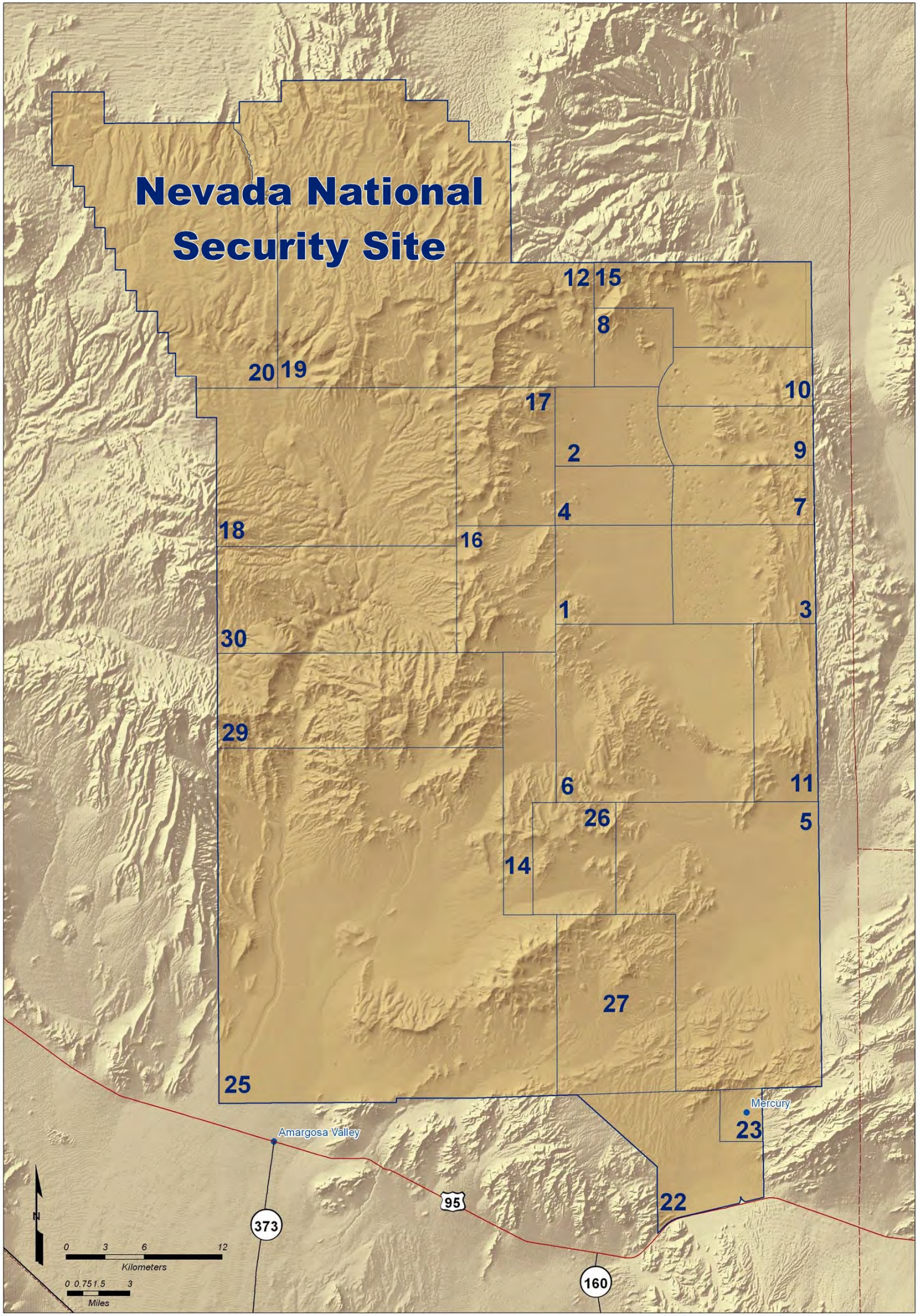
Nevada Site Specific Advisory Board
Table of Contents

Full Board Meeting Handouts for
Wednesday, July 16, 2014

Please note: For your convenience, this Table of Contents has a link to the first page of each handout.

If you just want to print certain pages, the directions are: file, print, Pages to Print, choose the radio button-Pages and enter just the pages that you want printed, then choose print

Page 2	Map of the Nevada National Security Site (NNSS) and the (8) Environmental Management Site Specific Advisory Board Locations
Page 4	7/16/14 Draft Agenda
Page 6	Attendance Spreadsheet
Page 7	Draft Recommendation Letter for Ways to Increase/Enhance Communication Regarding Waste Transportation and Disposal – Work Plan Item #9
Page 8	Student liaison project results for school year 2013-2014
Page 9	Waste Management Symposia – introduction slide
Page 11	NNSS Waste Acceptance Criteria
Page 31	Mixed Low-Level Radioactive Waste Disposal at the NNSS briefing
Page 40	Waste Acceptance and Disposal at the NNSS
Page 54	Disposal of Low-Level Waste at the NNSS briefing
Page 68	Chair and Vice-Chair Responsibilities
Page 69	NSSAB Recommendations and DOE Responses for FY 2015 - 2016 Membership and NNSS Communication Plan for Groundwater Sampling Results – Work Plan Item #5


Nevada National Security Site
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U.S. Department of Energy Environmental Management Site-Specific Advisory Boards

AGENDA

NSSAB FULL BOARD MEETING

National Atomic Testing Museum
755 East Flamingo, Las Vegas, Nevada

July 16, 2014 at 5 p.m.

Open Meeting / Announcements — **Barb Ulmer**, Facilitator

Chair's Opening Remarks — **Kathleen Bienenstein,** Chair
- Agenda approval

Public Comment — **Barb Ulmer**, Facilitator

U.S. Department of Energy Update — **Scott Wade,** DOE

NSSAB Recommendation for RWAP Facility Evaluation Improvement Opportunities (Work Plan Item #7)
- Update on Facility Evaluation at Oak Ridge — **Donna Hruska**
- Update on Facility Evaluation at Argonne National Laboratory — **Janice Keiserman**
- NSSAB Discussion and Determine Path Forward — **Kathleen Bienenstein,** Chair

NSSAB Recommendation for Ways to Increase/Enhance Communication Regarding Waste Transportation and Disposal (Work Plan Item #9) — **Kathleen Bienenstein,** Chair

Student Liaison Project Results for School Year 2013-2014 — **Donna Hruska,** Membership Committee

Break — **Barb Ulmer**, Facilitator

Waste Management/Transportation Recap — **Scott Wade,** DOE

Other NSSAB Business: — **Kathleen Bienenstein,** Chair
- EM SSAB National Chairs' Meeting in Idaho Falls
  - Develop Round Robin topics
- UGTA Technical Information Exchange Feedback (July 16)
- RadWaste Summit at JW Marriott (Sept. 2-5, 2014)
- Notification of Chair and Vice-Chair Elections-Sept. 10, 2014
- NSSAB Recommendations and DOE Responses for Work Plan Item #5 and FY 2015-2016 Membership

Liaison Updates
- Clark County — Phil Klevorick
- Consolidated Group of Tribes and Organizations — Richard Arnold
- Elko County Commission — Charlie Myers
- Esmeralda County Commission — Ralph Keyes
- Lincoln County Commission — Kevin Phillips
- Nye County Commission — Dan Schinhofen/Frank Carbone
- Nye County Nuclear Waste Repository Project Office — John Klenke

DRAFT

- State of Nevada Division of Environmental Protection — Chris Andres
- U.S. National Park Service — Genne Nelson
- White Pine County Commission — Mike Lemich

Liaison Discussion Wrapup — **Scott Wade,** DOE

Meeting Wrap-up/Assessment/Adjournment — **Barb Ulmer**, Facilitator

- Next Full Board Meeting-Wednesday,September 10, 2014
  at the National Atomic Testing Museum, Las Vegas, NV
  - 4 p.m. Full Board Meeting - Develop FY 2015 Work Plan
- NSSAB Orientation-Wednesday,October 8, 2014
  at the National Atomic Testing Museum, Las Vegas, NV
- NNSS Tour - Wednesday, October 29, Full Day

NSSAB MEETING ATTENDANCE

Full Board Meetings

October 2013 through September 2014 (FY 2014)

Name	11/20/13	2/19/14	3/19/14	5/21/14	7/16/14	9/17/14	Max Terms Limit
MEMBERS							
Kathleen Bienenstein	√	√	√	√	√		2014
Thomas Fisher	E	√	√	E	√		2017
Arthur Goldsmith	√	E	√	E	E		2017
Donna Hruska	√	√	√	√	√		2016
Cheryl Kastelic	U						2018
Janice Keiserman	√	√	√	√	√		2018
Michael Moore	√	√	√	√	√		2016
Edward Rosemark	√	√	√	√	√		2018
William Sears	√	√	E	√	√		2018
Jack Sypolt	√	√	√	√	√		2017
LIAISONS							
Clark County	√	E	√	√	√		
Consolidated Group of Tribes and Organizations	√	E	E	√	√		
Elko County Commission	U	U	U	U	U		
Esmeralda County Commission	√	√	E	E	√		
Lincoln County Commission	E	U	U	U	E		
The Meadows School	√	E	√	E			
Nye County Commission	√	√	E	√	E		
Nye Co. Nuclear Waste Repository Project Office	√	√	√	√	√	E	
State of NV Division of Env Protection	√	√	√	√	√		
U.S. Natl Park Service	E	E	E	√	E		
White Pine Co. Commission	E	E	√	U	E		

KEY: √ = Present | Term Limit | E = Excused U = Unexcused | RM = Remove | RS = Resign

Nevada Site Specific Advisory Board

Members
Kathleen Bienenstein, *Chair*
Thomas Fisher, PhD
Arthur Goldsmith
Donna Hruska, *Vice Chair*
Janice Keiserman
Michael Moore
Edward Rosemark
Williams Sears
Jack Sypolt

Liaisons
Clark County
Consolidated Group of Tribes and Organizations
Elko County Commission
Esmeralda County Commission
Lincoln County Commission
Nye County Commission
Nye County Nuclear Waste Repository Project Office
State of Nevada Division of Environmental Protection
The Meadows School
U.S. National Park Service
White Pine County Commission

Administration
Barbara Ulmer, Administrator
Navarro-Intera
Kelly Snyder, DDFO
U.S. Department of Energy, Nevada Field Office

July 16, 2014

Mr. Robert F. Boehlecke
Environmental Management Operations Manager
U.S. Department of Energy, Nevada Field Office
P. O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Recommendation for Ways to Increase/Enhance Communication Regarding Waste Transportation and Disposal (Work Plan Item #9)

Dear Mr. Boehlecke,

The Nevada Site Specific Advisory Board (NSSAB) was asked to provide a recommendation, from a community perspective, to the U.S. Department of Energy (DOE) on ways to increase/enhance communication to communities near the Nevada National Security Site (NNSS) regarding waste transportation and disposal.

In support of this work plan item, the Vice Chair and I participated in a site tour of the DOE waste facility at Hanford, Washington, in April 2014, and the commercial waste facility, Waste Control Specialists in Andrews, Texas, in May 2014. After an update of these tours and Board deliberation at the NSSAB's May 21st Full Board Meeting and further Board discussion at its July 16th Full Board meeting, the NSSAB recommends that the DOE expand communications with Nye County officials in regard to DOE shipping campaigns that might draw community interest prior to them being transported through their communities to the NNSS. This will assist them in providing more timely and accurate information to their constituents and the media and increase public awareness and confidence.

The NSSAB appreciates the opportunity to tour the waste facilities at Waste Control Specialists and Hanford Site and to provide this recommendation to the DOE.

Sincerely,

Kathleen L. Bienenstein, Chair

cc: D. A. Borak, DOE/HQ (EM-3.2) FORS
M. R. Hudson, DOE/HQ (EM-3.2) FORS
J. T. Carilli, EMO, NNSA/NFO, Las Vegas, NV
C. G. Lockwood, EMOS, NNSA/NFO, Las Vegas, NV
J. N. Romo, EMO, NNSA/NFO, Las Vegas, NV
K. K. Snyder, EMOS, NNSA/NFO, Las Vegas, NV
S. A. Wade, AMEM, NNSA/NFO, Las Vegas, NV
B. K. Ulmer, N-I, Las Vegas, NV
NSSAB Members and Liaisons

DRAFT

232 Energy Way, M/S 505, North Las Vegas, NV 89030
Phone 702-630-0522 ◇ Fax: 702-295-5300

Matthew Hodapp
The Meadows School
Student Liaison Project Results
School Year 2013-2014

Questions:
1. Are you familiar with the Nevada Site Specific Advisory Board? Yes 3% No 97%
2. Did you find last week's assembly informative? Yes 81% No 19%
3. Are you interested in fields such as hydrology, waste management, or nuclear testing? Yes 36% No 64%
4. Have you ever visited the Nevada National Security Site (also known as the Nevada Test Site? Yes 9% No 91%
5. Are you familiar with the Arms Race between the United States and Soviet Union? Yes 100% No 0%
6. On a scale of 10 (10 being the most important and 1 being the least), how important is maintaining a so called "green" environment in today's world? Average rating was an 8
7. In your opinion, what ranks as the most important step towards creating a better world? (Ex: less pollution, reducing global warming, etc.) Being environmentally friendly

Waste Management Symposia

Scott Wade
Assistant Manager for Environmental Management
Nevada Site Specific Advisory Board
July 16, 2014

Waste Management Symposia

- Premier international conference for the management of radioactive material and related topics
  - Attracts thousands from around the world and is widely regarded
  - Provides education/opportunities in waste management
  - Offers a forum for discussing and seeking cost-effective and environmentally responsible solutions to the safe management and disposition of radioactive waste materials
- Nevada National Security Site hosts a booth every year to provide information and facilitate open dialogue

Nevada National Security Site Waste Acceptance Criteria

Scott Wade
Assistant Manager for Environmental Management
U.S. Department of Energy (DOE),
Nevada Field Office (NFO)
Presentation to Clark County
March 4, 2014

Nevada National Security Site Waste Acceptance Criteria (NNSS WAC)

- Provides the requirements, terms, and conditions under which the NNSS will accept the following:
  - DOE hazardous and non-hazardous non-radioactive classified waste
  - DOE low-level radioactive waste (LLW)
  - DOE mixed low-level radioactive waste (MLLW)
  - U.S. Department of Defense (DOD) classified waste
- Current version (Rev. 10) updated June 2013

NNSS WAC Contents

- Section 1 – Purpose/Scope and National Nuclear Security Administration (NNSA)/NFO Responsibilities
- Section 2 – Waste Generator Approval Process
- Section 3 – Waste Criteria
- Section 4 – Waste Characterization
- Section 5 – Quality Assurance Requirements for Waste Certification Programs
- Section 6 – Waste Transportation and Receipt

Section 1 – Purpose/Scope and NNSA/NFO Responsibilities

- Purpose: Formal document implementing requirements for waste disposal including:
  - U.S. Department of Transportation (DOT)
  - Resource Conservation and Recovery Act (RCRA)
  - Other applicable federal, state, and local laws and regulations
  - DOE Order 435.1 “Radioactive Waste Management”
  - 10 CFR 830/Documented Safety Analysis (DSA) for Area 5
- Generator compliance oversight conducted by NNSA/NFO Radioactive Waste Acceptance Program (RWAP) team
- Nevada Division of Environmental Protection (NDEP) joint oversight provided in accordance with the Agreement in Principle

Section 1 – Purpose/Scope and NNSA/NFO Responsibilities
(continued)

- Scope: Establishes conditions under which the NNSS will accept the following:
  - DOE hazardous and non-hazardous non-radioactive classified material
  - DOE LLW
  - DOE MLLW
  - U.S. DOD classified waste

Section 1 – Purpose/Scope and NNSA/NFO Responsibilities
(continued)

- Scope: Implements NNSA/NFO policies
  - Protect the environment, personnel, and public
  - Ensure that present and future radiation exposures are kept as low as reasonably achievable (ALARA)
  - Ensure Quality Assurance programs are established and implemented
  - Ensure long-term protection of national security interests

Section 1 – Purpose/Scope and NNSA/NFO Responsibilities
(continued)

- NNSA/NFO Responsibilities:
  - Maintain the NNSS WAC and RWAP program documents
  - Interface with waste generators regarding RWAP
  - Issuing and closing corrective action requests (CARs) and approval of corrective action plans
  - Approving waste profiles

Section 2 – Generator Approval Process

- Generators must develop and submit program documents including
  - Quality Assurance Project Plan (QAPP) or Waste Certification Program Plan (WCPP)
  - NNSS WAC implementation crosswalk
  - Waste profiles
- NNSA/NFO approval of generator program based on verification of NNSS WAC requirements
  - Review of generator's program documents
  - Facility evaluation (quality assurance, waste traceability, RCRA characterization, radiological characterization)
  - Waste Acceptance Review Panel (WARP) profile review
- Waste program approval may be suspended by NNSA/NFO

Waste Profile Approval Process

- Items WARP reviews for each profile:

  A. Generator/originator facility points of contact information

  B. General waste stream process, classification, volume, shipment frequency information

  C. Physical/chemical composition, sampling/analysis, characterization, regulatory status

  D. Radiological characterization method/process

  E. Packaging and container storage, handling, shipping description

  F. ALARA plan, categorical exclusion, performance assessment review

WARP

- Comprised of representatives from the NNSA NFO, NDEP, and NNSS prime contractor, National Security Technologies (NSTec)
- WARP members individually review/comment on waste profiles
  - Comments/questions forwarded to generators for resolution
- WARP meets weekly to discuss any questions or concerns on pending profiles; recommends acceptance or rejection
  - Profile approval recommendations must be unanimous

Section 3 – Waste Criteria

- Waste form
  - LLW as defined by DOE O 435.1 and AEA/Nuclear Waste Policy Act
  - Radionuclide concentration action levels (Appendix E) - waste above identified action levels may be acceptable upon additional review (e.g. special analysis)
  - Hazardous waste, waste containing PCBs and/or asbestos are accepted under certain conditions
  - No explosives, pyrophorics, free liquids or gases, particulates must be immobilized
  - Classified waste accepted

Section 3 – Waste Criteria
(continued)

- Waste package criteria
  - Fissile material limited so that an infinite array will be subcritical
  - Activity limits based on Plutonium-239 Equivalent-grams (PE-g)

Package Type	Package Limit (PE-g)	Shipment Limit
DOT Type B Certification	Unlimited	Unlimited
DOT Specification 7A, Type A *	12,000	60,000
All other packages	300	2,000

* This package type was not included in Revision 9 of the NNSS WAC

Section 3 – Waste Criteria
(continued)

- MLLW
  - Must meet Land Disposal Restriction (LDR) requirements
  - Minimum 5 percent of waste containers shall be physically screened by either visual inspection (at generator facility) or real-time radiography at NNSS

Section 3 – Waste Criteria
(continued)

- Deviation Requests
  - May be used to provide relief from meeting a specific NNSS WAC requirement
  - Evaluated on a case-by-case basis for suitability
  - May not compromise performance objectives for disposal site, Documented Safety Analysis, or violate DOT/RCRA permits/ requirements
  - Submitted with waste profiles or stand-alone documents:
    - NNSS WAC requirement that cannot be satisfied, as written
    - Justification for equivalency in meeting original requirement
    - Duration of activities covered by deviation
    - Planned action(s) to correct compliance issues, if applicable

Section 4 – Waste Characterization

- Generators are responsible for characterization
- Generators must submit waste characterization information with profile
- Characterization documentation shall be traceable to the profile and specific packages
- Analytical data must be validated

Section 5 – Quality Assurance Requirements for Waste Certification Programs

- Quality Assurance Program Plan and NNSS WAC Implementation Crosswalk referencing the applicable site procedures
- Trained and qualified personnel
- Quality and document control systems
- Generators must conduct management assessments and have annual independent assessment conducted by a qualified Lead Auditor

Section 6 – Waste Transportation and Receipt

- Schedule with NNSS
- Attach security seals
- Instruct drivers to comply with shipping route agreements
  - Waste transportation to NNSS, regardless of DOT classification, shall avoid the Hoover Dam Bypass Bridge and Las Vegas
- Enter information in the online shipment tracking system
- Transmit waste information to NNSS prior to shipment
- Waste Shipment Certification Statement
- Non-compliant shipments will be rejected at NNSS

Summary of Changes from Revision 9 to Revision 10

- Added additional language to Section 3.1.18 “Classified Waste”
- Clarified information about segregated waste streams
- Generators can obtain required forms and documentation at the RWAP website
- Updated email information

Summary of Changes from Revision 9 to Revision 10

(continued)

- Amended Section 3.2.2, Package Activity Limits to include DOT Specification 7A, Type A limits
- Type A or equivalent packages cannot be lifted higher than 12’ to 15’
- Submittal of documentation for Type B or Type AF waste packages
  - Certificate of Compliance (CoC)
  - Safety Analysis Report for Packaging (SARP)
  - Certificates for all rigging
- Clarified language regarding certification statements
- Updated glossary/references

Summary

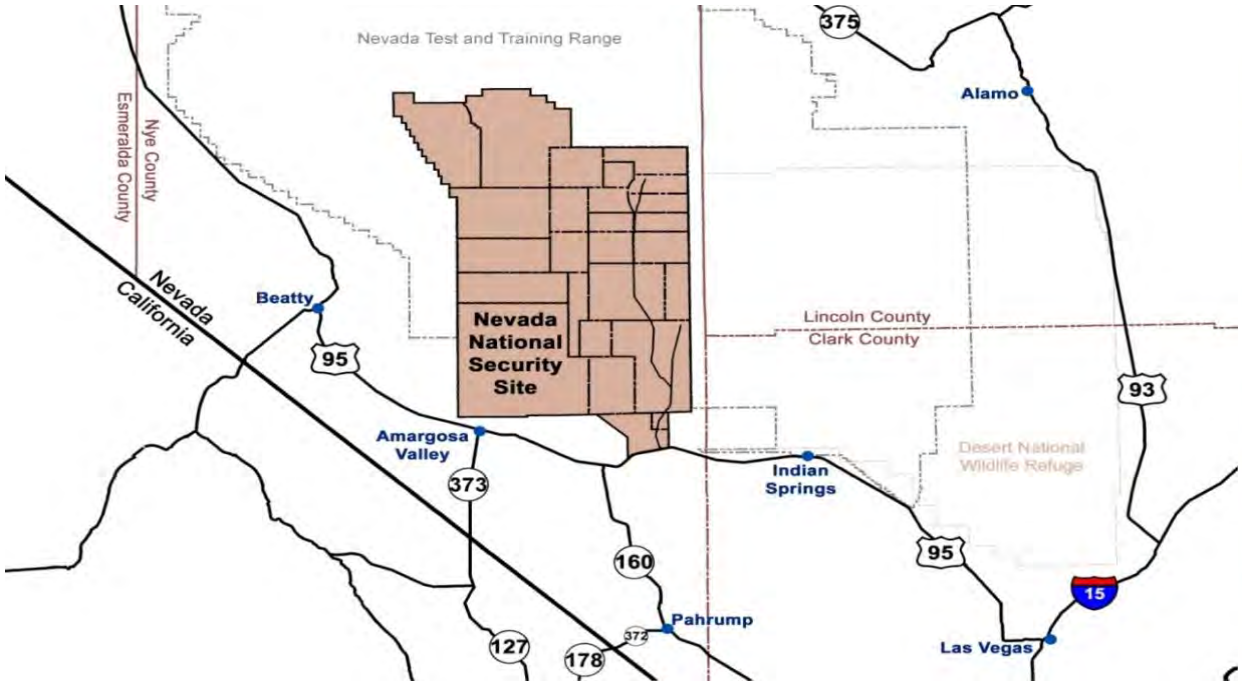
- The NNSS WAC is an implementing document for wide ranging requirements
- All generators must have a program that meets the NNSS WAC
- Each waste profile is approved through the WARP process
- NDEP is a WARP member, reviews NNSS WAC revisions, and accompanies RWAP on facility evaluations

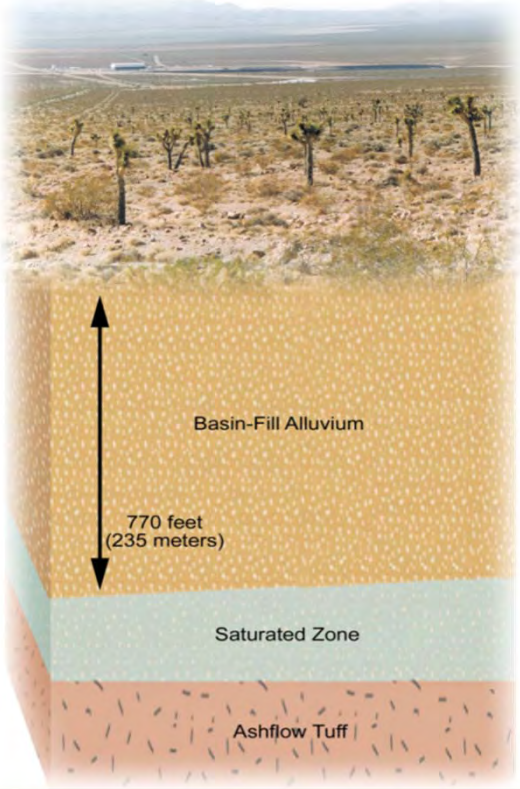
Mixed Low-Level Radioactive Waste (MLLW) Disposal at the Nevada National Security Site (NNSS)

Scott Wade
Assistant Manager for Environmental Management
U.S. Department of Energy (DOE) Nevada Field Office (NFO)
WM 2014 Symposia – Session 73
March 5, 2014

DOE Commitment

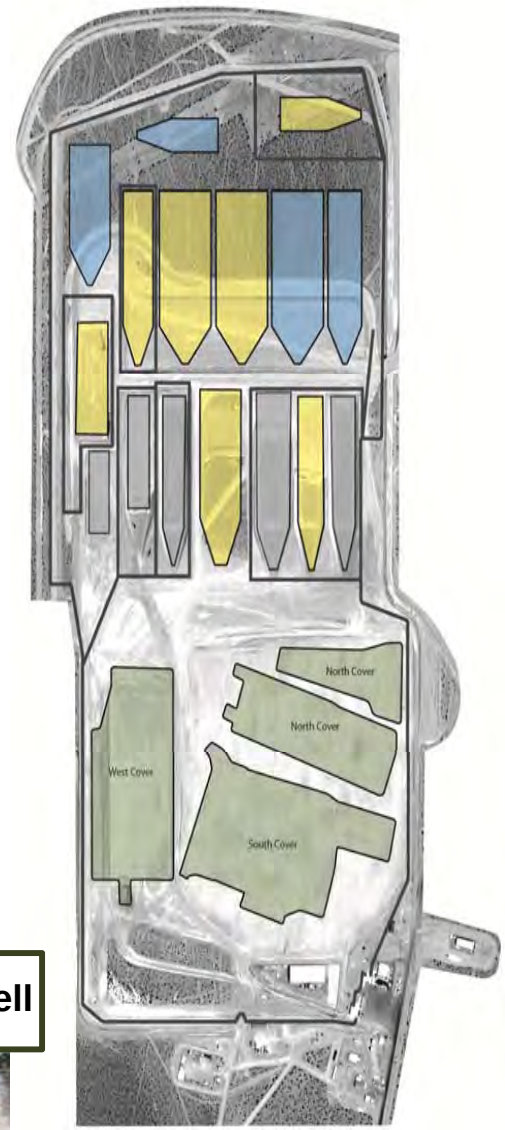
- Safe and secure disposal of waste at the NNSS that is protective of workers, the public, and environment





NNSS Area 5 Disposal Facility

- Approximately 125,000 cubic meters (4.4 million cubic feet) of available capacity in existing cells
  - Seven (7) open cells
  - One (1) under construction
  - Three (3) planned for future construction
- More than 690,000 cubic meters (24.5 million cubic feet) of low-level waste (LLW) and MLLW disposed
  - 31 closed cells
- Available expansion area west of current footprint



Active Cell | Operational Cover | Closed Cell | Future Cell

Resource Conservation and Recovery Act (RCRA) MLLW Disposal Cell

- Cell capacity of 25,485 cubic meters
  - Approximately 40% full
  - Expect to reach capacity in 2018/2019
- Disposal began January 2011
- Double liner system consisting of five layers
  - Covered with select native alluvial soil
    - Floor and side slopes
    - Graded and compacted
    - Protects liner and provides soil pore capacity for precipitation

Operational Challenges

- Ensure liner integrity
  - Waste must be packaged compliantly
  - Crane placement requires additional load distribution plates under outriggers
- Leachate monitoring
  - 87,477 liters (23,109 gallons) of leachate collected in three (3) years
  - Analysis for toxicity characteristic and polychlorinated biphenyl contaminants indicates almost all non-detects; orders of magnitude under limits

Operational Challenges (continued)

- Non standard packaging (i.e., soft-sided bags, totes or tubs)
  - Extra time spent placing waste in stack
  - Inability to stack containers to 5.9 meters (16 feet) consumes 3-4 times more cell real estate
  - A new RCRA cell could be required before fiscal year 2019 depending on receipt of non standard packaging

Classified Components

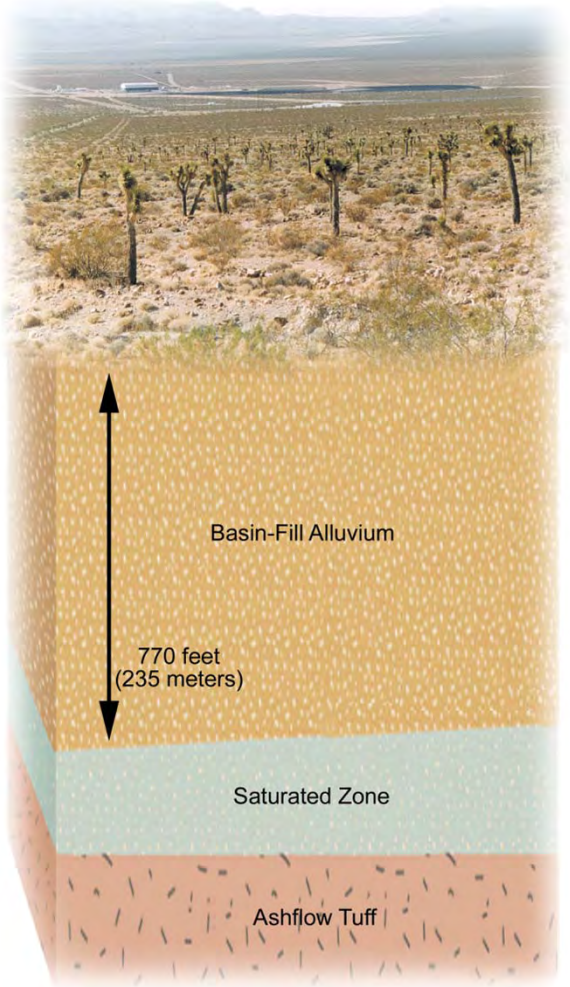
- NNSS supporting disposition of classified components from the dismantlement of nuclear weapons
- RCRA permit was modified to accept non-radioactive, classified
  - Approximately 400,000 cubic feet (11,326 cubic meters) of components require classified disposition
  - Of this, approximately 78,000 cubic feet (2,208 cubic meters) require RCRA macroencapsulation treatment prior to disposition

RCRA-Permitted Storage

- Available since October 2010
- 18,426 cubic meters (more than 650,000 cubic feet) of combined storage capacity for four storage areas

Conclusion

- NNSS remote, secure location and arid environmental conditions makes it ideally suited to support U.S. national security waste disposal needs
- All NNSS waste disposal activities are conducted responsibly and in a transparent manner to facilitate stakeholder interactions and interest



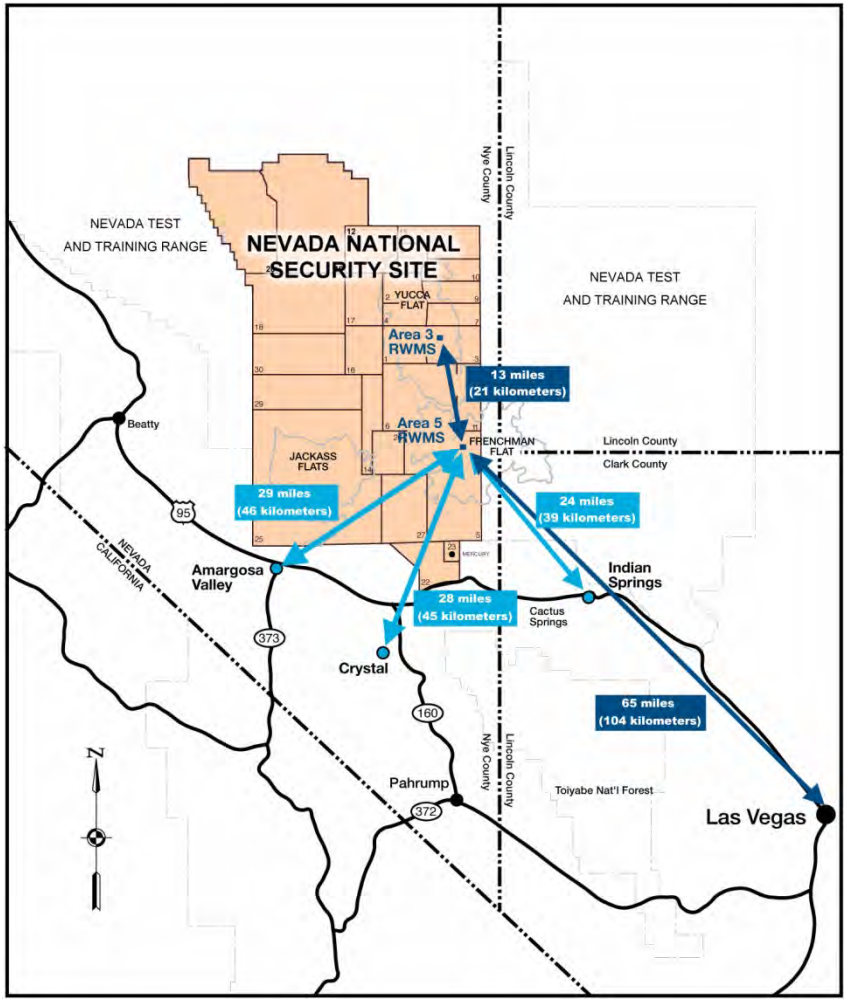
Waste Acceptance and Disposal at the Nevada National Security Site (NNSS)

Jhon Carilli
U.S. Department of Energy (DOE),
National Nuclear Security Administration
Nevada Field Office (NFO)
2014 Waste Management Symposia – Session 096B
March 5, 2014

Overview of the NNSS

- 1,360 square miles of federally-owned and controlled land
- Surrounded by 4,500 square miles of federally-owned and controlled Nevada Test and Training Range (NTTR)

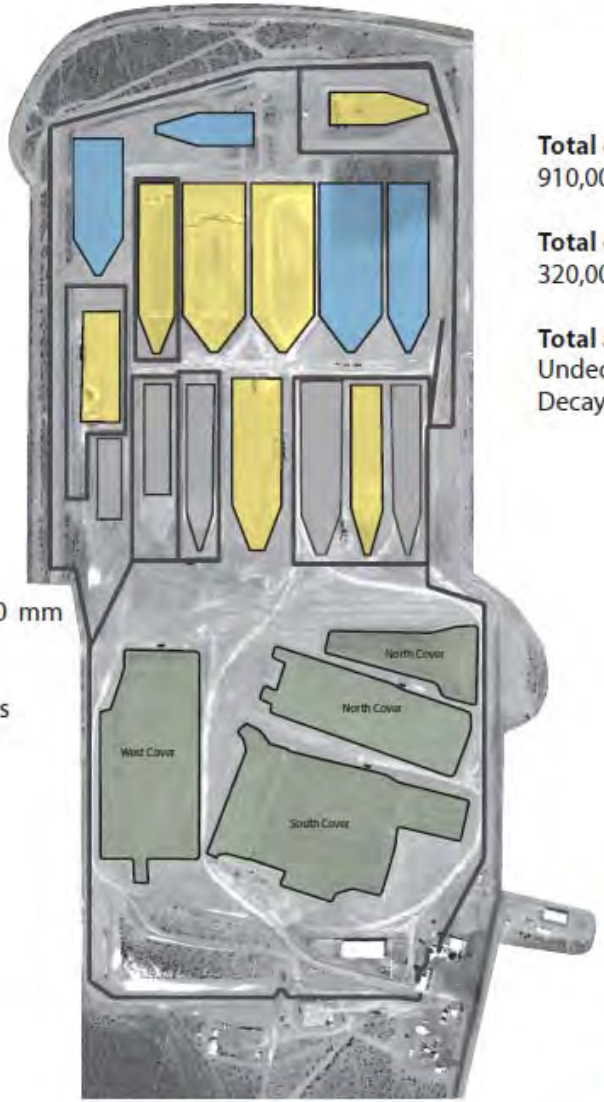
Distance to Communities



Characteristics of the Area 5 Radioactive Waste Management Site (RWMS)

Number of disposal cells:
Active - 7
Closed - 31

Site characteristics:
- Desert setting with sparse vegetative cover
- Rainfall: 127 mm
- Potential Evapotranspiration: 1600 mm
- Depth to groundwater: 250 meters
- No groundwater pathway
- 110 kilometers NW of Las Vegas, Nevada



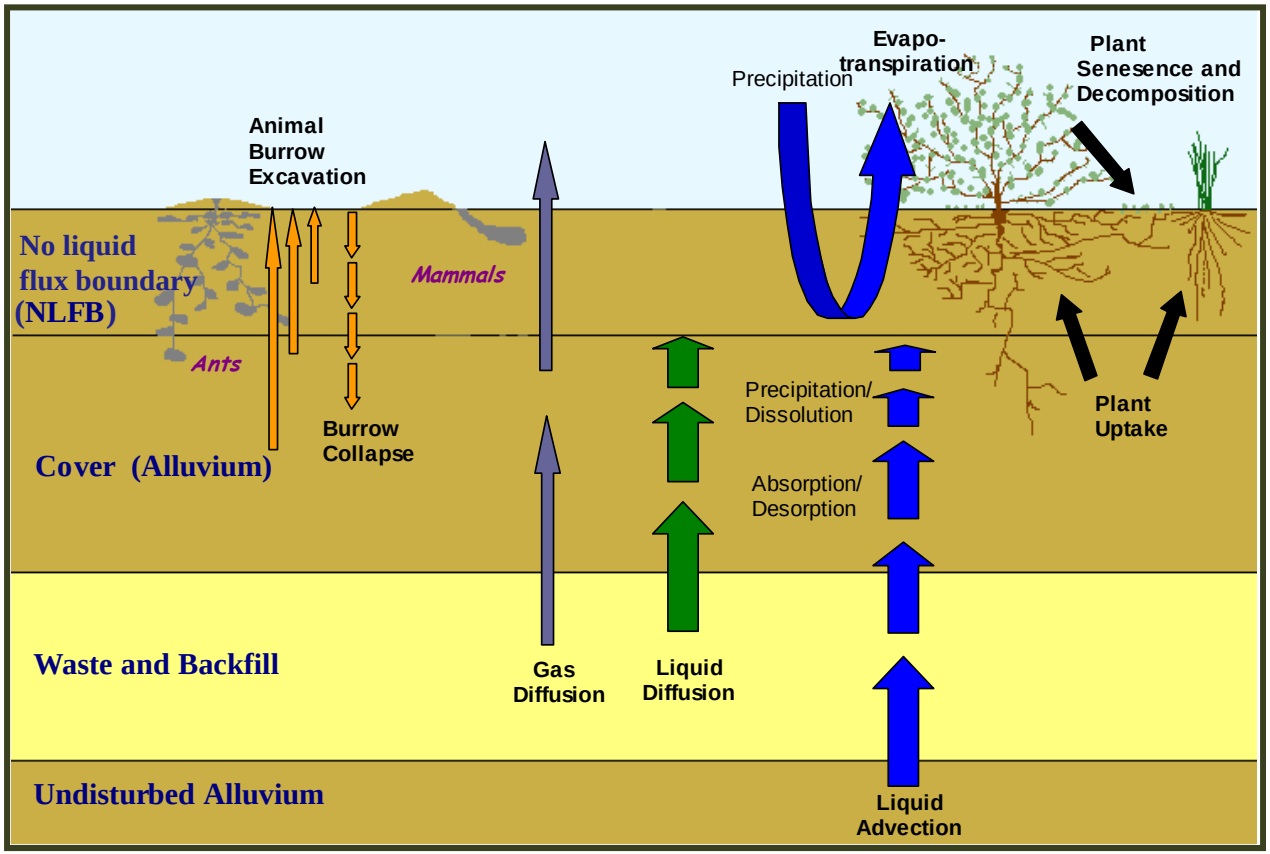
Total closure waste volume:
910,000 cubic meters

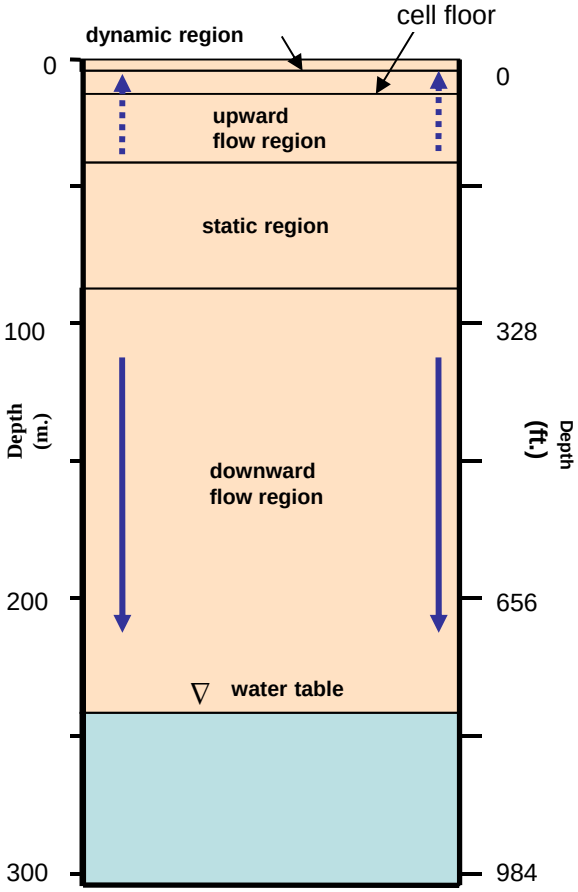
Total cell foot-print:
320,000 square meters

Total activity:
Undecayed: 518,000 TBq
Decayed: 170,200 TWq

Active Cell
Operational cover
Closed cell
Future cell

Site Conceptual Model





Radioactive Waste Acceptance Program (RWAP)

- Waste Acceptance Review Panel review every waste profile submitted for disposal
  - 100 to 150 new or revised waste streams annually
  - Members: DOE/State of Nevada/site operations/RWAP/ performance assessment/nuclear safety/criticality
- Generator facility audits and mixed waste stream verification

RWAP Performance Assessment (PA) Review Team Process

Four questions asked when reviewing waste profiles:

1. Does acceptance of the waste cause a change in radionuclide inventory?

2. Does acceptance of the waste stream require a change in facility design, closure plans, operational constraints, or conditions?

3. Does acceptance of the waste stream change the likelihood of a feature, event, process, or change a model parameter value?

4. Does acceptance of the waste stream require a change in waste acceptance criteria, the performance assessment, or the disposal authorization statement?

Review Process Steps

Step 1: Already Screened	Waste streams well below the NNSS Waste Acceptance Criteria (WAC) Rev. 10 Table E-1 Radionuclide Actions Levels were already analyzed and require no PA review
Step 2: Inventory Screening	Waste stream approaching the NNSS waste acceptance criteria (NNSSWAC), Rev. 10 Actions Levels requires the PA team to “take a closer look” to ensure the proposed waste stream is acceptable for disposal at the facility
Step 3: Un-reviewed Disposal Question (UDQ) Determination	Waste stream exceeding the NNSSWAC Actions Levels requires a PA for accepting/rejecting disposal at the NNSS Additional PAs used for disposal concerns other than inventory

PA Model

- Probabilistic model developed in GoldSim for radionuclide release/transport and dose assessment
- Updated annually with past year's disposals and revised forecast of future waste volumes
- Demonstrate compliance with DOE's performance objectives
- Maintained under a software quality assurance plan

Special Analysis Example

- Mix of radionuclides in proposed waste profiles increasingly changing since PA first developed as decontamination and decommissioning activities across DOE complex continues at an accelerated pace
  - New radionuclides from DOE cleanup projects (e.g., argon-42)
    - **Concern:** Not in PA model
    - **Solution:** Add to inventory to ensure DOE Performance Objects are met before accepting new radionuclide for disposal
  - Radioisotope Thermoelectric Generators (RTG)
    - **Concern:** Heat generation
    - **Solution:** Spatial isolation from all other waste streams
  - Thorium Nitrate
    - **Concern:** Radon generation
    - **Solution:** Deeper disposal/thicker cover

Other Evaluations by PA Team/Model

- Performance of the facility for long time periods beyond the regulatory compliance period of 1,000 years
- Climate change impacts on facility performance
- Impacts of waste forms and containers on facility performance
- Supports development of the PA Annual Summary Report required under DOE Order 435.1

Other Evaluations by PA Team/Model
(continued)

- Supports RWAP waste profile review process
- Optimizing final disposal cell and closure cover design
- Designing operational and post-closure monitoring

Conclusions

- Waste profile review process (part of the NNSSWAC) allows for an efficient and robust means of decision-making for waste disposal at the Area 5 RWMS

- SAs, PA evaluations, PA model runs, and the non-inventory analyses enable the PA team to assess waste stream disposal impacts before acceptance at the NNSS
- The PA review process is the most robust means of waste disposal decision making

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Disposal of Low-Level Waste (LLW) at the Nevada National Security Site (NNSS)

2014 Annual Meeting of the National Transportation Stakeholders Forum

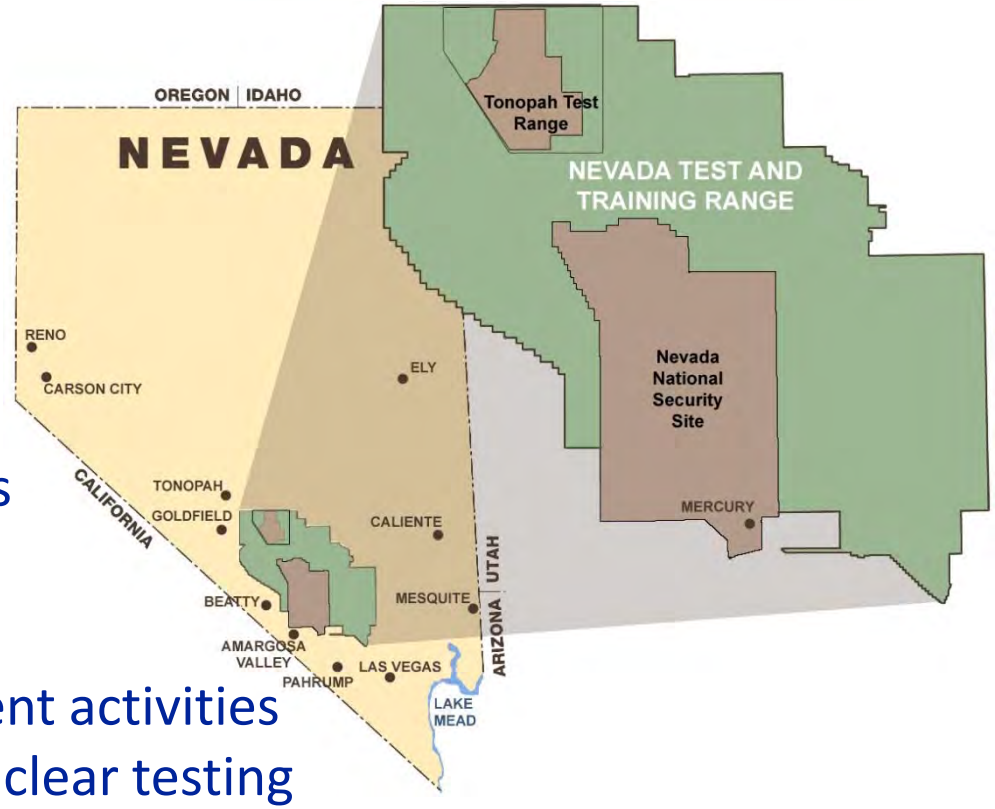
May 14, 2014

History of NNSS

- NNSS has a long history of supporting national security
- President Truman officially established the Nevada Proving Grounds, now the Nevada National Security Site, on December 18, 1950
- 100 atmospheric tests conducted from January 1951 through July 1962 to study weapons-related effects, as safety experiments, and to study peaceful effects of nuclear explosions
- Atmospheric testing ended in October 1963 when U.S. agreed to observe Limited Test Ban Treaty
- 828 underground tests conducted until moratorium went into effect after the last test on September 23, 1992

NNSS Site Security and Missions

- Secured 24/7 by a professional security force protecting all national security assets, facilities and land
- Supports DOE, National Nuclear Security Administration, Department of Defense, Homeland Security, and other federal agencies to meet national security missions and requirements



- Ongoing Environmental Management activities to address the effects of historic nuclear testing (www.nv.energy.gov/envmgt)
  - Radioactive waste disposal ongoing since 1961
- NNSS will remain secured and withdrawn from public use for the foreseeable future

Environmental Management

- Identifying, characterizing, and completing work at sites contaminated by historic nuclear activities
  - Groundwater affected by underground nuclear testing
  - Land and facilities used in support of nuclear testing
  - Surface soils contamination from atmospheric nuclear tests and other experiments and tests
  - Nearly 70% of sites closed in accordance with legal agreement with State of Nevada

Environmental Management (continued)

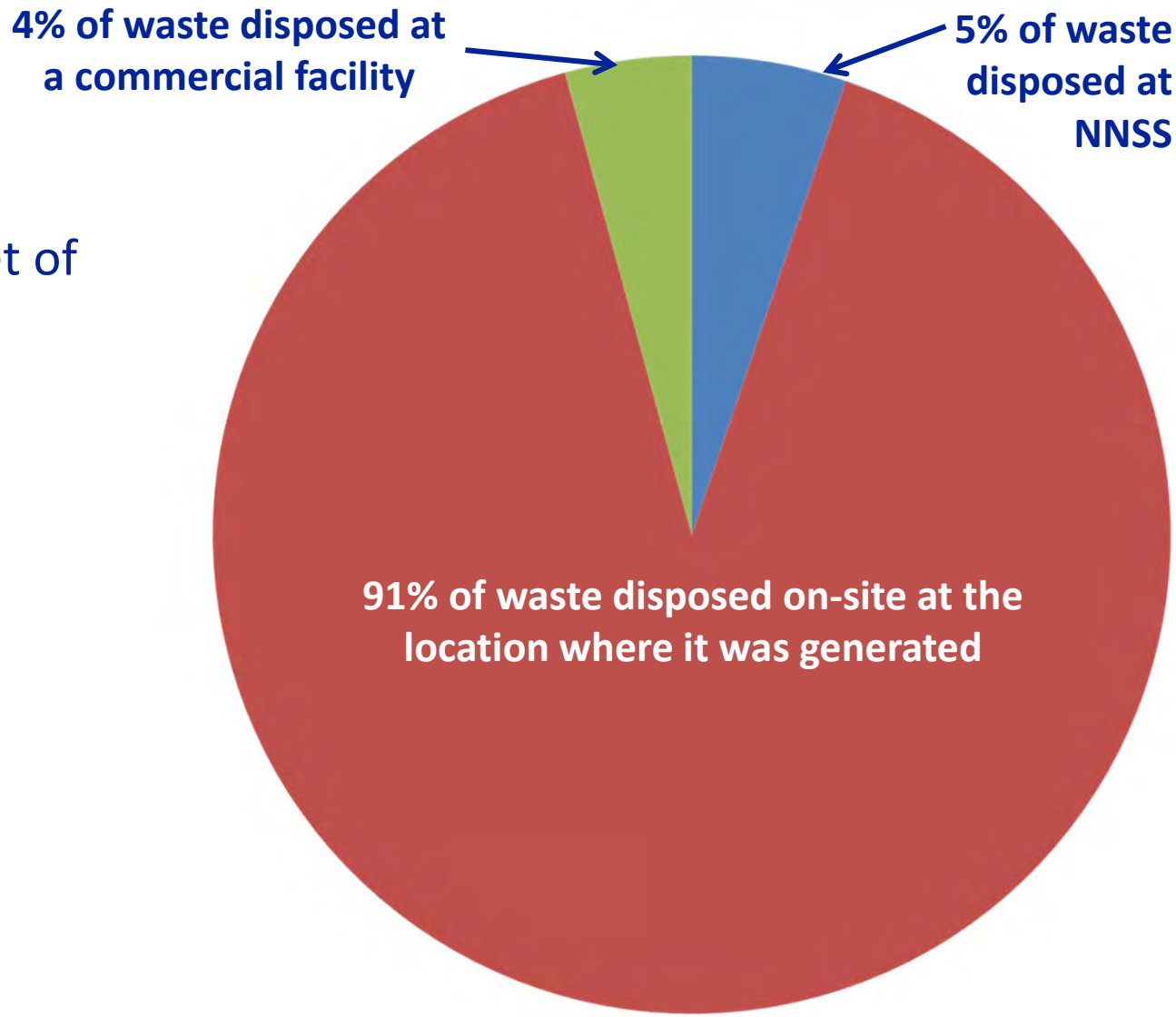
- Disposing LLW/mixed LLW generated by national security missions and cleanup of legacy nuclear contamination
- Geologic and hydrologic conditions at NNSS provide protective disposal capacity for wastes from the NNSS and other DOE sites
- Safety of operations confirmed through comprehensive ongoing monitoring and adherence to strict nuclear operations procedures

LLW Disposal Facility

- Located in Frenchman Flat, near the first atmospheric nuclear test in Nevada
- Arid and isolated disposal facility with no groundwater pathway and deep groundwater
- Annually, NNSS receives approximately 5% of the waste produced by the DOE complex Supports ongoing cleanup activities at NNSS
- Can safely dispose of classified waste that requires additional security

DOE Disposal Overview

- 21.1M cubic feet of LLW disposed throughout the DOE complex in fiscal year 2013



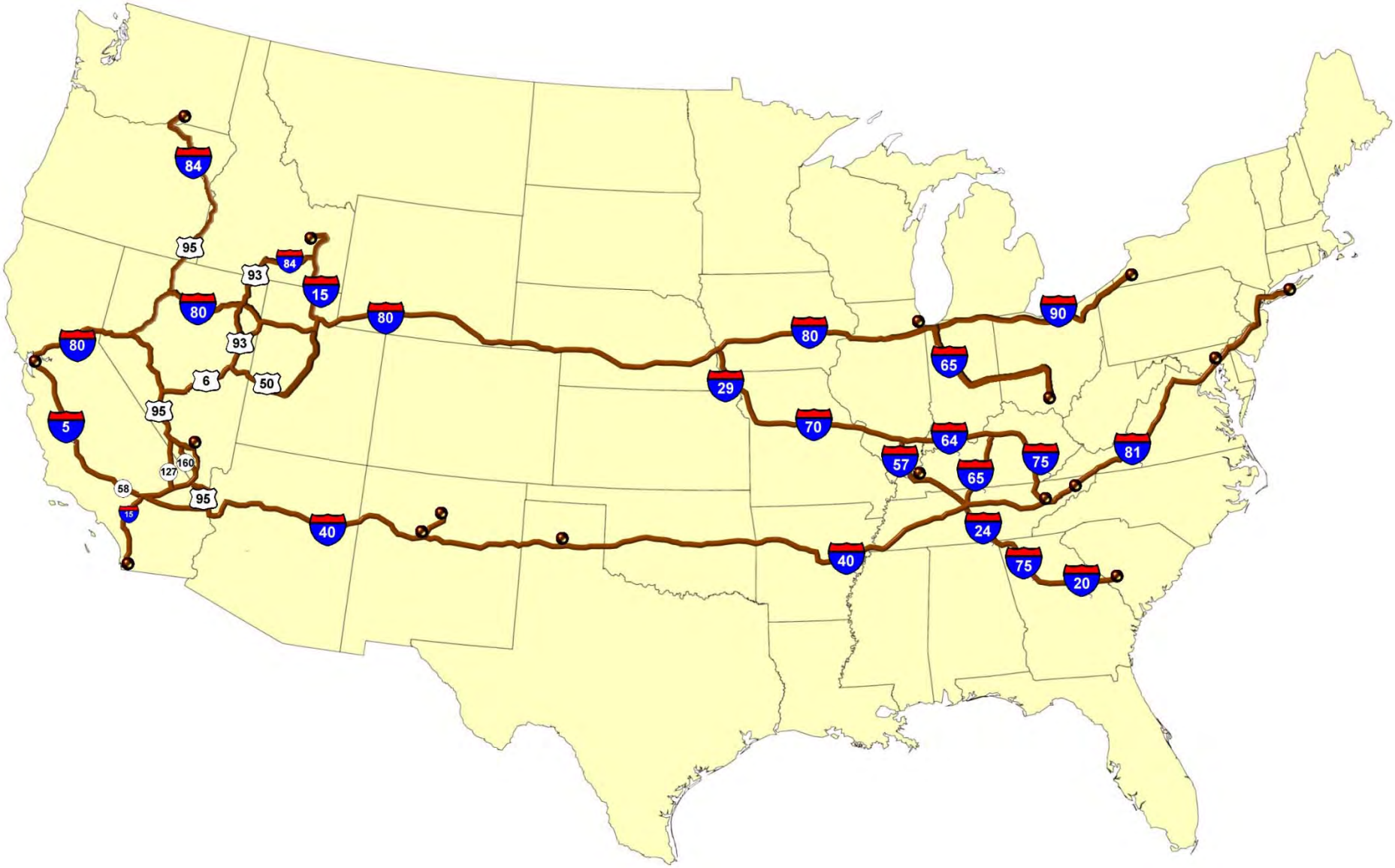
LLW Disposed at NNSS

- Approximately 1.1M cubic feet of waste disposed in fiscal year 2013
- Types include:
  - Soils and debris (i.e. concrete and building)
  - Equipment, clothing and tools
  - Solidified liquids and sludges
  - Laboratory waste
  - Irradiated metal and research targets
  - Amalgamated mercury
  - Depleted uranium
  - Sealed sources (radioisotopes used in equipment for power and medical)
  - Surplus nuclear materials deemed excess to national security missions
  - Uranium wastes
  - Piping used for refining uranium and nuclear propulsion research
- LLW with a hazardous (toxic, ignitable, corrosive, etc.) component are mixed wastes and also disposed under a state permit
- Classified components and parts also disposed

NNSS Waste Acceptance Process

- Structured process with stringent requirements that must be met by all on-site and off-site waste generators before shipping waste for disposal
  - Rigorous reviews, inspections and certification processes conducted for waste characterization, packaging and transportation
  - Proposed waste streams detail radionuclide action levels to ensure there is no compromise to the safety of the disposal facility
  - Auditors conduct reviews at generator sites to confirm all policies and procedures meet or exceed NNSS waste disposal requirements
  - Disposal operations and monitoring activities are factored into the review process
- Waste streams are approved for disposal at NNSS only after successfully demonstrating compliance with waste acceptance requirements
- At NNSS, State of Nevada participates directly in the waste acceptance review process

LLW/Mixed LLW General Transportation Routes to/from NNSS



Transporting Waste to NNSS

- In accordance with U.S. Department of Transportation (DOT) regulations
- Routing within Nevada region includes preferences established for travel during summer and winter months, and blackout dates during specific holiday events
  - All highway, no rail access – surrounded by U.S. Air Force land
- All LLW/mixed LLW shipments to/from NNSS are reported quarterly
  - Available on the Nevada Field Office website at www.nv.energy.gov/radwastetrans
  - Includes maps depicting routes taken

LLW Receipt at the NNSS

- All LLW received for disposal at the NNSS undergoes the following prior to acceptance:
  - Verification of shipping documentation against previously approved and transmitted paperwork
  - Radiological surveys of each truck and trailer

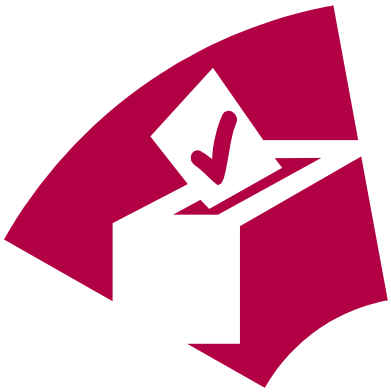
In Summary…

- Waste acceptance, transportation and disposal at the NNSS is conducted responsibly and safely to protect workers, the public and environment
- NNSS infrastructure provides long-term protection of disposed waste
- DOE is committed to providing stakeholders as much unclassified information about the disposal of waste at the NNSS
  - Active volunteer advisory board comprised of community members who meet regularly (open to public) and provide recommendations to the U.S. Department of Energy (www.nv.energy.gov/nssab)

Information Links/Contact

- Find out more information on-line at www.nv.energy.gov
- Join us on social media via www.facebook.com/NNSANevada and www.twitter.com/NNSANevada
- Learn more about the Nevada Site Specific Advisory Board by visiting www.nv.energy.gov/nssab
- Read/download transportation reports at www.nv.energy.gov/radwastetrans
- E-mail envmgt@nnsa.doe.gov
- Call 702-295-3521

FY 2015 Election Time



Elections of the FY 2015 NSSAB Chair and Vice-Chair will take place at the September Full Board meeting. A response is needed from all. Please contact the NSSAB office by August 30 and advise if you would like to be considered for either position.

You may also nominate someone who you feel would be a valuable chair/vice-chair. Anyone nominated will be contacted to ensure they would accept the nomination. A list of interested members will be provided to the Full Board and the officers will be elected by ballot at the September Full Board meeting.

What are the Chair responsibilities?

- Serves as the Chair for 12 months (October 1 – September 30)
- Participates in bi-monthly EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Leads full board meetings and ensures all members have the opportunity to participate
- Certifies to the accuracy of all minutes within 45 days
- Signs recommendations that the Board has passed by consensus/majority
- Serves as spokesperson for the NSSAB between regular meetings of the Board
- Attends national EM SSAB meetings and/or workshops semi-annually
- Attends quarterly meetings with EM Management
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)

What are the Vice-Chair responsibilities?

- Serves as the Vice-Chair for 12 months (October 1 – September 30)
- Participates in bi-monthly EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Acts as the NSSAB chair in the absence of the elected chair
- Attends national EM SSAB meetings and/or workshops semi-annually
- Attends quarterly meetings with EM Management
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)

Please contact the NSSAB office by August 30 and advise if you are willing to be considered for the FY 2015 Chair and/or Vice-Chair positions.

Nevada Site Specific Advisory Board

Members
Kathleen Bienenstein, *Chair*
Thomas Fisher, PhD
Arthur Goldsmith
Donna Hruska, *Vice Chair*
Janice Keiserman
Michael Moore
Edward Rosemark
Williams Sears
Jack Sypolt

Liaisons
Clark County
Consolidated Group of Tribes and Organizations
Elko County Commission
Esmeralda County Commission
Lincoln County Commission
Nye County Commission
Nye County Nuclear Waste Repository Project Office
State of Nevada Division of Environmental Protection
The Meadows School
U.S. National Park Service
White Pine County Commission

Administration
Barbara Ulmer, Administrator
Navarro-Intera
Kelly Snyder, DDFO
U.S. Department of Energy, Nevada Field Office

May 21, 2014

Ms. Kelly Snyder, DDFO
U.S. Department of Energy, Nevada Field Office
P. O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Recommendation for FY 2015 - FY 2016 Membership

Dear Ms. Snyder,

After preparation and review, the Nevada Site Specific Advisory Board (NSSAB) would like to make the following recommendation regarding the FY 2015-16 membership.

The NSSAB has grouped potential membership appointments into three prioritized categories (candidates have been identified by application number).

Priority One	Priority Two	Priority Three
14-26	14-14	14-12
14-01	14-35	14-33
14-10	14-31	14-22
14-07	14-05	14-15
14-32	14-16	14-20
14-25	14-08	14-19
14-21	14-02	14-13
14-28	14-18	14-17
14-09		
14-27		

It is requested that Priority One candidates be given the highest priority with candidates from Priorities Two and Three selected to ensure maximum Board balance and diversity. Additionally, the Board does not recommend any applicant who is not listed above.

While we realize the final decision regarding membership lies with the Assistant Secretary of Environmental Management, we appreciate the opportunity to participate in the recruitment/interview process. We look forward to welcoming new

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Phone 702-630-0522 ◇ Fax: 702-295-5300
E-mail: NSSAB@nnsa.doe.gov ◇ Website Home Page: http://www.nv.energy.gov/NSSAB

members to the Board in the coming year, thus ensuring continued stakeholder involvement in the Environmental Management activities at the Nevada National Security Site.

Sincerely,

Kathleen L. Bienenstein, Chair

cc: D. A. Borak, DOE/HQ (EM-3.2) FORS
M. R. Hudson, DOE/HQ (EM-3.2) FORS
R. F. Boehlecke, EMO, NNSA/NFO, Las Vegas, NV
C.G. Lockwood, EMOS, NNSA/NFO, Las Vegas, NV
S. A. Wade, AMEM, NNSA/NFO, Las Vegas, NV
B. K. Ulmer, N-I, Las Vegas, NV
NSSAB Members and Liaisons

Department of Energy
National Nuclear Security Administration
Nevada Field Office
P.O. Box 98518
Las Vegas, NV 89193-8518

JUN 19 2014

Kathleen Bienenstein, Chair
Nevada Site Specific Advisory Board
232 Energy Way
North Las Vegas, NV 89030

RESPONSE TO THE NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB) FY 2015 – FY 2016 MEMBERSHIP RECOMMENDATION

As part of the NSSAB membership process, the Department of Energy's (DOE), Nevada Field Office (NFO) has reviewed all applications received and interviewed applicants, in conjunction with the NSSAB Membership Committee. When determining the slate of candidates to recommend to DOE Headquarters, the NFO gave heavy consideration to the NSSAB's May 21st recommendation which prioritized candidates for membership. We understand that the Board's recommendation was for Priority One candidates be given the highest priority and Priorities Two and Three candidates be selected to ensure maximum Board balance and diversity. We appreciate the Board's participation in the process and viewed your recommendation as a vital component when preparing the membership package.

The NFO has submitted to the DOE Headquarters twelve individuals for membership appointment consideration. Currently, Headquarters has initiated its review of the membership package. Final selection of new members by Headquarters will be made during the next several months with appointments effective October 1, 2014.

If you have questions, please contact me at (702) 295-2836 or via e-mail at kelly.snyder@nnsa.doe.gov.

Kelly K. Snyder
Deputy Designated Federal Officer

EMOS:10600.KKS

cc via e-mail:
D. A. Borak, DOE/HQ (EM-3.2)
M. R. Hudson, DOE/HQ (EM-3.2)
B. K. Ulmer, N-I
R. F. Boehlecke, NFO
C. G. Lockwood, NFO
S. A. Wade, NFO
NNSA/NFO Read File

Nevada Site Specific Advisory Board

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Thomas Fisher, PhD
Arthur Goldsmith
Donna Hruska, *Vice Chair*
Janice Keiserman
Michael Moore
Edward Rosemark
Williams Sears
Jack Sypolt

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Elko County Commission
Esmeralda County Commission
Lincoln County Commission
Nye County Commission
Nye County Nuclear Waste Repository Project Office
State of Nevada Division of Environmental Protection
The Meadows School
U.S. National Park Service
White Pine County Commission

Administration
Barbara Ulmer, Administrator
Navarro-Intera
Kelly Snyder, DDFO
U.S. Department of Energy, Nevada Field Office

May 21, 2014

Ms. Kelly Snyder, DDFO
U.S. Department of Energy, Nevada Field Office
P. O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Recommendation for the Nevada National Security Site (NNSS) Communication Plan for Groundwater Sampling Results (Work Plan Item #5)

Dear Ms. Snyder,

The Nevada Site Specific Advisory Board (NSSAB) was asked to provide a recommendation, from a community perspective, to the U.S. Department of Energy (DOE) on ways the NNSS Communication Plan for Groundwater Sampling Results may be enhanced.

After a briefing on February 19th and Board deliberation at the March 19th and May 21st Full Board Meetings, the NSSAB recommends that the DOE develop a graphic representation that depicts the location of the underground tests, the direction groundwater is traveling, and current basic sampling results (where DOE has found contamination and where it has not). This graphic representation could be available to the community on the Nevada Field Office's website. The NSSAB recommends that DOE research the best format to depict this information that is easily accessible and understandable by the general public.

Additionally, The NSSAB is interested in providing further feedback in fiscal year 2015 on how DOE communicates sampling results to the public as the communication plan continues to be developed as the models mature and additional data is collected.

The NSSAB appreciates the time provided in briefing the subject and looks forward to providing additional feedback in the future.

Sincerely,

Kathleen L. Bienenstein, Chair

cc: D. A. Borak, DOE/HQ (EM-3.2) FORS
M. R. Hudson, DOE/HQ (EM-3.2) FORS
R. F. Boehlecke, EMO, NNSA/NFO, Las Vegas, NV
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C. G. Lockwood, EMOS, NNSA/NFO, Las Vegas, NV
S. A. Wade, AMEM, NNSA/NFO, Las Vegas, NV
B. R. Wilborn, EMO, NNSA/NFO, Las Vegas, NV
B. K. Ulmer, N-I, Las Vegas, NV
NSSAB Members and Liaisons

232 Energy Way, M/S 505, North Las Vegas, NV 89030
Phone 702-630-0522 ◇ Fax: 702-295-5300

Department of Energy
National Nuclear Security Administration
Nevada Field Office
P.O. Box 98518
Las Vegas, NV 89193-8518

JUL 14 2014

Kathleen Bienenstein, Chair
Nevada Site Specific Advisory Board
232 Energy Way
North Las Vegas, NV 89030

RESPONSE TO THE NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB) RECOMMENDATION REGARDING COMMUNICATING GROUNDWATER SAMPLING RESULTS

In February 2014, the NSSAB began studying the Nevada Field Office's request for how a communication plan could be structured that would communicate groundwater sampling results to communities near the Nevada National Security Site (NNSS). As a result of discussions during three Full Board meetings, the NSSAB made the decision to not make a formal recommendation on a communication plan. Rather, the Board recommended the Nevada Field Office develop a graphic that explains at a basic level to the general public the impacts of historic underground nuclear testing at and near the NNSS and what work the Department is completing to ensure the safety of the public, workers, and the environment. In particular, the Board recommended the graphic show the location of historic underground nuclear tests, the direction groundwater is traveling, and current basic sampling results.

As a result of this recommendation, the Nevada Field Office is currently working with multiple multimedia experts to determine the best path forward for depicting the recommended topics. The Nevada Field Office plans to work with the NSSAB during the development process to ensure the graphic meets the needs of the Board. It is anticipated the graphic will be completed during fiscal year 2015 and will be made available to the community through the Nevada Field Office's website.

I would like to thank the Board for their dedication and time in understanding the variety of viewpoints that must be considered when developing a communication plan. If you have questions, please contact me at (702) 295-2836 or via e-mail at **kelly.snyder@nnsa.doe.gov**.

for Cindy Lochmann
Kelly K. Snyder
Deputy Designated Federal Officer

EMOS:10677.KKS