

Nevada Site Specific Advisory Board (NSSAB)

Administrative Board Meeting

**Valley Conference Center
Valley Electric Association
800 E. Highway 372, Pahrump, NV
4:00 p.m. – January 16, 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), Janice Six, Richard Stephans, Richard Twiddy via phone, Dina Williamson-Erdag, Connie Wissmiller
- Liaisons Present:** Chris Andres via phone (State of Nevada Division of Environmental Protection [NDEP]), Richard Arnold (Consolidated Group of Tribes and Organizations [CGTO]), Darrell Lacy (Nye County Nuclear Waste Repository Project Office [NWRPO]), Scott Lewis (Nye County Emergency Management [NCEM]), Delon Winsor (Esmeralda County Commission)
- Liaisons Absent:** Richard Friese - furloughed (U.S. National Park Service [NPS]), Carl Gregory (White Pine County Commission), Nathan Katschke (Lincoln County Commission), Phil Klevorick (Clark County), John Koenig (Nye County Commission)
- Department of Energy (DOE):** Robert Boehlecke, Kelly Snyder (Deputy Designated Federal Officer [DDFO]), Bill Wilborn
- Facilitator:** Barbara Ulmer (Navarro)
- Contractors/Government:** Marilew Bartling (Navarro), Patrick Lazenby (NCEM), Dona Merritt (Navarro), Kevin Schmidt (Navarro), Lee Stevens (Navarro), Scott Wade (National Nuclear Security Administration/Nevada Field Office [NNSA/NFO])
- Public Signed In:** Leo Blundo (Pahrump, NV), Joseph LaBossiere (Amargosa Valley, NV), John Pawlak (Pahrump, NV), Anthony Pennino (Anchorage, AK), Bill Stremmel (Pahrump, NV), Jack Sypolt (Amargosa Valley, NV), George Tucker (Amargosa Valley, NV)

DDFO's Opening Remarks

DDFO Kelly Snyder thanked everyone for coming to the meeting. She explained that one of the requirements for conducting an official advisory board meeting, chartered under the Federal Advisory Committee Act, is to publish a meeting notice in the *Federal Register*. Due to the partial government shutdown, the organization responsible for the *Federal Register* is closed; therefore, the notice for this meeting was not published. As a result, DDFO Snyder continued that this meeting cannot be recognized as an official Full Board meeting. The NSSAB will receive updates and briefings tonight and members and liaisons can ask questions, but there cannot be discussions or recommendations developed during this meeting. DDFO Snyder encouraged everyone to take notes on any actions in order to discuss and make recommendations at the March 20, 2019 Full Board meeting.

Open Meeting/Chair's Opening Remarks

Chair Frank Bonesteel welcomed everyone to the meeting. Since this was an administrative meeting, DDFO Snyder approved the agenda.

Public Comment

The following public comment was provided by Bill Stremmel from Pahrump, NV, member of the Town of Pahrump: Nuclear Waste & Environment Advisory Committee and member of the Advisory Board to the U.S. Nuclear Energy Foundation:

Good afternoon and welcome to Pahrump. Speaking to you two months ago in Las Vegas about shipments of "weapons-grade" plutonium from Savannah River Site into the Nevada Test Site, I was informed this is not the venue to express such concerns as the NSSAB is limited to oversight of permanent disposal, and plutonium was at some future time to be removed from the Nevada National Security Site (NNSS). Firstly, having been informed my concerns would be directed to another agency of DOE, I have not, to date, received any response from that entity. And secondly, if plans change or further controversy leads to the plutonium remaining indefinitely at the NNSS, that essentially becomes "permanent" storage and thus coming under your purview.

Indeed, I would just as soon that the plutonium not be moved again, as every time this extremely hazardous substance is handled increases the risk of exposure. One speck of plutonium passing through the individual bodies of the six billion souls on Earth would give everyone cancer without diminishing its radioactivity one iota. Yet the State of Nevada in its knee-jerk opposition to Yucca Mountain would have us think that the dry casks of spent fuels pose the greatest risk, when, given a choice, many folks living out this way would rather have those shipments and the \$100 billion project for receiving them.

Over \$100 million has been spent by Nevada's Department of Transportation widening and adding median barriers and safety shoulders to State Route 160 – Blue Diamond Road in Clark and Nye Counties, using both gasoline tax monies and federal highway allocation. But there has been no specific compensation by DOE for this work despite shipments of lower-level waste constituting the biggest single movement of truck traffic through Pahrump. That needs to change, especially if the plutonium is to be routed through town and not take a longer detour through Amargosa Valley. At a minimum, \$50 million should be allocated for widening State Route 160 to a divided 4-lanes north of Basin Avenue and build a rudimentary bypass around the north and east sides of town.

This is warranted both because of the additional buffer vehicles needed for security and also for the sake of redundancy and disaster preparedness if, heaven forbid, there is an accident. Thank you.

The following public comment was provided by George Tucker from Amargosa Valley, NV:

I am a chemical engineer who a long time ago worked at Harwell doing research into motorations of reactors. I know a little about it. I also taught physics at high school for a number of years. I haven't been to one of these meetings for some time, but I am a little alarmed at what I see as handouts here. I am looking at the New Generator: Start to Finish Overview. I am not sure who the author of this is. I didn't find anything there. My first question is: what is the relation to Federal law, Code of Federal Regulations (CFR) for the production of this, which is approval of some nuclear waste? I imagine that it is covered by CFR somewhere. Second questions is: in the third bubble in your flow chart it says waste verified to be acceptable type, define acceptable? I turn over to page three or four, I can't find anything which mentions the quantity or level of radioactive waste or anything like that. Point three: reviewed by WARP, okay, not WARP, all right. I can't find anything under that either about who is on this panel, what criteria they will use. Moving on to point four: program issues approval. Well, before that, isn't there some cost involved if people wanted to dispose of their waste? It is going to cost them something. That is about all the time I have had to generate some questions, but I think there will probably be a whole lot more, but I thought that I would just say that. Particularly since an attempt was made by the Chairman to prevent me spreading out these sheets so I could digest them. Mr. Bonesteel, I believe. I probably used more than my two minutes. Do I get answers to these questions or is it just somebody covering paper?

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

Mr. Robert Boehlecke opened that the DOE is funded and operating and not a part of the partial government shutdown. The Environmental Management (EM) Nevada Program received just over \$60 million for fiscal year (FY) 2019. This funding is adequate to accomplish all planned EM activities at the NNSS for FY 2019. The EM Nevada Program has felt minor impacts from the partial government shutdown with limited approved travel and NSSAB and National Environmental Policy Act actions not published in the *Federal Register*. The U.S. Geological Survey (USGS) contributes to the EM Nevada Program groundwater mission by reviewing documents and conducting sampling. The USGS is closed due to the partial government shutdown, although there have been no impacts to the EM Nevada Program to date, but there could be long-term impacts depending on the length of the shutdown.

Mr. Boehlecke stated that the current Environmental Program Services contract with Navarro will expire in January 2020. The process to identify a new contractor was initiated with the draft Request for Proposal (RFP) announcement last summer 2018. DOE is preparing the final RFP that is expected to be released in the coming months.

Mr. Boehlecke updated that remediation of contaminated soil and debris continued at Clean Slate III on the Tonopah Test Range. The expected volume is over 200,000 cubic feet. Notification of shipments was made to Nye County and Esmeralda County Emergency Management. It is estimated that the project will require approximately 450 shipments utilizing the same shipping route as Clean Slate II. The first shipment arrived at the NNSS on October 1, 2018. To date, the number of shipments completed is 175 with a total of 350 bags with the majority disposed at the

Area 3 Radioactive Waste Management Site (RWMS). The Area 5 Radioactive Waste Management Complex (RWMC) has also been used on occasion due to other activities on the NNSS.

Mr. Boehlecke provided a synopsis on the groundwater work conducted by the EM Nevada Program under the Underground Test Area (UGTA) Activity. Rainier Mesa and the Yucca Flat Corrective Action Units (CAU) are approximately a year from reaching closure. The EM Nevada Program is working with NDEP to establish a more data-driven approach for the closure of the Pahute Mesa CAU. The traditional approach under the Federal Facility Agreement and Consent Order is based more on groundwater modeling. The data collected from Phase II wells drilled since 2009 demonstrate that UGTA can monitor the movement of radionuclides in groundwater based on real data. The path forward approach for Pahute Mesa places more emphasis on using a combination of modeling and real data. The EM Nevada Program is working with NDEP to better define that path forward. UGTA expects to begin Pahute Mesa Phase II groundwater flow modeling by the summer of 2019. UGTA is in its fourth year of collecting monitoring samples in Frenchman Flat this winter. The results to date are as expected, and sampling data continues to be collected for long-term monitoring purposes.

Mr. Boehlecke commented that work continues on an expansion of the western portion of the Area 5 RWMC for future waste disposal. A water line relocation was completed in November 2018. Construction of the first two segments of a flood control berm is expected to be completed in March 2019. Each berm segment is 2,000 linear feet. Other segments have been initiated, and work continues on all of these segments.

Mr. Boehlecke reminded the Board that he has provided updates for almost two years during NSSAB meetings regarding a Finding of Alleged Violation (FOAV) issued to the NNSS by NDEP due to a generator shipping waste containers containing mixed low-level waste (MLLW) that were mischaracterized as LLW. All the corrective actions included in the Corrective Action Plan (CAP) have been completed, and a final report documenting the completion of these items will be submitted to NDEP this month. NDEP, NNSA/NFO and the EM Nevada Program have discussed the scope and cost of a Supplemental Environmental Project (SEP) that would be undertaken in lieu of paying a penalty. The SEP includes performing additional work that benefits and improves the ability of the EM Nevada Program to verify that waste is consistent with the generator's waste profile. The language for the formal Settlement Agreement is currently being finalized, which then will be reviewed by legal, and upon approval signed by all involved parties.

Mr. Boehlecke continued that on December 19, 2018, DOE notified stakeholders, including the NSSAB members and liaisons, that it planned to issue the *Draft Supplemental Environmental Impact Statement for the Disposition of Depleted Uranium Oxide Conversion Product Generated from DOE's Inventory of Depleted Uranium Hexafluoride* (SEIS). The Draft SEIS analyzes environmental impacts in order to select a disposal location for depleted uranium oxide material from facilities at the Paducah, KY and Portsmouth, OH sites. It analyzes potential environmental impacts from transportation and disposal of depleted uranium oxide in LLW disposal facilities at three locations: NNSS in Nye County, NV, EnergySolutions, LLC disposal facility in Clive, UT, and Waste Control Specialists, LLC Federal Waste Facility in Andrews County, TX. A 45-day comment period was announced in the *Federal Register* on December 28, 2018 and will conclude on February 11, 2019. DOE will conduct web-based public hearings and accept comments via the public hearing by mail, by email, or through the comment forms. Hearing dates are: Tuesday, January 22, 2019 from 2-4 p.m. (EST), Wednesday, January 23, 2019 from 4-6 p.m. (EST), and

Thursday, January 24, 2019, from 7-9 p.m. (EST). DOE must wait at least thirty days after the publication of the final SEIS before it can issue an amended Record of Decision (ROD) on disposal location(s) for depleted uranium oxide.

Mr. Boehlecke reported that DOE released the *Final Environmental Impact Statement for Remediation of Area IV and the Northern Buffer Zone of the Santa Susana Field Laboratory* (FEIS) in Ventura County, CA. The FEIS identifies the DOE's preferred alternatives for cleanup of soils and groundwater and building removal at the site. Disposal alternatives include disposal at the NNSS. The next step is for DOE to issue one or more RODs, which can occur any time after a 30-day waiting period that began on December 29, 2018.

Mr. Boehlecke updated the Board on the Southwest Experimental Fast Oxide Reactor (SEFOR) vessel from the University of Arkansas. The shipment was extremely large and required overweight permits: 407,000 pounds, 58 feet long, 18 feet wide, and 92 tires. There was coordination by the shipper and carrier with the states along the route (Arkansas, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, California, and Nevada); as well as media notifications were provided prior to entering each state and to stakeholders, including the Nye County Emergency Manager and Member Bill DeWitt to address his scheduling concerns with the dairy trucks leaving daily from Amargosa Valley, NV. The shipment departed Arkansas on November 28, 2018 and arrived at the NNSS on December 13, 2018 for permanent disposal. The Radioactive Waste Acceptance Program (RWAP) transportation subject matter expert was onsite in Arkansas to observe and provide oversight for the pre-shipment activities to ensure the shipment was in compliance.

Mr. Boehlecke reminded the Board that they received an email from the NSSAB Office on October 10, 2018 that DOE was seeking public comment through a *Federal Register Notice* on its interpretation of the statutory term "high-level radioactive waste" and what is not high-level waste. The 60-day comment period ended on December 10, 2018. DOE received multiple comments that requested an extension, including one by the NSSAB. A 30-day extension was granted that concluded on January 9, 2019.

Mr. Boehlecke mentioned recent events/stakeholder meetings that were conducted by EM Nevada Program staff:

- November 7, 2018 – Hosted Low-level Waste Stakeholders Forum in Las Vegas, NV
- Week of November 12, 2018 – Participated in annual EM Headquarters (HQ) hosted Intergovernmental meeting in New Orleans, LA
- November 14, 2018 – Clean Slate III update presentation to Nye County Local Emergency Planning Committee in Pahrump, NV
- November 16, 2018 – Career day presentation at Gibson Elementary School in Las Vegas, NV
- Week of November 26, 2018 – Presentation at Perma-fix Nuclear Waste Management Forum in Nashville, TN
- December 4-6, 2018 – Presentation at Government to Government Technical Information Exchange Meeting on Near Surface Disposal Facilities in Knoxville, TN

Mr. Boehlecke concluded with upcoming presentations/meetings/conferences of interest to be conducted/attended by the EM Nevada Program:

- January 16, 2019 – Nye County Local Emergency Planning Committee meeting in Pahrump, NV

- January 16, 2019 – Low-level Waste Stakeholders Forum in Pahrump, NV
- January 16, 2019 – Intergovernmental meeting with NSSAB liaisons and NSSAB leadership in Pahrump, NV
- January 16 2019 – NSSAB Meeting in Pahrump, NV
- January 23, 2019 – NNSS tour for new Nye County Assemblyman
- March 3-7, 2019 – 2019 Waste Management Symposia in Phoenix, AZ
- March 20, 2019 – NSSAB meeting in Amargosa Valley, NV

Liaison Updates

CGTO (*Richard Arnold*)

Liaison Richard Arnold updated the Board on the tribal revegetation project for the 92-Acre Area at the Area 5 RWMC. Last month, representatives from the EM Nevada Program, NDEP, and the Tribal Revegetation Committee met. At this meeting, the attendees shared information, provided onsite descriptions of the planting and planting process, and reported the success that is being realized with the project. The transplants are demonstrating an eighty-five percent success rate, and the committee hope to continue on this path and provide additional information at future meetings. The annual report will be published soon in cooperation with Portland State University and the Desert Research Institute (DRI). The DRI ecologist with the project is leaving this month, so DRI has hired a replacement microbiologist that will be attending the next onsite monitoring visit on February 12-14, 2019. Liaison Arnold reported that he will be attending the Waste Management Symposia in Phoenix, AZ in March 2019 to gain information relative to the tribes. The annual NNSS Tribal Meeting is scheduled for April 23-25, 2019. The EM Nevada Program will be providing a briefing on the tribal revegetation project. Liaison Arnold added that the 2019 annual National Transportation Stakeholders Forum will be held in June 2019 in Arlington, VA. At this conference, the CGTO will be actively involved with discussions regarding activities and the transportation of waste to Area 5 RWMC at the NNSS. Lastly, he noted that the State and Tribal Working Group meeting, typically held in March, has not yet set a date. The states, tribes, and DOE share thoughts and updates on activities during this meeting.

Esmeralda County Commission (*Delon Winsor*)

Liaison Delon Winsor had nothing to report.

NCEM (*Scott Lewis*)

Liaison Scott Lewis noted that it has been a busy day in Pahrump, NV with the Nye County Local Emergency Planning Committee meeting, the Low-Level Waste Stakeholders Forum, and the NSSAB meeting. NCEM worked closely with the EM Nevada Program regarding the SEFOR transport. NCEM received notification within 24 hours of the shipment traveling through Nye County. Liaison Lewis commented that NCEM looks forward to working with the EM Nevada Program with any future unusual or high-risk shipments travelling through Nye County. Liaison Lewis introduced Patrick Lazenby, the point of contact within the NCEM office who is responsible for disseminating communications.

NWRPO (*Darrell Lacy*)

Liaison Darrell Lacy welcomed everyone to Nye County and encouraged the NSSAB to hold its meetings in Nye County as often as possible. He stated that Nye County is the host site for the NNSS, and the county fosters a partnership with DOE and welcomes its activities. Liaison Lacy noted that the NNSS is the largest employer in Nye County and looks forward to its growth and missions. He concluded that Nye County recently elected two new commissioners during the last

election campaign; so the NSSAB should have a new liaison soon from the Nye County Commission.

Lincoln County Commission (*Jared Brackenbury*)

Liaison Jared Brackenbury noted that he is new to the NSSAB. He looks forward to learning more regarding NSSAB and EM Nevada Program activities at the NNSS.

NDEP (*Chris Andres*)

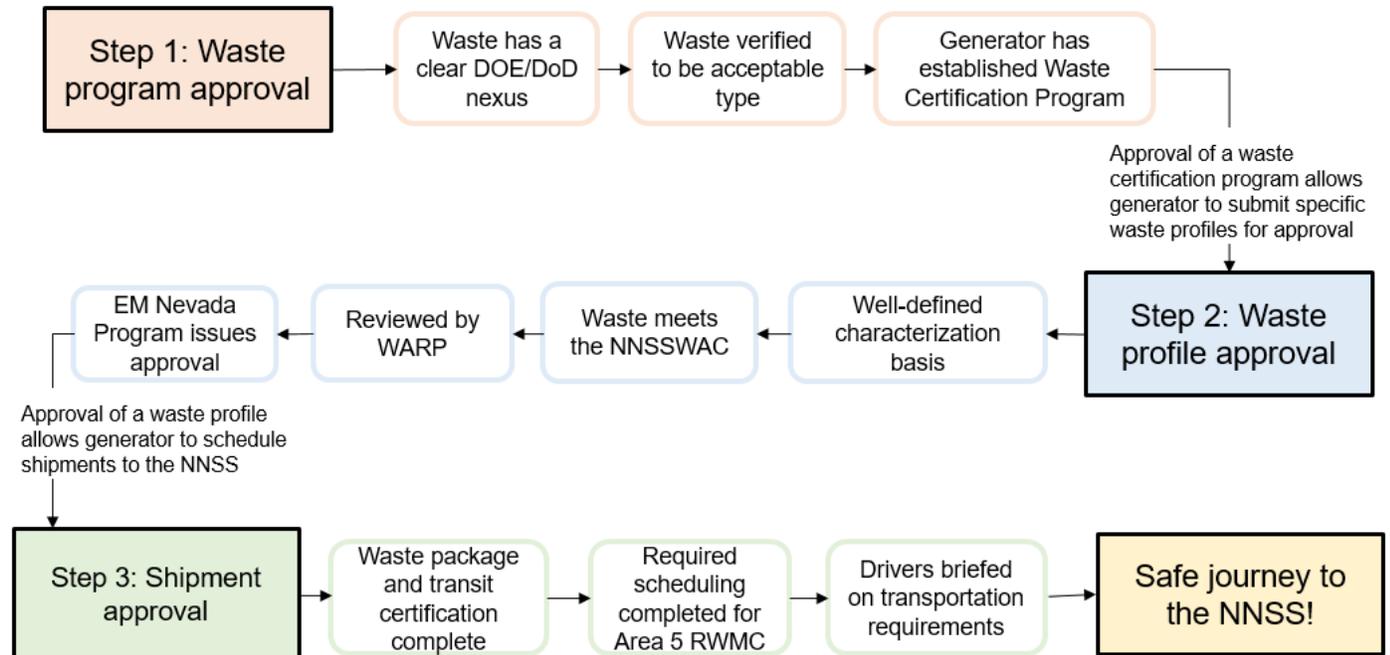
Liaison Chris Andres commented that representatives from NDEP, NNSA/NFO, EM Nevada Program, and EM HQ meet biannually. These meetings initially started as an avenue to have open dialogue on unique waste streams planned for disposal at the NNSS. The last biannual meeting was held in conjunction with the Intergovernmental Meeting in New Orleans, LA in November 2018. It has been determined that early involvement of NDEP in discussions has made the process smoother than in the past. Liaison Andres and another NDEP personnel observed the SEFOR shipment delivered to the NNSS, as NDEP has a regulatory role for MLLW and an oversight role under the Agreement in Principle for LLW disposed at the NNSS. She continued that NDEP was briefed on the forecasting of the disposition of waste, both volume-wise from a national level and also specific waste streams from a site-level viewpoint. This information assists NDEP to understand the types and volumes of waste planned for disposal in Nevada. A discussion was held regarding transportation studies. NNSA/NFO has conducted analyses and has committed to the State of Nevada to produce a white paper that documents all the previous activities that have been undertaken to ensure Department of Transportation compliance for incoming shipments to the NNSS. In regard to the FOAV, Liaison Andes reiterated that DOE has submitted its CAP and the draft report for NDEP review with the final report to be submitted next week. A conference call earlier this week regarding the Settlement Agreement was conducted to discuss the final language. In regard to UGTA, NDEP continues to serve as members of internal review groups for documents. She also added that the tribal meeting that Liaison Arnold mentioned in his update was a very informative meeting for NDEP. It allowed the different agency's representatives to have a free exchange of information regarding the revegetation project in order to build trust and an understanding of all viewpoints. Liaison Andres concluded that she will also be attending the Waste Management Symposia in Phoenix, AZ in March 2019.

New Generator: Start to Finish Overview (*Marilew Bartling, Navarro*)

In November 2018, the NSSAB requested an educational briefing on the process from start to finish that the EM Nevada Program follows to qualify a potential generator to become an NNSS-approved/certified waste program, and the follow-up that is conducted to ensure that the generator follows the NNSS *Waste Acceptance Criteria* (WAC). The following briefing was developed to fulfill this request.

- **Outline**
 - 1. Steps to waste program approval
 - 2. Steps to waste profile approval
 - 3. Steps to shipment approval

- **Becoming an Approved NNSS Generator**



- **NNSS Waste Program Personnel**

- Radioactive Waste Acceptance Program (RWAP) – Maintains the *Nevada National Security Site Waste Acceptance Criteria* and performs generator facility evaluations and verifications
- Waste Acceptance Review Panel (WARP) – Performs technical and regulatory profile reviews and makes recommendations regarding the acceptability of wastes; chaired by RWAP with subject matter experts from multiple disciplines

- **NNSSWAC**

- Overarching document that details the requirements for generator sites and their proposed waste
 - Governs generator waste characterization and quality assurance policies, as well as the practices associated with waste inspection, packaging, shipping, and disposal
 - Designed to ensure the safe handling of waste in order to protect workers, the public, and environment
- Details process for submitting profiles of waste proposed for disposal at the NNSS
 - Waste information includes origin and eligibility, radiological content, hazardous material content and concentration, characterization methods, prohibited items, packaging and transportation
 - Available online at www.nnss.gov/docs/docs_RWM/NNSSWAC_Nov%202016.pdf

- **Becoming an Approved NNSS Generator**

- 1. Waste program approval
 - Ensures the intended waste has a clear DOE/U.S. Department of Defense (DoD) nexus for acceptance
 - Ensures the intended waste is one of the acceptable waste types
 - Approves the generator’s Waste Certification Program
- 2. Waste profile approval
 - Verifies the waste has a well-defined characterization basis
 - Verifies the waste meets the NNSSWAC

- Notifies the generator of approval to schedule waste shipment
 - 3. Shipment approval
 - Ensures waste package traceability to approved profile
 - Certifies the waste packages complies with the NNSSWAC
- **Waste Program Approval: A Clear DOE/DoD Nexus**
 - In order to be disposed at the NNSS, waste must be generated at a DOE facility, defense-affiliated sites, or have a clear nexus to a DOE-sponsored program
 - Waste that do not originate at a DOE site may be eligible if it meets one of the following:
 - Waste is from an Atomic Energy Commission, Energy Research and Development Agency, or DOE-funded sites or facility
 - Waste is classified and originating from a DoD facility
 - Waste is derived from raw materials produced at a DOE facility
 - Waste is subject to a Memo of Understanding signed by DOE regarding disposal
 - There is congressional direction to DOE to provide disposal
- **Waste Program Approval: Acceptable Waste Types**
 - Four types of waste accepted: LLW, MLLW, classified non-radioactive (CNR) waste, and classified non-radioactive hazardous (CNRH) waste
 - LLW not classified as high-level radioactive waste, transuranic waste, spent fuel, by-product material, etc.
 - MLLW is a combination of LLW with a hazardous constituent (i.e., toxic, corrosive, reactive, ignitable or listed by U.S. Environmental Protection Agency as hazardous)
 - CNR consists of classified components that have no radioactive or hazardous contamination but must be securely disposed in the interest of national security
 - CNRH classified components with no radioactive contamination but do contain hazardous constituents
- **Waste Program Approval: Waste Certification Program**
 - In order to become NNSS-approved, a generator must have an approved waste certification program
 - The NNSS program works with a variety of generators across the country, including:
 - DOE/DoD facilities that have established internal waste programs with responsibilities from the point of generation through management, certification, and shipment
 - Established certification programs hired by generators to certify waste generated at facilities with a DOE nexus
 - Commercial facilities that treat DOE-originating waste and submit under its own certification program
 - Each generator is required to have a Waste Certification Official (WCO) who is responsible for implementing the requirements of the NNSSWAC
 - Independent of budget and schedule responsibilities
 - Certifies that requirements are met through characterization, profiling, packaging, and transportation
 - Generator's Quality Assurance (QA) Program Plan for waste certification includes:
 - Design control
 - e.g., Ensuring drawings and specifications for packaging are controlled
 - Procurement control and receipt processes
 - e.g., Purchasing and inspecting packages for compliance with the drawings and specifications

- Corrective actions
 - Robust identification, reporting, and closure
 - Tracking and trending
 - Software control
 - Ensuring software meets specifications
 - Training
 - Prior to certification, generator programs undergo an onsite review by RWAP focusing on the following:
 - QA
 - Traceability
 - Radiological characterization
 - Chemical characterization
 - Transportation
 - Audits are subject to observation by the EM Nevada Program and NDEP
 - Generators are required to respond to all written audit findings
 - EM Nevada Program issues approval of generator's waste program after successful review by RWAP
- **Becoming an Approved NNSS Generator**
 - 1. Waste program approval
 - Ensures the intended waste has a clear DOE/U.S. Department of Defense (DoD) nexus for acceptance
 - Ensures the intended waste is one of the acceptable waste types
 - Approves the generator's Waste Certification Program
 - 2. Waste profile approval
 - Verifies the waste has a well-defined characterization basis
 - Verifies the waste meets the NNSSWAC
 - Notifies the generator of approval to schedule waste shipment
 - 3. Shipment approval
 - Ensures waste package traceability to approved profile
 - Certifies the waste packages complies with the NNSSWAC
- **Waste Profile Approval: A Well-Defined Characterization Basis**
 - A profile must be submitted for all wastes to be considered for acceptance at the NNSS
 - Profile information includes:
 - Waste description, including origin and physical characteristics
 - Radionuclides data such as dose rates, total activity, and fissile activity
 - Chemical characterization and classification data
 - Based on the information in the profile, a determination is made as to whether the waste meets the current NNSSWAC
- **Waste Profile Approval: Meets the NNSSWAC**
 - All profiles are reviewed by the WARP, which includes subject matter experts from Federal and contractor staff
 - NDEP offers input to indicate the Agency is cognizant of the waste, but does not formally approve or concur on WARP recommendations made to the EM Nevada Program
- **Waste Profile Approval: Notification of Approval to Schedule Shipments**
 - WARP provides recommendations to EM Nevada Program on waste acceptance
 - EM Nevada Program issues the profile approval letter to the generator
 - The approval of a waste profile allows a generator to schedule shipments to the NNSS

- **Becoming an Approved NNSS Generator**
 - 1. Waste program approval
 - Ensures the intended waste has a clear DOE/U.S. Department of Defense (DoD) nexus for acceptance
 - Ensures the intended waste is one of the acceptable waste types
 - Approves the generator's Waste Certification Program
 - 2. Waste profile approval
 - Verifies the waste has a well-defined characterization basis
 - Verifies the waste meets the NNSSWAC
 - Notifies the generator of approval to schedule waste shipment
 - 3. Shipment approval
 - Ensures waste package traceability to approved profile
 - Certifies the waste packages complies with the NNSSWAC
- **Shipment Approval: Ensures Waste Traceability**
 - All NNSS-bound waste information is submitted to the NNSS disposal facility electronically prior to shipment, with specific container and shipment information including: profile identification, reportable nuclides, container types, and weight
 - Data is cross-checked to ensure waste adheres to the profile
- **Shipment Approval: Waste Package Certification**
 - WCOs, working on behalf of RWAP, certify the containers are compliant with all program elements by placement of certification labels
 - Drivers are briefed on all transportation requirements including off-limits routes and completion of a driver's questionnaire
 - Trucks are released in compliance with U.S. Department of Transportation regulations for a safe journey to the NNSS
- **Recap**
 - 1. Waste program approval
 - A clear DOE/DoD nexus
 - Acceptable waste types
 - Waste Certification Program
 - 2. Waste profile approval
 - A well-defined characterization basis
 - Meets the NNSSWAC
 - Notification of approval to schedule shipments
 - 3. Shipment approval
 - Ensures waste traceability
 - Waste package certification
- **Questions**

There were no follow-up questions by the Board.

Other NSSAB Business (*Frank Bonesteel, Chair*)

Chair Bonesteel requested an update from the two ad hoc committees formed in September 2019 to research liaison participation. The first committee's focus is to provide a recommendation on specific funding to assist outlying county representatives to fully participate in various EM Nevada Program functions. Initially, the Board would question county representatives to determine what their needs are in the process. The objective would be to provide the liaisons with sufficient knowledge of EM activities in order for them to communicate the information to their constituents.

This committee is chaired by Member Richard Twiddy with Member Karen Eastman and Vice-Chair Steve Rosenbaum as members. Committee member Eastman reported that progress to date has been limited. Some liaison contacts have been made, but not all. The committee feels that it is important to speak with all the liaisons, if possible, before a final report can be completed. Delays have been experienced because of the holidays, schedule conflicts, and to some limited extent, the government shutdown. The final report to the NSSAB will be ready prior to the March 20, 2019 meeting.

The second ad hoc committee's focus is to discuss the number of liaisons, possible increase in liaison organizations, and identifying organizations in the local communities that represent stakeholders that the NSSAB may want to recommend to DOE as a prospective liaison organization(s). This committee is chaired by Member Dina Williamson-Erdag with Members Twiddy and Donald Neill as members. Committee Chair Williamson-Erdag noted that her ad hoc committee will have an update for the March 20, 2019 Full Board Meeting.

In regard to liaison participation, DDFO Snyder added that the NSSAB is the only local advisory board under the EM Site-Specific Advisory Board (SSAB) that has liaisons other than the state regulator. The other seven local SSABs only have their state regulator and state organizations as a liaison; therefore the NSSAB has the most diversity in this respect.

Two letters were provided to Board members for informational purposes:

- NSSAB Recommendation for Offsite Groundwater Communication Plan (Work Plan Item #6) – dated November 7, 2018
- DOE Response to NSSAB Recommendation for Offsite Groundwater Communication Plan (Work Plan Item #6) – dated December 4, 2018

Evaluation of the Audit Determination Process – Work Plan Item #4 *(Robert Boehlecke, DOE)*

- **NSSAB Work Plan Item #4**
 - From a community perspective, provide a recommendation regarding if the existing RWAP risk-informed process for scheduling facility evaluations is supported and how it could be enhanced
 - The NSSAB recommendation is due by March 2019
- **Facility Evaluations**
 - As of December 2018, there are 24 approved generator programs throughout the country under the RWAP
 - Includes DOE, DoD, and commercial sites – some which ship from multiple locations
 - Each generator program is subject to a facility evaluation on an annual basis
 - The RWAP subject matter experts execute the facility evaluation program
 - **Audits:** an onsite facility evaluation conducted on all program elements – quality assurance, traceability, transportation, radiological characterization, and chemical characterization
 - **Surveillances:** an onsite facility evaluation more limited in scope to monitor the continued adherence to the program requirements
 - **Table-Top Assessments:** a remote facility evaluation or program elements
 - All facility evaluations involve reviews of procedures, records, and interviews with personnel
 - EM Nevada Program, NDEP, and stakeholders may observe facility evaluations

- In addition to facility evaluations, LLW and MLLW verifications are conducted:
 - Verifications are site visits with the sole purpose of verifying that waste placed in a container is consistent with the profile
 - Verifications cannot substitute for an audit, surveillance, or table-top assessment
 - To best utilize resources, where possible, verifications are combined with audits or surveillances
- Other onsite evaluations, such as transportation assessments, may also be conducted
- **Facility Evaluation Scheduling Guidance**
 - Goal is to conduct a facility evaluation for each generator program annually
 - Ensure all program elements are assessed at least every two years
- **Risk-Informed Spreadsheet**
 - Background:
 - Facility evaluations must be prioritized based on available resources and funding
 - The Risk-Informed Spreadsheet was developed to determine the relative risk for each generator program
 - The Risk-Informed Spreadsheet is now used as a tool to help schedule facility evaluations
 - The goals of the Risk-Informed Spreadsheet are to:
 - Use a defined, documented model that is quantitative in nature
 - Incorporate waste forecasting to understand challenges
 - Incorporate generator past performance to help identify the relative risk
 - Identify special or unique waste streams
 - Identify other considerations that may prioritize a particular site

Generator	# SHIPMENT	# PACKAGES	LLW	NRC	MLLW	NRCH	ACTIVITY (events)	FINDINGS	OBSER	# of Deviations	OVERSIGHT	TYPE D	DND WASTE	COMMER. CIAL.	OTHER CONSIDERATION	SPECIAL AND/OR DEFENSITIVE - EXAMPLES ONLY	DATE OF LAST ASSESS	LLW Forecast (H ³)	MLLW Forecast (H ³)	NRC (H ³)	NRCH (H ³)	CALCULATED RISK SCORE	OVERALL RANKING
CMV F-12	114	1,650	125,483	0	6,354	0	1,332E+01	0	0	0	0	NNSA	0	0		Sols	10/16/2014	144,518	9,538	0	0	50	1
Energy Solutions-Bear Creek (DTRK)	4	3	1,422	0	1,306	0	2,301E+03	0	0	1	1	ALL	1	X		U-233 Waste	1/17/2013	4,004	0	0	0	45	2
Pennsylvania Gasoline Diffusion Plant	123	712	214,400	0	0	0	2,570E+01	0	1	1	1	EM	0	X	Large Ship Campaign		4/9/2015	631,229	0	0	0	45	2
Idaho Cleanup Project (ICP) [Floor Idaho] ¹	80	544	12,750	0	11,281	0	2,790E+02	0	4	0	0	EM	80	X		Rosster Oxide	9/15/2016	15,641	13,320	0	0	45	2
Advanced Mixed Waste Treatment Plant (AMWTP) ⁴	105	630	12,435	0	80,838	0	3,781E+01	0	1	1	1	EM	0			Pucks	9/15/2016	15,252	11,776	0	0	40	5
Lawrence Livermore National Laboratory	25	140	26,814	0	164	0	1,452E+05	1	0	1	1	NNSA	11			Spheres	7/9/2017	61,360	150	0	0	40	5
Nuclear Fuel Services	15	944	9,418	0	0	0	5,396E+00	0	1	0	0	Other	0	X		Chromium Exclusion	5/10/2017	7,831	0	0	0	40	5
Oak Ridge Reservation (UCOR)	143	684	79,822	0	3,554	0	7,386E+01	0	0	0	0	EM	0	X		Melton Valley Storage Tank Sludge, U-233	9/27/2018	53,348	3,859	0	0	40	5
M&EC Puma-IV ⁵	26	70	9,815	0	2,268	98	1,168E+03	0	4	0	0	NNSA/EM	0	X			7/14/2011	36,490	585	0	0	30	9
MS-1 (MS-1)	40	77	6,349	1,881	347	122	8,370E+00	0	5	3	3	NNSA/EM/DND	0			BRX Shapes, Spheres	4/9/2018	3,760	166	2,725	460	30	9
Pumex Plant	4	7	2,881	0	322	221	3,184E+01	2	0	0	0	NNSA	0				5/23/2013	2,720	19	0	19	26	11
Oak Ridge National Laboratory (UT Battelle)	21	63	48,467	0	0	0	1,265E+04	0	0	1	1	Science	3				1/12/2017	15,814	0	0	0	26	11
Navarro	111	422	102,199	0	0	0	7,592E+01	1	0	1	1	EM	0		Large Ship Campaign		173,204	0	0	0	25	11	
Los Alamos National Laboratory	43	341	28,199	0	0	0	8,487E+00	0	1	2	2	NNSA/EM	0	X		U-233 Waste	9/24/2015	56,400	2,500	100	0	20	14
West Valley Demonstration Project	104	327	113,509	0	0	0	1,858E+02	1	0	5	5	EM	0	X			10/19/2017	96,000	0	0	0	20	14
Depleted Uranium Hexafluoride Conversion Project (DUHCP) ⁶	6	12	13,855	0	0	0	5,548E+02	1	0	0	0	EM	0			Conversion Product	9/25/2014	4,692	47	0	0	15	16
Savannah River National Laboratory	0	0	0	0	0	0	0.000E+00	0	0	0	0	NNSA	0			Treatment Plant Waste	11/19/2015	1,820	0	0	0	15	16
Argonne National Laboratory	0	0	0	0	0	0	0.000E+00	0	4	0	0	Science	0				6/23/2017	0	0	0	0	15	16
Brockhaven National Laboratory	0	0	0	0	0	0	0.000E+00	1	4	0	0	Science	0				5/10/2019	1,194	0	0	0	15	16
Idaho National Lab (INEL)	46	251	30,539	2,944	0	0	5,151E+02	1	3	1	1	NE	0				7/12/2018	23,505	585	6,200	0	15	16
Berkley (DND Town Decommissioning) ⁷	139	402	89,497	0	11,251	0	7,511E+03	0	0	0	0	EM	0				7/10/2008	2,400	0	0	0	10	21
General Atomics	0	0	0	0	0	0	0.000E+00	0	0	0	0	Other	0				8/25/2016	16,770	9,090	0	0	5	22
TRU Waste Processing Center	20	503	12,813	0	5,868	0	1,444E+01	0	0	1	1	EM	0				8/25/2016	16,770	9,090	0	0	5	22
Abandeen Proving Ground	11	60	6,874	0	0	0	8,855E+00	0	1	0	0	Other	0				8/10/2017	2,112	0	0	0	5	22
Peduarah Gasoline Diffusion Plant (PGDP)	0	0	0	0	0	0	0.000E+00	0	1	0	0	EM	0	X			4/26/2018	6,990	47	0	0	5	22
Knoles Atomic Power Lab ⁸	5	33	670	0	9	0	4,421E+01	0	0	0	0	Other	0									5	22
Sandia National Laboratory	15	116	3,252	1,001	2,650	684	8,758E+02	0	1	0	0	NNSA/EM	0				11/3/2016	2,250	2,300	450	350	0	27
ORNL 1023 Disposition Project (DOWAP) ⁹	0	0	0	0	0	0	0.000E+00	0	0	0	0	EM	0					1,377,566	73,081	9,475	989	0	27
Totals	1,801	8,031	957,262	4,949	128,812	1,171	1,631E+05	8	33	18	55							1,377,566	73,081	9,475	989		
Points Awarded to Top X Rankings	5	5	4	3	4	1	6	2	5	5	5	5	5	5				5	4				
Points Awarded	5	15	5	5	15	25	10	5	5	5	5	5	5	5									
															Average								22.5

¹ Includes M&EC, Northwest, and Florida Facilities

² Includes Portsmouth and Paducah

³ Energy Solutions Contract

⁴ ICP and AMWTP scored separately, will be assessed as Floor

⁵ Pernal in Contract

LLW - Low Level Waste

NRC - Non-Radioactive Classified

MLLW - Mixed Low Level Waste

NRCH - Non-Radioactive Classified Hazardous

EM - Environmental Management

D&D - Department of Defense

NE - Nuclear Energy

NNSA - National Nuclear Security Administration

Other - work for others, Army, etc.

DND - Decommission and Decommissioning

Units

SHIPMENTS Number

PACKAGES Number

LLW cubic feet (H³)

MLLW cubic feet (H³)

FORECASTS cubic feet (H³)

● **Attributes Considered for Risk**

- Generator's experience level and waste forecasts:
 - Waste types – LLW versus MLLW
 - Number of packages
 - Number of shipments
 - Levels of radioactivity
 - Types of shipping containers
- Generator's past performance:
 - Previous evaluation performances (number of Findings and Observations)
 - Number of NNSWAC deviation requests
- Special or unique wastes:

- Activity level
 - Wastes requiring special authorizations from regulatory bodies
 - Large campaigns
- **Calculating the Risk Score**
 - Risk score is calculated by:
 - Determining weight factor for each attribute
 - Using spreadsheet data to determine logical breaking points
 - Assigning weight factors to each generator
 - Summing up the weight factors for each generator
 - Ranking the generator by their total-risk score
- **Facility Evaluation Scheduling**
 - Generators are contacted by RWAP to identify their plans for packaging waste
 - Using the information from the generators and the Risk-Informed Spreadsheet, a draft Facility Evaluation Schedule is prepared
 - The draft Facility Evaluation Schedule is reviewed by Federal and contractor staff
 - Comments are considered and changes made, if appropriate
 - Federal and NDEP resources are added to the schedule
 - Schedule is finalized and distributed
- **Path Forward**
 - NSSAB to recommend if the existing RWAP risk-informed process for scheduling facility evaluations is supported and how it could be enhanced
- **Questions**

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

- The criteria that is assessed by RWAP on the five program elements (quality assurance, traceability, transportation, radiological characterization, and chemical characterization) during a facility evaluation links to the NNSSWAC, which is covered in one of three sources: a regulatory requirement, a DOE order, or specific criteria that flows from the safety basis or the performance assessment of the actual site. For example, the transportation program element relates to the 49 CFR Department of Transportation requirements or the 10 CFR requirements specific to fissile or Type B shipments. These CFRs are noted in the NNSSWAC.
- The EM mission at Rocky Flats is complete, and the waste from excess buildings and soil removal was disposed at the NNSS as well as other disposal sites. The area is now the Rocky Flats National Wildlife Refuge.
- Generators are required to have a quality assurance process in place to document any self-identified issues that the RWAP team reviews during facility evaluations. Generators are required to notify RWAP of any notices of violations from their regulatory agencies. RWAP does not have a designated health and safety employee, although they do have a radiological control expert on staff. The focus for the RWAP team is assessing the generator's handling and transportation of waste, including any corrective actions and internal reporting. RWAP does monitor incidents reported in DOE's Occurrence Reporting Program (ORPs) that documents health and safety, environment, or any type of operational incidents for informational purposes. This information may be used by the RWAP to make further inquiries.

As this was an administrative meeting, Mr. Boehlecke encouraged the NSSAB to write down any potential recommendations for deliberation and action at the next Full Board meeting. He also informed the NSSAB that he will have the RWAP team provide more information on the weighting

of the factors behind the Risk-Informed Spreadsheet and the current schedule of facility evaluations. DDFO Snyder inquired what type of review the Board be interested in before the discussion and recommendation development in March 2019. The NSSAB requested a recap, not a long review at the next meeting.

LLW Visual Verification – Work Plan Item #5 (*Marilew Bartling, Navarro*)

- **NSSAB Work Plan Item #5**
 - From a community perspective, provide a recommendation to the EM Nevada Program on how RWAP visual verifications could be enhanced
 - Up to two NSSAB members are invited to observe a LLW visual verification and present their observations to the full board
 - The NSSAB recommendation is due by July 2019
- **Visual Verification**
 - Process of visually observing the generator as they place waste in the disposal package
 - Disposal packages may include drums, soft-sided containers, and cargo-type containers
- **Goals of Visual Verification**
 - Ensure waste placed in container is consistent with the profile
 - Ensure the absence of prohibited items, such as free liquid
 - Assess the physical form of the waste and the overall compliance to the profile and the NNSWAC
- **FY 2018 Visual Verifications**
 - RWAP performed 37 LLW visual verifications in FY 2018, sites included:
 - National Laboratories at Oak Ridge, Lawrence Livermore, Los Alamos, Brookhaven, and Sandia
 - Clean-up and decommissioning projects at Idaho, West Valley, Portsmouth, NNS, and Tonopah Test Range
 - Production facilities including Advanced Mixed Waste Treatment Project in Idaho Falls, Idaho; Y-12 in Oak Ridge, TN; and Nuclear Fuel Services in Erwin, TN
- **FY 2019 Visual Verifications**
 - RWAP plans to conduct ~ 30 LLW visual verifications in FY 2019
 - As of the end of the first quarter of FY 2019, five visual verifications were completed
 - The goal is to include visual verifications during the performance of annual audits and surveillances, whenever possible
- **Proposed LLW Visual Verifications for NSSAB Observations**
 - Mission Support and Test Services, LLC – February 2019
 - General Atomics – February 2019
 - URS CH2M Oak Ridge, LLC (UCOR) – March 2019
 - Fluor-BWXT Portsmouth – June 2019
- **Path Forward**
 - Select up to two NSSAB members to observe a LLW visual verification
 - NSSAB members report their observations to the full board by July 2019
 - Full board provides a recommendation to EM Nevada Program for ways to enhance LLW visual verifications by July 2019
- **Questions**

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

- The RWAP team requests and reviews photographic evidence of LLW Visual Verifications that is provided by the generator, although there are security concerns at some DOE sites with utilizing visual recording devices. Most sites are very accommodating in taking and releasing photographs to the RWAP team. The RWAP team is respectful of the policies at each respective site.
- As the RWAP team consists of Navarro employees, the Federal LLW Activity Lead conducts quarterly evaluations of the five program elements on Navarro's Waste Certification Program.
- The time commitment for an NSSAB member to participate in an out-of-state LLW Visual Verification is one day for travel to the generator site, one day to observe, and one day to return.

DDFO Snyder verified that the NSSAB can vote on the generator location and the members participating in the LLW Visual Verifications as it is considered administrative decision-making and not a formal recommendation to DOE. After all questions were answered, Chair Bonesteel initiated Board discussion on attendee selection and path forward for the LLW Visual Verification – work plan item #5. Member Chuck Fullen made a motion that two NSSAB members participate in the LLW Visual Verification for Mission Support and Test Services, LLC (MSTS), Mercury, NV in February 2019. The motion was seconded and passed unanimously by show of hands. Vice-Chair Steve Rosenbaum made a motion that two NSSAB members participate in the LLW Visual Verification for Fluor-BWXT Portsmouth, Portsmouth, OH in June 2019. The motion was seconded and passed unanimously by show of hands. The Board chose Members Williamson-Erdag and Anthony Graham by ballot to observe the MSTS LLW Visual Verification with Members Connie Wissmiller and Janice Six as the alternates. Vice-Chair Rosenbaum and Member Six volunteered to observe the Fluor-BWXT Portsmouth LLW Visual Verification with Chair Bonesteel as the alternate. The Federal LLW Activity Lead will coordinate logistics with the NSSAB Office who will arrange any travel for the participating members.

Meeting Wrap-Up and Adjournment

Upcoming calendar of events:

- NSSAB Full Board Meeting at the Amargosa Valley Community Center in Amargosa Valley, NV – March 20, 2019 starting at 4 p.m.
- Low-level Waste Stakeholders Forum in Las Vegas, NV – Date TBD

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

Facilitator Ulmer adjourned the administrative meeting at 7:30 p.m.