



Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting

**Frank H. Rogers Science & Technology Building
755 East Flamingo Road, Las Vegas, NV
3:00 p.m. – April 24, 2019**

Members Present: Amina Anderson, Frank Bonesteel (Chair), William DeWitt, Karen Eastman, Pennie Edmond, Charles Fullen, Dick Gardner, Anthony Graham, Tanya Henderson, Hepburn Klemm, Donald Neill, Steve Rosenbaum (Vice-Chair), Richard Stephans, Dina Williamson-Erdag, Connie Wissmiller

Members Absent: Janice Six, Richard Twiddy

Liaisons Present: Chris Andres (State of Nevada Division of Environmental Protection [NDEP]), Leo Blundo (Nye County Commission), Jared Brackenbury (Lincoln County Commission), Rodd Fernandes (Nye County Emergency Management [NCEM]), Richard Friese (U.S. National Park Service [NPS]), John Klenke (Nye County Nuclear Waste Repository Project Office [NWRPO]), Phil Klevorick (Clark County)

Liaisons Absent: Richard Arnold (Consolidated Group of Tribes and Organizations [CGTO]), Carl Gregory (White Pine County Commission), Delon Winsor (Esmeralda County Commission)

Department of Energy (DOE): Robert Boehlecke, Tiffany Gamero, John Myers, Kelly Snyder (Deputy Designated Federal Officer [DDFO]), Andrew Weber, Bill Wilborn

Facilitator: Barbara Ulmer (Navarro)

Contractors/Government: Chuck Russell (Desert Research Institute [DRI]), Brian Haight and Marc Klein (Navarro), Randy Paylor and Jeff Sanders (U.S. Geological Survey [USGS])

Public Signed In: Seth Gainey, Paul Kerl, John Kivett, Ming Lai, Brandon Meier, Karen Pettit, Jo Wang

Open Meeting/Chair's Opening Remarks

Chair Frank Bonesteel welcomed everyone to the meeting. Mr. Boehlecke noted that the representative from the National Nuclear Security Administration/Nevada Field Office (NNSA/NFO) was not available to provide an update tonight. Vice-Chair Steve Rosenbaum made a motion to accept the agenda as amended. 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 status on the budget for the Environmental Management (EM) Nevada Program has not changed since the March 2019 NSSAB meeting. The fiscal year (FY) 2019 funding is adequate to accomplish all planned EM activities at the Nevada National Security Site (NNSS).

Mr. Boehlecke reminded the Board that the current Environmental Program Services contract with Navarro will expire in January 2020. DOE continues its preparation of the final Request for Proposal, but no date has been set for the release.

Mr. Boehlecke updated that remediation of contaminated soil and debris continued at Clean Slate III on the Tonopah Test Range. High winds have led to more delays in work activities. Last week, discovery of legacy-unexploded ordnance halted site operations. The Nellis Air Force Explosive Ordinance Disposal team took care of the item. Size reduction of large concrete and metal debris continued for packaging and disposal. The expected volume is approximately 202,500 cubic feet that will require around 450 shipments. As of April 22, 2019, there has been 230 shipments of 460 bags with the majority disposed at the Area 3 Radioactive Waste Management Site. A little more than half the work and shipments have been completed to date.

Mr. Boehlecke noted that the closure report was approved for the last soils site [corrective action unit (CAU) 576] on the NNSS. The EM Nevada Program is on target to complete all soils work, including the sites on the NNSS and Nevada Test and Training Range, six years ahead of schedule and almost \$70 million under budget due to efficiencies in the consolidation of reports and removal of less soil than expected.

Under the Underground Test Area (UGTA) Activity, Mr. Boehlecke commented on the groundwater work that UGTA is currently addressing pre-emptive review comments on the preliminary Yucca Flat model evaluation report, and the draft is anticipated to be complete in mid-May 2019. The final Rainier Mesa flow and transport model addendum was submitted to NDEP on April 16, 2019.

Mr. Boehlecke stated that work continued on the expansion of the western portion of the Area 5 Radioactive Waste Management Complex (RWMC) for future waste disposal. Berm construction continued with work performed along the entire length of the berm. The northern portion of the expansion is nearing completion, and then work will begin on the southern portion. The location and the construction of the monitoring well has been approved by NDEP. The location of the monitoring well will be south of the Area 5 RWMC. Drilling of the well is planned for this summer and completed by the end of FY 2019. The former mixed low-level waste (MLLW) Cell 18 is still

used for disposal, but will be at capacity in the next couple of months. Closure activities for Cell 18 are planned for late FY 2019. The closure design has been finalized. Procurement for the vegetation subcontractor is in process.

Mr. Boehlecke reminded the Board that he has provided updates for almost two years during NSSAB meetings regarding a Finding of Alleged Violation issued to the NNSS by NDEP due to a generator shipping waste containers containing MLLW that were mischaracterized as low-level waste (LLW). NNSA/NFO and the EM Nevada Program have worked with NDEP for a resolution and have undergone negotiations on a Supplemental Environmental Project (SEP) as opposed to paying a penalty. In addition to the approved corrective actions, there are three tasks included in the SEP as follows: enhanced visual verifications that include traveling to waste generators to observe the packaging of waste, additional real-time radiography to view contents of waste containers with powerful x-ray equipment, and in-depth reviews of the profile assessment. The Settlement Agreement, which includes the SEP, is awaiting signature by NDEP. Once signed, the corrective actions and additional tasks are required to be complete within 365 days.

Mr. Boehlecke mentioned recent events/stakeholder meetings (March 20 – present) conducted by EM Nevada Program staff:

- March 26, 2019 – Mojave High School Career Day
- March 30, 2019 – Palo Verde High School International Baccalaureate Program Environmental Festival
- April 2, 2019 – LLW Stakeholders Forum quarterly meeting
- April 10, 2019 Groundwater-focused tour of NNSS
- April 18, 2019 – NNSS tour for LLW Stakeholders Forum
- April 23-25, 2019 – Annual CGTO Meeting
- April 24, 2019 – Intergovernmental Liaison Meeting and NSSAB Full Board Meeting in Las Vegas, NV

Mr. Boehlecke concluded with upcoming presentations/meetings/conferences (April 25 – July 17) of interest to be conducted/attended by the EM Nevada Program:

- May 3, 2019 – May Science Be With You event at DRI
- May 7-9, 2019 – EM Site-Specific Advisory Board National Chairs' Meeting
- May 20-23, 2019 – Generator Workshop
- July 17, 2019 – Intergovernmental Liaison Meeting and NSSAB Full Board Meeting in Las Vegas, NV

DOE/EM Nevada Program Tribal Revegetation Project Update (*Tiffany Gamero, DOE*)

- **Tribal Revegetation Project**
 - The Tribal Revegetation Project is a collaborative project in which representatives from the CGTO offer tribal ecological knowledge to help the EM Nevada Program revegetate a closed radioactive waste landfill on the NNSS
- **92-Acre Disposal Units**
 - Began burying waste in 1961
 - Accepted waste through 2010
- **Federal Facility Agreement and Consent Order (FFACO)**
 - Agreed to in 1996 by DOE and NDEP, the FFACO identifies sites of historic contamination to be addressed by DOE

- In 2008, DOE agreed to address the 92-Acre Area under the FFAO closure strategy; in 2009 NDEP and DOE agreed on a closure path, consisting of a vegetative cover
- Closure activities were initially completed in 2012 and the 92-Acre Area was closed with post-closure monitoring and use restrictions
- **92-Acre Area Closure**
 - Closure activities conducted between January 2011 and January 2012
 - Four 9-foot-thick engineered covers installed over the boreholes, trenches, and pits in the 92-Acre Area
 - Vegetation helps prevent precipitation from percolating deep into the soil by returning moisture to the atmosphere by evapotranspiration
 - Vegetation also minimizes wind and water erosion on the covers
- **Previous Revegetation Activities**
 - October 2011; all covers
 - Broadcast seeded and irrigated
 - Plants initially sprouted, but most were dead by May 2013
 - October 2013; test plots on north-north cover
 - Broadcast seeded, hydroseeded and irrigated
 - Some plants sprouted, but a viable community was not established
 - October 2014; test plots on south-north cover
 - Seeded, mulched and irrigated
 - Some plants sprouted, but a viable community was not established
- **Tribal Revegetation Project**
 - Began at the suggestion of the CGTO Spokesperson
 - Meeting held in March 2016 to brief tribal members on the project, including the details of previous revegetation attempts
 - Task Plan Development Meeting held January 31 – February 2, 2017
 - Resulted in the Tribal Revegetation Fieldwork Plan in Fall 2017 detailing the specifics for the test plots
- **Test Plot Planting**
 - Four different revegetation treatments during two planting seasons, along with four transplant treatments during two planting seasons
 - Fall planting (December 2017)
 - Spring planting (April 2018)
- **Tribal Revegetation Project at the NNSS Video**
 - <https://www.youtube.com/watch?v=-ci65A03S58>
- **Monitoring**
 - Monitoring of test plots was conducted throughout the year
 - Monitoring conducted:
 - Count of seeded plants
 - Transplant viability
 - Soil conditions
 - Animals and insects present
 - Monitoring training was conducted February 28 – March 1, 2018
- **What's Next?**
 - Continue monitoring (FY 2019)
 - Collate, analyze, and synthesize data from field observations (September 2019)
 - Submit annual results based on fieldwork and data (September 2019)
 - NDEP revegetation date of December 31, 2019, requires success rate of one native plant alive per square meter, per test plot
- **Questions**

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

- Monitoring of the test plots is conducted monthly. With the recent precipitation, there has been noticeable new growth of native plants.
- Per the NNSS Waste Acceptance Criteria, waste may not contain liquids.
- There has been two main invasive species observed in the test plots: halogeton and Russian thistle. These invasive species are annuals and the seeded plants and transplants are perennials. It is anticipated that the perennial plants will overtake the annual invasive plants in the long run as it is not feasible to weed the entire 92-Acre Area due to its expanse.
- A well on the NNSS is being used to pump water into a holding tank for the irrigation system for the test plots. The goal is to provide enough water on the test plots through natural precipitation and irrigation that is comparable to a good growing season.
- Various mulching approaches were used instead of natural fertilizers based on traditional tribal methods.
- The soil of the 92-Acre Area has a saline content higher than desired or typical than other revegetated areas, although not so high that would prevent plants from growing. Halogeton can contribute to the salinity of the soil, which is a concern and monitored by the committee.

Liaison Updates

Clark County (*Phil Klevorick*)

Liaison Phil Klevorick reported that he would be attending the annual meeting of the National Transportation Stakeholders Forum in Washington, DC in June 2019. This conference focuses on DOE's transportation activities for radioactive waste and materials. From the March 20, 2019 NSSAB meeting, Liaison Klevorick reminded the NSSAB that approximately 760,000 metric tons of depleted uranium in 175,000 truckloads from DOE's Paducah and Portsmouth sites could be shipped and disposed at the NNSS. In 2004, the Record of Decision for the final Environmental Impact Statement (EIS) did not include a disposition pathway. At that time, the States of Nevada and Utah were not included in the EIS process. In December 2018, the public comment period opened for the draft Supplemental EIS to identify a disposal pathway and closed in March 2019.

Liaison Klevorick requested that DOE provide formal presentations to the NSSAB for actions that are outside of the local jurisdiction where there is a potential impact to the transportation routes in Nevada. The NSSAB and the public would then have an opportunity to be educated on these activities and the ability to provide timely comment(s) on actions that could have a significant impact in Nevada. DDFO Kelly Snyder suggested the NSSAB further discuss whether the NSSAB would like to receive updates on this particular topic and thereby submit a formal letter requesting the information. Chair Bonesteel determined that this item would be added to the July 17, 2019 NSSAB agenda.

Lincoln County Commission (*Jared Brackenbury*)

Liaison Jared Brackenbury had nothing new to report.

Nye County Commission (*Leo Blundo*)

Liaison Leo Blundo thanked the EM Nevada Program for hosting the tour for the LLW Stakeholders Forum as it provided a different perspective and gave attendees first-hand

knowledge of the progress of NNSS activities. Liaison Blundo added that Nye County is supportive of the EM cleanup activities occurring at both the NNSS and the Tonopah Test Range.

NCEM (*Rodd Fernandes*)

Liaison Rodd Fernandes had nothing new to report.

NWRPO (*John Klenke*)

Liaison John Klenke had nothing new to report.

NDEP (*Christine Andres*)

Liaison Christine Andres added to Mr. Boehlecke's update regarding the SEP and the Settlement Agreement that has been in progress for nearly two years. She noted that the money designated for the three mutually agreed upon tasks in the SEP will improve the waste activities at the NNSS and make the program stronger. NDEP has been involved with the implementation of the corrective actions included in the SEP. Liaison Andres will be attending a meeting next week in Washington, DC to discuss the implications of redefining high-level radioactive waste. In May 2019, she will be attending the State and Tribal Government Working Group meeting in Oak Ridge, TN and the Federal Facilities Task Force (FFTF) meeting in Augusta, GA. At the FFTF meeting, Liaison Andres explained that state representatives with DOE sites in their jurisdictions discuss new and emerging issues.

NPS (*Richard Friese*)

Liaison Richard Friese stated that the Devils Hole Workshop is scheduled for next week. This workshop has been a forum for the sciences in the greater Death Valley area, as well as policy and management discussions.

FY 2021 Baseline Prioritization ~ Work Plan Item #7

- **Tonight's Path Forward**
 - Baseline overview
 - Ranking process explanation
 - Task briefings
 - Waste disposal
 - Industrial sites
 - Post-closure monitoring
 - Groundwater characterization
 - Group discussion
 - Individual rankings
 - Prioritization tallying
 - Final voting

Baseline Overview, Andrew Weber, Lead Project Controls Specialist

- **EM Nevada Program Baseline**

Utilized by EM Nevada Program to support life-cycle planning to execute its mission

 - Three (3) major components make up the baseline
 - **Scope of Work:** Description of all work elements that need to be accomplished
 - **Budget:** Estimated cost to accomplish the scope of work
 - **Schedule:** Timeline and prioritization of the scope of work

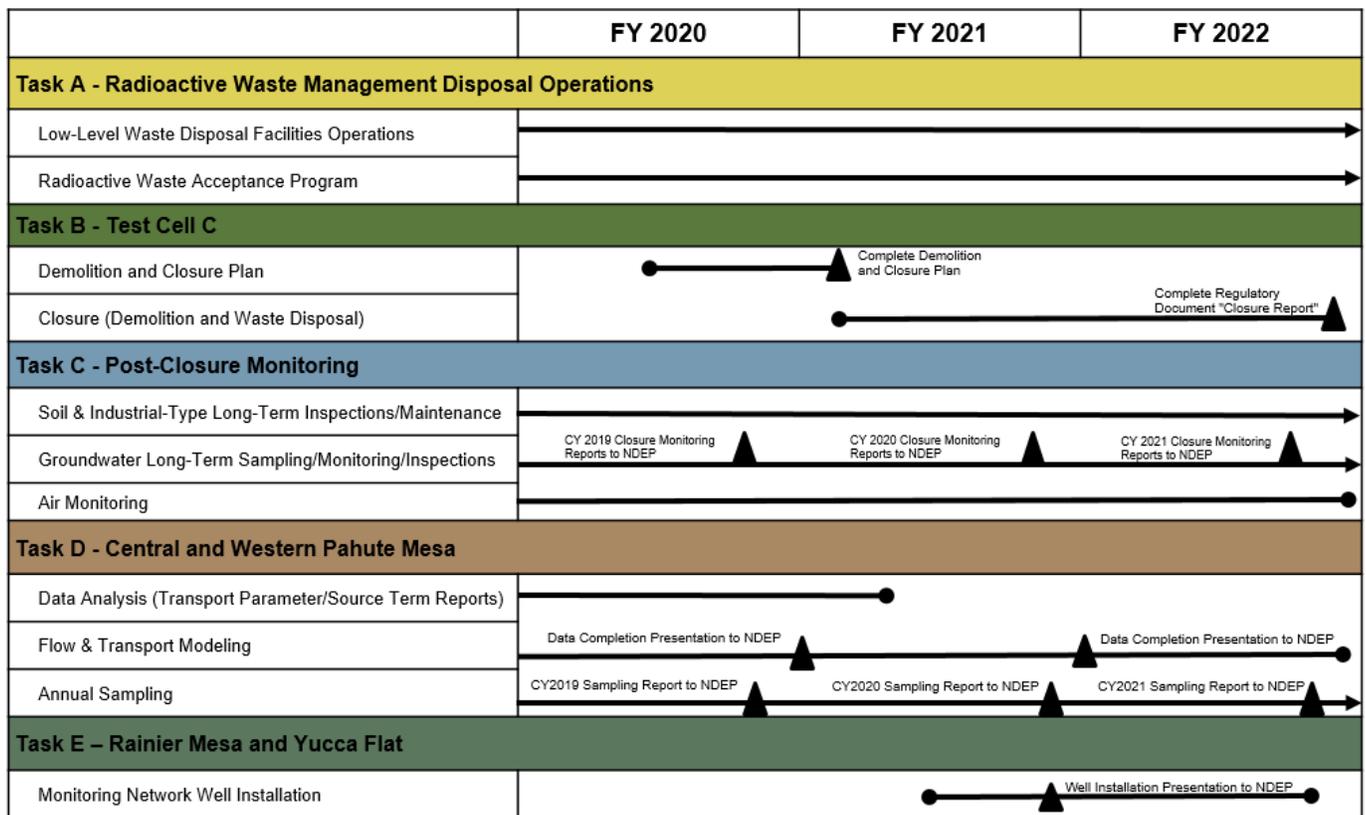
All elements identified in the EM baseline are fully integrated
- **EM Nevada Baseline Planning Considerations**

- Annual funding
 - Scope is prioritized to maximize the amount of work that can be accomplished
- Scope uncertainties
 - Risk analysis performed to account for cost and schedule impacts associated with unknowns like extreme weather, subsurface conditions, extent of contamination, etc.
- **EM Nevada Baseline Status Maintenance**
 - Performance against the baseline
 - Contractors report monthly performance status to the EM Nevada Program, where it is integrated and analyzed, then compared against the baseline plan
 - Baseline changes
 - Changes to the baseline are required periodically to account for addition or deletion of scope, scientific strategy changes, or contract modifications
- **Federal Budget Process**



Example of DOE budget planning timeline

- **EM Nevada Baseline Schedule**



Ranking Process, Kelly Snyder, DDFO

- **The Ranking Process**
 - Presentation of each of the five (5) tasks (designated by letters)
 - Each task has been assigned a letter
 - Group discussion with members and liaisons
 - Each member will rank the tasks with 1-5 points using their worksheet
 - Five (5) points being highest priority and one (1) point being lowest priority
 - NSSAB Office will tally the rankings and present the results to the Full Board tonight
 - Further discussion, if necessary
 - NSSAB will vote on final ranking recommendation

FY 2021 Waste Disposal Task, Bill Wilborn, Deputy Program Manager, Operations

- **Task A –Radioactive Waste Management Disposal Operations**
 - Maintain capability to safely receive and dispose approximately 1.2 million cubic feet of LLW, MLLW, and classified waste from on-site and off-site generators
 - Continue environmental monitoring activities
 - Maintain and comply with disposal and safety documentation
 - Continue facility evaluations and waste verifications of generators by the Radioactive Waste Acceptance Program per the NNSW Waste Acceptance Criteria
 - Risk/consequences of delay:
 - People and environment
 - NNSW-specific: Potential for inability to dispose of NNSW wastes; consequently forced to expend additional costs for off-site disposal
 - DOE complex: Potential for missed milestones; additional costs; inability to dispose some wastes
 - EM Complex: Cleanup will be shifted to later years at an escalated cost
 - Waste stored at other DOE sites may not have a disposal path forward

- Regulatory
 - DOE agreements and schedules with NDEP could be impacted
- Project
 - Inability to dispose some wastes
 - Forced to expend additional costs for disposal
 - DOE complex-wide cleanup could be shifted to later years
- Milestone
 - None

FY 2021 Industrial Sites Task, Tiffany Gamero, Long-Term Monitoring Activity Lead

- **Task B – Test Cell C**
 - Activities for Test Cell C Ancillary Building and Structures
 - Conduct characterization of Test Cell C facilities
 - Prepare demolition and closure plan
 - Start demolition and disposal of facilities
 - Risk/consequences of delay:
 - People and environment
 - Any corrective actions would be delayed
 - Project
 - None
 - Regulatory
 - NDEP agreements and schedules with NDEP could be impacted
 - Milestone
 - Regulatory milestones and deadline with NDEP to be determined

FY 2021 Post-Closure Monitoring Task, Tiffany Gamero, Long-Term Monitoring Lead

- **Task C – Post-Closure Monitoring**
 - Conduct post-closure monitoring and air monitoring on the NNSS and Nevada Test and Training Range
 - Post-closure inspections and maintenance
 - Groundwater sampling and analysis
 - Water level monitoring
 - Air monitoring
 - Groundwater monitoring network maintenance
 - Reporting
 - Risk/consequences of delay
 - People and environment
 - Potential delay in identification of changes in containment control at closed sites
 - Increased risk that contaminant movement or potential exposure pathways could go unnoticed
 - Project
 - Delayed ability to monitor radionuclides migration
 - Regulatory
 - DOE agreements and schedules with NDEP could be impacted
 - Milestone
 - Submit Annual Closure Monitoring Reports

FY 2021 Groundwater Characterization Tasks, John Myers, Underground Test Area (UGTA) Activity Lead for EM Nevada Program

- **Task D – Central and Western Pahute Mesa**

- Phase II corrective action investigation activities
 - Conduct annual groundwater sampling
 - Complete transport parameter and source term data analysis reports and review
 - Continue flow and transport model activities
- Risk/consequences of delay:
 - People and Environment
 - Increased risk that contaminant movement could go unnoticed
 - Project
 - Delayed ability to forecast radionuclide migration
 - Delayed completion of environmental restoration mission
 - Regulatory
 - DOE agreements and schedules with NDEP could be impacted
 - Milestones
 - Submit Calendar Year 2020 Underground Test Area Annual Sampling Report to NDEP
 - Present Data Completion Presentation to NDEP
- **Task E – Rainier Mesa and Yucca Flat**
 - Installation of groundwater monitoring network wells consistent with closure report requirements
 - Complete drilling of wells in Yucca Flat
 - Initiate drilling of wells in Rainier Mesa
 - Risk/consequences of delay:
 - People and environment
 - Increased risk that contaminant movement could go unnoticed
 - Project
 - Delayed ability to monitor radionuclide migration
 - Regulatory
 - DOE agreements and schedules with NDEP could be impacted
 - Milestone
 - Present Yucca Flat Monitoring Well Installation/Development Presentation to NDEP
- **Tonight's Path Forward**
 - Baseline briefing
 - The ranking process
 - Description of each task (five [5] tasks total)
 - [Group discussion](#)
 - [Individuals rank tasks](#)
 - [Tallying of prioritizations](#)
 - [Vote on final recommendation](#)

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

- Under project management principles, parametric estimating is used to estimate cost and schedule for a project using historical data from a similar project.
- The Reactor Maintenance, Assembly, and Disassembly (RMAD) building has been decontaminated and disposed at Area 5 RWMC. The Engine Maintenance, Assembly, and Disassembly (EMAD) building is a large facility that is no longer in service and is one of the last Industrial Sites scheduled in the baseline to undergo environmental restoration at the NNSS.

- The EM Nevada Program receives between \$60 and \$65 million in funding per fiscal year. There is approximately \$800 million of baseline work remaining for completion by the EM Nevada Program.
- If funding is reduced for any reason, the baseline priorities established annually by the NSSAB are used in the decision-making process for funding adjustments by the EM Nevada Program and EM Headquarters. It is a key responsibility of the Board to provide insight on the public's position on EM cleanup priorities at the NNSS.
- Test Cell C is located in Area 25 that was the site used to develop and test nuclear rocket engines on the NNSS. A portion of Test Cell C facility has been characterized and closed under the FFAO. The FY 2021 baseline task for Test Cell C addresses the remaining structures.
- Test Cell C was the facility used specifically for test firing the rocket engines. The remaining structures will be characterized for any radiological or chemical contaminants.
- There are over 200 closed sites on the NNSS. Dependent on the requirements for each site, inspections are conducted quarterly, semi-annually, annually, and for some sites every five years.
- The purpose of the long-term monitoring of groundwater and tunnel water into perpetuity is to oversee any concentration increase of tritium or any other radionuclides over time. For the past 20 years, data from wells and the tunnels has been used to build and to foster confidence in the models. Water in the tunnels is infiltration water that has been affected by historic nuclear testing conducted within the tunnels and Rainier Mesa; however, there has been no indication that there has been an infiltration of water from these tunnels into the lower carbonate aquifer. The tunnels are flooded, but the level of the water does not fluctuate greatly.
- The EM Nevada Program monitors the horizontal and vertical flows of groundwater in all directions on Rainier Mesa and Pahute Mesa. On Rainier Mesa, there is perched water that has been contaminated from infiltration, although there has been no measured transport of radionuclides off the NNSS.
- The EM Nevada Program monitors over 100 wells with monitoring wells in all five of the UGTA CAUs on the NNSS. The EM Nevada Program will make decisions whether additional monitoring wells are needed to complete the monitoring networks in Pahute Mesa, Rainier Mesa, and Yucca Flat.
- Three-dimensional models were developed to understand the subsurface geology and the hydrology to determine the flow and transport of contaminants moving in groundwater from historic nuclear testing. Any additional data obtained from sampling or historical information from nuclear tests, for example, is used to provide further confidence in these models. Internal reviews are conducted during model development and external peer reviews are conducted to review the process and the models to provide feedback from subject matter experts outside the EM Nevada Program.

Chair Bonesteel lead a group discussion to address any further thoughts, concerns, comments, suggestions, or questions related to the work plan item for FY 2021 Baseline Prioritization. Members were encouraged to include any rationale for their rankings on the individual worksheets. Liaisons were asked for any perspectives from their organizations. After announcement of the ranking results and review of the draft recommendation letter for FY 2021 Baseline Prioritization, Member Hepburn Klemm moved to approve the letter with the understanding that the list of prioritizations reflects the rankings below. The motion was seconded and passed with a majority.

Rank	Task	Title
1	D	Central and Western Pahute Mesa
2 (tie)	A	Radioactive Waste Management Disposal Operations
2 (tie)	C	Post-Closure Monitoring
3	E	Rainier Mesa and Yucca Flat
4	B	Test Cell C

Other NSSAB Business (*Frank Bonesteel, Chair*)

Chair Bonesteel reminded the NSSAB that he and Vice-Chair Rosenbaum would be attending the spring EM Site-Specific Advisory Board (SSAB) National Chairs' Meeting in Augusta, GA in early May 2019. During the meeting, there will be an opportunity for Chair Bonesteel to make a five-minute round robin presentation to the Assistant Secretary of EM's designee, highlighting the board's top interest/concern and/or the board's accomplishments. Chair Bonesteel initiated discussion on Nevada's round robin slide that was drafted from topic suggestions from the March 20, 2019 NSSAB meeting. After Board discussion, there were no changes to the round robin slide.

Chair Bonesteel initiated further discussion regarding a draft recommendation on infrastructure improvement, written by Vice-Chair Rosenbaum, to bring forward to the EM SSAB during the national meeting in May 2019. The NSSAB provided suggestions/corrections/input to the draft recommendation on infrastructure improvement. Member Dick Gardner made a motion to accept the draft recommendation letter on infrastructure improvement, with the corrections provided during the meeting, for the EM SSAB's consideration at its May 2019 meeting. The motion was seconded and passed with a majority.

Chair Bonesteel informed the NSSAB that Committee Chair Richard Twiddy was unable to attend the meeting, and he asked that the agenda item for liaison participation discussion be tabled until the next NSSAB meeting. Member Dina Williamson-Erdag made a motion that the liaison participation discussion agenda item be tabled until the July 17, 2019 NSSAB meeting. The motion was seconded and passed unanimously.

Chair Bonesteel noted that there is DOE reimbursement for two NSSAB members to attend the 2019 RadWaste Summit in Henderson, Nevada on September 3-5, 2019. Vice-Chair Rosenbaum and Member William DeWitt volunteered to attend the conference with Member Anthony Graham as an alternate.

Follow-up to Approach for Pahute Mesa Completion ~ Work Plan #2 (*Bill Wilborn, DOE*)

Mr. Bill Wilborn provided a briefing and answered NSSAB questions on the Approach for Pahute Mesa Completion work plan item at the March 20, 2019 Full Board meeting. The NSSAB voted to table the development of a recommendation until the April 24, 2019 Full Board meeting in order to first participate in a tour of Pahute Mesa and Rainier Mesa on April 10, 2019, thereby giving members and liaisons the opportunity to ask additional questions and view the geologic formations of the area. Mr. Wilborn restated that the path forward for this work plan item was for the NSSAB to provide a recommendation to the EM Nevada Program, from a community perspective, if the more pragmatic approach for completion of Pahute Mesa is supported by the NSSAB and/or how it could be improved. Mr. Wilborn continued that the pragmatic approach is more data-driven versus model-specific. This approach would focus on the data and if more data is needed. The current models could be used to determine if there are any gaps in the data.

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

- The EM Nevada Program uses the Safe Drinking Water Act (SDWA) standard for tritium in groundwater of 20,000 picocuries per liter, although tritium is measured and analyzed at concentrations well below the SDWA standard.
- Tritium naturally occurs in the atmosphere, so there likely could be naturally-occurring tritium in groundwater that has infiltrated from the surface. On Pahute Mesa, the majority of the waters at depth is older waters that would not contain naturally-occurring tritium due to decay; therefore, any tritium detected in older waters in Pahute Mesa would be resulting from historic nuclear testing.
- The Offsite Groundwater Communication Plan uses a tiered approach to determine the timing for external communication notifications based on concentration levels of tritium. Per this plan, these notifications would begin prior to tritium concentrations reaching the SDWA standard.

Chair Bonesteel asked the NSSAB for improvement suggestions to the more pragmatic approach for the completion for Pahute Mesa. After deliberation, the NSSAB suggested that DOE consider the following improvements:

- Add new wells and monitoring at the Nevada Test and Training Range
- Set early warning monitoring standards
- Continue researching cleanup technologies
- Investigate possibility of a separate lower standard for tritium than the SDWA standard

Member Williamson-Erdag made a motion that the NSSAB support the pragmatic approach for completion for Pahute Mesa, including DOE's consideration of the improvements listed above. The motion was seconded and passed unanimously.

Meeting Wrap-Up and Adjournment

Upcoming calendar of events:

- Devils Hole Workshop in Furnace Creek, CA – May 1-3, 2019
- EM SSAB National Chairs' Meeting in Augusta, GA – May 7-9, 2019
- LLW Visual Verification in Portsmouth, OH (NSSAB Observe) – June 4, 2019
- NSSAB Full Board meeting in Las Vegas, NV – July 17, 2019
- Intergovernmental Meeting with NSSAB liaison in Las Vegas, NV – July 17, 2019
- Visit to Savannah River Site SSAB meeting in North Augusta, GA – July 29-30, 2019
- LLW Stakeholders Forum meeting in Pahrump, NV – early August 2019
- RadWaste Summit 2019 in Henderson, NV – September 3-5, 2019

Any questions on the calendar of events, please contact the NSSAB Office at 702-523-0894.

Member Dick Gardner made a motion to adjourn the meeting. The motion was seconded and passed unanimously. The meeting was adjourned at 6:46 p.m.