any releases at the HAZMAT Spill Center. NNSA/NSO concurs that additional coordination to include DNWR is reasonable and will initiate consultation with DNWR to establish appropriate coordination procedures.

MAY-17-2004 15:43 P.02

KENNY C. GUINN
Governor

STATE OF NEVADA

JOHN P. COMEAUX
Director

DEPARTMENT OF ADMINISTRATION
209 E. Musser Street, Room 200
Carson City, Nevada 89701-4298
Fax (775) 684-0260
(775) 684-0209

May 17, 2004

William C. Suiter, NEPA Document Manager
National Nuclear Security Administration
P.O. Box 98518
Las Vegas, Nevada 89193

Re: SAI NV # E2004-167
Project: Draft Environmental Assessment (EA) for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site

Dear Mr. Suiter:

Our State agencies raise serious issue including:

a. All testing activities and authorized release boundaries should be limited to encompass only the HAZMAT Spill Center located at Area 5 of the NTS. L-2-1
b. Nevada Division of Environmental Protection (NDEP) should be involved early on in the pre test evaluation activities. L-2-2
c. State agencies should be involved in project monitoring and mitigation procedures. L-2-3
d. The promised Joint State/DOE Project Advisory Committee should be established soon. L-2-4
e. DOE should comply with the National Historic Preservation Act of 1966. L-2-5
f. NNSA/NSO should select one model that will be used for all releases conducted at the NTS. L-2-6
g. Nevada Revised Statutes NRS 534.103 and Nevada Administrative Code NAC 534.315 require water permits. L-2-7

Enclosed are the comments from the Nevada Division of State Lands, Nevada Division of Water Resources, Nevada State Historic Preservation Office, Nevada Division of Environmental Protection and the Nevada Agency for Nuclear Projects regarding the above referenced document. These comments constitute the State Clearinghouse review of this proposal as per Executive Order 12372.

Please address these comments or concerns in your final decision. If you have questions, please contact me at (775) 684-0209.

MAY-17-2004 15:43 P.03

2

Sincerely,

Michael J. Stafford
Nevada State Clearinghouse Coordinator/SPOC

Enclosure

Response to comment L-2-1: There is a national need to perform low concentration releases of chemicals beyond the types of chemical testing currently done in Area 5. This national need is detailed in the Purpose and Need statement of this EA. There is also a national need to perform testing with biological simulants. This EA was prepared to evaluate the proposed actions to meet these stated needs. This document will be used by NNSA to evaluate the potential impacts to human health and the environment.

Response to comment L-2-2: Currently, prior to any release of chemicals at the HAZMAT Spill Center, NNSA/NSO provides notification and a Test Management Plan Summary to the Nevada Bureau of Air Pollution Control (BAPC), pursuant to the NTS Air Quality Operating Permit. In addition, a post-test report is provided to BAPC.

Response to comment L-2-3: NNSA/NSO will coordinate with NDEP to identify reasonable opportunities for involvement in project monitoring and mitigation procedures.

Response to comment L-2-4: While there is no promise of a joint Project Advisory Committee, NNSA/NSO is evaluating a possible project liaison role in test planning for both the State and Nye County.

Response to comment L-2-5: The EA explains how the proposed activities will comply with the National Historic Preservation Act of 1996. Section 3.2.3.2 explains that the Nevada State Historic Preservation Officer and the Advisory Council on Historic Preservation will be consulted regarding any potential impacts to significant cultural resources. Also, Table 4-1 in Chapter 4 states that in the planning phase for any test activities, cultural resource inventories and subsequent consultation with the Nevada State Historic Preservation Officer will occur.

Response to comment L-2-6: Models which are appropriate for the proposed test are selected and run by the test sponsor. This selection is reviewed separately by BN, NNSA, and by external experts on the Project Advisory Panel. These independent reviewers may run other models to verify the submitted model results. It would not be appropriate to limit model selection because of the variety of releases that need to be modeled. Limited model selections could result in an inappropriate model being used to evaluate proposed releases.

Response to comment L-2-7: As noted in the 1996 NTS EIS and noted by the state in their letter dated May 3, 1996 in Comment #091, “under the Federal Water Rights Doctrine, the NTS is entitled to withdraw water necessary to support the NTS missions.”

Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

RECEIVED
APR 19 2004
State Historic Preservation Office

TE: April 15 , 2004

Governor's Office	Legislative Counsel Bureau	Conservation & Natural Resources - Director's Office
Agency for Nuclear Projects	PUC	State Lands
Energy Office	Transportation (General)	Environmental Protection
Agriculture Department	Transportation (Airspace)	Forestry
Minerals Commission	Office of Traffic Safety	Conservation Districts
UNR Bureau of Mines	UNR Library	State Parks
Economic Development	UNLV Library	Water Resources
Tourism	Historic Preservation	Natural Heritage Program
Fire Marshal	Emergency Management	Wild Horse Commission
Human Resources	Office of the Attorney General	Wildlife Department – Director's Office
Health Division	Washington Office	Region 1 - Fallon
Indian Commission	Nevada Assoc. of Counties	Region 2 - Elko
Colorado River Commission	Nevada League of Cities	Region 3 – Las Vegas
Animal Damage Control	Public Safety	

evada SAI # E2004-167
oject: Draft EA Activities using Biological Simulants and Releases of Chemicals at the Nevada Test Site

Yes No Send more information on this project as it becomes available

EARINGHOUSE NOTES: **Also Reference E2004-125**
closed, for your review and comment, is a copy of the above-mentioned project. Please evaluate it with respect to its effect on your plans d programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, ders or regulations with which you are familiar.

ease submit your comments no later than May 10, 2004. Use the space below for short comments. If significant comments are ovided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Michael afford, Clearinghouse Coordinator, (775) 684-0209 or mstafford@budget.state.nv.us.

HIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

____No comment on this project
____Proposal supported as written
✓ Additional information below
____Conference desired (See below)
____Conditional support (See below)
____Disapproval (Explain below)

GENCY COMMENTS:

Please refer to attached memorandum.

RECEIVED
MAY 10 2004
DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

Alice M Baldrica

ALICE M. BALDRICA, Deputy State Historic Preservation Office 5/6/04

Signature s:\sharda\clear\clear.doc Agency Date

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS
Nevada State Historic Preservation Office
100 N. Stewart Street
Carson City, Nevada 89701

KENNY C. GUINN
Governor

SCOTT K. SISCO
Interim Director

RONALD M. JAMES
State Historic Preservation Officer

May 6, 2004

MEMORANDUM

TO: Nevada State Clearinghouse

FROM: Alice M. Baldrica, Deputy SHPO Alice M Baldrica

SUBJECT: Draft EA Activities using Biological Simulants and Releases of Chemicals at the Nevada Test Site, NV SAI# E2004-167

The Nevada State Historic Preservation Office has reviewed the draft EA. The proposed activities are federal undertakings that have the potential to affect historic properties located on the Nevada Test Site. Under the National Historic Preservation Act of 1966, the Department of Energy must consider the effects of its undertakings on properties listed on or considered eligible for listing in the National Register of Historic Places. The draft environmental assessment needs to be more specific on the steps DOE will take to identify and treat historic properties in project areas as per 36 CFR 800. Will contractors or other federal agencies be responsible for employing archaeologists to assist them in the process of consultation with the Nevada SHPO and affected tribes? Or will DOE assume responsibility for consulting under Section 106 of the Act? L-3-1

DOE needs to inform SHPO whether it intends to follow the procedures for 36 CFR 800 or develop a programmatic agreement that would provide an alternative means of satisfying its obligations under the Act. At the present time, the draft EA does not adequately address how DOE will identify and treat historic properties or how it will consult with SHPO and other interested parties. L-3-2

If you have questions regarding what is needed please call me at 775-684-3444 or e-mail me at ambaldri@clan.lib.nv.us

Response to comment L-3-1: The EA explains how the proposed activities will comply with the National Historic Preservation Act of 1996. Section 3.2.3.2 explains that the Nevada State Historic Preservation Officer and the Advisory Council on Historic Preservation will be consulted regarding any potential impacts to significant cultural resources. Also, Table 4-1 in Chapter 4 states that in the planning phase for any test activities, cultural resource inventories and subsequent consultation with the Nevada State Historic Preservation Officer will occur. Text has been added to Section 3.2.3.2 to clarify that the NNSA/NSO is aware of its responsibilities to comply with the National Historic Preservation Act for the proposed activities. However, because specific activities are not planned at this time, specific measures to implement the compliance are not presented in the EA.

Response to comment L-3-2: Currently, NNSA/NSO plans to comply with the National Historic Preservation Act and 36 CFR Part 800 on a project-by-project basis. However, NNSA/NSO may at a later date determine that a Programmatic Agreement defining specific compliance activities may be necessary. At that time, NNSA/NSO will consult with the Nevada SHPO and the Advisory Council on Historic Preservation to prepare a PA.

NEVADA STATE CLEARINGHOUSE

Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

04 FEB 19 AM 10: 16

DATE: April 15 , 2004

Governor's Office	Legislative Counsel Bureau	Conservation & Natural Resources
Agency for Nuclear Projects	PUC	Director's Office
Energy Office	Transportation (General)	State Lands
Agriculture Department	Transportation (Airspace)	Environmental Protection
Minerals Commission	Office of Traffic Safety	Forestry
UNR Bureau of Mines	UNR Library	Conservation Districts
Economic Development	UNLV Library	State Parks
Tourism	Historic Preservation	Water Resources
Fire Marshal	Emergency Management	Natural Heritage Program
Human Resources	Office of the Attorney General	Wild Horse Commission
Health Division	Washington Office	Wildlife Department – Director's Office
Indian Commission	Nevada Assoc. of Counties	Region 1 - Fallon
Colorado River Commission	Nevada League of Cities	Region 2 - Elko
Animal Damage Control	Public Safety	Region 3 – Las Vegas

Nevada SAI # E2004-167
Project: Draft EA Activities using Biological Simulants and Releases of Chemicals at the Nevada Test Site

Yes No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES: **Also Reference E2004-125**

Enclosed, for your review and comment, is a copy of the above-mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than May 10, 2004. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Michael Stafford, Clearinghouse Coordinator, (775) 684-0209 or mstafford@budget.state.nv.us.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

____No comment on this project
____Proposal supported as written
____Additional information below
____Conference desired (See below)
____Conditional support (See below)
____Disapproval (Explain below)

RECEIVED
MAY 03 2004
DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

AGENCY COMMENTS:

Any use of ground water or surface water other than domestic use as defined by Nevada Revised Statue (NRS) § 534.013 and Nevada Administrative code (NAC) § 534.315 will require the appropriate permits pursuant to NRS 533 and 534 inclusive. L-4-1

Signature s:\shardat\clear\clear.doc
Tim Hunt

WATER RESOURCES
Agency

04-29-04
Date

Response to comment L-4-1: As noted in the 1996 NTS EIS and noted by the state in their letter dated May 3, 1996 in Comment #091, "under the Federal Water Rights Doctrine, the NTS is entitled to withdraw water necessary to support the NTS missions."

MAY-17-2004 13:43 P.15

KENNY C. GUINN
Governor

STATE OF NEVADA

ROBERT R. LOUX
Executive Director

OFFICE OF THE GOVERNOR
AGENCY FOR NUCLEAR PROJECTS
1761 E. College Parkway, Suite 118
Carson City, Nevada 89706
Telephone: (775) 687-3744 • Fax: (775) 687-5277
E-mail: nwpo@nuc.state.nv.us

MEMORANDUM

TO: Mike Stafford, Coordinator
Nevada State Clearinghouse

FROM: Joseph C. Strolin, Administrator
Planning Division

DATE: May 5, 2004

SUBJECT: ***Nevada Agency for Nuclear Projects' Comments on DOE/NNSA's Preapproval Draft EA for Using Biological Simulants and Releases of Chemicals at the Nevada Test Site (Nevada SAI # E2004-167)***

The Nevada Agency for Nuclear Projects offers the following for inclusion in the Clearinghouse's comments on the above-reference EA:

(1) The analysis of cumulative impacts in the preapproval Draft EA is inadequate. We note that simultaneous with the release of the Draft EA for using biological simulants and releases of chemicals at NTS, DOE/NNSA also is seeking comments on a project involving the use of radiological/nuclear materials at NTS as part of a "countermeasures test and evaluation complex" (ref. the April 6, 2004 "Notice of Intention to Prepare an Environmental Assessment for a Radiological/Nuclear Countermeasures Test and Evaluation Complex" at NTS). Yet, the preapproval Draft EA makes no mention of the radiological/nuclear countermeasures project, nor does it examine possible cumulative or synergistic impacts. L-5-1

Likewise, the Draft EA fails to examine possible cumulative impacts from DOE's ongoing low-level radiological waste(LLW), mixed LLW and hazard waste, and transuranic waste activities at NTS. Thousands of shipments of waste come into NTS each year. The Draft L-5-2

EA should assess any potential health or safety impacts to DOE LLW or truwaste workers, drivers, inspection personnel, etc. from chemical and/or biological releases under the proposed action or impacts to these other DOE programs caused by planned or unplanned releases under the proposed action (i.e., work stoppages, evacuations, etc.). L-5-2

If DOE adheres to its published schedule and overcomes State of Nevada opposition to the proposed Yucca Mountain repository program, large numbers of workers and others involved with the construction of that project will be working and traveling on NTS regularly. Likewise, starting in 2010 (according to DOE's schedule), large numbers of spent fuel and high-level waste shipments could start arriving at the repository. The Draft EA should examine possible impacts of the proposed action on Yucca Mountain workers, drivers, inspectors, and others involved with that project. For example, could there be harmful health effects to individuals who are repeatedly exposed to the chemicals and/or biological agents planned under the proposed action? The EA should examine meteorological conditions that could cause such exposures and assess any short or long-term consequences. L-5-3

(2) The type of project contemplated (i.e., the planned releases of chemical and biological agents into the environment) has the potential, especially in Nevada, to evoke considerable public concern, given the past history of contamination from the nuclear weapons testing program, DOE's track record nationwide of environmental degradation, and human and environmental contamination at almost every DOE nuclear facility.

Since DOE has not widely noticed or distributed the Draft EA, additional efforts must be made to inform the public about the proposal and provide opportunities for comment. DOE should immediately schedule public meetings in Las Vegas, Nye County and in one or more "downwind" communities in Nevada (and possibly Utah). Meeting dates, times and places plus the addresses for making written comments should be well publicized so as to maximize public awareness and participation. L-5-4

(3) The Draft EA should have addressed whether the proposed action is consistent with the purpose for which Congress withdrew the land for the Nevada Test Site (i.e., atomic weapons testing-related activities). Under the terms of the negotiated settlement of the State of Nevada's lawsuit challenging the Nevada Test Site EIS, DOE was to have consulted with the Bureau of Land Management regarding the status of the land withdrawal and consistency of various NTS activities with the mission of the NTS as specified in the land withdrawal legislation. To date, State officials are not aware that such consultation has taken place or of any plans for resolving the issue. L-5-5

A related issue that must be addressed in the EA is whether the proposed action is consistent with any of the actions contemplated by and assessed in the Nevada Test Site EIS. L-5-6

2

(4) In Chapter 5.0 (Statutes, Regulations, Consultations, and Other Requirements), no mention is made of consultations with the Federal Drug Administration, the Department of Agriculture, the Environmental Protection Agency or the Centers for Disease Control regarding the biological agents proposed for use under the proposed action. Given the fact that biological aerosols and "simulants" will be dispersed into the environment, potentially exposing flora, fauna, and humans to such agents, it would seem appropriate to require DOE to involve the federal agencies responsible for regulating biological materials and for protecting public health and the environment. In addition, there is no indication in the Draft EA that the Department of Homeland Security has been consulted with respect to the proposed action. Since, presumably, the purpose of the biological and chemical releases is to help better prepare responders and others to deal with biological and chemical threats, the Department of Homeland Security should be a key agency involved with the planning and oversight of the proposed action. L-5-7 L-5-8

(5) The Draft EA contains no discussion of possible impacts of terrorism and sabotage on the activities contemplated in the proposed action. Are the chemicals and biological agents to be used in any way potential targets for terrorist action? What precautions are planned for securing the material while being transported to the NTS? What are the potential impacts/consequences of a successful terrorist attack on a shipment of the various chemicals/biological enroute to NTS (i.e., release of the material in a lage metropolitan area along a shipping route, not just in Nevada but in the largest city along the transportation route)? The Draft EA should contain a section that address possible terrorism/sabotage impacts, both at NTS and during transportation to NTS. L-5-9

(6) On page ES-4 of the Draft EA, under the section titled "Human Health and Safety," the statement is made that "the health and safety of NTS workers is protected by adherence to the requirements of federal and state law, DOE orders, and the plans and procedures of each organization performing work on the NTS." Given DOE's past history of worker and public contamination and resulting health consequences, such an assurance ring hollow. In Nevada, just in the past few months, we have had a situation where, despite strict federal and state regulations, DOE orders, the plans and procedures of organizations working for DOE, and a thorough scientific and industry understanding of how to prevent health consequences, Yucca Mountain tunnel workers were exposed to potentially deadly levels of silicon dust and other dangerous minerals from tunneling operations. The situation occurred because DOE and its contractors *ignored* regulations and established health protective procedures for reasons of cost and schedule. Simply stating that health and safety will be protected because the regulations say so is meaningless in the absence of a commitment to enforcing those regulations and in light of DOE's historical and even recent track record in this regard. The EA should examine the use of a truly independent oversight entity, autonomous from DOE, that would continually review activities under the proposed action, assure that health and safety requirements are, in fact, being adhered to, and have the authority to take effective action in the event DOE does not adhere to practices that are protective of worker and public health and safety. L-5-10

3

(7) The EA should also contain an analysis and explication of the jurisdiction and roles of State of Nevada agencies with respect to the proposed action (i.e., the State Health Division, the Division of Environmental Protection, the Division of Emergency Management, the Nevada Department of Public Safety, and other potentially involved/affected agencies) and assess any impacts to State agencies as a result of the proposed project. L-5-11

(8) Because of the insufficient public notice regarding the availability of the Draft EA and the lack of broad solicitation of public comment, we strongly recommend that DOE extend the deadline for the comment period, schedule additional public meetings as discussed above, and widely publicize the availability of the document, the comment period and the meetings. L-5-12

Thank you for the opportunity to comment on the predecisional Draft EA. If you have questions regarding the Agency for Nuclear Projects' comments, please contact me or Bob Loux, Executive Director, at 775-687-3744.

JCS/js

4

Response to comment L-5-1: The Radiological/Nuclear Countermeasures Test and Evaluation Complex (Rad/NucCTEC) EA was announced during the final stages of the development of the Preapproval Draft Environmental Assessment for Activities using Biological Simulants and Releases of Chemicals. Information on the Rad/NucCTEC EA was not available for inclusion in this Preapproval Draft EA. The purpose of the proposed Rad/NucCTEC project would be to conduct a wide variety of testing and evaluation activities related to combating terrorism. Specifically, the Rad/NucCTEC project would encompass:

- Prototype detector testing and evaluation
- Systems testing and evaluation
- Performance standards validation
- Demonstration of prototype detectors, systems and performance standards
- Verified threat demonstration
- Concept of operations evaluation and verification
- Training

Preliminary analysis of the Rad/NucCTEC project impacts indicates the primary impact to be the disturbance of 50 to 100 acres of undisturbed land situated within the range of the desert tortoise. The Preapproval Draft Environmental Assessment for Activities using Biological Simulants and Releases of Chemicals has also identified potential impacts to desert tortoise habitat. Biological surveys and monitoring for the desert tortoise would be performed as specified in the existing Final Programmatic Biological Opinion for Nevada Test Site Activities (Opinion) issued to NNSA/NSO by the U.S. Fish and Wildlife Service (File No. 1-5-96-F-33). The proposed Rad/NucCTEC project may destroy up to 100 acres of tortoise habitat, but this amount is well within the allowance of land disturbance permitted under the Opinion. All mitigation actions prescribed under the Opinion would be followed to ensure that the project will not adversely impact the population of desert tortoises in the region. Pursuant to the Biological Opinion for the NTS, it would be necessary to compensate for the loss of desert tortoise habitat, either through payment for acres disturbed, or by revegetating an equal amount of disturbed tortoise habitat elsewhere on the NTS. Some of that impact would be offset by reclamation of a like area of previously disturbed land within desert tortoise habitat on the NTS. The NTS includes approximately 1,375 square miles (880,000 acres). As of 1996 the total amount of land disturbed on the NTS was approximately 60,000 acres. This represents less than one per cent of the total NTS area.

Other potential impacts identified for the Rad/NucCTEC project include:

- Some potential impacts to local populations of plants and wildlife, primarily due to displacement.
- An increase of approximately 15-20 one-way vehicle trips daily, generated by workers employed at the Rad/NucCTEC. However, because employment at the NTS has decreased to about one-half the level reported in 1993, there would be no noticeable impact to traffic or transportation on public highways or on the NTS.
- Additional waste streams resulting from operation of the Rad/NucCTEC would represent a very minor increase in waste volumes currently generated at the NTS. There would be little cumulative impact from the generation of these wastes.

The *Final Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals* has been modified to include cumulative effects of the Rad/NucCTEC project summarized here.

Response to comment L-5-2: The comment raises two concerns: (1) the need for the EA to

assess any potential health or safety impacts to workers including drivers and inspection personnel handling LLW and TRU waste shipped into NTS from offsite generators and (2) the need to analyze impacts to the ongoing disposal activities of these offsite-generated wastes caused by planned or unplanned work stoppages or evacuations associated with release events.

With regard to the first concern, Section 3.2.9, Human Health, discusses the assessment of health impacts to involved and non-involved workers, and the general public. The waste workers of concern to the commenter would be considered non-involved workers. The assessment concluded that during the tests, administrative and access controls and area monitoring would prevent exposures to involved and non-involved workers and the general public. Moreover, this section also explains that NNSA requires visitors to NTS, which would include non-NTS workers involved with shipments or inspections of offsite-generated waste, to meet the same safety and health requirements as NTS workers such as safety briefing and issuance of personal protective equipment.

With regard to the second concern, the need for the proposed action and how it compliments NNSA's mission is presented in Chapter 1. The purpose of this EA is to analyze impacts to the environment, human health, and the surrounding community and not impacts to other NTS missions. However, impacts to other NTS missions are not expected. As stated in Section 2.1, NNSA anticipates approximately 5 to 20 release events per year. It would be unlikely that all of these would be conducted in the same vicinity. Therefore, repeated disruption of other NTS missions including radioactive disposal activities ongoing at specific locations within NTS would also be unlikely. Making disruptions to waste disposal activities even more unlikely is the restriction that release sites in areas with radioactive contamination would be avoided due to environmental impact reasons (see Section 3.2.12.2 and Table 4-1).

Response to comment L-5-3: As stated in the EA, an exclusion zone will be maintained during tests to protect workers during testing. The EA indicates that the allowable concentration for a specific chemical will be determined on a case-by-case basis for each test. This determination will be based on the chemical toxicity and test constraints (e.g., wind direction, wind speed, etc.). The concentration will be chosen so that the specified exclusion zone, identified in this EA, can be maintained. This exclusion zone will also be maintained to be protective of human health during the tests. This approach is protective of potential adverse impacts to human health and the environment outside the exclusion zone and off the NTS by enforcing a compliance boundary at the edge of the exclusion zone.

Response to comment L-5-4: NNSA/NSO was, and is, aware of potential concerns and interest by the public and other Federal and state agencies for the proposed actions. Because of this, NNSA/NSO provided well publicized opportunities for public input during the scoping and comment periods for the EA, exceeding Federal NEPA requirements. NNSA/NSO's public involvement activities are described in Section 1.4 of the EA.

Response to comment L-5-5: The administrative land withdrawals which composed the boundaries of the Nevada Test Site were withdrawn for the use of the DOE's successor Atomic Energy Commission for "weapons testing" and for purposes "in connection with" the Nevada Test Site. As noted in the current EA, historical uses of the NTS have included a number of compatible activities in addition to the primary continuing purpose of weapons testing, including chemical tests at the HAZMAT Facility and various "work for others" activities. The currently proposed activities are also compatible, and not inconsistent with, the ongoing availability of the NTS for use as a weapons testing site.

In response to comments to the DOE's NTS EIS (1996), the DOE committed to entering into a consultation process with the U.S. Department of Interior to ensure that uses of the NTS would remain consistent with the purpose for which the

lands were withdrawn. (As noted in the Agency for Nuclear Projects comment, a similar DOE commitment was entered into in settlement of a state of Nevada lawsuit.) The consultation process between the DOE and the DOI is still underway, and DOE has kept the State of Nevada apprised of this through repeated correspondence with state of Nevada officials from 1998 through 2003.

Response to comment L-5-6: The general activity, testing with releases, is covered within the NTS EIS. Because the proposed actions (i.e., releases of biological simulants) were not specifically addressed in the EIS, NNSA/NSO determined that an EA was the appropriate NEPA documentation.

Response to comment L-5-7: The Federal agencies responsible for protecting public health and the environment will be consulted on a case-by-case basis, as appropriate.

Response to comment L-5-8: While DHS may be part of the national need that was identified in the purpose and need section of the EA, they are not responsible for evaluating the environmental impacts of the proposed action.

Response to comment L-5-9: The chemicals that would be used as part of the activities under the proposed action are commercially available. Although some of the chemicals may be considered hazardous, they are by no means suitable as weapons. The biological simulants that would be used are not pathogenic and would pose no serious threat to humans. The chemicals and biological simulants that would be transported to the NTS for use in activities under the proposed action have little to no attractiveness as targets of terrorism or sabotage. Therefore, terrorism and sabotage are not considered to be a credible threat and are not addressed in this EA

Response to comment L-5-10: This EA is not an appropriate venue for consideration of broad policy decisions such as establishment and use of an independent oversight and enforcement organization for NNSA/NSO activities. As described in the EA, Section 2.1.4, NNSA/NSO will use a Project Advisory Panel to review uses of biological simulants and releases of chemicals to ensure that proposed activities are conducted in a safe manner. The panel will include representatives from various Federal agencies, including the U.S. Environmental Protection Agency, National Weather Service, and the U.S. Air Force.

The NTS is managed by the NNSA, a semi-autonomous agency within the DOE and completely separate from the Office of Civilian Radioactive Waste Management (OCRWM), which manages the Yucca Mountain Project. Certainly, work conducted at the NTS often is of such a nature that serious hazards to worker health and safety exist. In order to effectively deal with those hazards NNSA/NSO has established work control procedures that are designed to ensure adequate hazard identification, planning and hazard mitigation, and safe conduct of work.

Response to comment L-5-11: Chapter 5 and Appendix B of this EA identify Federal and state statutes and regulations applicable to the proposed action. A new Section 5.1.2 has been added to this EA to describe the role of state agencies in the proposed action.

Response to comment L-5-12: NNSA/NSO was, and is, aware of potential concerns and interest by the public and other Federal and state agencies for the proposed actions. Because of this, NNSA/NSO provided well publicized opportunities for public input during the scoping and comment periods for the EA, exceeding Federal NEPA requirements. NNSA/NSO's public involvement activities are described in Section 1.4 of the EA. Based on the opportunities for public involvement and review described in this EA NNSA/NSO believed there is no basis for an extension of the review period.

MAY-17-2004 15:44 P.12

NEVADA STATE CLEARINGHOUSE

Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

'04 APR 19 A11:36 DIVISION OF STATE LANDS

.TE: April 15 , 2004

Governor's Office	Legislative Counsel Bureau	Conservation & Natural Resources Director's Office
Agency for Nuclear Projects	PUC	State Lands
Energy Office	Transportation (General)	Environmental Protection
Agriculture Department	Transportation (Airspace)	Forestry
Minerals Commission	Office of Traffic Safety	Conservation Districts
UNR Bureau of Mines	UNR Library	State Parks
Economic Development	UNLV Library	Water Resources
Tourism	Historic Preservation	Natural Heritage Program
Fire Marshal	Emergency Management	Wild Horse Commission
Human Resources	Office of the Attorney General	Wildlife Department – Director's Office
Health Division	Washington Office	Region 1 - Fallon
Indian Commission	Nevada Assoc. of Counties	Region 2 - Elko
Colorado River Commission	Nevada League of Cities	Region 3 – Las Vegas
Animal Damage Control	Public Safety	

vada SAI # E2004-167
oject: Draft EA Activities using Biological Simulants and Releases of Chemicals at the Nevada Test Site

Note: Send more information on this project as it becomes available.

EARINGHOUSE NOTES: **Also Reference E2004-125**

closed, for your review and comment, is a copy of the above-mentioned project. Please evaluate it with respect to its effect on your plans d programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, ders or regulations with which you are familiar.

ease submit your comments no later than May 10, 2004. Use the space below for short comments. If significant comments are ovided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Michael afford, Clearinghouse Coordinator, (775) 684-0209 or mstafford@budget.state.nv.us.

HIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

____No comment on this project
____Proposal supported as written
X Additional information below
____Conference desired (See below)
____Conditional support (See below)
____Disapproval (Explain below)

GENCY COMMENTS:

☑ PLEASE SEE ATTACHED LETTER.

RECEIVED
APR 23 2004
DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

D.Compulsky
Signature s:\shardat\clear\clear.doc

STATE LANDS
Agency

4/22/04
Date

MAY-17-2004 15:45 P.13

R. MICHAEL TURNIPSEED, P.E.
Director
Department of Conservation
and Natural Resources

PAMELA B. WILCOX
Administrator

KENNY C. GUINN
Governor

State Land Office
State Land Use Planning Agency
Address Reply to
Division of State Lands
333 W. Nye Lane, Room 118
Carson City, Nevada 89706-0857
Phone (775) 687-4363
Fax (775) 687-3783

STATE OF NEVADA

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Division of State Lands

April 22, 2004

Mike Stafford
Nevada State Clearinghouse
209 East Musser Street, Room 200
Carson City, NV 89701

RE: E2004-167, Draft EA: Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site. **(DOE/EA-1494)**

Dear Mike:

The Division of State Lands has reviewed the proposal with the understanding that additional, more specific and technical comments are forthcoming from agencies such as Nevada Division of Environmental Protection (NDEP), Nevada Department of Wildlife (NDOW) and Nevada Department of Transportation (NDOT).

There are no lands under the jurisdiction of the Division of State Lands in the general vicinity that will be adversely affected by the proposed action. However, a number of the State's natural resources may be impacted by this proposal. Monitoring of impacts to these resources is critical so that the proper mitigation measures can occur and future improvements to the process made where applicable. It is very appropriate that the National Nuclear Security Administration (NNSA) plans to expand the Nevada Test Site (NTS) Ecological Monitoring and Compliance Program to include monitoring and assessment of NTS ecological systems for impacts attributable to the proposed testing program (DOE/EA-1494, Chapter 4.0, page 4-1).

During the consultation meeting held at the Nevada Department of Conservation and Natural Resources in Carson City on February 17, 2004, Michael Skougard (NNSA Nevada Office), was asked about monitoring. Specifically, he was asked if there would be the creation of a "project advisory committee" that would give oversight and comment on each test, and he answered in the affirmative. The committee would include representatives from various State agencies, most

(O) 1151

notably NDOW and NDEP. The Draft EA does not mention the creation of a committee.

- It is recommended that this committee be created so that adequate monitoring and, more importantly, dialogue between the federal agencies and the State can be maintained. Although the Draft EA states that all applicable regulations will be adhered to regarding water, soil, air, transportation, etc., monitoring utilizing a comprehensive process in a transparent manner will improve the comfort level of State agencies and Nevada's citizens. L-6-1

The Draft EA details measures to be taken in the event that a cleanup is required.

- It is recommended that NDEP be involved, if they are not already, in any cleanup operation in the event one is needed. L-6-2

The Draft EA details impacts to flora, fauna and cultural/historical resources in the vicinity of the tests.

- Prior to any tests, it would be extremely prudent to involve NDOW, the State Historic Preservation Office and the Nevada Natural Heritage Program in development of a plan that will proactively address measures to be implemented that will reduce and/or eliminate impacts to these resources. L-6-3

Finally, any time one mentions the topic of weapons of mass destruction and biological and chemical agents, citizens can become concerned. The prospect of releasing these agents for testing purposes into Nevada's environment can cause rumors to fly and fears to spread. It is advised that the NNSA take every measure possible to inform the public about the proposed tests, their parameters, the agents' transport, release and ultimate end. L-6-4

Thank you for the opportunity to comment on this proposal and for forwarding this letter to the appropriate federal agencies. If you have any questions, please feel free to contact me at 775-687-4364 ex 235.

Sincerely,

Don D. Canfield III, AICP (Skip)
Senior Planner

Response to comment L-6-1: NNSA/NSO is evaluating a possible project liaison role in test planning for both the State and Nye County.

Response to comment L-6-2: NNSA/NSO will coordinate with NDEP to identify reasonable opportunities for involvement in project monitoring and mitigation procedures.

Response to comment L-6-3: NNSA/NSO will comply with the National Historic Preservation Act and 36 CFR Part 800 on a project-by-project basis. NNSA/NSO may at a later date determine that a Programmatic Agreement (PA) defining specific compliance activities may be necessary. At that time, NNSA/NSO will consult with the Nevada SHPO and the Advisory Council on Historic Preservation to prepare a PA.

As stated in the EA, surveys for historical and ecological resources will be conducted when there is the possibility that test activities have the potential for adverse impacts to these resources. NNSA/NSO will consult with appropriate Federal and State agencies as needed to reduce and/or eliminate impacts to sensitive natural resources.

Response to comment L-6-4: NNSA/NSO recognizes the public concern regarding the proposed action and has used the public involvement process in the completion of this EA, additional public notifications would be made on a case-by-case basis.

MAY-17-2004 15:43 P.04

ALLEN BIAGGI, *Administrator*

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Water Quality Planning
Water Pollution Control
Facsimile 687-4684

Mining Regulations & Reclamation
Facsimile 684-5259

State of Nevada
KENNY C. GUINN
Governor

R. MICHAEL TURNIPSEED, *Director*

Air Pollution Control
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Facsimile 687-6396

Waste Management
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Corrective Actions
Facsimile 687-8335

NDEP.nv.gov

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
333 W. Nye Lane, Room 138
Carson City, Nevada 89706

May 15, 2004

William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193
suiter@nv.doe.gov

Re: Comments - *Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site*, April 2004

Dear Mr. Suiter:

Thank you for soliciting comments on the above-referenced Environmental Assessment from the Nevada Division of Environmental Protection (NDEP). We strongly encourage the National Nuclear Security Administration, Nevada Site Office (NNSA/NSO) to consider these comments carefully before making any final decisions pursuant to the release of biological simulants and chemicals on the Nevada Test Site (NTS).

NDEP Comment Letter: DOE/EA-1494 dated April 2004 -- This comments letter is for electronic distribution, the original letter is on file at the address on the letterhead.

1

General Comments:

Given the scope of the proposed action defined in the Draft EA, along with the analysis of potential environmental effects on the human and natural environment, we believe that preparation of an Environmental Impact Statement is probably not warranted at this time. In the same regard, we do believe the current Draft EA is inadequate in certain areas and must be significantly revised. We strongly recommend the proposed action and alternatives defined in the Draft EA be reconsidered. The EA states that very little information is available on acceptable concentrations of biological simulants in an occupational setting (page 2-7). Given these uncertainties, along with uncertainties defined below about "release modeling" NDEP strongly suggests that NNSA/NSO limit all testing activities to the authorized release boundaries encompassing the Hazmat Spill Center in Area 5 of the NTS. Accordingly, the EA should be amended to include an alternative that reflects this approach, which should then be adopted as the proposed action. Making this decision would allow NNSA/NSO to effectively mitigate potentially irresolvable problems associated with dispersion modeling issues (see comments below) and other related concerns about the release of biological simulants and chemicals in the biosphere throughout NTS. L-7-1

Specific Comments:

1) Independent Review Process: We understand that activities described in the referenced document are being proposed to support national security mission activities for various federal agencies, and we recognize these are important endeavors. Nevertheless, it is imperative that the state of Nevada, through existing regulatory permits and oversight programs be kept informed of any biological simulants and chemical release tests on the NTS. In reviewing the Draft EA, however, it is clear that a formal and independent review process has not been fully considered to adequately involve state regulatory officials in the new testing activities proposed at the NTS. L-7-2

For example, the EA identifies a "*Test Process Planning and Management*" protocol that would be implemented to ensure each test series is properly planned and managed by NNSA/NSO "customers[1]" to address any potential environmental impacts that might occur. According to the Draft EA, implementation of this process would be managed by an existing NNSA/NSO Safety Review Panel that currently oversees test planning for

[1] e.g., customers such as other federal agencies, universities and commercial firms

the Hazmat Spill Center (HSC) at Area 5 on the NTS. Since modeling the release of biological simulates and chemicals in the biosphere is an issue of concern to NDEP, (see specific comments below), it will be critical for NNSA/NSO to insure the state of Nevada (NDEP) is fully informed of test plans before such tests are conducted. The EA does indicate that a pending NDEP Class II Operating Permit would include submittal of all test plans before any tests were implemented (see section 3.2.6.2), yet the document fails to adequately clarify a formal connection between this regulatory requirement and the above-mentioned "Test Process Planning and Management" protocol. These coordination issues, i.e., NDEP's specific involvement in pre-test evaluation activities, should be further explained in the EA. L-7-2

2) Regulatory Compliance: It is also apparent that this Draft EA presents certain legal inconsistencies in the fair and useful application of the National Environmental Policy Act (NEPA) process as it's applied to NNSA/NSO's "Work for Others" at the NTS. As written, the Draft EA would modify the release parameters under which the Hazmat Spill Center (HSC) currently operates. The Draft EA states HSC will continue to operate under the HSC EA[1] at least for larger chemical releases that cannot meet the criteria for low concentration releases, as defined by the Draft EA.

We contend that any activity that is conducted at the HSC cannot operate under two different environmental assessments depending on the size of a given planned release. Accordingly, we believe the HSC EA must be modified as a result of this current Draft EA; this is important as the HSC EA is incorporated by reference into the NTS Air Quality Operating Permit (# AP9711-0549) for releases conducted at the HSC. L-7-3

As now envisioned under the Draft EA, chemical and biological releases would not be required to meet the existing HSC predominant wind direction criteria contained in the HSC EA. This is a de facto modification of the HSC EA; hence, it is strongly recommended that NNSA/NSO amend the HSC EA and document that the more relaxed criteria are still protective of human health and the environment.

3) Release of Bacterial Agents: According to the Draft EA, some of the bacterial agents would not be expected to affect the health of healthy humans. The EA does not, L-7-4

[1] DOE/EA–0864 *Hazardous Materials Testing At the Hazardous Materials Spill Center, Nevada Test Site Environmental Assessment*, dated September 2002

however, define what a "healthy" human is, nor does it explain the effects of the bacterial agents on an "unhealthy" human or other sensitive member of the public such as children, elderly or people with chronic allergies and/or respiratory problems. Given that NNSA/NSO is proposing to have the latitude to conduct releases *anywhere* on the NTS, there is the risk of exposure to the general public near NTS boundaries, as well as personnel working on adjacent restricted access properties and/or contractors associated with the Yucca Mountain repository projects or other "Work for Others" conducted on the NTS. L-7-4

4) Dispersion Modeling: The proposed action in the referenced EA calls for releases of biological simulants and chemicals anywhere on the NTS. This approach presents significant logistical problems both in Air Quality permitting and in dispersion modeling. The NTS comprises a large area with varied terrain and elevations which cannot be overstated. Nonetheless, the referenced EA states that each proposed release would be modeled to determine the dispersion of the chemical or biological releases, however, there is no mention of the dispersion model that will be used, or the parameters which would be required to be used in the model. The Draft EA leaves model selection up to the "*customer*" that is conducting the release. Additionally, some of these releases could be from moving vehicles (aircraft, ground vehicles), creating additional complexities for dispersion modeling.

Leaving the model selection up to the customer to determine the dispersion of released materials will lead to confusing dispersion and air quality impact results. For uniformity, we strongly recommend the NNSA/NSO select one model that will be used for all releases conducted at the NTS. L-7-5

The NNSA is obligated to develop and submit to the Nevada Division of Environmental Protection, Bureau of Air Pollution Control (NDEP/BAPC) a detailed modeling protocol that would be used for modeling all releases within the boundaries of the NTS. If the NNSA/NSO does not conduct the modeling directly, we again strongly recommend that each "customer" adhere to the modeling protocol and use the model specified by NNSA/NSO and approved by NDEP/BAPC.

The protocol would need to cover how each modeled release would be added to the current NTS site-wide emission inventory and be included in the overall site-wide L-7-6

modeling results for determining compliance with the National and Nevada Ambient Air Quality Standards (AAQS). Please be aware the referenced EA failed to identify the Nevada Ambient Air Quality Standards as an applicable requirement under 3.2.6.1 Regulatory Compliance. It is the burden of the NNSA/NSO, as the permitted entity, to ensure and document that all tests, in conjunction with all other permitted activities on the NTS, would not contribute to an exceedence of the AAQS. NNSA/NSO also needs to be aware that in addition to the list of Hazardous Air Pollutants (HAPs) defined by NRS 445B.140, the State of Nevada has the authority to regulate additional toxic regulated air as defined in NAC 445B.196 and regulated under 445B.2203. L-7-6

The Draft EA uses an OSHA 8-hour time weighted average guideline of 5 mg/m^3 for controlling limits of respirable particulates at the outer perimeter of the release site for release of biological simulants. NNSA must keep in mind that the releases must also meet the AAQS for particulates (PM_{10}) of 150 μg/m3 for a 24-hour average, at the NTS boundary for most releases; or at the edge of the HSC's administrative control, as defined in the HSC EA. L-7-7

5) Air Quality Regulations: Appendix B cites the older air quality regulations (NAC 445B.001 through 445B.395). The current regulations are contained in NAC 445B.001 through 445B.3497. The NNSA/NSO needs to ensure that they are complying with the most current regulations for air quality permitting and compliance. L-7-8

6) Hazardous Waste: Disposal/treatment of any explosive waste generated as a result of a release activity would need to meet the conditions of both the Resource Conservation and Recovery Act Hazardous Waste Permit (NEV HW009) and the NTS Air Quality Operating Permit. L-7-9

7) Biological Materials: The Draft EA also included the provision to "use biological materials not specifically addressed in this EA" – this intended action should be further clarified in the final document. L-7-10

NDEP Comment Letter: DOE/EA-1494 dated April 2004 – This comments letter is for electronic distribution, the original letter is on file at the address on the letterhead.

5

MAY-17-2004 15:44 P.09

If you have any questions about these comments contact me at your convenience.

Sincerely,

Allen Biaggi
Administrator

AB/jbw
cc: Mike Elges, NDEP/BAPC
Mike Stafford, State Clearinghouse
Steve Robinson, Governor's Office

NDEP Comment Letter: DOE/EA-1494 dated April 2004 – This comments letter is for electronic distribution, the original letter is on file at the address on the letterhead.

6

Response to comment L-7-1: There is a national need to perform low concentration releases of chemicals beyond the types of chemical testing currently done in Area 5. This national need is detailed in the Purpose and Need statement of this EA. There is also a national need to perform testing with biological simulants. This EA was prepared to evaluate the proposed actions to meet these stated needs. This document will be used by NNSA to evaluate the potential impacts to human health and the environment.

Response to comment L-7-2: Currently, prior to any release of chemicals at the HAZMAT Spill Center, NNSA/NSO provides notification and a Test Management Plan Summary to the Nevada Bureau of Air Pollution Control (BAPC), pursuant to the NTS Air Quality Operating Permit. NNSA/NSO anticipates that this process will apply to activities proposed in this EA. In addition, a post-test report is provided to BAPC. NNSA/NSO is evaluating a possible project liaison role in test planning for both the State and Nye County.

Response to comment L-7-3: Tests would continue as allowed under the current HSC EA within the designated release area. This EA, evaluates several proposed actions which define release criteria that would apply to the NTS as a whole (which includes Area 5). These proposed release criteria are more restrictive on chemical concentrations than the existing HSC EA. As appropriate, releases could be performed under either EA depending on the type of release and the proposed release area.

Response to comment L-7-4: The bacteria selected as simulants are naturally occurring organisms found in the normal flora and fauna to which all individuals, both healthy, unhealthy and sensitive members of the public, are already exposed. The viral simulants do not display human pathogenicity. NNSA/NSO would ensure that simulant concentrations would be below detection limits at the nearest public or non-occupational worker receptor point. As indicated in Section 3.2.9.2, with appropriate administrative, access, and test controls in place, there would be no impact to involved and non-involved workers and members of the public.

Response to comment L-7-5: Models which are appropriate for the proposed test are selected and run by the test sponsor. This selection is reviewed separately by BN, NNSA, and by external experts on the Project Advisory Panel. These independent reviewers may run other models to verify the submitted model results. It would not be appropriate to limit model selection because of the variety of releases that need to be modeled. Limited model selections could result in an inappropriate model being used to evaluate proposed releases.

Response to comment L-7-6: Section 3.2.6.1, Regulatory Compliance, has been revised to reflect Nevada Ambient Air Quality Standards. NNSA/NSO is aware that the State of Nevada has authority to regulate "toxic regulated air pollutants."

Response to comment L-7-7: Appendix B includes descriptions of statutes and regulations applicable to the proposed action. Appendix B also describes United States Environmental Protection Agency (U.S.EPA) national ambient air quality standards (NAAQS), which include the particulate matter standards for PM10, and indicates Nevada's authority to maintain the NAAQS. These statements acknowledge NNSA's recognition of all applicable federal and state air quality standards and its intention to comply with these standards.

Response to comment L-7-8: The text in Appendix B of this EA has been changed to include the listing of current Nevada air pollution regulations. Nevada air quality regulations are contained in NAC 445B.001 through 445B.3497. Chapter 445B – Air Controls is divided into the following categories:

- Definitions–445B.001 through 445B.211
- General Provisions–445B.220 through 445B.283
- Permits Operating Permits Generally–445B.287 through 445B.331

- Class I Operating Permits–445B.3361 through 445B3447
- Class II Operating Permits–445B.3453 through 445B.3477
- Class III Operating Permits–445B.3485 through 445B.3497

Response to comment L-7-9: The EA states in Section 3.2.12.2 Environmental Consequences, Hazardous Waste, that prior to treating explosive waste resulting from a release event, NNSA would consult with and obtain the approval of the NDEP. During the consultation, the NDEP could review the proposed treatment method for its ability to meet the permit conditions of the RCRA Hazardous Waste Permit, the NTS Air Quality Operating Permit, and any other pertinent permits.

Response to comment L-7-10: Section 2.1.4 has been revised to more clearly define the process for evaluating proposed new biological simulants not specifically addressed in this EA.

FROM ESHD (MON) 5. 17' 04 14:25/ST. 14:20/NO. 4860748639 P 14

HOUSE OF REPRESENTATIVES
STATE OF UTAH

REPRESENTATIVE JACKIE BISKUPSKI
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STANDING COMMITTEES: HEALTH AND HUMAN SERVICES; WORKFORCE SERVICES
APPROPRIATIONS: ECONOMIC DEVELOPMENT AND HUMAN RESOURCES

Mr. William C. Suiter
NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

May 11, 2004

Dear Mr. Suiter,

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-8-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-8-2

During the years of nuclear testing, both above and under ground, we were constantly told that the tests were safe. That proved to be false as even the United States Government admits through its RECA program. L-8-3

An Environmental Assessment may be appropriate for certain low risk activities, but open air testing of Chemical and Biological agents increases the potential of serious consequences for people and the environment. L-8-4

Given the deadly history of the Nevada Test Site, it seems only reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-8-5

Sincerely,

Jackie Biskupski

Rep. Jackie Biskupski

Response to comment L-8-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the this ea does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-8-2: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-8-3: Comment noted.

Response to comment L-8-4: As indicated in Section 3.2.9.2, with appropriate administrative, access, and test controls in place, there would be no impact to involved and non-involved workers and members of the public.

Response to comment L-8-5: In 1996 DOE published *Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada* (DOE/EIS-0243), which addressed all current and then anticipated activities at the NTS. In 2002, a supplement analysis (DOE/EIS-0243-SA-01) was prepared that determined that activities to that point in time were still within the bounds of the 1996 EIS. This EA addresses specific activities not previously addressed.

FROM ESHD (MON) 5. 17' 04 14:23/ST. 14:20/NO. 4860748639 P 7

Jessica Sandler

From: Jessica Sandler [JessicaS@peta.org]
Sent: Friday, May 14, 2004 10:41 AM
To: 'sulter@nv.doe.gov'
Subject: Public comments on the NTS draft environmental assesssment

Dear Mr. Sulter,

On behalf of People for the Ethical Treatment of Animals and our more than 800,000 members and supporters, I would like to register our concern with the proposed testing that is the subject of the "Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site" (http://www.nv.doe.gov/Default.htm).

The document states that efforts will be made to ensure that no "species of special interest" are adversely affected. However, no details are provided regarding how exposure to such species as desert tortoises, bats, and burrowing owls will be mitigated. Further, no consideration appears to be given to any of the resident animals who not "species of special interest" and to the impact this testing will have on them. Your own representative Mike Skougard is quoted as stating that "some mortality to small animals" could result (Las Vegas Sun, 3-17-04). We urge the National Nuclear Security Administration to allow for proper public notice and sufficient opportunity for public comment on the details of this test plan. L-9-1

These comments are also being sent via. U.S. mail and facsimile.

Sincerely,

Jessica Sandler, MHS
Federal Agency Liaison
People for the Ethical Treatment of Animals
tel: 757-622-7382, ext. 8001
fax: 757-628-0781

1

Response to comment L-9-1: Mitigation plans will depend on details regarding the material to be released, conditions of the release, and species present in the area. Mitigation will not be limited to any particular species, but will instead depend on activity-specific conditions and habitats. NNSA/NSO is aware of potential concerns and interest by the public and other Federal and state agencies for the proposed actions. Because of this, NNSA/NSO provided well-publicized opportunities for public input during the scoping and commenting periods for this EA. NNSA/NSO's public involvement activities are described in Section 1.4 of this EA.

FROM ESHD (MON) 5. 17' 04 14:22/ST. 14:20/NO. 4860748639 P 6

STOLLER-NAVARRO

May 13, 2004

ESHQ:JDM-CD-04-018

William C. Suiter, NEPA Document Manager
Environmental, Safety & Health Division
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Contract No.: DE-AC52-03NA99205
PREAPPROVAL DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR ACTIVITIES USING BIOLOGICAL STIMULANTS AND RELEASES OF CHEMICALS AT THE NEVADA TEST SITE (NTS)

Reference: Ltr, Hoar to Multiple Addressees, dtd 4/12/04

Dear Mr. Suiter:

In response to the above-referenced letter, we have no comments or suggestions for improvement of the subject document. It is assumed that if these operations occur at the NTS, they will be coordinated with other NTS activities and the Real Estate/Operations Permit process to ensure safe operations. L-10-1

If you have any questions or require further information, please contact me at 295-1858 or John D. Moroney III, ESH&Q Manager, at 295-2225.

Sincerely,

Barbara E. Smith
for John M. Fowler
Acting Program Manager

cc:
K. A. Hoar, ESHD, NNSA/NSO, Las Vegas, NV
K. C. Thompson, TD, NNSA/NSO, Las Vegas, NV
J. D. Moroney III, SNJV, Las Vegas, NV

Stoller-Navarro Joint Venture 7710 W. Cheyenne Avenue Las Vegas, NV 89129 Phone: (702) 295-2033 Fax: (702) 295-2025

Response to comment L-10-1: Yes, all operations related to this EA will be coordinated with other activities at NTS and will comply with the Real Estate/Operations Permit process to ensure safe operations.

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

May 8, 2004

Dear Mr. Suiter:

Please conduct a full Environmental Impact Statement before considering testing of Chemical or Biological agents at the Nevada Test Site (NTS).

The recently completed Environmental Assessment (DOE Environmental Assessment 1494: "Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site") is inadequate. L-11-1

During the years of nuclear weapons development and testing, from the 1950s through the 1990s, with both above ground and underground tests, the US public was constantly told that the tests were safe. That has been proven to be false. Even the United States Government now admits this through its RECA program. L-11-2

Environmental Assessment 1494 appears to be used in this case as a means of circumventing proper public oversight and inquiry into the types of activities that are planned for the NTS in the near future, let alone over the long term. An EA may be appropriate for certain low risk activities, but open air tests of Chemical and Biological Agents raise the spectre of serious consequences for people and the environment. Although in public statements at two *obscure* recent town meetings in Nye County and Amargosa Valley, Nevada, Mike Skougard and Carl Gertz tried to allay public concern, these meetings were purposely held at locations upwind from the NTS. They were not widely advertised. Very few people attended (because no one knew about them beforehand). No one "downwind" of the NTS has been informed about the current plans for the NTS, even after these two "public" announcements. This includes the entire population of the state of Utah. Why is this? L-11-3

EA 1494 briefly outlines the potential affects on animals and plants, but very little is mentioned about the potential affects on people. It fails to fully identify the agents involved (refers only to "chemicals" or "herbicides, insecticides and pesticides") and does not provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-11-4

Neither in EA 1494 nor in these two town meetings were the actual proposed chemical agents identified. Instead, they listed only general categories: herbicides, insecticides, pesticides. Agent Orange is an "herbicide", VX gas is an "insecticide", and Arsenic is a "pesticide" by chemical L-11-5

definition and by Treaty classification. Are these the agents to be tested? No one can agree that these agents are safe or benign. Mr. Skougard stated that, "Most of what we're looking at are not actual chemical weapons, in fact we wouldn't release any of that at all." (*Pahrump Valley Times*, March 19, 2004). In certain forms, none of these three agents are "chemical weapons". However, they may be appropriately packaged and used as chemical weapons. It all depends on semantics. Because of the very vague and very circumspect language used by the National Nuclear Security Administration in describing the plans for testing of chemical agents at the NTS, it is not possible to determine the actual potential environmental (or human health) impact of these proposed tests as currently described in the EA. Thus, a full Environmental Impact Statement would clearly seem to be required. L-11-5

As someone who was born in Utah and lived the first few years of my life there, during the time when chemical testing and nuclear testing was being performed, I am concerned for my future health. Only time will tell on that. However, right now I am more concerned that we do not repeat the mistakes of the past and expose others to the same types of hazards. L-11-6

Given the deadly history of the Nevada Test Site, it only seems reasonable that its current and future activities receive the thorough study and oversight accomplished through a full Environmental Impact Statement. L-11-7

Sincerely,

David R. Gang
Department of Plant Sciences and
Institute for Biomedical Science and Biotechnology
University of Arizona
303 Forbes Building
Tucson, AZ 85721-0036
Tel.: 520-621-7154
Fax.: 520-621-7186
Email: gang@ag.arizona.edu

Response to comment L-11-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in this EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-11-2: Comment noted.

Response to comment L-11-3: As described in Section 1.4, NNSA/NSO conducted a public involvement process for this EA including press releases and paid advertisements announcing two public scoping meetings which were conducted in Las Vegas and Pahrump, Nevada. In addition to public scoping, NNSA/NSO coordinated with numerous local, State and Federal officials as described in Section 5.1. The EA addresses low concentration releases of chemical and biological simulants. Within a short distance from the release site concentrations would be below detection limits.

Response to comment L-11-4: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-11-5: As noted in Section 2.1 of this EA, the chemicals that would be used under the proposed action may simulate a chemical weapon or may be an expected emission or effluent from a chemical weapons production facility or other process or facility type of interest. In order to further clarify this point, Section 2.1 has been revised to indicate that in no case would a toxic chemical listed in Schedule 1 or Schedule 2 of the Chemical Weapons Convention be used as part of any releases conducted at the NTS.

Response to comment L-11-6: Comment noted.

Response to comment L-11-7: In 1996 DOE published *Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada* (DOE/EIS-0243), which addressed all current and then anticipated activities at the NTS. In 2002, a supplement analysis (DOE/EIS-0243-SA-01) was performed that determined that activities to that point in time were still within the bounds of the 1996 EIS. This EA addresses specific activities not previously addressed.

May 13, 2004

Mr. William C. Suiter
U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office
Office of Public Affairs
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological Agents or simulants at the Nevada Test Site.

There are a great number of issues that have not been addressed in DOE/EA #1494 which would have to be resolved before a "Finding of No Significant Impact" could be legally and lawfully reached. For example: L-12-1

I. Security of the Biological Simulants

Where do the involved Agencies plan to acquire the "killed" Influenza A Virus? If the Virus is to be manufactured and killed by a private defense contractor, what steps are going to be taken to secure that location, to secure the transportation to the site, to secure the storage of the Influenza A Virus prior to releases and/or testing, and to secure that the sample is not tampered with or altered in any way prior to releases and/or testing? The same security concerns apply if the Influenza A Virus is to be manufactured at and "killed" by a branch of the U.S. Military not located at the Nevada Test Site. Are the involved Agencies planning to acquire "killed" Influenza A Virus from a manufacturer outside of the U.S.? The security and integrity of the Influenza A Virus samples and all other Biological samples is not addressed in this EA and could pose not just a Significant Impact, but a HUGE Impact not just to the Test Site, but to all surrounding environments. L-12-2

II. Content and Concentration of the Chemical Agents

Nowhere in the proposal does it list exactly which Chemical Agents are to be used. Nowhere in the proposal does it list exactly what concentrations of Chemical Agents are to be used. It only offers, as an example, "herbicides, insecticides, and pesticides". What this EA fails to address is L-12-3

the significant differences in the safety levels of different "herbicides, insecticides, and pesticides". It is IMPOSSIBLE to determine the impact, or to determine that there will be "No Significant Impact" without knowing which "herbicides, insecticides, and pesticides" we are talking about here. AGENT ORANGE is classified by chemical and by Treaty definition as an "herbicide". This Assessment certainly cannot be attempting to claim that there would be "No Significant Impact" from "explosive releases" of Agent Orange? Likewise, "insecticides", by chemical and Treaty definition are ALL organophosphates- various combinations of phosphorus with alcohols and/or phenols. "Insecticides" run the gambit from household "Raid" you have under your kitchen sink to VX gas. Which "insecticide" is going to be used and in what quantities? It is IMPOSSIBLE to conclude that there will be "No Significant Impact" to the Environment without stating exactly which chemicals are intended to be "dispersed" into the air and in what concentrations. And, finally, "pesticides" include Arsenic and Strychnine- both of which pose dire consequences to small rodent life (mice, rats, squirrels, prairie dogs, etc.) and are known to be used by HUMANS to commit suicide. Surely, this EA is not attempting to claim that there would be "No Significant Impact" to the Environment using either explosive or passive releases of pesticides! More information is needed. L-12-3

III. Hazards to Humans- Especially Pregnant and Nursing Women, Small Children, the Elderly, and the Chronically Ill or Immunocompromised.

NOWHERE in this Environmental Assessment are concerns for these important segments of our Human population addressed - even though these groups of people are a large part of all Citizens of the United States that it is supposed these tests are being suggested to help protect. This is a MASSIVE oversight. The claim cannot be made that there would be "No Significant Impact" to these groups of people living around and/or downwind of the tests because the issue has not even been addressed in this Environmental Assessment. L-12-4

There are two issues affecting these populations that are not adequately addressed in this Environmental Assessment: Content of the Tests and Containment of the Tests.

A.Content of the Tests is referred to above but needs to be addressed from the HUMAN angle at this juncture:

A1- Biological Simulants and Hazards to Humans: Chapter 3, Page 17, lines 30-46 refer to these concerns, but, again, they are not adequately addressed in this EA. Line 30 states, "Biological simulants could be released as suspended aerosols and could travel beyond the NTS boundaries. However, given that the biological simulants were selected L-12-5

because of their documented lack of toxicity ***to healthy humans***...". This line of the EA ADMITS that biological simulants could travel beyond the NTS boundaries. That relates to the issue of containment. The documented lack of toxicity ***to healthy humans*** is reassuring to healthy humans- that is the average 155 pound healthy adult male. But what about to everyone else? This is a VERY SERIOUS CONCERN!!! What about toxicity to pregnant and nursing mothers? What about toxicity to small children? What about toxicity to people with AIDS? With Cancer? What about toxicity to the Elderly? There are large populations of Elderly people who move to St. George, Utah, downwind of the NTS and this proposal, to retire. L-12-5

A2- Chemicals and Hazards to Humans: Again, it is impossible to determine the impact the proposed open-air Chemical Agent releases would have on these populations because not enough information is provided about which Chemical Agents would be used nor the concentrations that would be used. L-12-6

B. Containment of the Tests: This is a serious concern with regard to the proposed open-air testing of both the Biological Agents and the Chemical Agents.

B1- It has already been referenced above that this EA admits that 100% containment of the Biological Agents that are potentially hazardous to the human population groups listed (Pregnant and Nursing Mothers, Young Children, the Immuno-Compromised or Chronically Ill, and the Elderly) will not be possible if the proposed open-air testing is done. So a "Finding of No Significant Impact" cannot be found, unless the participating Government Agencies consider the aforementioned human populations of "No Significance". L-12-7

B2- A particularly dangerous scenario for downwind Pregnant and/or Nursing Women, Children, the Elderly, and the Chronically Ill regarding the potential for exposure to Chemical Agents, and even unplanned Combinations of Chemical Agents, is suggested in Chapter 3 page 15 and no attempt to address issues of Environmental and Human Impact is even made. The accumulation of Hazardous Waste in forms of: 1) contaminated soil and vegetation piling up in landfills (and the contaminating chemicals potentially seeping into underground water systems, being blown to the winds, or evaporating into the atmosphere and raining down on distant locales) and 2) contaminated wastewater accumulating from decontamination activities and water-borne release tests is referred to (Chapter 3, Page 15) but no attempt is made to address this issue in regards to HUMANS including: Pregnant/Nursing Women, Children, the Elderly, and the Chronically Ill. A thorough perusal of this EA suggests an L-12-8

even more ominous threat: the EA states that wastes from Biological Agents (Is this referring to the virion fragments after the live or dead cellular host is destroyed? It is not clear in the EA what these "Biological Agent Wastes" will consist of) will be dumped into the Site's "Containment Ponds"and yet, NOWHERE in this EA is the issue of mosquito-borne viruses and the possibility of mosquito-borne viral outbreaks addressed. What happens when a bunch of "deactivated' virus (virion fragments) get dropped into a standing cesspool of toxic waste and mosquitoes breed in the puddles? Does anyone know? Do we want to find out? L-12-8

B3- Human inability to control the wind, the clouds and the rain, the water cycle, soil dispersion, and mosquitoes make CONTAINMENT a very SERIOUS issue that has Potentially Global Impact and needs to be addressed much more thoroughly than it is in this EA. L-12-9

IV. Hazards to Animals

This DOE/EA #1494 admits en de facto, and Mike Skougard admitted openly in his Press Conference (Las Vegas SUN, March 17, 2004 and Pahrump Valley Times, March 19,2004) address to Nye County Commissioners, that there ARE Significant Impacts to "small" animals in the area ("Skougard said the releases could result in some mortality (death) to animals and plants"). Some issues have been raised regarding the Endangered Species Mojave Desert Tortoise. And the Agencies involved have suggested "mitigation measures" such as rounding up all the tortoises and moving them to another locale. There is also significant concern about migratory birds- not just as an "animal rights" issue, but as a CONTAINMENT issue as well. Migratory birds are known carriers of Viruses. It is extremely interesting to note from a Human standpoint that worries about the Desert Tortoise have been addressed in such detail and yet the particular special needs of potentially exposed Pregnant/Nursing Women, Young Children, the Chronically Ill, and the Elderly are never even mentioned. L-12-10

V. Hazards to Plants

This DOE/EA #1494 admits en de facto, and, again, Mike Skougard admitted in his Press Conference, referenced above, that there would be some death of plants. Because of the uniqueness of the Great Basin Range and the ongoing studies of plant life in the area a Finding of No Significant Impact cannot be speedily accepted. More research is needed. In light of the fact that 100% Containment is impossible in this proposal, especially in the case of aircraft releases, there is also significant cause for concern that some of the "herbicide" used might migrate to neighboring farming and/or grazing lands posing the threat of a Significant Negative Impact on pasture. L-12-11

Again, because this Environmental Assessment does not adequately address (or, in some cases, as stated above, address at all) the concerns regarding the security of the Influenza A Virus samples and the security of the other Biological Agents to be used, doesn't fully list the Chemical Agents and quantities of Agents to be used, doesn't address the very real potential dangers to Pregnant/Nursing Women, Children, the Chronically Ill, and the Elderly, and does admit to Significant Impact to animals and plants in the region, I again request that a full-scale Environmental Impact Study/Statement be undergone before the proposed open-air Chemical and Biological Agent testing can begin. L-12-12

Sincerely,

Bonnie Adamsson Vorwaller

Mrs. Bonnie Adamsson Vorwaller
Concerned U.S. Citizen
P.O. Box 142613
Austin, Texas 78714-2613
phone: (512)491-8409
fax: (512)491-0519

SENT 5.14.04 VIA EMAIL TO SUITER@NV.DOE.GOV
SENT 5.14.04 VIA EMAIL TO SUITER@DOE.NV.GOV
SENT 5.14.04 VIA FAX TO (702) 295-0154 ATTN: MR. SUITER
CALLED TO CONFIRM RECEIPT OF FAX:

SENT 5.14.04 VIA USPS GUARANTEED OVERNIGHT DELIVERY
RECEIPT #:
CONFIRMATION#: EL363469796 U.S.

Response to comment L-12-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-12-2: Acquisition, treatment, transportation and final disposition of biological simulants is the responsibility of the testing organizations. Access to NTS is controlled to preclude unauthorized entrance. Additional security will be provided as needed. All biological simulants brought onto the NTS will be afforded an appropriate level of security.

Response to comment L-12-3: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Section 2.1.5.2 of this EA addresses concentrations of chemicals that would be used.

As noted in Section 2.1 of this EA, the chemicals that would be used under the proposed action may simulate a chemical weapon or may be an expected emission or effluent from a chemical weapons production facility or other process or facility type of interest. In order to further clarify this point, Section 2.1 has been revised to indicate that in no case would a toxic chemical listed in Schedule 1 or Schedule 2 of the Chemical Weapons Convention be used as part of any releases conducted at the NTS.

Some of the chemical agents may fall into the categories of herbicides, insecticides or pesticides. However, the chemical agents are not limited to those categories and may include a wide range of chemicals.

Response to comment L-12-4: The EA indicates that the allowable concentration for a specific chemical will be determined on a case-by-case basis for each test. This determination will be based on the chemical toxicity and test constraints (e.g., wind direction, wind speed, etc.). The concentration will be chosen so that the specified exclusion zone, identified in this EA, can be maintained. This exclusion zone will be surveyed for sensitive or endangered species for each specific test. This exclusion zone will also be maintained to be protective of human health during the tests. This approach is protective of potential adverse impacts to human health and the environment outside the exclusion zone and off the NTS by enforcing a compliance boundary at the edge of the exclusion zone.

Response to comment L-12-5: The bacteria selected as simulants are naturally occurring organisms found in the normal flora and fauna to which all individuals, both healthy, unhealthy and sensitive members of the public, are already exposed. The viral simulants do not display human pathogenicity. NNSA/NSO would ensure that simulant concentrations would be below detection limits at the nearest public or non-occupational worker receptor point. As indicated in Section 3.2.9.2, with appropriate administrative, access, and test controls in place, there would be no impact to involved and non-involved workers and members of the public.

Response to comment L-12-6: Chemical concentrations are required to be less than the applicable occupational guidance level (TLV, REL, or PEL) at the outer test perimeter of 500 meters. Plume dispersion characteristics indicate that simulant concentrations would be below detection limits at the nearest non-occupational receptor point.

Response to comment L-12-7: See response to Comment L-12-5.

Response to comment L-12-8: Any hazardous waste that may result from the release of chemicals or biological simulants would be

properly managed in accordance with regulatory requirements. Management of waste, including hazardous waste, is fully described in Section 3.2.12 of this EA. Wastewater from decontamination activities would be characterized and if it meets the requirements of the NTS wastewater permit would be disposed in the NTS Area 23 or Area 6 sewage lagoon systems. Wastewater that would be considered hazardous or biological waste would be managed in accordance with all applicable State and Federal regulations. Section 3.2.12 of the EA has been revised to clarify this point.

There would be no releases of mosquito-borne viruses under the proposed activities.

Response to comment L-12-9: This EA has not identified containment as a control measure for simulant testing. As stated previously, the bacterial simulants already exist naturally on a global scale. The viral simulants present no adverse human health effects. Chemical concentrations will be controlled at the test perimeter to below occupational levels and plume dispersion will result in non-detectable concentrations at non-occupational receptor points.

Response to comment L-12-10: A 1996 Biological Opinion issued by the U.S. Fish and Wildlife Service for NTS activities (File No. 1-5-96-F-33) describes procedures for protecting the desert tortoise during activities conducted by NNSA/NSO. The second paragraph of Section 3.2.7.1 has been revised to state that activities associated with releases of chemicals and biological simulants will be conducted in accordance with the 1996 or subsequent Biological Opinions, and states that if pre-activity surveys determine that desert tortoises occur in the release area, appropriate mitigation measures will be established in coordination with the U.S. Fish and Wildlife Service.

Releases of chemicals or biological simulants during breeding season would be preceded by pre-activity surveys to search for active bird nests. The text in Section 3.2.7.1 has been revised to state that releases will not be conducted in areas where active nests are located. Regarding the concern that chemicals or biological simulants might reduce the abundance of food items (e.g., insects, rodents, plants) of birds, the proposed releases are expected to impact small areas and any given area would typically not be exposed to multiple releases (see third paragraph of Section 3.2.7.1). Thus, potential impacts due to reduced prey populations would be expected to be negligible. For tests that would include the release of chemicals or biological simulants that could persist in the environment for more that a few weeks, a remediation plan would be developed and implemented in coordination with the U.S. Fish and Wildlife Service.

Section 3.2.7.1 addresses environmental consequences to biological resources.

Response to comment L-12-11: As discussed in Section 3.2.7.1, NNSA/NSO intends to manage the program such that the proposed releases would occur in different areas. Fauna in any given area would typically not be exposed to multiple releases and therefore, better able to recover from any potential adverse impacts. NNSA/NSO recognizes the uniqueness of the Great Basin Range, but the proposed activities are expected to occur in habitats that are well represented at the local and regional levels, and thus the spatially-limited effects would minimally impact vegetation resources.

Response to comment L-12-12: The issues summarized in this paragraph are addressed in the responses to L-12-1 through L-12-11 above.

May 14, 2004

ATTN: Mr. William C. Suiter
U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office
Office of Public Affairs
P.O. Box 98518
Las Vegas, NV 89193-8518
phone: (702) 295-3521
fax: (702) 295-0154

Re: Petition for Extension of the Public Comment Period for DOE/EA#1494.

Mr. Suiter:

Below I am "cc"ing you a copy of my e-mail to Mr. Linton Brooks, NNSA Administrator, requesting a 30-60 day Extension of the "Public Comment Period" for DOE/EA#1494:

> May 14, 2004
>
> ATTN: NNSA Administrator, Mr. Linton Brooks
>
> Dear Mr. Brooks:
>
> I am writing on behalf of "Joe Q. Public" to petition for a 30-60 day extension of the public comment period for DOE/EA#1494.
>
> This particular EA is very long and very involved and more time is needed to properly review it and make intelligent comments.
>
> To approve this extension, you can email me at save_the_world@netzero.com (I apologize for the strange email address, it's for my day job),

L-13-1

fax me at (512)491-0519, or mail me at P.O. Box 142613, Austin, Texas, 78714-2613.

Sincerely,

Mrs. Bonnie Adamsson Vorwaller
Concerned U.S. Citizen

The original request has been e-mailed to Mr. Brooks, BUT I have no way to know if he received it, so my Fax to you, Mr. Suiter, is serving as formal notice of the request AND I want you to ensure that (a) Mr. Brooks has received the request; and (b) that I am sent a formal response notifying me that it has been received by the proper decision-maker at the Agency for consideration.

Thank you.

Sincerely,

Bonnie Adamsson-Vorwaller

Bonnie Adamsson Vorwaller
P.O. Box 78714-2613
Austin, Texas 78714-2613
Fax: (512) 491-0519

5/14/04 Sent via FAX 4:16 p.m. 1(702) 295-0154 (see attached)

5/14/04 Sent via USPS Guaranteed Overnight Delivery
#EL363469840 U.S

Response to comment L-13-1: NNSA/NSO was, and is, aware of potential concerns and interest by the public and other Federal and state agencies for the proposed actions. Because of this, NNSA/NSO provided well-publicized opportunities for public input during the scoping and commenting periods for the EA, exceeding Federal NEPA requirements. NNSA/NSO's public involvement activities are described in Section 1.4 of the EA. Based on the opportunities for public involvement and review described in this EA NNSA/NSO believes there is no basis for an extension of the review period.

001

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1875 Connecticut Avenue Northwest Suite 1012 Washington DC 20009

telephone (202) 667-4260
facsimile (202) 667-4201
email: psrnatl@psr.org

FAX COVER SHEET

TO: Mr. William Suiter

FROM: Jaya Tiwari

DATE: 5/14/04

RE: DOE EA 1494

FAX: 702-295-0154

Total number of pages, including cover sheet 3

If there are any problems with this transmission, please call (202) 667-4260
Thank you!

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Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

May 14, 2004

Re: Comments on DOE Environmental Assessment 1494: "Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site"

Dear Mr. Suiter:

Physicians for Social Responsibility (PSR) is concerned that the recently completed Environmental Assessment ("DOE Environmental Assessment 1494: "Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site") fails to address important issues related to public health and environmental safety. We urge that the Department of Energy (DOE) conduct a full Environmental Impact Statement including open public hearings and an adequate public comment period prior to authorizing any activities involving open-air testing and release of chemical and possible biological agents at the Nevada Test Site (NTS). L-14-1

PSR is a nonpartisan organization representing over 30,000 physicians, public health professionals, and concerned citizens working to eliminate nuclear weapons and address the public health and environmental legacy of nuclear, chemical and biological weapons testing and production and use. Since its founding over forty years ago, PSR physician members have dedicated their efforts to protecting the interests of workers and communities put in harm's way by U.S. nuclear, chemical and biological weapons activities and have advocated for a complete cessation of these practices.

We believe that the Environmental Assessment 1494 does a poor job at explaining the proposed chemical biological agents testing plan at NTS and it is woefully inadequate in describing the actual and potential impact of this plan for public health and environment. Specifically, the DOE Environmental Assessment 1494,

- Fails to fully identify all chemical and biological agents involved and does not provide a comprehensive analysis of actual and potential health and environmental risk factors necessary to guarantee public health and environmental safety in the event of any subsequent chemical or biological release. L-14-2
- Was drafted with little public input. DOE held two town meetings in Nye County and Amargosa Valley, Nevada, both upwind of the Nevada Taste Site. The time and location of these meetings was not widely advertised which prevented many stakeholders from attending them. L-14-3

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U.S. AFFILIATE OF INTERNATIONAL PHYSICIANS FOR THE PREVENTION OF NUCLEAR WAR

- Justified the selection of Nye County and Amargosa Valley, Nevada, because of their proximity to NTS. However, the selection of these upwind locations excludes people from many of the downwind areas that could be affected in the event of any chemical or biological release. The fallout from nuclear tests conducted at the NTS traveled thousands of miles and affected most every state in the country. Individuals living directly downwind of NTS, like the residents of Utah, were heavily affected from the radioactive fallout. After a long period of denial and lethargy, the United States government has just begun to acknowledge and accept some responsibility for the harm inflicted on the U.S. public by decades of nuclear testing at NTS. People downwind of NTS continue to pay dearly for years of nuclear testing which their government told them was safe. Therefore, it is only prudent and just that these individuals and communities are given the opportunity to voice their opinion the open-air testing of chemical and biological agents at NTS that could potentially affect their health. L-14-4

- Finally, the DOE Environmental Assessment 1494, only outlines the potential affects for animals and plants but does little to explain the risk for humans affected by the potential release of chemical and biological agents as a result of these activities. It also fails to list all agents that would be used during these tests. The DOE EA 1494 refers only to "chemicals" or "herbicides, insecticides and pesticides." Such a vague description prevents us from assessing the short or long-term health and environmental impact of these activities and guarantying public health and environmental safety. L-14-5

For over forty years PSR physicians have dedicated themselves to protecting public health and opposing the production, testing and use of nuclear chemical and biological weapons and material. Open-air testing involving chemical and biological agents at NTS could have serious consequences for public health and environmental safety and is a decision that should not be taken lightly by our government. As such, we strongly urge the Department of Energy to conduct a full Environmental Impact Statement including open public hearings and an adequate public comment period prior to authorizing any activities involving open-air testing and release of chemical and possible biological agents at the Nevada Test Site. Thank you for your attention to this important matter. L-14-6

Sincerely,

Robert K. Musil

Robert K. Musil, Ph.D., M.P.H.
Executive Director and CEO
Physicians for Social Responsibility

Response to comment L-14-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-14-2: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-14-3: As described in Section 1.4, NNSA/NSO conducted a public involvement process for this EA including press releases and paid advertisements announcing two public scoping meetings which were conducted in Las Vegas and Pahrump, Nevada. In addition to public scoping, NNSA/NSO coordinated with numerous local, State and Federal officials as described in Section 5.1.

Response to comment L-14-4: The EA addresses low concentration releases of chemical and biological simulants. Within a short distance from the release site concentrations would be below detection limits.

Response to comment L-14-5: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Section 2.1.5.2 of this EA addresses concentrations of chemicals that would be used.

Some of the chemical agents may fall into the categories of herbicides, insecticides or pesticides. However, the chemical agents are not limited to those categories and may include a wide range of chemicals.

Response to comment L-14-6: See response to Comment L-14-1.

FROM ESHD (MON) 5. 17' 04 14:26/ST. 14:20/NO. 4860748639 P 20

Mr. William C. Suiter, NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter,

I'm opposed to the use of chemical and biological agents as weapons by any nation. Naturally, the proposed testing of these agents at the Nevada test site is of great concern to me. I urge you to develop a full Environmental Impact Statement before the testing of chemical or biological agents is initiated. L-15-1

The Environmental Assessment that was recently submitted is inappropriate. The agents involved aren't even identified, and the analysis is inadequate to guarantee public and environmental safety. It is your mandate to protect our environment and our health, and you cannot achieve this goal without a full Environmental Impact Statement. L-15-2

As a resident of Southern Utah, I am familiar with the catastrophic death toll and suffering created by the Nevada Test Site. Though we were regularly assured that the nuclear testing, both above and below ground, was safe, the United States Government subsequently admitted that this was false, and instated the RECA program. L-15-3

Open air testing of chemical and biological agents cannot be considered a low risk activity, and an environmental assessment simply will not suffice. These tests pose a serious hazard to the environment and the human population. Please do the right thing, and commit to a full Environmental Impact Statement before testing of biological and chemical agents is allowed to begin at the Nevada Test Site. L-15-4

Sincerely,

Susan Kiland

Susan K. Hand
884 West Vance
Kanab, Utah
84741

Response to comment L-15-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-15-2: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

As indicated in Section 3.2.9, with appropriate administrative, access, and test controls in place, there would be no impact to involved and non-involved workers and members of the public.

Response to comment L-15-3: Comment noted.

Response to comment L-15-4: See responses to Comments L-15-1 and L-15-2.

FROM ESHD (MON) 5. 17' 04 14:27/ST. 14:20/NO. 4860748639 P 21

May 14, 2004

To: Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office P.O. Box 98518
Las Vegas, NV 89193-8518
Fax 702-295-0154

From: Utah Democratic Progressive Caucus
P. O. Box 520578
Salt Lake City, UT 84152
435-336-2123

Note: First of six pages

Following this cover sheet you will find our comments regarding the Pre-decisional Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site. In addition, a hard copy of these comments has been mailed and should be received by your office by Monday, May 17, 2004.

Utah Democratic Progressive Caucus

P. O. Box 520578 Salt Lake City, UT 84152-0578

May 14, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter:

The Utah Democratic Progressive Caucus (UDPC) appreciates this opportunity to comment on the Pre-decisional Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site, hereafter referred to simply as the Environmental Assessment or EA. We request you add the UDPC to the mailing list to receive additional NEPA materials released from your office regarding this proposed action. In addition, we request you add the UDPC to your NEPA mailing list to receive future scoping letters or other requests for public comment released by your office in the future.

The UDPC has a number of concerns with the potential impacts to the environment associated with the proposed action and action alternatives outlined within the EA. The EA fails to meet the mandate of the National Environmental Policy Act (NEPA), the Migratory Bird Treaty Act (MBTA), Endangered Species Act (ESA) and other laws and regulations governing the protection of the environment. In light of these failings, the UDPC requests you adopt the no action alternative. If the government is intent on moving ahead with the proposed action, the UDPC believes and will show in these comments an environmental impact statement (EIS) is necessary. L-16-1

The Draft Pre-Approval EA fails to meet the mandate of NEPA:

"Cumulative impact" is defined within the NEPA regulations as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future action regardless of what agency (Federal or non-F 40 C.F.R. § 1508.7 Draft EA, page 3-16. Emphasis added ederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The EA itself recognizes and reinforces the definition of cumulative effects. "Cumulative effects are the consequences of **multiple impacts**, each of which could be insignificant, but when taken together, become potentially significant."

1. 40 C.F.R. § 1508.7
2. Draft EA, page 3-16. Emphasis added

While the EA dismisses the potential for significant impacts to plants, wildlife, soils and water quality resulting from any of the action alternatives, the analysis limits itself entirely to possible consequences to these resources resulting from the release of chemical or biological agents. There is absolutely no discussion within the EA of the cumulative impact to these resources resulting from the history of extreme activity on the Nevada Test Site (NTS), namely nuclear testing.

Assuming for the sake of argument the conclusions within the EA regarding the insignificance of impacts associated specifically with this action are correct, the EA still completely ignores possible cumulative effects associated with biological/chemical testing activities and the NTS' long history of significant atomic testing. The most attention this issue receives is found on page 3-17 of the EA where avoidance of past nuclear testing areas in order to reduce/eliminate potential for radioactive dust disturbance is mentioned. L-16-2

The Department of Energy (DOE) is well aware of the impacts past nuclear testing has had on human health across the United States. Many of the residents of counties immediately downwind of the NTS are included in the national compensation program for victims of cancers linked to nuclear testing. Therefore, it can hardly be argued nuclear testing did not have an impact on the plants, wildlife and other resources of the NTS. As the above cited NEPA regulations make clear, the cumulative impact of this past activity when combined with the proposed action cannot be ignored, even if we assume the impact(s) of the proposed action are insignificant by themselves.

The EA also ignores a specific request by the US Fish and Wildlife Service to include a detailed analysis of impacts to the desert tortoise and migratory bird species. In their response during the initial scoping period for this project, the US Fish and Wildlife stated "Direct and indirect effects from the proposed activities to the desert tortoise, migratory birds, and sensitive species in Nevada **fully considered and evaluated** in the EA."[3] Nowhere does the EA provide a list of migratory birds suspected or known to exist within the NTS or immediately downwind from the Hazmat Spill Center (HCS) or sites where releases could take place. Nowhere does the EA discuss in detail the results of past monitoring completed following similar activities conducted in the past, though we are assured such monitoring has taken place. L-16-3

With regard to the Desert Tortoise, a threatened species protected under the ESA, the EA states any tortoises discovered prior to initiation of a chemical or biological release will be relocated.[4] However, the potential impacts of relocation on these animals receive absolutely no discussion. This is a significant potential impact of the proposed action which NEPA requires and should get at least some attention within the cumulative effects analysis. L-16-4

In addition to failing to specifically discuss direct/indirect cumulative effects to specific species, the EA fails to disclose which chemicals it plans to employ during the proposed tests. In fact, the National Nuclear Safety Administration/Nevada Site Office (NNSA/NSO) claim they don't yet know which chemicals they plan to utilize. "NNSA/NSO does not know which specific chemicals could be required for testing or training. Therefore, rather than compile an exhaustive list of possible chemicals that could be released, NNSA has developed detailed criteria for chemical release events that would be protective of the environment, workers and the public."[5] L-16-5

[3] Draft EA, Appendix A. Emphasis added
[4] Draft EA, page 3-8.
[5] Draft EA, pages 2-1 and 2.

In its comments regarding this project, the US Fish and Wildlife Service made abundantly clear the biological agents actually or potentially planned for use during testing would be essential to fully considering impacts to natural resources under their jurisdiction. The Fish and Wildlife Agency states "…it would be important to know specific details on the various biological materials, including their persistence in the exposed environment, to assist in determining potential effects to [threatened, endangered and sensitive] species."[6] The logic of needing detailed information about biological agents in order to fully evaluate impact also extends to chemical agents in which wildlife and humans could be exposed.

In failing to provide any information regarding chemical agents, presumably because the government itself does not yet know which chemicals it will employ, the public is denied a critical opportunity to comment upon potential impacts. Among the purposes of NEPA is the collection of data which could be critical to the decision maker in reaching his/her decision. "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment." Furthermore, "NEPA procedures must insure that environmental information is available to public officials and citizens **before** actions are taken. The information **must be of high quality**. Accurate scientific analysis, expert agency comments, and public scrutiny is essential to implementing NEPA."[7] L-16-5

In order for the NNSA/NSO to be in compliance with NEPA, the chemicals actually or potentially planned for use under any action alternative must be disclosed. The EA must disclose the potential direct and indirect impacts of these chemicals. In addition, the public must have an opportunity to consider the effects of these agents for themselves and provide additional information for consideration should it be available.

The Draft Pre-Approval EA fails to meet the mandate of the MBTA and ESA

Over the course of the 20th century the United States entered into several conventions "for the protection of migratory birds and birds in danger of extinction, and their environment…" The first of these was the Migratory Bird Treaty of 1918.[8] In January of 2001 President Clinton signed Executive Order (EO) 13186 stating in part, "These migratory bird conventions [1916, 1936, 1972 & 1978] impose substantive obligations on the United States for the conservation of migratory birds and their habitats, and through the Migratory Bird Treaty Act (MBTA), the United States has implemented these migratory bird conventions with respect to the United States."[9]

EO 13186 specifically requires federal agencies to "ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern."[10] Furthermore, the Executive Order imposes the following requirement on agencies:

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[6] Draft EA, Appendix A.
[7] 40 C.F.R. § 1500.1. Emphasis added
[8] 16 U.S.C. § 703
[9] EO 13186 § 1
[10] EO 13186 § 3 (e)(6)

Identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. With respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service (USFWS). These principles, standards, and practices shall be regularly evaluated and revised to ensure that they are effective in lessening the detrimental effect of agency actions on migratory bird populations. The agency also shall inventory and monitor bird habitat and populations within the agency's capabilities and authorities to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts.[11]

As mentioned earlier in these comments, the EA fails completely to include any discussion of impacts to migratory birds short of mentioning they exist in the area and concluding, without providing any supporting evidence, they will not be adversely impacted. The above statement makes clear it is the policy of the United States government to disclose even "unintentional take" caused by government actions. Mitigation of both intentional and unintentional impacts to migratory bird species is crucial to compliance with the MBTA. In this case, the NNSA/NSO has completely failed to meet this mandate. L-16-6

With regard to the threatened desert tortoise protected by the Endangered Species Act, the current EA also does not meet the mandates of current law and regulation as expressed under the Endangered Species Act. The Endangered Species Act (ESA) declares as its purpose "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such species" 16 USC Sec. 1531(b). Congress has provided further direction to federal agencies to use "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."[12] The ESA not only prohibits Federal agencies from taking actions that are likely to jeopardize the continued existences of endangered and threatened species, but also affirmatively requires that they "shall seek to conserve endangered species and threatened species". [13] L-16-7

While the EA states any desert tortoise located in an area where biological or chemical agent testing is being planned will be relocated, the stress of relocation or past success relocation efforts receive no discussion. Furthermore, the impacts of past nuclear testing and chemical/biological agent activities are likewise completely ignored. The NNSA/NSO cannot reasonably argue it is complying with the mandate of the ESA expressed above given the failure to deal at all with these important issues.

Conclusion:

The importance of the ESA, MBTA and other environmental laws and regulations goes far beyond the important goal of protecting wildlife. The species covered by these laws are important indicators of the health of the environment upon which we all depend. In failing to even outline the results of past monitoring of these resources or impacts past significant activities have had on them, the government is repeating a history of irresponsibility that dates back to the L-16-8

[11] EO 13186 § 3 (e)(9)
[12] 16 USC Sec. 1532(3)
[13] 16 USC 1531(c)(1); 1536(a)(2).

beginning of the nuclear testing era. The important role of monitoring and disclosure in preventing the death and illness experienced by those living downwind from the NTS from revisiting the current and future generations cannot be understated. In failing to take these laws seriously, the government is demonstrating once again a disregard for the well being of those it represents. L-16-8

In failing to provide information regarding chemicals which may be used, the locations where tests are being planned, or the results of resource monitoring the EA fails to provide both the public and the decision maker with sufficient information to adequately address threats to public and environmental health which may or actually exist. In light of Utah's past history with the federal government on issues such as the one under consideration here, the UDPC's members and other Utahns cannot reasonably be expected to simply take the government's word for it when it comes to open air chemical/biological agent testing. Until the NNSA/NSO can provide more details than it has in this document, the no action alternative is the only legal and responsible option available to the government. L-16-9

Sincerely,

Craig Axford Laura Bonham

Co-Chairs, Utah Democratic Progressive Caucus

Response to comment L-16-1: Appendix B describes how NNSA/NSO will comply with all applicable statutes and regulations, including NEPA, MBTA, and ESA. NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-16-2: Section 3.6 of this EA has been expanded to more fully address cumulative effects. Between 1952 and 1992, a total of 928 nuclear tests were conducted at the NTS; 100 atmospheric and 828 underground. Although there were a few underground tests that resulted in radioactive contamination on the surface, the majority of those tests resulted in no surface contamination. For this reason, there is little impact to NTS flora and fauna from residual radioactive contamination. The NTS flora and fauna have been well characterized, protected and monitored. Due to limited access by the public, the flora and fauna of the NTS are in many ways less impacted than nearby public lands.

Response to comment L-16-3: The 1996 NTS EIS includes a listing of all species known to occur on the NTS. Releases of chemicals or biological simulants during breeding season would be preceded by pre-activity surveys to search for active bird nests. The text in Section 3.2.7.1 has been revised to state that releases will not be conducted in areas where active nests are located. Regarding the concern that chemicals or biological simulants might reduce the abundance of food items (e.g., insects, rodents, plants) of birds, the proposed releases are expected to impact small areas and any given area would typically not be exposed to multiple releases (see third paragraph of Section 3.2.7.1). Thus, potential impacts due to reduced prey populations would be expected to be negligible. For tests that would include the release of chemicals or biological simulants that could persist in the environment for more that a few weeks, a remediation plan would be developed and implemented in coordination with the U.S. Fish and Wildlife Service.

Response to comment L-16-4: A Biological Opinion issued in 1996 by the U.S. Fish and Wildlife Service for NTS activities (File No. 1-5-96-F-33) describes procedures for protecting the desert tortoise during activities conducted by NNSA/NSO. The second paragraph of Section 3.2.7.1 has been revised to state that activities associated with releases of chemicals and biological simulants will be conducted in accordance with the 1996 or subsequent Biological Opinions, and states that if pre-activity surveys determine that desert tortoises occur in the release area, appropriate mitigation measures will be implemented in compliance with the Biological Opinion.

Section 3.2.7.1 has been revised to state that mitigation activities will be in accordance with the 1996 or subsequent Biological Opinions issued by the U.S. Fish and Wildlife Service.

Response to comment L-16-5: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-16-6: See the response to comment L-16-3.

Response to comment L-16-7: See the response to comment L-16-4.

Response to comment L-16-8: See response to L-16-1.

Response to comment L-16-9: The issues summarized in this paragraph are addressed in the responses to L-16-1 through L-16-8.

FROM ESHD (MON) 5. 17' 04 14:25/ST. 14:20/NO. 4860748639 P 15

Mr. William C. Suiter
NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

May 10, 2004

Dear Mr. Suiter,

I am a concerned citizen writing to ask that you please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-17-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents that will be involved and it does not provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-17-2

During four decades of nuclear testing at the Nevada Test Site, Americans were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-17-3

An Environmental Assessment may be appropriate for certain low risk activities, but open air testing of Chemical and Biological agents raises the spectre of serious consequences for people and the environment. L-17-4

Given the deadly history of the Nevada Test Site, it seems only reasonable that all current and future activities there receive a thorough study accomplished through a full Environmental Impact Statement. L-17-5

As citizens of Utah who are downwind of the Test Site, we insist on a full Environmental Impact Statement before any testing is seriously considered. L-17-6

Sincerely,

Mary Dickson

Mary Dickson
417 8th Avenue
Salt Lake City, Utah 84103

Response to Letter L-17: See the response to Letter L-8.

FROM ESHD (MON) 5. 17' 04 14:25/ST. 14:20/NO. 4860748639 P 16

Mr. William C. Suiter
NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter,

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-18-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety n the event of any subsequent chemical or biological tests. L-18-2

During the years of nuclear testing, both above and under ground, we were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-18-3

An Environmental Assessment may be appropriate for certain low risk activities, but open air testing of Chemical and Biological agents raises the spectre of serious consequences for people and the environment. L-18-4

Given the deadly history of the Nevada Test Site, it seems only reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-18-5

Sincerely,

Russell M. Beesley

53 S. 200 E.
Kanab, UT 84741

Response to Letter L-18: See the response to Letter L-8.

FROM ESHD (MON) 5. 17' 04 14:26/ST. 14:20/NO. 4860748639 P 17

Tamara Berry
1201 S Red Cliffs Drive
Kanab, Utah 84741
(435) 644-2802

May 11, 2004

Mr. William C. Suiter
NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter,

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-19-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-19-2

During the years of nuclear testing, both above and under ground, we were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-19-3

An Environmental Assessment may be appropriate for certain low risk activities, but open air testing of Chemical and Biological agents raises the spectre of serious consequences for people and the environment. L-19-4

Given the deadly history of the Nevada Test Site, it seems only reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-19-5

Sincerely,

Tamara Berry

Tamara Berry

Response to Letter L-19: See the response to Letter L-8.

FROM ESHD (MON) 5. 17' 04 14:26/ST. 14:20/NO. 4860748639 P 18

THOMAS FORSYTHE
6178 E. Zion Rd
Kanab, UT 84741
Ph: 435-644-3412 forsythe@kanab.net

May 12, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter:

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-20-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-20-2

During the years of Nuclear explosions, both above and under ground, we were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-20-3

An Environmental Assessment is used only as a short hand. It may be appropriate for certain low risk activities, but open air tests of chemical and biological agents raise the spectre of serious consequences for people and the environment. L-20-4

Given the deadly history of the Nevada Test Site, it only seems reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-20-5

Sincerely,

Tom Forsythe

Response to Letter L-20: See the response to Letter L-8.

FROM ESHD (MON) 5. 17' 04 14:26/ST. 14:20/NO. 4860748639 P 19

May 10, 2004

Mr. William C. Suiter
NEPA Documents Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter,

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-21-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-21-2

During the years of nuclear testing, both above and under ground, we were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-21-3

An Environmental Assessment may be appropriate for certain low risk activities, but open air testing of Chemical and Biological agents raises the specter of serious consequences for people and the environment. L-21-4

Given the deadly history of the Nevada Test Site, it seems only reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-21-5

Sincerely,

Jan Lovett
4948 West Cinnamon Wood Lane
South Jordan, Utah 84095

Response to Letter L-21: See the response to Letter L-8.

May 8, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

Please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-22-1

The recently completed Environmental Assessment is woefully inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests. L-22-2

During the years of nuclear explosions, both above and under ground, we were constantly told that the tests were safe. That proved false, as even the United States Government admits through its RECA program. L-22-3

An Environmental Assessment is used only as a short hand. It may be appropriate for certain low risk activities, but open air tests of Chemical and Biological agents raise the specter of serious consequences for people and the environment. L-22-4

Given the deadly history of the Nevada Test Site, it only seems reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-22-5

Sincerely,

Response to Letter L-22: See the response to Letter L-8.

May 9, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

It has been brought to my attention the U.S. government has made public notice to begin open-air testing of chemical and biological agents at the Nevada Test Site. As a concerned citizen, I feel there is a very strong need to study this further in a Full Environmental Impact Statement (EIS) before any such testing begins. L-23-1

I am a concerned citizen of the U.S., and I strongly object to this plan!

I grew up in Dugway Proving Grounds, Utah, and was diagnosed with ovarian cancer at age 17! I feel strongly that a lot of my health problems, and my friends' health problems, came from the testing done at DPG. L-23-2

I beg of you…please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-23-3

Sincerely,

Melissa D. Chesley

Melissa D. Chesley
305 Crestview Dr.
Park City, UT 84098

Response to comment L-23-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-23-2: Comment noted.

Response to comment L-23-3: See response to L-23-1.

Children's
Health
Environmental
Coalition

PO Box 1540
Princeton, NJ 08542
P. 609.252.1915 F. 609.252.1536

PO Box 179, 8491 Sunset Blvd.
West Hollywood, CA 90069
P. 310.652.2901

chec@checnet.org
www.checnet.org

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Mr. William C. Suiter
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

May 12, 2004

Dear Mr. Suiter:

CHEC, Children's Health Environmental Coalition, is a national non-profit organization. We are concerned that the drafted environmental assessment (DOE/EA-1494) for the planned testing and release of chemical and biological agents does not seem to sufficiently protect children living outside the authorized release boundaries. L-24-1

CHEC's mission is to inform all those concerned with the welfare of children about preventable health and development problems caused by exposures to toxic substances in homes, schools and communities and to encourage the public to take action to protect children against these toxic threats. We are concerned about the exposure of all children in America to toxic chemicals and the associated health risks. We want the air they breathe, the water they drink, the surfaces they touch, the food they eat, to be as safe and pure as possible.

Scientists postulate that exposure of children to environmental influences may be related to immune system dysfunction and chronic disease. Chronic diseases such as cancer, asthma, diabetes and Parkinson's disease have been associated with environmental problems such as drinking water contamination, air pollution and exposure to toxic chemicals.

How does the current environmental assessment draft address the potential for low level exposure in terms of the special vulnerability of children and pregnant women, who may live downwind of the testing sites? The exposure level values in the draft, based on healthy adult males, fail to address potential threat of harm to the fetus, infant or young child. This precious subset of our population is most vulnerable to exposure because of potential injury to developing organ systems. Protection of the fetus requires protection of pregnant women and nursing women, since many of these chemicals cross the placenta, the blood-brain barrier, and are excreted in human milk. Behaviors unique to small children, such as crawling, mouthing objects and sucking on their fingers and hands, increase their potential exposure to any contaminants. Their developing body systems are less efficient at metabolizing and excreting dangerous chemicals. Therefore, even at very low levels combinations of these toxins can be hazardous to their health. L-24-2

Pesticides, insecticides and herbicides are poisons. Families living downwind of release sites could potentially be exposed in their homes, yards, playgrounds, day care settings and schools. L-24-3

CHEC asks you to consider a full Environmental Impact Study that takes into account these public environmental health questions. L-24-4

Sincerely,

Elizabeth Sword
Executive Director

a member of Earth Share

Response to comment L-24-1: While the EA states that biological simulants used in tests might travel beyond the NTS boundaries, it also states that the bacterial simulants already exist in the normal flora and fauna, both onsite and offsite. The proposed viral simulants have not demonstrated adverse human health effects. Plume dispersion characteristics indicate that simulant concentrations would be below permissible exposure limits at the outer test perimeter and below detection limits at the nearest non-occupational receptor point. The addition of non-detectable quantities of these simulants to offsite receptors should not result in impacts to children living outside of the authorized release boundaries.

Chemical concentrations are required to be less than the applicable occupational guidance level (TLV, REL, or PEL) at the outer test perimeter of 500 meters. Plume dispersion characteristics indicate that simulant concentrations would be below detection limits at the nearest non-occupational receptor point.

Response to comment L-24-2: It is understood that developing embryo-fetus, and by extension pregnant mothers, are sensitive to biological and chemical exposures during pregnancy. Additionally, it is understood that children are more susceptible to biological and chemical exposures during their formative years. The proposed bacterial simulants are already present in the flora and fauna to which these individuals are exposed. The viral simulants present no adverse human effects. Both biological and chemical simulants will be controlled in a manner that results in concentrations below detection limits at the nearest non-occupational receptor point.

Response to comment L-24-3: Biological and chemical simulants will be controlled in a manner that results in concentrations below detection limits at the nearest non-occupational receptor point.

Response to comment L-24-4: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

May 8, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

It has come to my attention the U.S. government has made public notice to begin open-air testing of chemical and biological agents at the Nevada Test Site. As a concerned citizen, I feel there is a very strong need to study this further in a Full Environmental Impact Statement (EIS) before any such testing begins. L-25-1

I am a citizen of the U.S., and I strongly object to this plan!

I live in St. George, Utah, which is located 120 miles north of Las Vegas. I feel that I would be "downwind" again, from any open-air testing done at the NTS. L-25-2

I have had several close friends that died from cancer, who worked at Dugway Proving Grounds, Utah. I still work at Dugway Proving Grounds, and commute to St. George on weekends.

I beg of you…please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-25-3

Sincerely,

Donald B. Young
273 N. Stone Mtn. Dr.
St. George, UT 84770

Response to Letter L-25: See the response to Letter L-23.

May 8, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

It has come to my attention the U.S. government has made public notice to begin open-air testing of chemical and biological agents at the Nevada Test Site. As a concerned citizen, I feel there is a very strong need to study this further in a Full Environmental Impact Statement (EIS) before any such testing begins. L-26-1

I AM A CITIZEN OF THE UNITED STATES OF AMERICA AND I OBJECT TO THIS PLAN!

I live in St. George, Utah, which is located 120 miles north of Las Vegas. I feel that I would be "downwind" again, from any open-air testing done at the NTS. L-26-2

I had several friends that died from cancer, who worked at Dugway Proving Grounds, Utah. I retired from Dugway and moved to St. George, and I again fear for my well-being.

I beg of you…please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-26-3

Sincerely,

Patricia T. Austin
1331 N. Dixie Downs Dr. #133
St. George, UT 84770

Response to Letter L-26: See the response to Letter L-23.

May 8, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Re: Plans to start open-air testing of Biological and Chemical Agents at Nevada Test Site.

Dear Mr. Suiter:

It has come to my attention the U.S. government has made public notice to begin open-air testing of chemical and biological agents at the Nevada Test Site. As a concerned citizen, I feel there is a very strong need to study this further in a Full Environmental Impact Statement (EIS) before any such testing begins. L-27-1

I am a citizen of the United States of America, and I object to this plan!

I live in St. George, Utah, which is located 120 miles north of Las Vegas. I feel that I would be "downwind" again, from any open-air testing done at the NTS. L-27-2

In the past, I have been exposed to many hazardous chemicals; herbicides, and nerve & mustard agents while working at Dugway Proving Grounds. I received a "medical" retirement from the U.S. Government, moved to St. George, but again I begin to fear for my well-being.

I beg of you…please conduct a full Environmental Impact Statement before considering testing Chemical or Biological agents at the Nevada Test Site. L-27-3

Sincerely,

Kathryn L. Young

Kathryn L. Young
273 N. Stone Mtn. Dr.
St. George, UT 84770

Response to Letter L-27: See the response to Letter L-23.

To: the Nevada test site.

Hi, the testings of viruses and chemical have a bad influance on Pepole in three ways... one, it kills all the plants in which Pepole have no oxegen at all whatsoev L-28-1
Two.... The Pepole will have diseases like Never before. L-28-2
Three..... Pepole will also have a slow and painful death..... L-28-3
To make maters worse.
I'm only 9 and I don't have a dad because of "you" and "you're" testing! With a virus everybody is downwind. L-28-4

hope you do not start testing agai L-28-5

from: Celeste Adamsson Vorwaller!

from: Celeste Adamsson Vorwaller

5. 14. 04 Sent via FAX (702)295-0154

Response to comment L-28-1: Although tests may cause temporary adverse impacts to small areas, all plants in exposed areas will not be killed. Flora and fauna in any given area would typically not be exposed to multiple releases and therefore, better able to recover from any potential adverse impacts.

Response to comment L-28-2: The selected biological simulants have not been shown to demonstrate pathogenicity (i.e., to cause illness) in humans. Chemical concentrations in the accessible test area will be maintained at or below applicable regulatory occupational limits. Both biological and chemical simulants will be controlled in a manner that results in concentrations below detection limits at the nearest non-occupational receptor point.

Response to comment L-28-3: No adverse effects, much less fatalities, are projected from activities carried out under the proposed action.

Response to comment L-28-4: The EA addresses low concentration releases of chemical and biological simulants. Within a short distance from the release site concentrations would be below detection limits.

Response to comment L-28-5: Comment noted.

May 14, 2004

U.S. Department of Energy -National Nuclear Security Administration
Nevada Site Office - Office of Public Affairs
P.O. Box 98518
Las Vegas, NV 89193-8518

Attn: Mr. William Suiter

Re: Plans to start open-air testing of Biological/Chemical Agents.

Dear Mr. Suiter:

I was shocked to find out about the possibility that your agency was considering the process of testing Chemical and/or Biological agents at the Nevada Test Site.

I understand that there are many issues that have not been mentioned in DOE/EA #1494. These have to be determined in advance of a "Finding of No Significant Impact." L-29-1

The security and integrity of Influenza A Virus samples and all other Biological samples is not addressed in this EA and could pose not just a Significant Impact, but a HUGE Impact not just to the Test Site, but to all surrounding environments. L-29-2

Furthermore, nowhere in the proposal are there listed which Chemical Agents are to be used. It only says: "herbicides, insecticides, and pesticides".

AGENT ORANGE has been classified by chemical and by Treaty definition as an "herbicide".

Please understand that I am concerned that there will be quite significant impact from "explosive releases" of Agent Orange. L-29-3

And VX gas can be likewise considered an "insecticide" by chemical and Treaty definition. (organophosphates- various combinations of phosphorus with alcohols and/or phenols.)

Please know that "pesticides" include Arsenic which can cause great injury to wildlife such as small rodents (e.g., squirrels and prairie dogs) We need more information.

I could continue on and on, especially my concerns to humans (particularly for downwind Pregnant and/or Nursing Women, Children, the Elderly, and the Chronically Ill). I hereby request that a full-scale Environmental Impact Study/Statement be undertaken before the proposed open-air Chemical and Biological Agent testing can begin. L-29-4

Sincerely, C Scurich

Mr. Charles P.H. Scurich, Concerned U.S. Citizen
55 Spyglass Hill
Oakland, CA 94618
phone: (510)204-918

5.14.04 Sent via USPS Guaranteed Overnight mail
#EL363469805 U.S.

5.14.04 Sent via FAX (702) 295-0154

Response to comment L-29-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-29-2: Access to NTS is controlled to preclude unauthorized entrance. Additional security will be provided as needed. All biological simulants brought onto the NTS will be afforded an appropriate level of security.

Response to comment L-29-3: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Section 2.1.5.2 of this EA addresses concentrations of chemicals that would be used.

As noted in Section 2.1 of this EA, the chemicals that would be used under the proposed action may simulate a chemical weapon or may be an expected emission or effluent from a chemical weapons production facility or other process or facility type of interest. In order to further clarify this point, Section 2.1 has been revised to indicate that in no case would a toxic chemical listed in Schedule 1 or Schedule 2 of the Chemical Weapons Convention be used as part of any releases conducted at the NTS. Some of the chemical agents may fall into the categories of herbicides, insecticides or pesticides. However, the chemical agents are not limited to those categories and may include a wide range of chemicals.

Response to comment L-29-4: While the EA states that biological simulants used in tests might travel beyond the NTS boundaries, it also states that the bacterial simulants already exist in the normal flora and fauna, both onsite and offsite. The proposed viral simulants have not demonstrated adverse human health effects. Plume dispersion characteristics indicate that simulant concentrations would be below permissible exposure limits at the outer test perimeter and below detection limits at the nearest non-occupational receptor point.

Chemical concentrations are required to be less than the applicable occupational guidance level (TLV, REL, or PEL) at the outer test perimeter of 500 meters. Plume dispersion characteristics indicate that simulant concentrations would be below detection limits at the nearest non-occupational receptor point.

The addition of non-detectable quantities of these simulants to offsite receptors should not result in impacts to pregnant or nursing women, children, elderly, or chronically ill individuals.

See also the response to L-29-1.

DEPARTMENT OF THE AIR FORCE
98th RANGE WING (ACC)
NELLIS AIR FORCE BASE, NEVADA

12 MAY 2004

MEMORANDUM FOR 99 CES/CEV

FROM: 98 RANW/CC
3770 Duffer Drive
Nellis Air Force Base, Nevada 89191-7001

SUBJECT: NNSA Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site

1. Attached are the consolidated 98th Range Wing comments on your draft NNSA Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site.

2. If you have questions, please contact Mr. Roger Schofield, 98 RANW/XPL at 653-4565

ALLEN E. WICKMAN
Colonel, USAF
Commander

Attachment:
98th Range Wing Comments

cc: 99 ABW/CC w/o attachment

l Power 4merica

Comments on the NNSA Draft Environmental Assessment for Activities using Biological Simulants and Releases of Chemicals at the Nevada Test Site - May 04

1. Page ES-1, line 44. The purpose NTTR was withdrawn from Public Use is overly generalized. Public Law 106-65 withdrew the NTTR for an armament and high hazard testing area; training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering; for equipment and tactics development and testing. To list the purpose as military gunnery range is over-simplification. L-30-1

2. Page ES-3, lines3-6. How will NNSA determine "sufficient time" to permit recovery of natural resources? L-30-2

3. Page ES-4, lines 1-2 and 8-12. The first lines indicate no release would adversely affect the desert tortoise, yet lines 8012 indicates, "…some chemicals could…degrade habitat in the immediate area." This seems to contradict. L-30-3

4. Page ES-4, line38-55. This talks to protecting NTS workers but no mention of workers on the NTTR. This can be accomplished by range scheduling and monitoring residual chemicals. L-30-4

5. Page ES-5. How/where does NNSA evaluate this proposals impact to DoD accomplishing their mission on the NTTR? L-30-5

6. Page 1-1, line 44-46. How/where does NNSA evaluate this proposals impact to DoD accomplishing their mission on the NTTR? L-30-6

7. Page 1-1, line 74-75. NTTR acreage is 2, 919, 890 acres. Change "more" and acreage L-30-7

8. Page 1-1, line 78-79. NTTR has been NTTR for 4 years, is it necessary to identify it as the former NAFR? L-30-8

9. Page 1-2, Figure 1- Why is TTR highlighted (cross hatched)? It is part of the NTTR, drop cross hatching. L-30-9

10. Page 2-2, line 1-6, 26-41 and Figure 2-1. The paragraphs and figure clearly show this activity impacts US Fish and Wildlife Service Lands. As such, is DOE required to obtain a land use permit from USFWS for these activities? Since DOEs activities are for non-military use the current USAF MOU with USFWS would not cover DOE use of these lands. L-30-10

11. Page 2-2, line 29-30 and 33-35. Line 29-30 states chemical releases will stay within the HSC's boundaries, yet lines 33-35 states chemical releases would not have to meet the HSC predominant wind directions. This indicates the chemical release will go outside the quarter circle shown on Figure 2-1. The expansion of facilities beyond the HSC could have direct impacts to a much larger area of the NTTR and may impact more missions than the current HSC. The proposed airborne releases could have significant impact because of the enlarged footprint of the affected area. L-30-11

12. Page 2-4, line77-79. How does NNSA coordinate a customer release that will travel off the NTS, onto the NTTR? It must be more coordination than the DOE LO. L-30-12

13. Page 2-5, line 10-11. Can Nellis be part of the team that develops/approves the test and training plan? Can Nellis be an approval stop on the plans that touch the NTTR? L-30-13

14. Page 2-5, line 41-42. Can we have a Nellis member on the team for all activities that touch the NTTR? L-30-14

15. Page 2-9, lines 10-13, 21-22 and 32-33. The first lines states NNSA has not identified a model to address aircraft releases of biological simulants, yet lines 32-33 state bio-aerosols would be treated as gases with no settling. Is there a suitable model for bio-aerosols? Does this "point-source" adequately model aircraft release? L-30-15

16. Page 2-11, line 19-22. How and who will determine the sufficient recovery time? L-30-16

17. Page 3-[illegible], line 73-74. Change NAFR to NTTR. L-30-17

18. Page 3-1, line 80-81. What about adding Indian Springs Town? How about addressing the NTTR commercial sites (TTR, O&M, TPECR, ISAFAF)? L-30-18

19. Page 3-2, lines 16-17. This line states there will be no disturbance yet page 3-3, line 18-19 states "….physical destruction could occur from ground disturbance….". L-30-19

20. Page 3-8, line 39-41. Could the "area of potential impact" be on NTTR lands? How is this area defined? How will this be coordinated with USFWS and USAF so the impact to tortoises is assessed against the NTTR? L-30-20

21. Page A-3. Letter form NDEP states that planned releases outside the bounds of the HSC would require an application for modification of the NTS OP. I did not see this specifically addressed. Does their air permit cover releases over the NTTR? L-30-21

Response to comment L-30-1: The EA has been revised as suggested in the comment.

Response to comment L-30-2: The time between testing will be determined based on the results of post-test environmental monitoring.

Response to comment L-30-3: A Biological Opinion issued in 1996 by the U.S. Fish and Wildlife Service for NTS activities (File No. 1-5-96-F-33) describes procedures for protecting the desert tortoise during activities conducted by NNSA/NSO. The second paragraph of Section 3.2.7.1 has been revised to state that activities associated with releases of chemicals and biological simulants will be conducted in accordance with the 1996 or subsequent Biological Opinions, and states that if pre-activity surveys determine that desert tortoises occur in the release area, appropriate mitigation measures will be implemented in compliance with the Biological Opinion.

Response to comment L-30-4: NNSA/NSO coordinates with the USAF prior to conducting any releases at the HAZMAT Spill Center. It is anticipated that similar coordination would occur for activities under this EA that could affect portions of NTTR.

Response to comment L-30-5: In accordance with established procedures, NNSA/NSO coordinates and deconflicts all NTS activities with DoD.

Response to comment L-30-6: See response to L-30-5.

Response to comment L 30-7: The EA has been revised as suggested in the comment.

Response to comment L-30-8: The EA has been revised as suggested in the comment.

Response to comment L-30-9: The EA has been revised as suggested in the comment.

Response to comment L-30-10: NNSA/NSO does not anticipate using U.S. Fish and Wildlife Service lands as part of the proposed action.

Response to comment L-30-11: Within the HSC's authorized release boundaries (as illustrated in Figure 2-1) releases would not be required to meet the existing HSC predominant wind direction criteria if the test documentation can demonstrate that the release concentrations do not exceed the PEL, REL, or TLV values for chemicals or 5 mg/m^3 for biological simulants at the HSC's authorized release boundaries. For releases conducted outside of the HSC's authorized release boundaries, concentrations at the NTS border would be at or below PEL, REL, or TLV for chemicals or 5 mg/m^3 for biological simulants. Airborne release criteria have been clarified to reflect that beyond 500 meters (1,640 feet) from any release line from point "a" to point "b" the concentrations of chemicals or biological simulants would not exceed the applicable values stated above. Section 2.1.5 of this EA has been revised to clarify these limits.

NNSA/NSO has coordinated this response with Nellis Air Force Base and NTTR personnel and they concur that the proposed action would not result in a significant impact to Air Force interests.

Response to comment L 30-12: Each test is coordinated through the NTS Site Operations Center with NTTR scheduling.

Response to comment L-30-13: The U.S. Air Force is a member of the Project Advisory Panel for the HSC and it is anticipated that they will be a part of the panel for activities under this EA. According to the official United States Air Force Liaison Office website, "The U.S. Air Force Liaison Office is the Headquarters focal point for coordinating program activities between the U.S. Department of Energy and the Air Force at the Nevada Test Site, the Nevada Test and Training Range, and the Tonopah Test Range to minimize adverse impacts while sharing resources for the continued efficient, effective accomplishment of research, development, testing, and training in support of respective programs to further the national defense missions." As such, the Air Force Liaison Office sits on the Project Advisory Panel. A representative from the NTTR has been invited

to participate on the Project Advisory Panel for coordination purposes.

Response to comment L-30-14: In regards to activities described in this EA, see response to L-30-13. All other NTS activities fall outside the scope of this document.

Response to comment L-30-15: In all cases, the selection of an appropriate air quality dispersion model to determine the impact of emissions is made after the consideration of several factors. These factors include source characteristics and parameters, meteorological and topographical complexities of the area, level of detail and accuracy needed for the analysis, the resources available, and the detail and accuracy of available data. At this time, a detailed description of these factors is not available from release customers or the NNSA. However, when the specific test parameters and conditions are defined, NNSA will be able to evaluate these factors in conjunction with the library of air quality dispersion models that are currently available for evaluating impacts from sources of aerosol emissions. For bio-aerosol emissions, it is assumed to include aerosols having an aerodynamic diameter of 10 microns or less, which would tend to remain airborne for an extended period of time and travel a great distance before being deposited on the surface of the earth.

Appendix A of the U.S. EPA Guidelines on Air Quality Models contains a listing of preferred air quality models that can be used to address the impact of aerosol emissions. These air quality models are capable of addressing a variety of source types (point, area, volume and line sources) and allow the user to input site-specific data regarding the source release and characteristics. For example, these models allow the user to specify the release height and initial plume size (horizontal and vertical dispersion coefficients). By using the options available with each model, it is possible to adapt the release scenario for a particular test condition. However, the decision regarding the appropriateness of a particular model should be made by personnel having a sufficient level of technical expertise. As a result, it is possible that the existing library of preferred models can be used to address bio-aerosols.

In the case of aircraft releases, a point source model represents only one potential option for simulating this release scenario. Depending on site-specific conditions of the aircraft release, it may be possible to adequately model emissions using a series of volume or line sources. In addition, the modeling protocol for the analysis could include other conservative assumptions (i.e., dispersion coefficients, release height, meteorological conditions, etc.) in order to project a worst-case impact scenario. Once again, the decision regarding the appropriateness of an air quality model should be made by technically competent personnel after a thorough review of the test scenario, release parameters, site conditions, and the available database of air quality models.

Response to comment L-30-16: The time between testing will be determined by NNSA/NSO based on the results of post-test environmental monitoring.

Response to comment L 30-17: The EA has been revised as suggested in the comment.

Response to comment L-30-18: The EA has been revised as suggested in the comment.

Response to comment L-30-19: The text on Page 3-2 is referring to land disturbance from construction; while the text on Page 3-3 refers to temporary land disturbance associated with travel off existing roads. Section 3.2.1.2 has been revised to clarify this issue.

Response to comment L-30-20: Currently, NNSA/NSO coordinates with the USAF prior to conducting any releases at the HAZMAT Spill Center. NNSA/NSO will initiate consultation with DNWR to establish appropriate coordination procedures. Figure 2-1 has been revised to show that areas of potential impact could be on NTTR land. The U.S. Fish and Wildlife Service and the U.S. Air Force will be contacted prior to release of chemicals or biological simulants on NTTR lands. Pre-activity surveys, coordinated with USAF and

USFWS, as appropriate, will serve to determine the presence of desert tortoises.

Response to comment L-30-21: NNSA/NSO has an approved Air Quality Operating Permit that addresses emissions at the HSC.

CITIZENS EDUCATION PROJECT

May 5, 2004

Mr. William Suiter
NEPA Document Manager
National Nuclear Security Administration
P.O. Box 98518
Las Vegas, NV 89193

Dear Sir:

The Citizens Education Project, a Salt Lake City-based nonprofit organization dedicated to informing the public on issues of social and economic justice, submits the following comments on the Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site.

We have a number of concerns about the programs and activities proposed in this EA, which collectively argues for preparation of a full EIS for what is certainly a major federal action with significant potential impacts. L-31-1

First, we question the assertion that this expansion of Nevada Test Site-based programs is vital to the NNSA. The EA contains no documentation of the need to test with biological agent simulants and chemicals at NTS, merely a statement that such testing is needed. There is no documented increase in demand from agencies or contractors for access to NTS locations and facilities under the "Work for Others" program to be found in the EA.

Operational testing has been done extensively in the past, both inside secure laboratories and in the open air at other locations, and such testing continues today. It appears to us that this program would duplicate missions carried out at other government installations such as the U.S. Army Dugway Proving Ground, which have a greater institutional capacity and infrastructure to conduct such testing. Since the EA proposes that only two new employees would be needed to accommodate the testing proposed, the capacity of NTS to implement operational testing with these agents would seem not to be greatly enhanced, at least in the short term. Without further analysis and explanation of the need for additional testing and additional capacity at NTS to perform this testing, this proposal raises the question of whether it is primarily a matter of "mission creep". L-31-2

We question why the NNSA failed to consider as a separate alternative testing at other locations. Certainly some, if not all, of the proposed tests could be accommodated at other installations and facilities. To fail to examine those options through a comparative analysis undermines the value and credibility of the EA and leads us to wonder if the L-31-3

decision to proceed with these activities has already been made. A full EIS should examine other options as an alternative to the proposed action. L-31-3

Insufficient information is provided on the NTS locations to be used for proposed tests. Without greater specificity on test locations, it is impossible to determine localized environmental impacts. This is particularly true for tests involving dispersal of agent or agent simulant from mobile sources like aircraft or ground transports. The EA states that suspended aerosols could move off NTS. Specifying locations of tests, especially test locations near NTS boundaries where the likelihood of off-site contamination is greater, is essential so that impacts could be predicted, mitigated, or eliminated. L-31-4

The EA also contains insufficient information on the potential impacts to migratory birds. L-31-5

The EA does not specify what chemicals would be used in any of the proposed tests, making it impossible for a reviewer to speculate on potential impacts. A full EIS should provide a list of chemicals which may be used in future tests. L-31-6

The cumulative impacts analysis (p. 3-16) does not address potential impacts, conflicts, and incompatibilities involving other programs and missions at NTS. A full EIS should address these impacts. L-31-7

Lastly, there is very little information provided on the proposed use of non-infectious or "killed" Influenza A virus. It is important to know how the virus is to be killed, and where it will be killed (e.g. on-site at NTS or at another location). L-31-8

A full EIS should address these issues before a record of decision is made to proceed with these activities. L-31-9

Respectfully,

Steve Erickson, director
Citizens Education Project
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Response to comment L-31-1: NNSA/NSO will evaluate this EA to determine if it is appropriate to issue a Finding of No Significant Impact (FONSI). If the analysis in the EA does not support the issuance of a FONSI, a full Environmental Impact Statement (EIS) will be required to evaluate the proposed actions or the no-action alternative will be selected.

Response to comment L-31-2: Following the terrorist attacks of September 11, 2001 there was a recognized need by DOE, NNSA, and many other federal agencies and the military for increased levels of operational testing, contamination and decontamination testing, forensics testing, PPE testing, enclosed environment detection and decontamination training, and counter-terrorism training as they relate to biological and chemical agents. A critical step in development of detection instrumentation, decontamination techniques, and operational methods is to conduct tests, experiments, and training in scenarios as close-to-real as possible. The NTS provides a remote and secure setting, facilities, infrastructure, terrain, and other features that accurately simulate the kinds of environments that could be encountered in the "real world."

As part of its role in national security, and in support of national counterterrorism and counterproliferation goals, NNSA/NSO proposes to provide facilities, infrastructure and support at the NTS for tests, experiments, and training that require releases of biological simulants and low concentrations of chemicals.

Response to comment L-31-3: As stated in Section 1.2 of this EA, NNSA enabling legislation describes the Congressionally-authorized responsibilities of the agency. These include "[d]etecting the proliferation of weapons of mass destruction worldwide" (50 U.S.C. 2405). A part of the NNSA mission is to develop, demonstrate, and deliver technologies and systems to improve domestic defense capabilities and, ultimately, to save lives in the event of a chemical or biological attack. NNSA is responsible for national programs to detect proliferation of, and to reduce and counter threats from weapons of mass destruction (nuclear, biological, and chemical weapons [WMD]).

The NTS is the only appropriate DOE/NNSA site suitable to meet the mission requirements due to its remote and secure setting, facilities, infrastructure, varied terrain, security and other features that accurately simulate the kinds of environment that could be encountered in the real world.

Response to comment L-31-4: NNSA/NSO has developed a process outlined in Sections 2.1.4 and 2.1.5 of this EA for siting, conducting, and monitoring proposed tests on the NTS. For each proposed test, a test plan would be prepared, reviewed, and approved by the Project Advisory Panel. Only after review and approval of the Test Plan by the Panel would the customer be allowed to conduct a release. The Panel would have the authority to deny, approve, or recommend modification to the customer based on human health, safety, and environmental protection considerations. The Panel has as part of its' formal charter a defined process and criteria for release approval. Pre-activity ecological surveys of potential test sites would ensure that biological resources, particularly sensitive and protected species, such as the desert tortoise and migratory birds, would not be unduly impacted by releases. Post-activity monitoring would ensure that any potential long-term impacts could be remediated.

Response to comment L-31-5: Releases of chemicals or biological simulants during breeding season would be preceded by pre-activity surveys to search for active bird nests. The text in Section 3.2.7.1 has been revised to state that releases will not be conducted in areas where active nests are located. Regarding the concern that chemicals or biological simulants might reduce the abundance of food items (e.g., insects, rodents, plants) of birds, the proposed releases are expected to impact small areas and any given area would typically not be exposed to multiple releases (see third paragraph of Section 3.2.7.1). Thus, potential impacts due to reduced prey populations would be expected to be negligible. For tests that would include the release of chemicals or biological simulants that

could persist in the environment for more that a few weeks, a remediation plan would be developed and implemented in coordination with the U.S. Fish and Wildlife Service.

Response to comment L-31-6: It is impractical to list all the potential chemicals in the EA, instead when a chemical is proposed for a test, the potential impacts of that chemical to the environment will be reviewed to determine if this EA sufficiently addressed all the potential impacts associated with the proposed chemical release. If the impacts have been evaluated the test may be approved, if this specific test analysis indicated that all potential impacts have not been evaluated in an appropriate NEPA document, the test will not be allowed to proceed.

Response to comment L-31-7: NNSA/NSO has revised the cumulative impact analysis to more fully address those impacts. Further, impacts, conflicts, and incompatibilities with other programs and missions at the NTS would be resolved through standard procedures for project coordination and deconfliction.

Response to comment L-31-8: Influenza A virus will be killed by scientifically recognized effective methods, such as irradiation or chemically, prior to shipment to the NTS for testing.

Response to comment L-31-9: See the response to comment L-31-1.

6178 E. Zion Rd
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May 13, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Dear Mr. Suiter:

I'm writing to you as a citizen of Kane County, Utah, downwind from the Nevada Test Site.

Please conduct a full Environmental Impact Statement before considering the testing or of any other use of Chemical or Biological agents at the Nevada Test Site. L-32-1

The recently completed Environmental Assessment is inadequate. It fails to fully identify the agents involved and doesn't provide the depth of analysis necessary to guarantee public and environmental safety in the event of any subsequent chemical or biological tests.

An Environmental Assessment is used only as a short hand. It may be appropriate for certain low risk activities, but open air tests of chemical and biological agents raises the possibility of serious consequences for American Citizens on their own soil. L-32-2

Americans of all ages died as a result of years of open air nuclear testing at the Nevada Test Site. People are still dying today of horrible painful diseases that are just developing as result of exposure to the radioactive fallout that they were told was safe by the United States Government. L-32-3

Given the deadly history of the Nevada Test Site, it only seems reasonable that its current and future activities receive the thorough study accomplished through a full Environmental Impact Statement. L-32-4

Thank you,

Jennifer Kaufman

Jennifer Kaufman

Response to Letter L-32: See the response to Letter L-8.

NYE COUNTY
DEPARTMENT OF NATURAL RESOURCES & FEDERAL FACILITIES
NATURAL RESOURCES OFFICE

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May 13, 2004

Mr. William C. Suiter
NEPA Document Manager
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98193
Las Vegas, Nevada 89193

Dear Sir:

Subject: Comments on Preapproval Draft Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site

These comments are prepared at the direction of the Nye County Board of County Commissioners (BOCC), by a motion passed May 4, 2004. The BOCC recognizes and appreciates the important role of the proposed actions in relation to strategic matters and health and public safety issues. The BOCC has heard testimony from concerned citizens and heard recommendations from specialists in this field. Nye County offers the following recommendations and concerns to provide for greater public safety.

The BOCC recognizes that a few individuals have impaired immune systems or have heightened sensitivity to some biological and chemical agents. Nye County recommends the following additional precautions.

WIND DIRECTION RESTRICTIONS

The BOCC recommends that material releases occur only when the wind direction is from the southeast, south or southwest. This will carry materials away from populated or occupied areas. This recommendation arises from reported cases in which individuals exhibited strong reactions to *Bacillus subtilis* var. *niger* (*B. atrophaesus*) or *B. globigii* (*B. subtilis*). All of these materials have the potential to provoke allergic reaction or an asthma attack in sensitive individuals. L-33-1

INFLUENZA A RESTRICTIONS

The BOCC recommends that releases of influenza A viruses use the previous year's FDA-approved influenza strain. This recommendation arises from the possibility that RNA from L-33-2

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Mr. William C. Suiter
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killed virus can recombine with live viruses in cells, possibly in native birds infected with bird influenza. Should this occur, the availability of a recent vaccine will facilitate an effective response. L-33-2

VIOLATIONS OF LOCAL LAW

The Nye County BOCC instructed staff to inform the Department of Energy that Nye County has an ordinance in preparation that will establish the previously described restrictions. Nye County anticipates that violations of this ordinance, a local law, would "significantly" impact the environment under the definition of "intensity" at 40 C.F.R. § 1508.27(b)(10).

Should the selected alternative violate local ordinances, the Final Environmental Assessment should analyze this significant impact. A significant impact will preclude a Finding of No Significant Impact (FONSI) and should result in preparation of an Environmental Impact Statement. L-33-3

Nye County hopes that the Department of Energy will choose to comply with local ordinances and avoid this significant impact. A FONSI will hasten this important testing program.

Respectfully,

James R. Marble

James R. Marble, Ph.D.
Director of Natural Resources Office

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Response to comment L-33-1: NNSA/NSO understands the need to protect the surrounding community and has developed appropriate procedures and test protocol to protect workers, noninvolved workers and the public. Modern literature and original reports show an overwhelming preponderance of evidence to support the conclusion that use of *Bacillus subtilis*, as a simulant, is unlikely to pose any significant risk to humans or animals when used as proposed. It is particularly striking that there are very few reports in recent literature on the subject. Exceptions include allergy, that has been recognized in manufacture and use of enzymes from the species (for use as ingredients in cleaners), and allergy in family members in a single report. Additionally, plume dispersion characteristics indicate that simulant concentrations would be below permissible exposure limits at the outer test perimeter and below detection limits at the nearest non-occupational receptor point.

Response to comment L-33-2: NNSA/NSO has consulted with leading microbiologists and leaders in the area of Weapons of Mass Destruction and have concluded that passive recombination of a live agent with a dead one does not occur.

Response to comment L-33-3: NNSA/NSO, through its current NEPA review process, is committed to addressing all appropriate factors, including any federal, state and local laws imposed for protection of the environment, in determining whether the impacts of the proposed action are "significant". The determination of whether the proposed action will significantly affect the environment will be based on a careful consideration of a number of factors encompassing both context and intensity, as required by NEPA regulations (40 C.F.R. 1508.27). Therefore, any determination of "significance" based solely on a prospective local law yet to be enacted, would be both inappropriate and premature.