



## *Nevada Site Specific Advisory Board*

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### **Full Board Meeting**

**Frank H. Rogers Building  
755 E. Flamingo Road, Las Vegas, NV  
5:00 p.m. – February 15, 2012**

**Members Present:**

Kathleen Bienenstein (Chair), Matthew Clapp, Daniel Coss, Thomas Fisher, Arthur Goldsmith, Donna Hruska, Robert Johnson, Barry LiMarzi, John McGrail, Gregory Minden, Michael Moore, Michael Voegelé, James Weeks, Walt Wegst (Vice-Chair)

**Liaisons Present:**

John Klenke (Nye County), Phil Klevorick (Clark County), Tim Murphy (State of Nevada Division of Environmental Protection [NDEP]), Genne Nelson (National Park Service), Scott Wade (Department of Energy [DOE])

**Liaisons Absent:**

Cielomina Gumabon (West Career and Technical Academy [WCTA]), Justine Leavitt (WCTA)

**U.S. Dept. of Energy (DOE):**

Rob Boehlecke, Jhon Carilli, Kelly Snyder (DDFO)

**Staff:**

Bruce Crowe (Navarro-Intera [N-I]), Barb Ulmer (Stoller)

**Facilitator:**

Denise Rupp (N-I)

**Public Present:**

Christine Andres (NDEP), Gary Hollis (Nye Country), Darrel Lacy (Nye County), DeAnn Long, (Las Vegas), and Robert Henry (Las Vegas)

### **Agenda Review**

Member Daniel Coss moved to accept the agenda as presented. The motion was seconded and passed unanimously.

## U-233 Disposition Program Update

### **Nevada National Security Site (NNSS) Waste Process** (*Jhon Carilli, DOE*)

- Low-Level Waste (LLW) is defined by what it is not. It is not High Level Waste, Transuranic Waste, Special Nuclear Material, source material, and/or byproduct material
- Radioactive waste disposal at the NNSS is conducted under the Atomic Energy Act and regulated under DOE Order 435.1
- The Nuclear Regulatory Commission has no regulatory authority over Nevada Site Office disposal operations
- DOE Order 435.1
  - DOE waste disposal facilities must meet the Performance Objectives specified in the Order 435.1 for LLW
  - The disposal facility is issued a Disposal Authorization Statement (Performance Assessment, Composite Analysis, Maintenance Plan, Monitoring Plan, and Closure Plan) to dispose LLW
  - Regulatory requirements include a 1,000-year compliance
  - Performance Assessments are based on current conditions
- The Radioactive Waste Acceptance Program (RWAP) includes generator certification and the Waste Acceptance Review Panel
  - Generator certification verifies the generator is DOE, the LLW belongs to DOE, and the waste meets the Area 5 Radioactive Waste Management Site's Performance Assessment
  - The Waste Acceptance Review Panel consists of State of Nevada and Nevada Site Office personnel which review every waste stream
- The Performance Assessment sets the waste concentration requirements in the Nevada National Security Site Waste Acceptance Criteria
- The LLW Federal Review Group serves as DOE's regulatory panel providing an annual summary report reviewing the Disposal Authorization Statement documents
- Prior shipments of U-233 to the NNSS include 323 kilograms shipped in three shipments from Idaho National Laboratory
- NNSS Area 5 has the experience to handle high dose waste shipments safely and remotely
- Disposal of U-233 Consolidated Edison Uranium Solidification Project (CEUSP) material is planned for slit trenches to be excavated in the cell floor

In response to NSSAB member questions, the following clarifications were provided:

- Greater Than Class C and Greater Than Class C-Like waste are not defined in DOE Order 435.1; Greater Than Class C is a Nuclear Regulatory Commission definition
- Existing commercial waste facilities cannot accept CEUSP waste
- The National Regulatory Commission regulates commercial waste facilities
- DOE Performance Assessments are site specific
- Proposed slit trenches are to be located near the toe of the side slopes to enable truck traffic in the middle of the cell
- Cell 18 is the only lined cell at the Area 5 Radioactive Waste Management Site
- U-233 is a waste special nuclear material
- The Disposal Authorization Statement under DOE Order 435.1 allows the NNSS to accept materials that meet the WAC which can include special nuclear material

- The subject U-233 was not considered waste in Oak Ridge National Laboratory's original Environmental Assessment; the waste determination was made as a result of the Performance Assessment
- For clarification, Vice-Chair Walt Wegst reported a typical cross-country airplane flight averages 10 millirem per occurrence

### **Performance Assessment** (*Bruce Crowe, N-I*)

- A Performance Assessment is a quantitative assessment of radiological releases from a disposal system over time, with calculation of resultant doses and typically used to assess whether a facility meets regulatory objectives
- A conceptual model of hydrological processes in the unsaturated zone of Frenchman Flat was translated into a mathematical/numerical model for the Performance Assessment
- The arid desert setting, low precipitation, lack of groundwater pathway, and disposal trench location in the region of slow upward flow make shallow land burial at the Area 5 Radioactive Waste Management Site safe and protective
- Performance Assessment components include: conceptual model, initial conditions, disposal configuration, source term, unsaturated zone flow and transport, biotic transport, exposure pathways, dose conversion models, and performance objectives
- Performance results are based on dose Performance Objectives of DOE Order 435.1, with 1,000-year compliance, and based on current conditions
- Per the Performance Assessment model, dose for the fiscal year 2010 inventory plus CEUSP material for the 1,000-year compliance period is considerably below the Performance Objective
- Performance Assessments for the CEUSP waste stream are preliminary and revised results will be completed when the waste stream is formally processed
- Performance Assessment impacts are minimal for CEUSP disposal at Area 5

In response to NSSAB member questions, the following clarifications were provided:

- The Performance Assessment looks at the distribution percentiles for quantification of uncertainty, the assessment does not normally use the standard deviation of the means
- The half-life of U-232 is 72 years
- U-232 is responsible for the more highly radioactive surface content of the CEUSP material
- The radon and lead reflected on the 500,000-year assessment curve are not the result of U-233
- Climate change is not a major concern for this waste stream for the 1,000-year compliance period; the performance assessment models are reasonably representative for at least 20,000 years and possibly back to a more profound climate change approximately 70,000 years ago

### **U-233 Disposition Program Follow-Up to January Briefings**

*(John Krueger, DOE, Oak Ridge, via telephone)*

- The Legal Weight Truck (LWT) Type B shipping container was chosen because it provides sufficient shielding, meets the LWT Safety Analysis Report for Packaging, is the appropriate size and shape, and the size and robust seal affords additional security for CEUSP canisters

- Transportation Safety
  - Detailed transportation planning still needed
  - Will comply with all U.S. Department of Transportation regulations
  - Per agreement with the State of Nevada, routes will avoid the Spaghetti Bowl and Hoover Dam
- Transportation Security
  - DOE will conduct a Vulnerability Assessment to determine the proper level of security
- Emergency Management
  - Carrier is required to have emergency response plan
  - Current proposal is to ship less than a Highway Route Controlled Quantity (HRCQ)
  - States are notified via the Prospective Shipment Report for less than HRCQ
  - Shipments will be tracked electronically
- Waste Acceptance
  - CEUSP canisters are expected to be certifiable against all NNSW WAC
  - All CEUSP canisters are below the 300 plutonium-equivalent gram (PE-g) limitation in the WAC
  - The 2000 PE-g limit for shipments is met with eight or less canisters
  - Package-based fissile gram limits are exceeded by the CEUSP canisters, however, the adoption of waste stream specific controls dictated by a nuclear criticality safety evaluation still allows for waste stream acceptance
  - The waste profile still needs to be developed, submitted, and approved

In response to NSSAB member questions, the following clarifications were provided:

- The DOE Vulnerability Assessment for loading and transportation will be performed by the Idaho National Laboratory and the NNSA
- The CEUSP containers at Oak Ridge are currently packed on top of each other now; every change in configuration requires criticality safety evaluations
- Mr. Krueger will provide information to the NSSAB regarding who reviews, approves, and verifies the EM carriers' emergency response plans
- Emergency responder training funds are in the preliminary stages of evaluation
- Transport security measures will be determined based on the vulnerability assessment
- DOE will provide the NSSAB with status reports throughout the U-233 disposition program process
- After the initial recommendation, NSSAB comments may be submitted in a phase-based approach throughout the process
- The U-233 material movement reported in the January Environmental Management Update is not waste
- Transportation is under the purview of the U.S. Department of Transportation
- NDEP reviews the waste profile as part of the Waste Acceptance Review Panel in accordance with the Waste Acceptance Criteria
- NSO will provide Mr. Krueger with a copy of Dr. Ruth Weiner's transportation study of routes to the Nevada National Security Site
- Mr. Krueger will provide information to the NSSAB regarding verification of carriers emergency response plans

## **Public Comment**

- Commissioner Gary Hollis (Nye County) expressed concerns regarding transport of U-233 through Nye County, communication between Nye County and Oak Ridge National Laboratory, Nye County transportation logistics and shipment notification.
- Darrel Lacy (Nye County Nuclear Waste Repository Project Office) referenced Nye County's January 31, 2012 letter to Scott Wade outlining concerns regarding the transport of U-233 through Nye County and requested Nye County be involved and informed during the process. Mr. Lacy also expressed concern regarding the differences between DOE Order 435.1 regulations and Nuclear Regulatory Commission regulations for Greater Than Class C and Greater Than Class C-Like waste.

## **Work Plan Item #3 – U-233 Disposition Recommendation Development**

The following list was developed by the NSSAB as potential items to include in a recommendation to DOE:

- If DOE performs all required analysis as presented to the Board, including but not limited to:
  - Nevada National Security Site Waste Acceptance Criteria
  - Performance Assessment
  - Transportation Plan
  - Documented Safety Analysis
  - Vulnerability Assessment
  - Shipper's Emergency Response Plan

and determines that the proposed actions are acceptable, then the proposed disposal stream should be accepted; NSSAB would like to review all publicly releasable documentation

- To respond to local government concerns regarding this waste stream, including emergency responders training and other needs.
- We recommend that DOE explore all transportation routes
- NSSAB recommend that Oak Ridge National Laboratory and Nevada National Security Site review Dr. Weiner's transportation study
- NSSAB requests status updates from DOE

The motion was seconded and passed unanimously. Denise Rupp will provide the NSSAB with a draft recommendation via email. Members are requested to review the draft and provide comments and/or changes for incorporation. Discussion and a vote on the resulting draft will take place at the March 21, 2012 Full Board meeting.

## **Other NSSAB Business**

- Scott Wade reported on the Nevada Environmental Management Fiscal Year (FY) 2013 Budget Rollout

FY 2011 Operating Plan	\$62,510 K
FY 2012 Current Enacted	\$65,545 K
FY 2013 Congressional Request	\$64,641 K

- Kelly Snyder provided a copy of the DOE January 20, 2012 Response to NSSAB's Liaison Position Recommendation – Part 2

**Next Meeting**

- The next Full Board meeting is scheduled for 5:00 p.m., Wednesday, March 21, 2012, at the West Career and Technical Academy, 11945 West Charleston Blvd., Las Vegas, Nevada

Member John McGrail moved the meeting be adjourned. The motion was seconded and passed unanimously.

Meeting adjourned at 8:33 p.m.