

WELCOME!



Ken Small

U.S. Department of Energy, NNSA Nevada Site Office
Transportation Working Group Meeting
July 28, 2011



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Meeting Purpose

Provide forum for information exchange related to the Site-Wide Environmental Impact Statement (SWEIS) analysis of low-level/mixed low-level radioactive waste (LLW/MLLW) transportation to the Nevada National Security Site (NNSS, formerly Nevada Test Site)



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Transportation Working Group (TWG)



E. Frank Di Sanza

Waste Management Federal Sub-Project Director

TWG Meeting

July 28, 2011



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TWG Background

- Established in 1994
- Reviewed 1996 Draft Environmental Impact Statement and prepared comments/recommendations
 - ✓ Allow off-hour shipments to park inside the NNSS gate
 - ✓ Prepare NNSS transportation reports annually
 - ✓ Post LLW/MLLW shipment information on the Internet
 - ✓ Regularly meet with the TWG
 - ✓ Make surplus equipment available to local agencies
 - ✓ Coordinate with local emergency response agencies



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Status of TWG

Comments/Recommendations

- Safe haven established within the NNSS gate
- Annual Transportation Reports prepared (2000 thru 2010) and available on Internet at www.nv.energy.gov/emprograms/transportationreports.aspx
- LLW/MLLW shipment information available on Internet at www.nv.energy.gov/emprograms/haztrak.aspx
- TWG meetings held through 2002
- Emergency preparedness grant funding in lieu of making excess equipment available to rural counties
- Established Emergency Preparedness Working Group and Emergency Management Agreement in Principle to coordinate emergency activities



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Other TWG Concerns Expressed

- Truck shipments should avoid Las Vegas metropolitan area and Hoover Dam
 - Generators are required to avoid Las Vegas metropolitan area and Hoover Dam (Section 6.4 of NNS Waste Acceptance Criteria, available via www.nv.energy.gov/library/publications/Environmental/DOENV_325.pdf)
- Use contract rather than common carriers
 - Generators still use common carriers (least cost option)
- Multiple drivers
 - Used for classified shipments
- Adherence to drivers advisories
 - Advisories issued to avoid CA-127, as needed



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Additional Reference Materials

- *Transporting Radioactive Waste to the Nevada National Security Site* fact sheet (www.nv.energy.gov/library/factsheets/DOENV_990.pdf)
 - Generators contract with commercial carriers
 - U.S. Department of Transportation regulations require carriers to select routes which minimize radiological risk
- *Drivers Route and Shipment Information Questionnaire* completed by drivers to document routes taken to the NNSS upon entry into Nevada
 - Data compiled and presented in quarterly and annual reports available at www.nv.energy.gov/emprograms/transportationreports.aspx



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Waste Management at the Nevada National Security Site (NNSS)



Jhon Carilli

Low-Level Waste Federal Sub-Project Director
Transportation Working Group (TWG) Meeting
July 28, 2011



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What is Waste Management?

- Characterization and disposal of low-level/mixed low-level radioactive waste (LLW/MLLW) and hazardous waste
- LLW/MLLW disposal at the NNSS began in 1961
- U.S. Department of Energy (DOE) Office of Environmental Management funded since 1989
- LLW/MLLW generated by cleanup of DOE and U.S. Department of Defense facilities involved in nuclear research, development and testing
- Approximately 5% of waste generated by the entire DOE complex in fiscal year 2010 was disposed at the NNSS



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What is LLW/MLLW?

- Radioactive waste not classified as high-level waste, transuranic waste, spent fuel, or by-product material
- Typical waste includes metal, debris, soils, clothing, and tools
- MLLW contains LLW and a hazardous component (i.e. toxic, corrosive, reactive, ignitable or listed by the U.S. Environmental Protection Agency as hazardous)

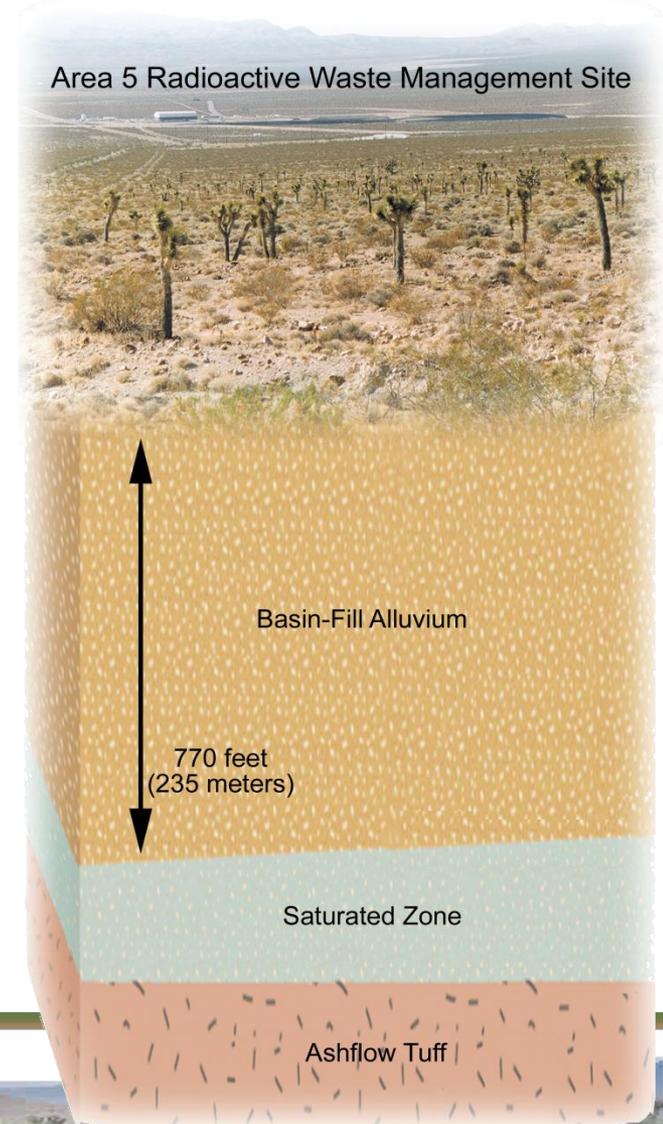


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Why LLW/MLLW Disposal at NNSS?

- NNSS arid climate and secure/remote location ideal for LLW/MLLW disposal
 - No groundwater pathways out of basins under current climate conditions
 - Deep groundwater (approximately 700 feet to 1,600 feet)
 - Low precipitation (5-7 inches per year)
- Currently, NNSS is the only federal disposal site accepting off-site generated LLW/MLLW



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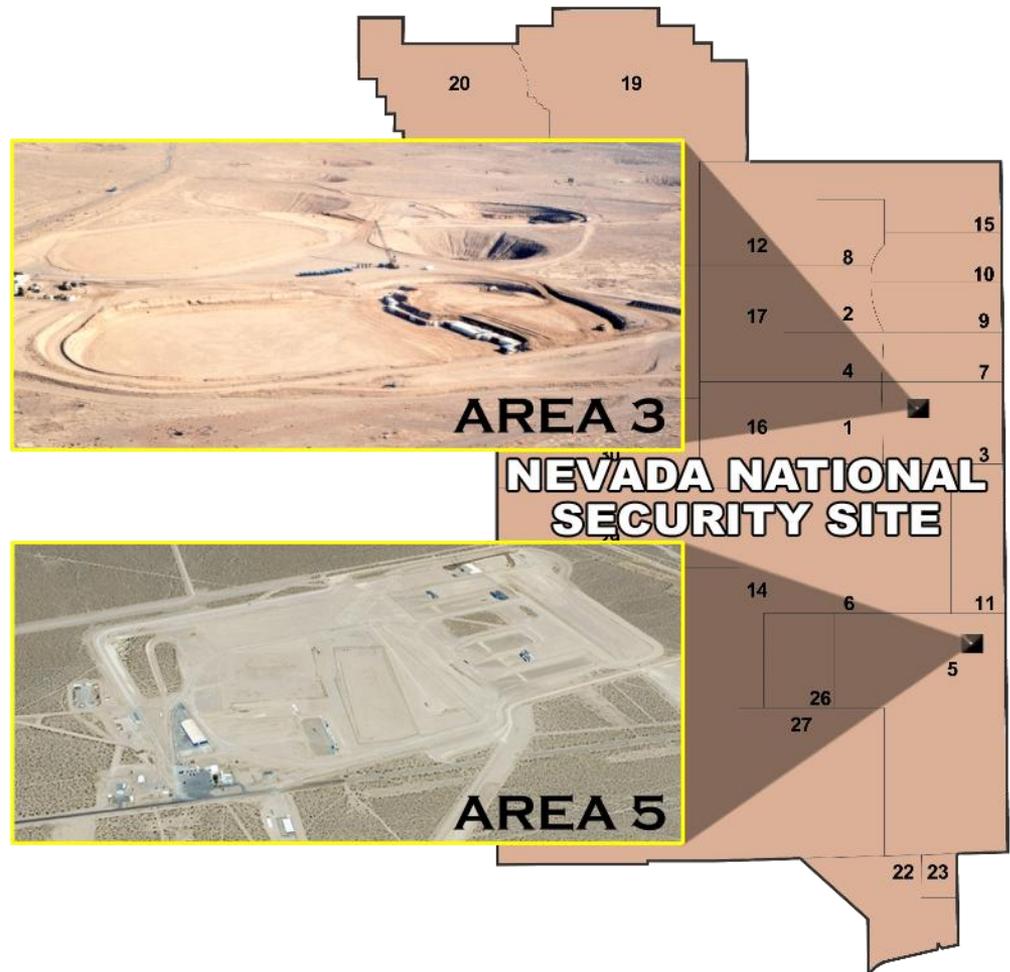
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NNSS Disposal Locations

- Area 3 uses subsidence craters formed by historic underground nuclear tests
- Area 5 uses engineered and excavated disposal cells



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Area 3 Radioactive Waste Management Site

- Seven craters, representing five disposal cells
- Total disposed volume is approximately 20 million cubic feet
- Currently in cold stand-by (not active)



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Area 5 Radioactive Waste Management Site

- 38 disposal cells
 - 31 operationally closed
 - 7 active, including one MLLW disposal cell operating under a Resource Conservation and Recovery Act permit
- Total current disposed volume is approximately 22 million cubic feet



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Area 5 Monitoring Activities

- Monitoring activities
 - Verifies the continued safety of workers and the public
 - Provides a measure of performance
- Continuous and ongoing

Monitor (Type)	Number of Locations
Air	2
Groundwater	3
Meteorology	1
Radon	1
Soil Gas	1
Soil Moisture	8
Soil Temperature	1
TLDS*	12

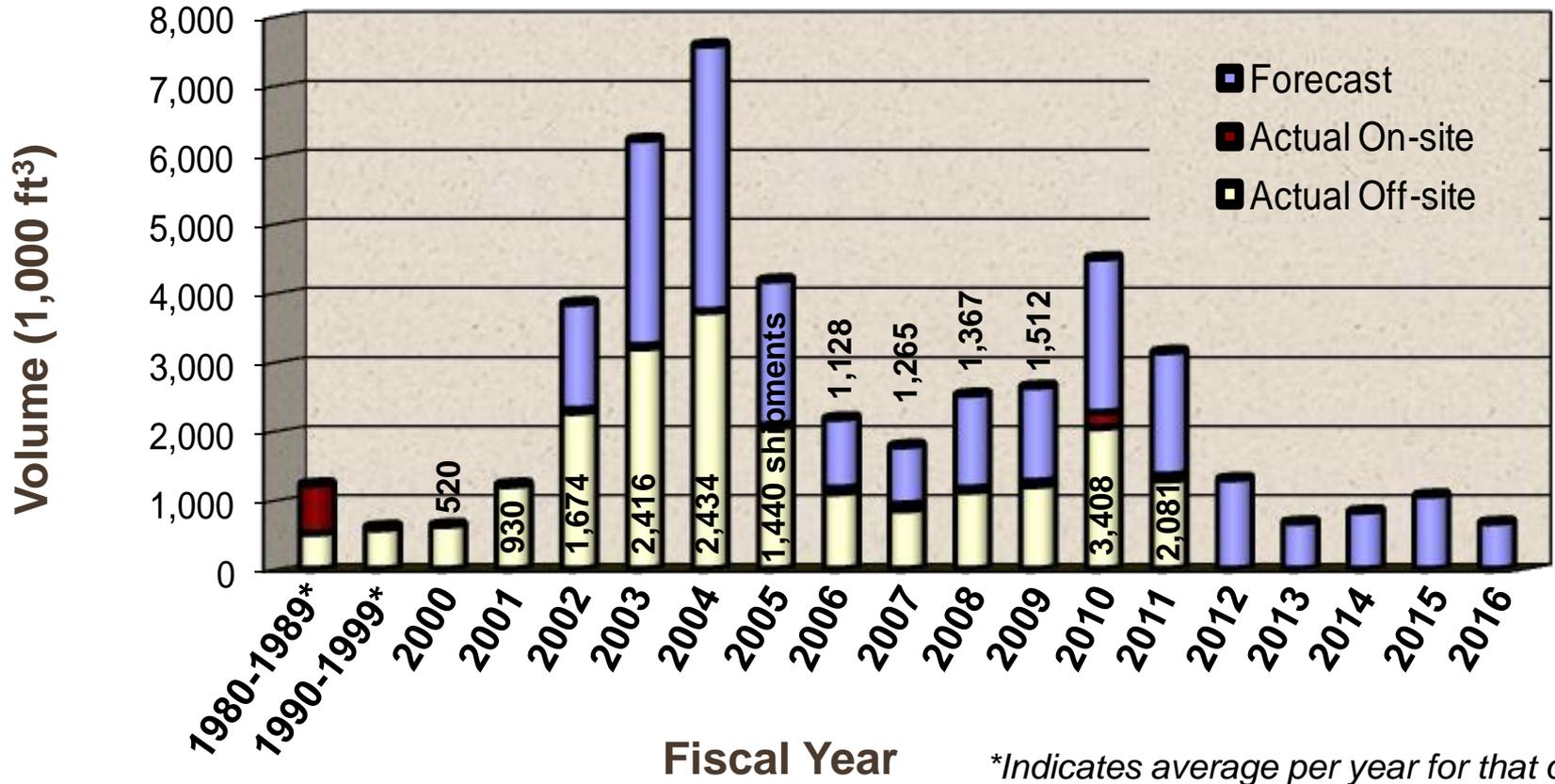
* Thermoluminescent Dosimeters



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NNSS LLW/MLLW Disposal Volumes



FY 2004 (total) – 3,743,292 ft ³	FY 2008 (total) – 1,174,656 ft ³
FY 2005 (total) – 2,089,028 ft ³	FY 2009 (total) – 1,273,472 ft ³
FY 2006 (total) – 1,172,949 ft ³	FY 2010 (total) – 2,347,052 ft ³
FY 2007 (total) – 943,824 ft ³	FY 2011 (as of 7-24-11) – 1,361,696 ft³



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Disposal Fee Surcharge

- Since 2000, generators that ship LLW/MLLW to the NNSS for disposal are charged an additional \$0.50 per cubic foot to fund a rural county emergency preparedness grant
 - More than \$10 Million distributed through 2010

Fiscal Year	Waste Volume (cubic feet)	Grant Dollars
2000	646,139	\$323,070
2001	1,230,123	\$615,062
2002	2,314,714	\$1,157,357
2003	3,237,473	\$1,618,737
2004	3,743,292	\$1,871,646
2005	2,089,028	\$1,044,514
2006	1,172,949	\$586,475
2007	944,476	\$472,238
2008	1,174,002	\$587,001
2009	1,273,467	\$636,734
2010	2,345,467	\$1,172,734
TOTAL		\$10,085,568



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Waste Acceptance Criteria for LLW/MLLW Disposal at the NNSS

- Waste is accepted for disposal only after NNSS Radioactive Waste Acceptance Program personnel review and verify that the proposed waste meets rigorous disposal acceptance criteria (available on-line at www.nv.energy.gov/library/publications/Environmental/DOENV_325.pdf)
 - Waste must have a nexus of DOE ownership
 - Waste may not contain free liquids
 - All waste must be packaged (i.e., 55-gallon steel drums, carbon steel boxes, applied fixative)



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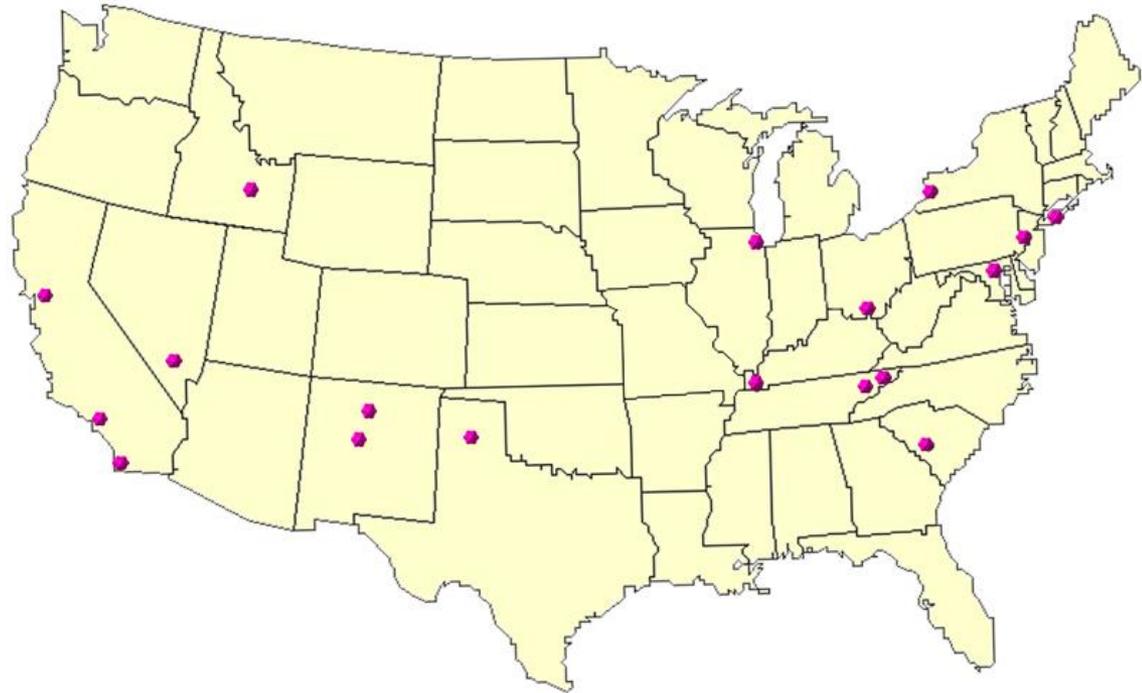
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NNSS Approved Waste Generators

- Approved generators undergo an initial audit to ensure their waste program conforms to NNSS requirements
- After a waste generator obtains approval status, periodic surveillances are conducted to ensure the waste program maintains compliance



● Approved LLW/MLLW Generator



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Nevada Site Office Commitments

- Maintaining a strong Radioactive Waste Acceptance Program to ensure the protection of workers, the public, and environment
- Providing critical disposal facilities using a safe and cost-effective approach
- Working cooperatively with regulators and keeping the public informed through the Nevada Site Specific Advisory Board (www.nv.energy.gov/nssab)



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Nevada National Security Site (NNS) Radioactive Waste Shipments



Nohemi Brewer

Transportation Program Task Manager
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July 28, 2011



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LLW/MLLW Transportation to NNSS

- LLW/MLLW shipments regulated by the U.S. Department of Transportation (DOT) **not** DOE
 - DOT requires trucking companies to select routes which minimize radiological risk
- Nevada Site Office cannot enforce the use of specific routes but has identified routes along which generators are advised to follow
 - NNSS Waste Acceptance Criteria requires shipments avoid the Hoover Dam Bypass Bridge and Las Vegas metropolitan area



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NNSS 1999-2010 Shipment Analysis

- Seven (7) of the 18,909 radioactive waste shipments transported to the NNSS from 1999 through 2010 were involved in an incident
 - An incident is defined as a traffic-related accident, a load shift, or a reported leaking/breached package which occurs during transportation
 - Only one (1) of the seven (7) incidents involved a breached package, but there was no release of material
 - Details for each incident can be found in Section 3 of the Annual Transportation Report
(www.nv.energy.gov/emprograms/transportationreports.aspx)



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Transportation Incidents 1999-2010

- **FY 2001**
 - Package was returned to the generator upon discovery of breach in Nevada
- **FY 2004**
 - Intermodal shipment sideswiped by a commercial motor vehicle in Nevada
 - Contents remained intact and arrived on schedule
 - Shipment involved in a single vehicle accident in Arkansas
 - Package not breached and returned to its origination point for inspection



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Transportation Incidents 1999-2010

(continued)

- **FY 2005**
 - Shipment involved in a minor traffic accident in Arizona
 - No breach of containers and arrived on schedule
- **FY 2007:**
 - Truck struck by another vehicle in Oklahoma
 - Container damaged, but did not sustain a breach and returned to generator for repackaging
 - Contamination found on trailer floor during off-loading operations of a cargo container
 - Trailer decontaminated and released



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Transportation Incidents 1999-2010

(continued)

- **FY 2008**
 - Shipment involved in a single vehicle accident in Nevada
 - Package retained its content and transferred to another vehicle for delivery to NNSS



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Nevada National Security Site Overview of the Site-Wide Environmental Impact Statement

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Deputy Project Manager
Potomac Hudson Engineering

Briefing Purpose

- Provide information to facilitate review of the Nevada National Security Site (NNSS) Draft Site-Wide Environmental Impact Statement (SWEIS)
 - We will answer questions on the document as much as possible
 - We cannot take SWEIS comments until the official comment period begins

Presentation Overview

- NNSA Background
- NNSA National Environmental Policy Act (NEPA) Documentation
- Draft SWEIS Contents
- NNSA Missions
- SWEIS Alternatives and Resource Analysis Areas
- SWEIS Selected Topics
 - Waste Management
 - Transportation
- SWEIS Key Dates

NNSS Information

- U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) Nevada Site Office responsible for oversight
- 1,360 square miles of federally owned and controlled land – surrounded by approximately 4,500 square miles of federally owned and controlled land
- Located approximately 65 miles northwest of Las Vegas, NV



Activities Conducted at NNSS

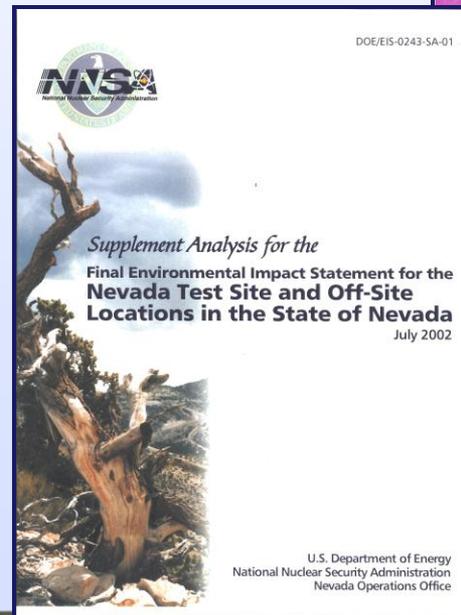
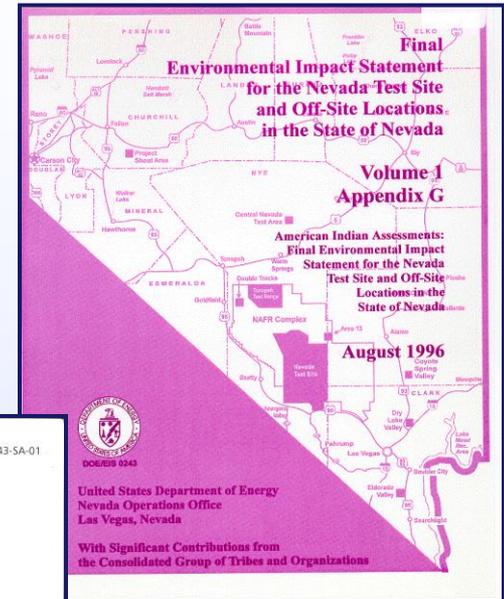
- Historic nuclear weapons testing conducted from 1951 to 1992
 - 100 atmospheric tests
 - 828 underground tests
 - Nuclear reactor/rocket development
- Current major mission areas include stockpile stewardship/non-proliferation, national security training, emergency response, and environmental management



Existing NEPA Documentation

- Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (DOE/NV 0243, August 1996)
- Record of Decision (ROD) published December 1996
 - Amended ROD for waste management activities published February 2000
- Supplement Analysis (SA) conducted in 2002 and 2008

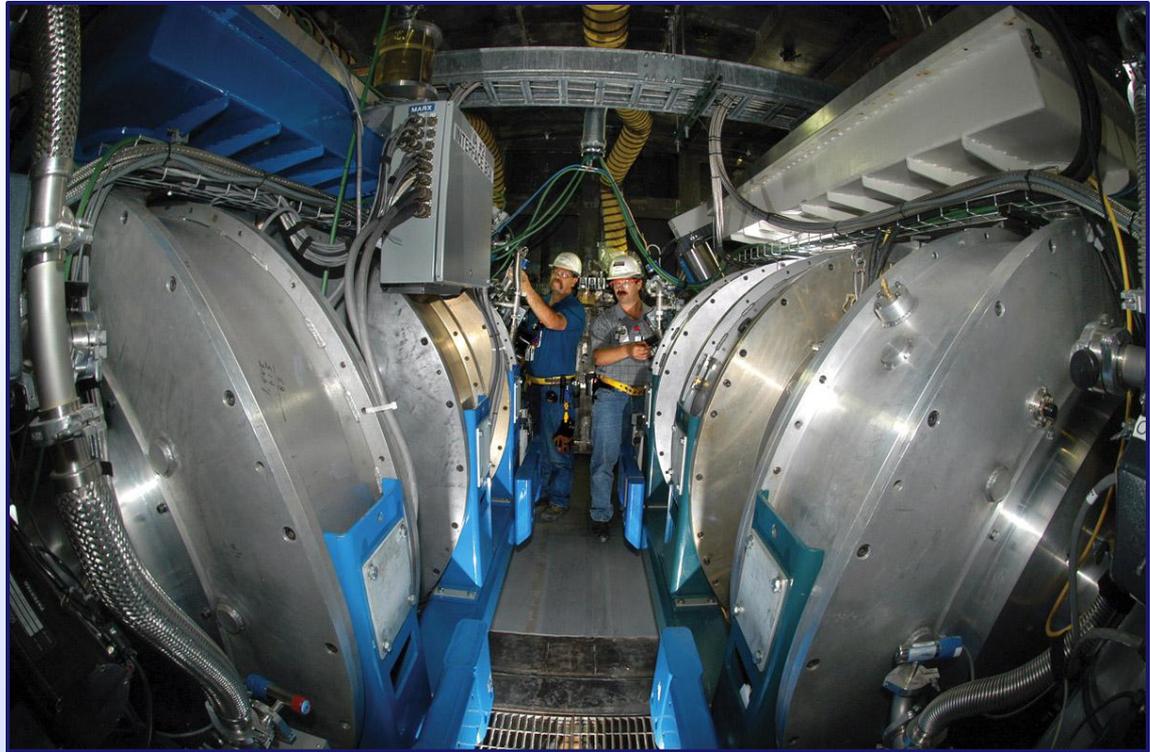
*NTS Site-Wide
Environmental
Impact
Statement
(SWEIS) 1996
Text and
Appendix*



*Supplement
Analysis to the
Site-Wide
NTS/EIS
July 2002*

Why Prepare a New SWEIS?

- Update current environmental conditions and activities at the NNSS and off-site locations in Nevada, from 1996 to the present
- Fully analyze potential new missions focusing on national security initiatives, environmental management, and renewable energy



Draft SWEIS Contents

- Summary
- Normal suite of chapters found in an Environmental Impact Statement
- Appendices containing detailed technical and other information



~1500
pages
total

NNSA Missions in Nevada



- National Security/Defense Programs
 - Stockpile Stewardship & Management
 - Nuclear Emergency Response
 - Nonproliferation & Counterterrorism
 - Work-for-others (Homeland Security, Department of Defense)
- Environmental Management Programs
 - Environmental Remediation/Restoration
 - Waste Management
- Non-Defense Programs
 - Infrastructure
 - Renewable Energy
 - Other Research & Development

National Security Mission Area

- Certifying the reliability of nuclear stockpile through experiments
 - Subcritical
 - Conventional explosives
 - Shock physics
 - Plasma physics and fusion
- Disposition of Improvised Nuclear Devices
- Conducting controlled chemical and biological simulant releases



Environmental Management Mission Area

- Waste Management
 - Low-Level Waste
 - Mixed Waste



- Environmental Restoration
 - Surface Soils
 - Industrial Sites
 - Groundwater

Non-Defense Mission Area

- General site support and infrastructure
- Renewable energy
- Other research and development



SWEIS Alternatives

- No Action – reflects use of existing facilities and operations consistent with those experienced in recent years
- Reduced Operations – reflects diminished activity levels and decommissioned facilities; includes continued implementation of previous NEPA decisions, but may not retain all capabilities from those decisions and no new projects or facilities are proposed
- Expanded Operations – includes activities and level of operations under “No Action” plus expansion of existing activities and additional capabilities



SWEIS Environmental Consequence Resource Areas

- Land Use
- Infrastructure & Energy
- Socioeconomics
- Cultural Resources
- Visual Resources
- Environmental Justice
- Biological Resources
- American Indian Resources
- Hydrology
- Geology and Soils
- Human Health
- Waste Management
- Transportation
- Air Quality



Selected Topics: Radioactive Waste Management

- Low-level (LLW) and mixed low-level (MLLW) radioactive waste disposal ongoing at NNSA since 1961
 - More than 42 million cubic feet disposed
 - Generated by cleanup of DOE and U.S. Department of Defense facilities involved in Cold War-related nuclear weapons research, development and testing
- LLW/MLLW disposal activities in NNSA areas 5 and 3 (inactive)
- Operations conducted in accordance with strict federal regulations for nuclear facilities
- In fiscal year 2010, the entire DOE Complex generated 49 million cubic feet of LLW/MLLW, of which ~5% (2.3 million cubic feet) was disposed at the NNSA and 86% disposed at the site of generation

Radioactive Waste Management in the SWEIS

- No Action and Reduced Operations alternatives reflect recent trends on LLW receipt at the NNSA and the MLLW disposal permit limits
- Expanded Operations alternative
 - Reflects long-term waste forecasts
 - Seeks to maintain flexibility for DOE Complex to dispose low-level waste at NNSA
 - Recognizes that DOE may make other disposal site decisions
- Alternatives are differentiated by total volumes of potential waste over a 10-year period

Radioactive Waste Management in SWEIS (continued)

- Examples of typical LLW/MLLW include metal, debris, soils, clothing, tools, etc.

Ten Year Waste Disposal Estimates (ft ³)			
	No Action Alternative	Expanded Operations Alternative	Reduced Operations Alternative
LLW	15,000,000	48,000,000	15,000,000
MLLW	900,000	4,000,000	900,000
Total	15,900,000	52,000,000	15,900,000



Selected Topics: LLW/MLLW Transportation

- LLW/MLLW shipments regulated by U.S. Department of Transportation – not DOE
 - Nevada Site Office cannot enforce the use of a specific transportation route
 - NNSW Waste Acceptance Criteria sets forth transportation requirements for LLW/MLLW generators
 - Avoid I-15/US-95 interchange
 - Avoid Hoover Dam or O’Callaghan-Tillman Bridge



Draft SWEIS Transportation Analyses



- Constrained Case
 - Status quo is maintained avoiding truck shipments through I-15/U.S. 95 interchange in Las Vegas and via Hoover Dam or new O’Callaghan-Tillman bridge, and continuing rail-to-truck transloading in West Wendover, NV and Parker, AZ
- Unconstrained Case
 - Transportation analyzed by: (a) all truck; and (b) combination rail-to-truck
 - Analyzed several routes for truck transport through Southern Nevada
 - Analyzed several rail-to-truck transload locations

Why Consider an Unconstrained Case?

- Transportation infrastructure in southern Nevada has changed since 1996
- Statistics demonstrate that transportation by interstate highway and rail is safer
- DOE must evaluate means to reduce greenhouse gases by Presidential Order
- Provide full disclosure of potential impacts and meet the intent of NEPA



Unconstrained Analysis

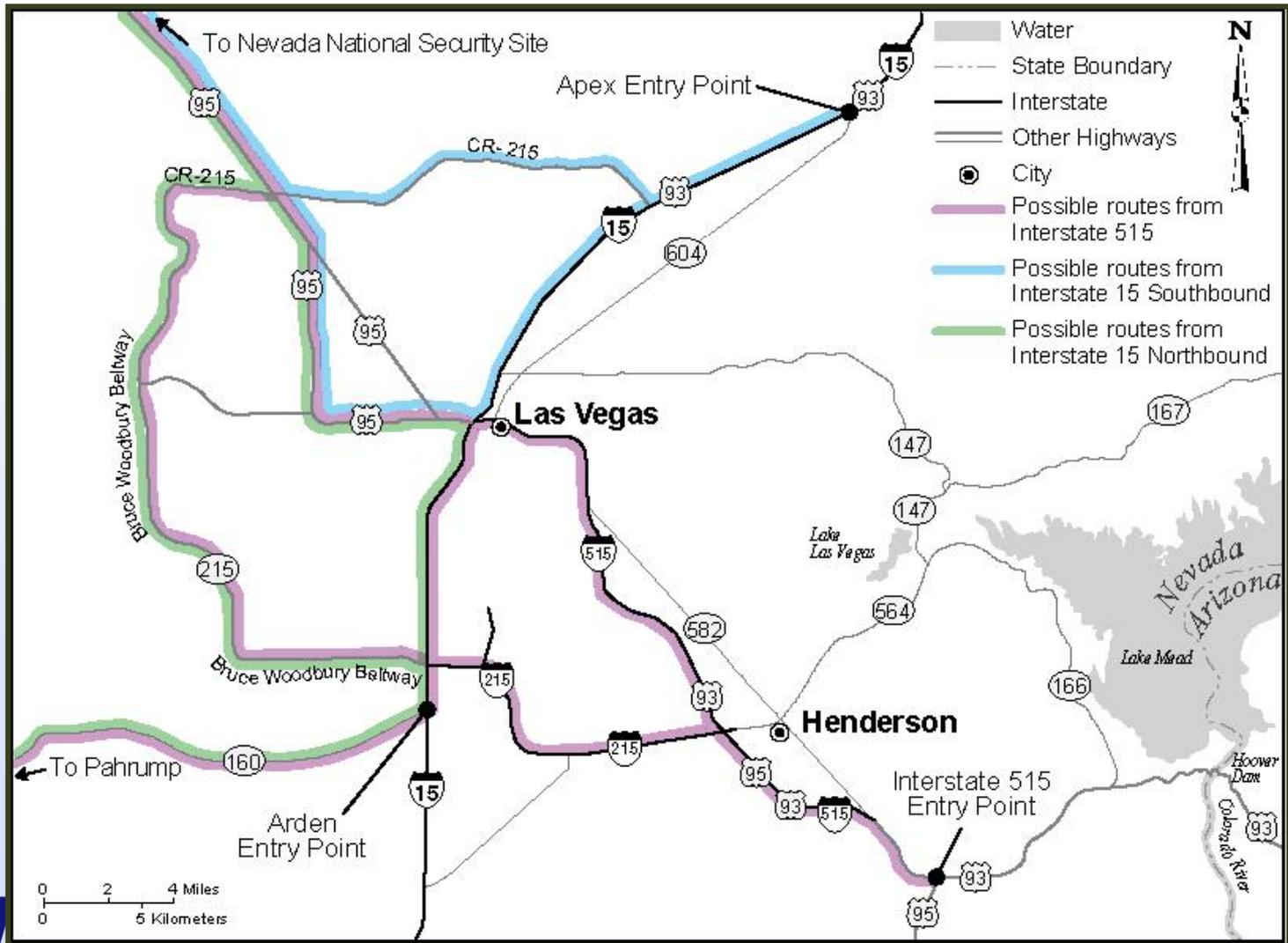
Rail-to-Truck Transloading

- Five representative locations for transload: Arden, Apex, and West Wendover, NV; and Parker and Kingman, AZ
 - These are representative sites for impact analysis; other sites could be chosen by industry
 - Any transload location would be industry's responsibility to develop



Transload Facility – Parker, AZ

Unconstrained Analysis of Transportation Routes



SWEIS Key Dates

July 29, 2011	Federal Register Notice of Availability for Draft SWEIS
July 29 - October 27	Public comment period (90 days)
September 2011	Five public hearings 9/20 Las Vegas – Cashman Center 9/21 Pahrump – Nugget Hotel 9/22 St. George – Marriott Courtyard 9/27 Tonopah – Convention Center 9/28 Carson City – Nugget Hotel
Mid-2012	Federal Register Notice of Availability for Final SWEIS
Mid-2012	Record of Decision