



Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting

**Beatty Community Center
100 A Avenue South, Beatty, NV
4:00 p.m. – January 17, 2018**

Members Present: Amina Anderson, Frank Bonesteel (Vice-Chair), Karen Eastman, Pennie Edmond, Raymond Elgin, Charles Fullen, Dick Gardner, Donald Neill, Edward Rosemark, Steve Rosenbaum (Chair), Richard Stephans (by phone), Jack Sypolt, Richard Twiddy, Dina Williamson-Erdag

Members Absent: Arcadio Bolanos, Michael D'Alessio, Autumn Pietras, William Sears, Cecilia Flores Snyder

Liaisons Present: Chris Andres (State of Nevada Division of Environmental Protection [NDEP]), Richard Arnold (Consolidated Group of Tribes and Organizations [CGTO]), John Klenke (Nye County Nuclear Waste Repository Project Office [NWRPO]), Vance Payne (Nye County Emergency Management [NCEM]), Jonathan Penman-Brotzman (U.S. National Park Service [NPS]), Dan Schinhofen (Nye County Commission)

Liaisons Absent: Richard Howe (White Pine County Commission), Phil Klevorick (Clark County), Connie Simkins (Lincoln County Commission), Delon Winsor (Esmeralda County Commission)

Student Intern: Anthony Graham (University of Nevada, Las Vegas [UNLV])

Department of Energy (DOE): Robert Boehlecke (Deputy Designated Federal Officer [DDFO]), Mark Kautsky (Office of Legacy Management), Tiffany Lantow

Facilitator: Barb Ulmer (Navarro)

Contractors: Mark Krauss (Mission Support and Test Services, LLC); Marc Klein (Navarro); Chuck Russell (Desert Research Institute)

Public Signed In: Eileen Christensen (Las Vegas, NV); Chip Gribble (Richmond, CA), John Kivett (Las Vegas, NV); Richard Stephans (Pahrump Valley Times), Paul Gubanc (Oak Ridge, TN); Kelly Houston (San Rafael, CA); Kirk Stowers (Henderson, NV)

Open Meeting/Chair's Opening Remarks

Chair Steve Rosenbaum welcomed everyone to the meeting and informed the Board that Michael Anderson from Goldfield, NV resigned from the NSSAB due to increasing work commitments. During introductions, Dick Gardner, NSSAB member and Beatty Town Advisory Board chair, also welcomed the Board to Beatty, NV. Following the Chair's opening remarks, Member Richard Twiddy moved to approve the agenda as presented. The motion was seconded and passed unanimously.

Public Comment

There was no public comment.

U.S. DOE Update (*Robert Boehlecke, DOE*)

Mr. Robert Boehlecke opened that the budget for the Environmental Management (EM) Nevada Program for fiscal year (FY) 2018 is around \$60 million. This level of funding will allow the EM Nevada Program to complete all planned work for FY 2018. A continuing resolution is in place through January 19, 2018.

Mr. Boehlecke reminded the Board that the EM Nevada Program conducted a pilot informal outreach event in December 2017 in Tonopah, NV. The topic for this Community Conversation event focused on Clean Slate II remediation activities. The response received by participants in attendance was positive. A similar outreach event is being planned with the topic and community location to be determined.

Mr. Boehlecke provided an update that field work is progressing at Clean Slate II on the Tonopah Test Range and that 113 waste bags of contaminated soil have been filled. In December 2017, six shipments were transported to the Area 5 Radioactive Waste Management Complex (RWMC) at the Nevada National Security Site (NNSS) for disposal. Upon receipt, workers discovered a split seam on the outer layer of one of the three-ply waste bags, although the bag did not completely breach. The EM Nevada Program has had extensive discussions with the manufacturer and has continued confidence in the waste bags, which historically have a very low failure rate. Additional inspections have been initiated, and waste shipments are expected to resume next week.

Mr. Boehlecke continued that the rough excavation of the new mixed low-level waste (MLLW) cell at the Area 5 RWMC was completed in mid-October 2017. Remaining work to be completed includes liner installation, leachate tank and piping, systems installation, and electrical hookups. The soil work is 90 percent complete, and the installation of the piping and security fence is 75 percent complete. Construction is expected to be finished in the February 2018 timeframe. Documents will then be submitted to NDEP for approval. The new cell is on schedule to be operational in the May 2018 timeframe.

Mr. Boehlecke noted that LLW shipments from West Valley to the NNSS by rail to a transfer location in Kingman, AZ, started in November 2017. In January 2018, two containers were identified with breaches when the intermodals were moved from the rail car to the flatbed trailer. These containers were under West Valley control and will be repaired in Kingman, AZ, before being transported to the NNSS. West Valley has stopped further shipments and has initiated additional controls in terms of how the waste is placed into the intermodals and how the

intermodals are lined with wood to prevent any reoccurrence. The remaining intermodals that remain in Kingman, AZ, will be inspected by West Valley. The shipments are low-level waste (LLW) and are not required to be identified as Class 7 radioactive materials under U.S. Department of Transportation regulations.

Mr. Boehlecke reminded the Board that the next meeting of the LLW Stakeholders Forum is scheduled for January 31, 2018, from 1-3 p.m. in Pahrump, NV.

Mr. Boehlecke provided an update on the generator that shipped waste containers to the NNSS containing chromium, a hazardous component under the Resource Conservation and Recovery Act (RCRA). After the waste was disposed as LLW, the generator self-identified to the NNSS and its state regulators that the waste contained chromium. In October 2017, NDEP issued a Notice of Alleged Violation to the NNSS as a result. Due to NDEP in March 2018, the EM Nevada Program is developing a corrective action plan to propose a strategy to prevent reoccurrence and a path forward for the waste. It has since been determined that the chromium is not hexavalent, but trivalent chromium that is not toxic to humans and the environment. The EM Nevada Program's position is to keep the waste in place, although discussions continue with NDEP.

Mr. Boehlecke reported that a new EM-1 nomination for Ann White was announced recently, and she is awaiting U.S. Senate confirmation. In the past, she did support soils activities at the NNSS; so she has familiarity with EM activities in Nevada.

Lastly, Mr. Boehlecke noted that there are two spots available for NSSAB members to observe the Rainier Mesa External Peer Review on January 30-31, 2018. He asked that members make their interest known tonight.

Liaison Updates

CGTO (*Richard Arnold*)

Liaison Richard Arnold reported that the CGTO Tribal Planning Committee is in the process of planning future progressive activities that will enhance past interactions between the tribes and DOE. Liaison Arnold updated the Board on the tribal revegetation project at the Area 5 RWMC. In December 2017, the Tribal Revegetation Committee conducted a fall planting consisting of both seeds and seedlings. A contractor with experience in revegetation and restoration was procured by the EM Nevada Program to provide support to the Tribal Revegetation Committee. The committee provided an orientation for the contractor on tribal perspectives and nuances for conducting traditional revegetation. Liaison Arnold and a DRI ecology professor will be conducting onsite monitoring visits to keep the Tribal Revegetation Committee apprised of revegetation progress. A tribal monitoring training will be conducted in February 2018 to bring committee members together to discuss the value of the monitoring forms to the project. A second planting will be performed in April 2018. The CGTO will be updating DOE at its annual Tribal Meeting in April 2018.

Nye County Commission (*Dan Schinhofen*)

Liaison Dan Schinhofen thanked the NSSAB for volunteering on the Board and hosting the meeting in Beatty, NV.

NCEM (*Vance Payne*)

Liaison Vance Payne commented that the tabletop exercise conducted in Nye County this morning focused on communications between the various local emergency management organizations. Liaison Payne noted it was one of the best drills that he has participated due to the building of relationships that occurred during the exercise. It gave participants the opportunity as an emergency management community to explore areas and have discussions regarding items that had never been considered.

NWRPO (*John Klenke*)

Liaison John Klenke reported that the NWRPO samples wells and springs in the Beatty, Amargosa Valley, and Lathrop Wells area in southern Nevada under the Nye County Tritium Sampling and Monitoring Program (TSMP). In September 2017, the NWRPO attended the Beatty and Amargosa Valley Town Board meetings to get recommendations for locations for groundwater sampling from the public. Several new potential sampling locations, mainly wells, were received and considered for future sampling under the TSMP.

NDEP (*Chris Andres*)

Liaison Chris Andres noted that NDEP continues to perform field visits to both Clean Slate II and the new MLLW cell. NDEP will actively participate in the upcoming Rainier Mesa External Peer Review. Liaison Andres added that NDEP has been briefed on the status and has provided input to the EM Nevada Program on the West Valley shipments. NDEP is currently reviewing a submission from the generator that shipped hazardous materials containing chromium to the NNSS that Mr. Boehlecke reported on during his DOE update. Liaison Andres commented that the Intergovernmental Meeting in San Antonio, TX held in November 2017 provided valuable dialogues between DOE and organizations impacted by DOE activities.

NPS (*Jonathan Penman-Brotzman*)

Liaison Jonathan Penman-Brotzman concurred with Liaison Payne that the tabletop exercise was valuable in improving communications. The NPS considers Beatty, NV as a gateway community to Death Valley National Park (DVNP) and appreciates its community partnerships to protect one of the best places in America. Liaison Penman-Brotzman explained that the NPS has an interest in groundwater flow off the NNSS as it eventually terminates in Badwater Basin in DVNP. He also noted that the NPS has interest in the transportation of radioactive waste on Highway 127 that borders DVNP. Liaison Penman-Brotzman updated that the Environmental Assessments (EA) for the Bonnie Claire road construction and the Scotty's Castle historical district rebuild resulting from the 2015 food disaster was an opportunity to develop a holistic comprehensive plan to address fire suppression, handicap accessibility, etc. The EA regarding a joint U.S. Department of Defense (DoD) Navy site in the Panamint Range will improve DoD communications and also telecommunications within the area. The Saline Valley Environmental Impact Statement has been in progress for a couple years, and a Notice of Availability for public comments will soon be published in the Federal Register with public meetings to follow in neighboring communities.

UNLV Student Intern (*Anthony Graham*)

UNLV Student Intern Anthony Graham reported that his main goal is to serve as an outreach contact between the UNLV student body and the NNSS and its activities. He participated on the Community Analysis Committee to develop a survey/questionnaire for the NSSAB's work plan item #7. As part of this effort, he is researching the logistics of emailing this survey/questionnaire to the UNLV student body. Student Intern Graham stated that he continues to be part of the planning for the annual National Council of Public History conference to be held in Las Vegas, NV

in April 2018. As part of the conference, he is working on a tour of the NNSS that focuses on historical preservation and EM activities.

Overview of U.S. DOE Office of Legacy Management [LM] (Mark Kautsky, DOE/LM)

- **LM Program Goals**
 - Goal 1 – Protect human health and the environment
 - Goal 2 – Preserve, protect, and share records and information
 - Goal 3 – Safeguard former contractor workers' retirement benefits
 - Goal 4 – Sustainably manage and optimize the use of land and assets
 - Goal 5 – Sustain management excellence
 - Goal 6 – Engage the public, governments, and interested parties
- **LM Origins**
 - DOE established LM in 2003 to manage legacy sites after completion of remediation
 - Sites range in size and complexity from small sites with only records-management responsibilities to sites covering several thousand acres with disposal cells and active groundwater treatment
 - LM currently performs inspections, environmental monitoring, and maintenance at legacy sites
- **LM Sites**
 - LM has responsibility for 92 sites in 28 states (including 12 sites on or adjacent to Native American tribal nation land) plus Puerto Rico
 - By 2021, LM expects to have 107 sites
 - Sites are regulated by numerous federal cleanup regulations, including:
 - 1976 RCRA
 - 1978 Uranium Mill Tailings Radiation Control Act (UMTRCA)
 - 1980 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
 - 1982 Nuclear Waste Policy Act, and other laws, such as state voluntary cleanup standards and DOE Orders
 - 1996 Federal Facility Agreement and Consent Order and subsequent revisions
- **LM Program Responsibilities**
 - UMTRCA Title I – Inactive uranium-ore processing sites in 1978
 - UMTRCA Title II – Active uranium-ore processing site in 1978
 - CERCLA/RCRA
 - FUSRAP – Formerly Utilized Sites Remedial Action Program
 - D&D – DOE Defense Decontamination and Decommissioning (D&D) Program sites
 - Other – Nevada Offsites (NVOs) or records-only sites
- **The LM Mission**
 - Fulfill DOE post-closure responsibilities and ensure the future protection of human health and the environment at sites contaminated by World War II and Cold War defense-related activities
 - Perform inspections
 - Monitor site conditions
 - Implement and maintain institutional controls (ICs)
 - Conduct operation and maintenance activities
 - Work with stakeholders
 - Maintain legacy records

- **LM Record Responsibilities**
 - National Archives and Records Administration-certified records storage system
 - State-of-the-art facility in Morgantown, West Virginia
 - Provide support for compensation requests
 - Energy Employees Occupational Injury Compensation Program
 - Radiation Exposure Compensation Program
 - LM maintains 70 years of records
 - LM preserved Yucca Mountain Program records
 - Records Information System
 - Licensing Support Network
- **Long-Term Surveillance and Maintenance Monitoring**
 - Collecting and analyzing samples of groundwater and surface water is the most common type of monitoring at LM sites:
 - Wells plus surface water monitoring locations at all sites: >2,000
 - Approximately 8,000 samples per year
 - Approximately 19,000 analyses per year
 - Other types of monitoring:
 - Plants to measure vegetation density
 - Erosion effects
 - Cell rock size
 - Subsidence
- **Institutional Controls**
 - ICs usually required as part of the remedy to impose restrictions on use or access to land or groundwater to prevent exposure to people or the environment
 - DOE Policy 454.1, *Use of Institutional Controls*
 - “DOE policy is to use institutional controls as essential components of defense-in-depth strategy that uses multiple independent layers of safety to protect human health and the environment...”
 - Administrative controls
 - Notices
 - Engineered components and structures
- **Central Nevada Test Area (CNTA) and Shoal, Nevada, Sites Overview**
 - EM completed surface closures at CNTA and the Shoal Sites prior to 2006
 - LM evaluates and implements subsurface closure strategy
 - Revised the corrective action strategy (enhanced monitoring network and validation of compliance boundary – monitoring and ICs)
 - CNTA – Subsurface closure in 2016
 - Shoal – still working toward subsurface closure
- **Typical Maintenance Activities**
 - Erosion repair
 - Weed and vegetation control
 - Sign replacement
 - Groundwater treatment system repair
 - Pump replacement
 - Fence and gate repairs
 - Drill site reclamation
- **Working with Stakeholders and Other State and Federal Agencies**
 - LM achieves its mission with input from state and local governments, affected tribes, and stakeholders

- In Nevada:
 - LM is part to the Federal Facility Agreement and Consent Order
 - LM works with NDEP to implement closure and post-closure activities at the CNTA and Shoal Sites
 - Technical support from Desert Research Institute (DRI)

In response to a Board questions, the following clarifications were provided:

- The website for the DOE's Office of LM is <https://energy.gov/lm/office-legacy-management>
- Under UMTRCA, the uranium produced was utilized for both the commercial electric power industry as well as for military defense purposes.

Path Forward for Closed Environmental Restoration Sites on the Tonopah Test Range (Work Plan Item #1) (*Tiffany Lantow, DOE*)

- **NSSAB Work Plan Item #1**
 - From a community perspective, the NSSAB will provide a recommendation on its preferred path forward for the Environmental Restoration sites at the Tonopah Test Range (TTR)
- **Background**
 - Federal Facility Agreement and Consent Order (FFACO) sites that have been closed in place or clean closed and revegetated have requirements for annual inspections and/or maintenance
 - Requirements vary by site
 - How best to manage EM Nevada TTR sites when all are closed (expected by FY 2021)?
 - Explore transfer of long-term management of sites to United States Air Force (USAF) or National Nuclear Security Administration (NNSA)
 - Transfer sites to DOE's Office of Legacy Management (OLM)
 - EN Nevada continues to manage sites until FY 2030 (end of EM Nevada baseline) and postpone long-term management decision until a later date
- **List of Closed TTR Corrective Action Sites (CASs) with Monitoring Requirements**
 - CAS TA-19-001-05PT: Ordnance Disposal Pit
 - CAS TA-23-001-TARC: Roller Coaster RadSafe Area
 - CAS 03-08-001-A301: Landfill Cell A3-1
 - CAS 03-08-002-A302: Landfill Cell A3-2
 - CAS 03-08-002-A303: Landfill Cell A3-3
 - CAS 03-08-002-A304: Landfill Cell A3-4
 - CAS 03-08-002-A305: Landfill Cell A3-5
 - CAS 03-08-002-A306: Landfill Cell A3-6
 - CAS 03-08-002-A308: Landfill Cell A3-8
 - CAS 09-55-001-0952: TTR Area 9 Landfill
 - CAS RG-26-001-RGRV: Thunderwell Site
- **Closed TTR CASs with Monitoring Requirements**
 - TTR is a secure government facility designated for military activities
 - Not publicly accessible
- **Ordnance Disposal Pit (CAS TA-19-001-05PT)**
 - Typically referred to as Five Points Landfill
 - Historically used for weapons testing debris
 - Completed activities: all debris was removed and disposed properly

- Monitoring requirements: annual inspection
- Site condition: fenced to protect vegetation, not posted
- **Roller Coaster RadSafe Area (CAS TA-23-001-TARC)**
 - Historically used to bury contaminated concrete from nuclear testing
 - Completed activities: bulk of concrete was removed and disposed properly, but some plutonium-contaminated concrete pieces remain closed in place, buried under an engineered cap
 - Monitoring requirements: annual inspections, vegetation monitoring as needed
 - Site condition: use-restricted, fenced, and posted
- **TTR Area 3 Landfill Complexes (CAS 03-08-001-A301, -A302, -A303, -A304, -A305, -A306, and -A308)**
 - Consists of seven construction landfills
 - Completed activities: partial excavation performed, but total petroleum hydrocarbons (TPH) contamination remains at depth and closed in place in the landfills
 - Monitoring requirements: annual inspections
 - Site condition: use-restricted, posted monuments
- **TTR Area 9 Landfill (CAS 09-55-001-0952)**
 - Waste trenches used for solid waste and ordnance disposal
 - Completed activities: soil cover repaired; fencing, monuments, and signs installed
 - Monitoring requirements: annual inspections
 - Site condition: use-restricted, fenced with a locked gate, and posted
- **Thunderwell Site (CAS RG-26-001-RGRV)**
 - Historic location for buried construction debris associated with the Thunderwell tests
 - Completed activities: characterized site, no contaminants found, subsurface debris left in place, monuments installed
 - Monitoring requirements: annual inspection of postings
 - Site condition: use-restricted and posted monuments
- **Long-term Stewardship**
 - Sites are expected to need long-term stewardship (monitoring and maintenance) for the foreseeable future as there is no current end date for termination of inspection requirements for FFACO use-restricted sites
 - NNSA is the current landlord of the NNSS, and closed sites on the NNSS may potentially remain under its purview and sites on the TTR could be included
 - USAF is the current landlord of the Nevada Test and Training range that surrounds the TTR
 - Previous FFACO-closed sites not located on the NNSS have been transferred to the DOE's OLM as the long-term stewardship
 - EM Nevada will continue to manage closed sites on the NNSS until approximately FY 2030
 - Should the TTR sites requiring long-term monitoring and maintenance:
 - Transfer to NNSA or USAF?
 - Transfer to OLM?
 - Remain under EM Nevada purview for now?

- Evaluation of Options**

Option	Pros	Cons
Explore transfer of TTR sites to USAF or NNSA	EM Nevada Program will continue to monitor sites on NNSS until all sites are closed in FY 2030; fairly easy to continue to monitor the TTR sites in conjunction with NNSS sites until then	EM and NNSA do not control the TTR; the USAF does EM will continue to bear liability and costs for sites on the TTR until eventual transfer to NNSA or USAF Both entities have indicated they do not want long-term responsibility for the sites State of Nevada Division of Environmental Protection's (NDEP's) agreement would be required to make a change to management of FFACO-closed sites Will require agreement between NNSA, USAF, and EM Nevada Program
Explore transfer of TTR sites to OLM	OLM's mission focus is long-term surveillance and maintenance OLM has experience managing FFACO-closed sites Consistent with the Nevada Offsites already managed by OLM Reduce EM liability and costs	NDEP's agreement would be required to make a change to management of FFACO-closed sites Will require agreement between USAF, OLM, and EM Nevada Program
TTR sites remain under EM Nevada until 2030	EM Nevada Program will continue to monitor sites on NNSS until all sites are closed in FY 2030; fairly easy to continue to monitor the TTR sites in conjunction with NNSS sites until then	EM will continue to bear liability and costs for sites on the TTR until eventual transfer to NNSA or USAF EM Nevada Program may not have the same relationships with other agencies that promote such an agreement at a later date

- NSSAB Recommendation**

Work Plan Item	Options	NSSAB Recommendation
From a community perspective, the NSSAB will provide a recommendation on its preferred path forward for the Environmental Restoration sites at the TTR	1. Explore transfer of TTR sites to USAF or NNSA	
	2. Explore transfer of TTR sites to OLM	
	3. TTR sites remain under EM Nevada Program management until FY 2030	

In response to Board questions, the following clarifications were provided:

- The EM Nevada TTR sites are small areas of land on the greater Nevada Test and Training Range and TTR, both controlled by the USAF. As it is DOE's responsibility, the USAF would prefer not to conduct the long-term maintenance and monitoring of these sites that have radioactive contamination closed in place. DOE will always retain the responsibility for any contamination found in the future as a result of legacy testing.
- The EM Nevada Program currently conducts the long-term monitoring and maintenance of these sites at a cost of about \$1,500 per site annually. The EM Nevada Program coordinates with the USAF for the timing of the inspections and has not encountered issues with receiving permissions.
- As all the EM Nevada TTR sites are planned to be closed by FY 2021 and the EM Nevada Program baseline extends to FY 2030 (only 12 years), the EM Nevada Program felt it prudent to begin discussions now for exploring the options for transferring these sites. As the planning process for any final decision will likely take several years, the EM Nevada Program has initiated discussions with OLM on the feasibility for transferring the EM

Nevada TTR sites to OLM. Utilizing stakeholders' input including NDEP, OLM, and NSSAB, DOE will make the final decision for the path forward of the EM Nevada TTR sites.

- For the foreseeable future, the Nevada Test and Training Range and TTR will remain under USAF control and the NNSS will remain under NNSA control, and therefore will not be removed from the federal inventory.
- OLM has experience working with federal agencies, for example; OLM interfaces with the Fallon Naval Air Station at Project Shoal to conduct long-term monitoring.
- All use restrictions are legally-binding under the FFACO and would remain in effect for any sites transferred to another federal entity, i.e. USAF or OLM. If a future use is determined for land that has been closed with use restrictions under the FFACO, there is an option to provide justification and DOE, NDEP, and DoD would be required to undergo the FFACO process to examine the feasibility of changing the land use.
- The OLM submits a request to Congress for a level of funding to execute its missions two years in advance. OLM's scope of work has been increasing at a rate of approximately five percent per year. As its mission grows, OLM explores options to perform the work as efficiently as possible in order to control costs. For example, OLM staff will schedule inspections together for sites that are in close proximity.
- Fencing at Five Points Landfill was put in place to promote the establishment of new vegetation. Any decision to remove this fencing will be made after the completion of an EM Nevada Program consolidation plan.

Vice-Chair Frank Bonesteel made a motion that DOE explore transfer of EM Nevada TTR sites to OLM. The motion was seconded and passed unanimously.

Upcoming Procurement Activity:

DOE EM Nevada Program Overview *(Robert Boehlecke, DOE)*

- **New EM Nevada EPS Contract**
 - Current EM Nevada Environmental Program Services (EPS) contract expires on 1/31/2020.
 - EM Nevada and the EMCBC are currently in the acquisition planning phase for a new follow-on contract.
 - A Request For Information (RFI) was released on 1/9/2018.
 - A procurement website has been created to post all acquisition related information and documents. The website can be viewed here:
<https://www.emcbc.doe.gov/SEB/emnevadaeps/>
 - DOE encourages stakeholder feedback and engagement on the acquisition process.
 - Questions regarding the new acquisition can be submitted here:
EMNevadaEPS@emcbc.doe.gov
- **NNSS and Nevada Test and Training Range Overview**
 - NNSS is approximately 1,360 square miles of federally owned and controlled land located 65 miles northwest of Las Vegas
 - Historic mission of the NNSS was nuclear and conventional explosives testing
 - Historic field testing was conducted on the NTTR and TTR
- **Mission Overview**
 - Two federal entities responsible for current activities
 - NNSA oversees the national security mission and overarching management of the NNSS

- The DOE EM NV Program is responsible for remediating sites on the NNSS and portions of the NTTR that were contaminated during nuclear testing operations and for operating the Area 3/Area 5 radioactive waste management facilities
- **EM Nevada Program Activities**
 - Underground Test Area
 - Decontamination and demolition
 - Soils
 - Post-closure surveillance and maintenance
 - Integration support
 - Classified Components, Low-Level and Mixed Low-Level Waste Disposal*
 - Radioactive Waste Acceptance Program

*Waste disposal activities are performed by the NNSS M&O and are outside the scope of this RFI
- **Regulatory Framework**
 - EM NV Program work is performed in accordance with applicable federal regulations and agreements including:
 - RCRA
 - Clean Air Act, Clean Water Act, and Atomic Energy Act
 - DOE Orders, and applicable Nevada specific laws, codes and acts
 - Agreements in Principle
 - FFACO (1996, as amended)
- **FFACO**
 - Agreed to by the State of Nevada, DOE EM, the U.S. Department of Defense (Defense Threat Reduction Agency [DTRA]), and DOE OLM
 - Governs the process for identifying, characterizing, and providing corrective actions for historical sites within the state of Nevada related to the development, testing, and production of nuclear weapons
 - Encompasses enforceable agreement milestones which, if missed, can result in fines
 - NDEP approves FFACO documents as the regulator
- **How the FFACO Regulates the Work We Do Today**
 - All sites identified in initial inventory were incorporated into the FFACO in 1996 and overlooked sites can be added
 - Number of original sites ~2,577 (1,945 EM)
 - Number of current sites 2,997 (2,153 EM)
 - NDEP participates throughout the investigation/closure process for all sites and oversees ongoing long-term monitoring activities for sites where contamination was closed in place
 - All documents written for the cleanup of sites are produced using NDEP-approved FFACO outlines

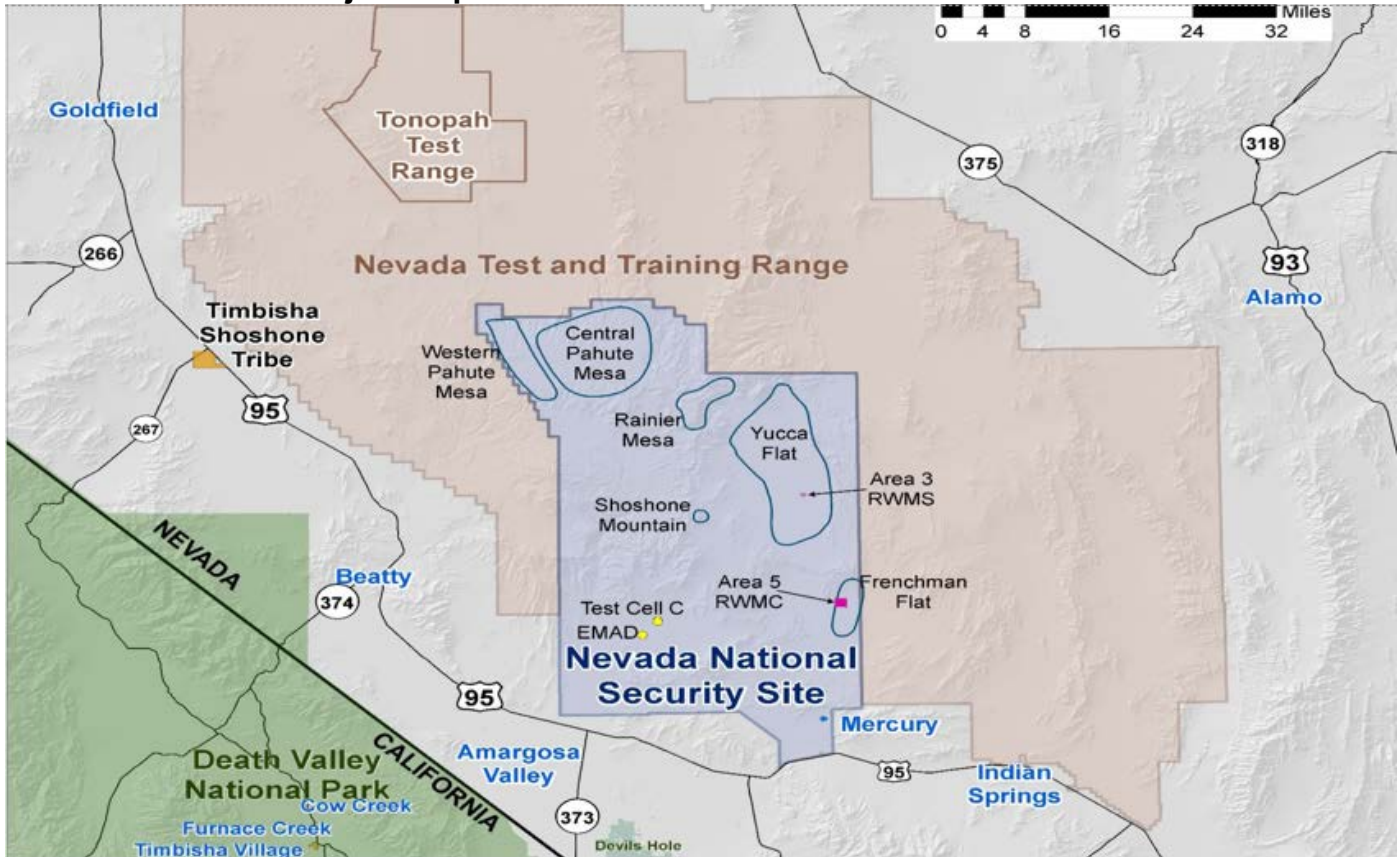
• **Proposed Funding Profile (\$M)**

	Total	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Total Proposed EPS Contract	247.5	16.3	25.8	29.2	27.6	29.6	32.9	29.6	22.2	11.7	11.4	11.2

- **Major Elements of Scope**
 - Underground Test Area

- Soils Remediation
- Soils and Industrial Type Post-Closure Surveillance and Maintenance
- Decontamination and Demolition
- Radioactive Waste Acceptance Program
- EM Integration

- **Locations of Major Scope Elements**



Underground Test Area

- **Historic Nuclear Testing Impacts on the Groundwater**
 - 828 underground nuclear tests conducted at the NNSS from 1951 to 1992
 - Underground tests conducted at depths ranging from approximately 90 to 4,800 feet below the ground surface
 - One-third of these tests occurred near, below, or in the water table
 - Some radioactive contamination detected in groundwater on the NNSS and the Nevada Test and Training Range
- **NNSS Groundwater Program Objectives**
 - Due to significant worker safety concerns and cost associated with any type of active remediation, the Department of Energy, in consultation with the NDEP, has selected monitored natural attenuation with access controls as the end state.
 - Monitoring locations will be determined through investigation and modeling of the nature and extent of contamination.
 - This decision is documented in the FFACO.
 - This strategy is supported with the activities described below:
 - Using investigative methods, such as drilling wells to study the hydrology and geology

- Sampling wells, analyzing samples, and building computer models from gathered data
- Implementing controls to prevent access to contaminated groundwater
- Ongoing monitoring of wells on and off the NNSS establishing a comprehensive long-term monitoring network to ensure public protection
- Staying up-to-date on water right applications to monitor future access or inadvertent migration of contaminated groundwater
- **Corrective Action Unit (CAU) Status**
 - Five CAUs make up the UGTA activity:
 - *Yucca Flat/Climax Mine (CAU 97)*
 - Current: CADD/CAP being finalized
 - Forecasted: Preparing Closure Report
 - Remaining scope: Complete Closure Report, perform evaluation well sampling and monitoring, installation of monitoring wells, well development and testing, and post-closure monitoring
 - *Frenchman Flat (CAU 98)*
 - Current & forecasted: In closure
 - Remaining scope: Post-closure monitoring
 - *Rainier Mesa/Shoshone Mountain (CAU 99)*
 - Current: Conducting modeling under Alternative Modeling Strategy
 - Forecasted: In closure
 - Remaining scope: Installation of monitoring wells, well development and testing, and post-closure monitoring
 - *Central Pahute Mesa (CAU 101) and Western Pahute Mesa* (CAU 102)*
 - Current & forecasted: Conducting Phase II Corrective Action Investigation
 - Remaining scope: Installation of evaluation wells, well development and testing of evaluation wells, characterization/evaluation sampling and monitoring, characterization data analysis, flow and transport model development, completion of the CADD/CAP document, model evaluation, and completion of the Closure Report

Soils Remediation

• Soils Sites

- Atmospheric nuclear weapons tests, nuclear safety experiments, and evaluation tests for peaceful uses of nuclear explosives conducted at the NNSS and NTTR (operated by the U.S. Air Force) resulted in radioactive contamination of surface and near surface soils.
- The Soils activity includes the characterization and remediation of surface and near surface soil contamination resulting from atmospheric nuclear testing.
- All 148 Soils sites are projected to be in closure by the end of 2019.
- The anticipated remaining scope consists of soils studies to enhance knowledge of fate and transport of contaminants during post closure monitoring.

Soils and Industrial Type Post-Closure Surveillance & Maintenance

• Post-Closure Surveillance & Maintenance

- Approximately 150 closed sites on the NNSS and NTTR require post-closure surveillance and maintenance.
- Monitoring reports documenting post-closure inspections are submitted to NDEP.

Decontamination and Demolition (D&D)

• D&D Overview

- The remaining D&D sites are grouped into two CAUs:

- Engine Maintenance Assembly and Disassembly (EMAD) Facility
 - Test Cell C Ancillary Structures and Buildings
- Facilities originally supported Nuclear Rocket Development Station activities on the NNSS.
- End state is anticipated to be demolition to slab and disposal of all wastes.
- **EMAD Facility**
 - An approximately 165,000-square-foot, four-story building that is 80 feet high with walls constructed of either concrete, asbestos-coated corrugated steel, or concrete block.
 - Building interior is divided among the following functional areas: (1) Hot Bay Complex, (2) Operating Galleries and Master Control Room, (3) Cold Bay Complex, (4) Machine and Repair Shops, and (5) Facility Support areas.
 - Includes two train cars.
- **Test Cell C**
 - Includes support buildings such as an Equipment Building, Motor Drive Building, Pump House, Cryogenic Evaluation Lab, and Engine Transport System Maintenance Building.
 - Includes ancillary structures such as Reactor Cooling Station, Water Tank, Tower Water Tank, Hydrogen Tanks, Water Process Tank, and Liquid Hydrogen Tanks

Radioactive Waste Acceptance Program

- **Radioactive Waste Disposal Overview**
 - The NNSS has served as a vital waste disposal resource in the nation-wide cleanup of former nuclear research and testing facilities and for ongoing missions.
 - The NNSS management and operating contractor performs low-level radioactive waste (LLW), mixed LLW, and classified waste disposal operations which are outside the scope of this Request for Information.
 - The Radioactive Waste Acceptance Program (RWAP) ensures waste disposed at the NNSS meets the requirements established in the NNSS Waste Acceptance Criteria (WAC).
 - The NNSS WAC is available at http://www.nnss.gov/docs/docs_RWM/NNSSWAC_Nov%202016.pdf
- **RWAP Elements**
 - Waste Acceptance Coordination
 - Facility Evaluations/Verifications
 - Waste Acceptance Review Panel
 - Waste Acceptance Support
- **Waste Acceptance Coordination**
 - Coordination of all RWAP activities between generators, the management and operating contractor, and federal staff
 - Maintaining interfaces with waste certification officials at generator sites
 - Sharing of information and lessons learned amongst the waste generator community
 - Coordinating an annual waste generator workshop
- **Facility Evaluations/Verifications**
 - Approved generators undergo an initial audit to ensure their waste program conforms to NNSS requirements
 - After a waste generator obtains approval, periodic assessments and facility evaluations of the generator's waste program are conducted to verify continued compliance with the NNSS WAC

- **Waste Verification**
 - Verification Types
 - Physical
 - Visual inspection
 - Real-time-radiography
 - Chemical
 - Field chemical screen
 - Split sample
- **Waste Acceptance Review Panel**
 - Review waste streams for compliance with NNSS WAC
 - Waste Acceptance Review Panel consists of the following:
 - Radioactive Waste Acceptance Program staff
 - NDEP (RCRA and Joint Oversight)
 - Operations
 - Performance Assessment
 - Safety Basis Team
 - Nuclear Criticality Team
- **Waste Assistance and Technical Support**
 - Performs site visits to generators
 - Assists generators to be compliant with NNSS WAC

EM Integration

- **EM Integration**
 - Environmental Management Information System and FFAO support
 - Public Involvement and Strategic Communication support
 - Classification support
 - Closeout and transfer to LM or NNSA
 - Other services such as property management, records management, safety and health, quality assurance, information technology etc.

In response to Board questions, the following clarifications were provided:

- There have been a number of organizations interested in a reuse mission for the EMAD facility; however the building upgrades/modifications have been cost-prohibitive.
- Recent groundwater sampling results for a well off the NNSS border indicated results for tritium under the Safe Drinking Water Act. This well is located on federally-owned land, and there is no pathway for exposure to the public.
- DOE works with the Nevada State Historic Preservation Office to evaluate the historical significance of cultural resources on the NNSS.

Community Analysis Committee – Work Plan #7 *(Richard Stephans, Committee Chair)*

The Community Analysis Committee within the NSSAB was formed during the November 8, 2017 Full Board meeting to address work plan #7. The committee met in November 2017 and January 2018 to develop a plan for gathering information from fellow community members regarding their EM interest and to gauge their level of concern regarding these activities. The NSSAB will then provide a recommendation for how the EM Nevada Program could shape its outreach based on the results of the community feedback.

Committee Chair, Richard Stephans, briefed the Board on the following main points:

- The Community Analysis Committee requires Full Board approval of the committee plan before it can be submitted to the EM Nevada Program for its approval prior to implementation.
- The committee work plan requirement is to pulse each of a dozen or more communities to determine the level of interest and concern of EM activities, as well as getting any new ideas of how the EM Nevada Program could shape its outreach effort.
- The introductory section of the plan gives information about the Community Analysis Committee for Work Plan #7, and then provides the plan and a schedule based on a mid-February 2018 EM Nevada Program approval that would incorporate any further updates.
- The plan in each community is first to announce the analysis effort, then to meet with individual respondents, discuss their questions, provide the survey, and compile results. Most important is the survey.
- The survey has been updated several times to incorporate suggested improved additions or resolve committee comments.
- There is no implementation of this plan until the Board and the EM Nevada Program both approve the Community Analysis Committee's work plan #7 plan.
- Survey content has been approved by the Community Analysis Committee, and the results form the basis for the committee recommendations.
- A commercial survey software is planned to additionally be used for online surveys. The online link for the electronic version of the survey will not be available until the plan is approved by the EM Nevada Program.
- Plan attachments include an Outreach Letter example to announce the effort within each community, the survey, a compilation form, and a standard operating procedure for committee members to use.
- The plan includes respective community assignments of each committee member. Several committee members resigned from the Community Analysis Committee and additional support from the Board was requested. NSSAB members available to assist in the effort were asked to contact the NSSAB Office.

Chair Rosenbaum thanked Committee Chair, Richard Stephans, and the Community Analysis Committee for its work on the development of the plan. Member Twiddy made a motion to accept the plan developed by the Community Analysis Team. The motion was seconded and passed with a majority vote. The NSSAB recommendation along with the plan will be submitted to EM Nevada Program for approval before implementation.

Other NSSAB Business (*Steve Rosenbaum, Chair*)

Chair Rosenbaum reported that two NSSAB members have been invited to observe an audit in Paducah, KY in support of Radioactive Waste Acceptance Program Assessment Improvement Opportunities (Work Plan Item #6). The audit dates are April 24 – 26, 2018, with Monday and Friday as travel days. Chair Rosenbaum and Vice-Chair Bonesteel volunteered to attend with Member Twiddy as a backup.

Meeting Wrap-Up and Adjournment

Upcoming calendar of events:

- Rainer Mesa External Peer Review in Las Vegas, NV – January 30-31, 2018 with Members Edward Rosemark and Donald Neill attending
- LLW Stakeholders Forum in Pahrump, NV – January 31, 2018 with Chair Rosenbaum attending
- NSSAB Educational Session in Las Vegas, NV – March 14, 2018 starting at 3 p.m.
- NSSAB Full Board Meeting in Las Vegas, NV – March 14, 2018 starting at 4 p.m.
- Waste Management Symposia in Phoenix, AZ – March 18-22, 2018 with Member Charles Fullen attending

Any questions on the calendar of events, please contact the NSSAB Office at 702-630-0522.

Member Jack Sypolt moved that the meeting be adjourned. The motion was seconded and passed unanimously.

Meeting adjourned at 7:25 p.m.