Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting

Frank H. Rogers Science & Technology Building
755 East Flamingo Road, Las Vegas, NV
4:00 p.m. – July 17, 2019

Members Present:	Amina Anderson, Frank Bonesteel (Chair), William DeWitt, Karen Eastman, Pennie Edmond, Charles Fullen (phone), Dick Gardner, Anthony Graham, Tanya Henderson, Donald Neill, Steve Rosenbaum (Vice-Chair), Janice Six, Richard Stephans, Richard Twiddy, Dina Williamson-Erdag,
Members Absent:	Hepburn Klemm, Connie Wissmiller
Liaisons Present:	Chris Andres (State of Nevada Division of Environmental Protection [NDEP]), Richard Arnold (Consolidated Group of Tribes and Organizations [CGTO]), Phil Klevorick (Clark County), Darrell Lacy (Nye County Nuclear Waste Repository Project Office [NWRPO]), Patrick Lazenby (Nye County Emergency Management [NCEM])
Liaisons Absent:	Leo Blundo (Nye County Commission), Jared Brackenbury (Lincoln County Commission), Richard Friese (U.S. National Park Service [NPS]), Carl Gregory (White Pine County Commission), Delon Winsor (Esmeralda County Commission)
Department of Energy (DOE):	Robert Boehlecke, David Borak (Designated Federal Officer [DFO]), David Bowman and Darwin Morgan (National Nuclear Security Administration [NNSA]), John Myers, Kelly Snyder (Deputy Designated Federal Officer [DDFO])
Facilitator:	Barbara Ulmer (Navarro)
Contractors/Government:	Tom Bastian, Marc Klein, Dona Merritt, and Ken Rehfeldt (Navarro)
Public Signed In:	John Kivett, Ginger Somrith, Jo Wang, Sam Wida, Harold Winckler

Open Meeting/Chair's Opening Remarks

Chair Frank Bonesteel welcomed everyone to the meeting. Member William DeWitt made a motion to accept the agenda. The motion was seconded and passed unanimously.

Public Comment

The following written comment was received for the public record:

i would like to see recommendations from this agnecy on what they can do to save the wild horses in nevada. i find that far too many are being ripped off their home lands to be sent to slaughter and to die in hot corrals or to be turned into dead naimals. i find that appalling. millions upon millions of americans hare that throught withme. we want to know what youy can do to make the environment better with water for their use. we feel that on our national lands that belong to 330 milion ameicans we have room for these horses tto live and prosper. few are left after the attacks by the robber baron cattle grazers who want every inch of our land for their profiteering and they pay nothing ot the national populatoin treasury so that their use of our land is a defnite environmental hazard to all of us. we want the wild horsse back on our land. what can you do to help get those robber baron cattlemen off our national land and give the land back to our wild horses. we are sick of being robbed by the cattlemen profiteers. this commetn is for the public record. please receipt. jean publiee jean public1@gmail.com

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

Mr. Robert Boehlecke introduced Mr. David Bowman, the NNSA Deputy Field Office Manager for the Nevada National Security Site (NNSS).

Mr. Boehlecke opened that he has nothing new to report on the budget for the Environmental Management (EM) Nevada Program since the April 2019 NSSAB meeting. The fiscal year (FY) 2019 funding is adequate to accomplish all planned EM activities at the NNSS.

Mr. Boehlecke reminded the Board that the current Environmental Program Services contract with Navarro expires in January 2020. DOE continues its preparation of the final Request for Proposal to be issued soon.

Mr. Boehlecke reported on two unique waste streams in progress. The first waste stream is radioisotope thermoelectric generators (RTGs) that are currently located in France. Since the material used to build these RTGs originated in the United States, the French government has requested that the United States repatriate and dispose of the material. The initial waste profile is currently being reviewed, if approved; the targeted shipment date is late calendar year (CY) 2019 to early CY 2020 for disposal at the NNSS Area 5 Radioactive Waste Management Complex (RWMC).

The second unique waste stream is the U-233 Disposition Project – Oak Ridge Oxide Processing Glovebox Material located in TN. A portion of the inventory is being used to produce medical isotopes, and the remaining material from this process is planned for disposal at the NNSS. The waste profile is in the technical review process, if approved; disposal is planned to begin in late CY 2019.

Mr. Boehlecke updated that remediation of contaminated soil and debris continued at Clean Slate III on the Tonopah Test Range. Size reduction of large concrete and metal debris continued for packaging and disposal. The expected volume is approximately 215,000 cubic feet that will require around 450 shipments. The number of shipments completed is 330 to date. The project is expected to continue into August 2019 and be complete with all the material shipped and disposed at the NNSS in late summer 2019.

Regarding the Underground Test Area (UGTA) Activity, Mr. Boehlecke stated the UGTA team is currently addressing NDEP comments on the draft Yucca Flat model evaluation report with the final report anticipated by the end of July 2019. Approval from NDEP was received to proceed to "Execute New Federal Facility Agreement and Consent Order UGTA Decision Process" for corrective action unit (CAU) 99: Rainier Mesa/Shoshone Mountain.

Mr. Boehlecke stated that work continued on the expansion of the western portion of the Area 5 RWMC for future waste disposal. Berm and channel construction is continuing on the southern portion of the expansion. Berm and channel construction on the northern portion has been completed. The NNSS management and operating contractor is evaluating subcontract proposals for drilling the new monitoring well to be located south of the Area 5 RWMC. The contract award is anticipated in July 2019 with construction planned to be completed by the end of FY 2019. The mixed low-level waste (MLLW) Cell 18 is still regularly used for disposal. Closure activities for Cell 18 are planned for late FY 2019 with the final waste packages disposed in August 2019. The closure design has been finalized.

Mr. Boehlecke updated on the Notice of Alleged Violation (NOAV) issued to the NNSS by NDEP due to a generator shipping waste containers containing MLLW that were mischaracterized as low-level waste (LLW). The EM Nevada Program has been working on three tasks as part of a Supplemental Environmental Project. The first task is enhanced visual verifications that include traveling to waste generators to observe the packaging of waste. The EM Nevada Program has committed to 40 LLW visual verifications and 33 have been performed to date in FY 2019. The second task is additional real-time radiography to view contents of waste containers with powerful x-ray equipment. The EM Nevada Program has committed to a minimum of 100 containers and 77 containers have been examined to date. The third task is an in-depth review of the profile assessment that will consist of a deep dive to review concerns and fully understand the process.

Mr. Boehlecke mentioned recent events/stakeholder meetings (April 24, 2019 – present) conducted by EM Nevada Program staff:

- May 3 – May Science Be With You event at Desert Research Institute
- May 7-9 – EM Site-Specific Advisory Board (SSAB) National Chairs' Meeting
- May 20-23 – 2019 Generator Workshop
- June 13 – 500th Clean Slate II/Clean Slate III shipment recognition at the Area 3 Radioactive Waste Management Site

Mr. Boehlecke concluded with upcoming presentations/meetings/conferences (July 17-September 18, 2019) of interest to be conducted/attended by the EM Nevada Program:

- July 24 – NSSAB visit to Northern New Mexico SSAB
- July 31-August 2 – Clark County School District New Teacher Orientation outreach event
- August 7 – LLW Stakeholders Forum meeting in Pahrump, NV
- August 21 – NSSAB attending LLW visual verification at Los Alamos, NM
- September 3-5 – Radwaste Summit in Henderson, NV

- September 10-12 – EM National Cleanup Workshop in Alexandria, VA
- September 18 – Intergovernmental meeting with NSSAB liaisons in Las Vegas
- September 18 – NSSAB Full Board meeting in Las Vegas, NV

Mr. Boehlecke reported that on July 3, 2019, NNSS staff became aware of a problem involving non-compliant waste shipments from the Y-12 facility in Tennessee that disposes of waste at the NNSS. He apologized that the NSSAB may have already heard about this incident through the media. As has been committed to the NSSAB in the past and committed to in the future, the EM Nevada Program wants to be open and transparent and ensure that the Board receives information in a timely manner. The first priority was to confirm that not now, nor at any time, was there a threat to the public, workers at the NNSS, or to the environment.

Mr. Boehlecke stated that the incident is still in the early stages of a full investigation. He provided a short summary to ensure the NSSAB has a basic understanding of what occurred.

- During a period between 2013 and 2018, nine shipments containing 32 containers of waste were shipped to the NNSS that were not compliant with the NNSS waste acceptance criteria (WAC).
- These shipments were approved waste profiles through the Radioactive Waste Acceptance Program (RWAP) and contained multiple items including assemblies from classified nuclear weapon components.
- The sealed assemblies contained a very small amount of non-shock energetic material and small-pressurized vessels.
- The issue was discovered by Y-12 on July 2, 2019, and reported to the NNSS on July 3, 2019.
- The same day it was reported to the regulatory bodies in both Tennessee and Nevada (NDEP).
- It was also reported to Governor Sisolak and Senators Cortez-Masto and Rosen's offices.
- All shipments of MLLW and LLW from this generator have been suspended and an investigation of the incident was started to determine cause in order for corrective actions to be implemented.

In response to this incident, Secretary of Energy Rick Perry directed several immediate actions: 1) a DOE-wide assessment of radioactive waste shipment policies and procedures, 2) an operational pause to reinforce safety training for DOE personnel and contractors who have a role in the Department's mission related to waste shipment certification.

Mr. Boehlecke reiterated that at no time did this incident pose a threat to the public, workers at the NNSS, or to the environment, and he provided the following additional information based on questions received.

- The strength and structure of the sealed steel assemblies packaged inside steel shipping containers, along with the very small volumes of pressurized gas and non-shock energetic material protected the public, workers, and the environment from any reactions that could have taken place within the container.
- Both the non-shock sensitive energetic material and the compressed gas vessels are contained within a thick steel housing that would contain any sudden release of the

energetic material and the compressed gas. If released, the compressed gas, at the highest limit, would exert about 60 pounds of pressure per square inch within the assembly, about the same pressure as in a bicycle tire.

DOE senior officials discussed this topic with Governor Sisolak on two occasions and Senators Cortez-Masto and Rosen. DOE personnel in Nevada met multiple times last week with representatives from NDEP and will continue to meet with them. DOE also reached out to several liaisons from the NSSAB and committed that the EM Nevada Program will continue to provide information as additional facts are gathered about how this event occurred.

Mr. Boehlecke noted that he wanted to provide information today, but recognizes both the complexity of this issue and that the investigation is still continuing; so information currently available might not answer all of NSSAB questions. Options are being considered for future meetings to provide more detail and discussion and address any questions.

Under the purview of this Board, the NNSSWAC, RWAP, and the waste disposal operations are areas that the EM Nevada Program would accept feedback and/or recommendations from the Board. Mr. Boehlecke concluded that tonight, the EM Nevada Program had originally planned to provide a briefing on the NSSAB's work plan #3 that focuses on waste verification. Because all of the resources that would normally develop that briefing are focused on this incident, this work plan item has been postponed until a later date.

Mr. Boehlecke and Mr. Bowman provided the following clarifications in response to a Board questions regarding the Y-12 incident:

- The assembly was designed by one of the NNSA weapons laboratories and was shipped to the Y-12 facility as part of a nuclear weapon. The weapon was dismantled at the Y-12 facility. The personnel responsible for dismantling the weapon used drawings that did not indicate any hazardous materials inside the sealed assembly. The issue was discovered when Y-12 was in the process of shipping the assemblies back to the design lab and reviewed drawings that were more detailed. At that point, Y-12 noted the energetic material and compressed gases, and immediately realized an issue with the waste stream that had been coming to the NNSS since 2013.
- Lessons learned from this event will be applied to all waste generators, whether it be weapons-related, science, technology, energy development, etc. Once available, these lessons learned will be shared with the NSSAB.
- The last shipment was received in December 2018, and all containers are buried under at least four feet of soil cover in the Area 5 RWMC in one of the LLW cells designated for classified waste. During the investigation, it will be determined if the waste contains a hazardous component under the Resource Conservation and Recovery Act (RCRA), which requires a preapproved process with NDEP who has regulatory authority over RCRA waste. If the waste is not RCRA-regulated, a similar process would be followed, and NDEP would be involved under an Agreement in Principle with DOE. Under the AIP, NDEP staff have been granted clearance to observe classified information in their oversight role.
- The waste is buried in a grid system, and the waste packages could be identified and removed if necessary, although the safety of the worker and the public would be highly considered.

- In order for this waste to be properly disposed per the NNSSWAC, the inert gases would have needed to be released from the pressure vessels before disposing at the NNSS. It is not yet clear what the proper process would be for the energetic material. The NNSS could have taken if it were expended.
- There will be no additional funding available for the investigation and corrective actions; therefore, money currently in the DOE budget will need to be reallocated to pay for any actions resulting from the incident.
- Waste shipments from the Y-12 generator to the NNSS have been suspended. A set process will be followed, including a root cause analysis, corrective action plan, implementation of corrective actions, and validation by the EM Nevada Program of any corrective actions before the generator can resume waste shipments to the NNSS. As a conservative measure, a generator in Texas, under the same contract to the NNSA, voluntarily suspended shipments to the NNSS. At this time, this generator has not been issued a Funding and will not need to undergo the corrective action process unless the investigation determines that there is a similar issue.

NNSA Update (*Darwin Morgan, NNSA*)

Mr. Darwin Morgan updated the NSSAB on several activities being conducted at the NNSS that support the national security mission throughout the entire NNSA complex. At the Joint Actinide Shock Physics Experimental Research (JASPER) facility and the Dry Alluvium Geology, scientists are developing sensors that can detect if another country is conducting a nuclear test outside the treaties. Experiments with these sensors are conducted at the NNSS in different types of geology, such as, granite, alluvium, etc., and differentiate between mining activities, earthquakes, or other conventional detonations. At JASPER, the NNSA continues to conduct experiments on plutonium to assure the safety and reliability of the nuclear weapons stockpile. At the underground U1A facility, preparations are underway for the next series of subcritical experiments to be conducted in the next 18 months to two years to obtain information about the nuclear weapons stockpile. Mr. Morgan concluded that there was no adverse effects to facilities or activities at the NNSS due to the recent earthquake and aftershocks.

Liaison Updates

Clark County (*Phil Klevorick*)
Liaison Phil Klevorick reiterated from Mr. Boehlecke's update that there are several meetings coming up in the next four months that he will attend. Liaison Klevorick requested additional information regarding the possibility of a supplemental analysis to the NNSS Site-Wide Environmental Impact Statement (SWEIS) for the unique waste streams and the status of the next NNSS SWEIS. Mr. Boehlecke responded that the NNSA/Nevada Field Office National Environmental Policy Act (NEPA) Compliance Officer would be consulted for an answer to these items.

CGTO (*Richard Arnold*)
Liaison Richard Arnold reported that the tribes continue monthly monitoring at the revegetation project at the 92-Acre Area of the Area 5 RWMC. The EM Nevada Program provided a presentation regarding the project to the tribes that was an opportunity to share information and insight. In June 2019, a meeting was held with the Tribal Monitoring Committee, NDEP, and the EM Nevada Program to discuss the strategies, methodologies, and results of the revegetation project. There are (30) 10x10 meter test plots and (8) 10x100 meter test plots, and the committee is determining which vegetative process is having the most success. The committee is

recommending that a soil analysis be conducted to provide more information for future DOE revegetation efforts. In June 2019, Liaison Arnold attended the National Transportation Stakeholders Forum through which DOE communicates with states and tribes regarding the Department's waste shipments across the country. In the next several months, Liaison Arnold concluded that he would be attending the RadWaste Summit, DOE National Tribal Energy Summit, and the State & Tribal Governments Working Group meetings as part of the Intergovernmental Meeting with DOE in Nashville, TN.

NCEM (*Patrick Lazenby*)
Liaison Patrick Lazenby had nothing new to report.

NWRPO (*Darrell Lacy*)
Liaison Darrell Lacy noted that Nye County has been involved in many of the same activities that other liaisons have reported. Nye County has an interest in DOE's new interpretation of the definition of high-level radioactive waste (HLW) and any potential impacts to the NNSS.

NDEP (*Christine Andres)*
Liaison Christine Andres added to Liaison Lacy's update that she participated in a webinar regarding the new interpretation of the definition of HLW. The question was posed to Mr. Mark Senderling, DOE's Deputy Assistant Secretary for Waste and Materials Management, if there is a potential for reclassified waste be disposed at the NNSS. Mr. Senderling responded that DOE has committed that the waste would go to commercial facilities and not the NNSS based on agreements with former U.S. Senator Heller from Nevada. Liaison Andres updated on several activities under the Federal Facility Agreement and Consent Order. NDEP approved comment responses to the draft Yucca Flat model evaluation report, and the final report should be available by the end of this month. For Rainier Mesa/Shoshone Mountain CAU, NDEP has agreed to the regulatory boundaries and its objectives, and the formal letter from NDEP will be submitted tomorrow. This action will move the CAU into the closure stage. For the Pahute Mesa CAU, NDEP continues discussions with the UGTA team on the data completeness and the path forward. NDEP is reviewing the Cell 18 closure plan and is attending a meeting tomorrow. Liaison Andres concluded that there is also a meeting tomorrow regarding CAU 577 that was created as a result of the NOAV that Mr. Boehlecke has been reporting on in DOE updates. Since this incident resulted in MLLW disposed in LLW cells, the EM Nevada Program will be capping some of the LLW cells under the RCRA.

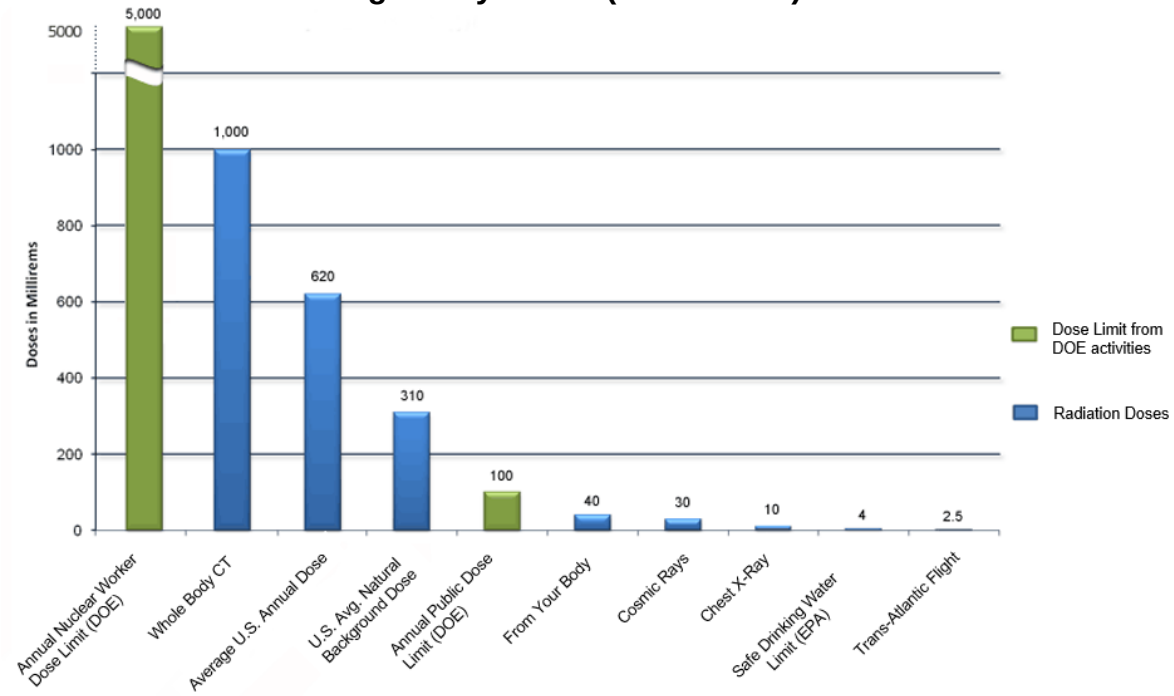
Nye County Commission (*Leo Blundo*)
Liaison Leo Blundo provided the following update in writing: I want to thank everyone for their work and participation, and he looks forward to the next NSSAB meeting. The NSSAB can contact any of the Nye County representatives with any related questions.

Effects of Tritium Exposure (*Tom Bastian, Navarro)*

- **Regulatory Standard for Tritium**
  - A rem is a unit of effective absorbed dose of ionizing radiation in human tissue
  - The average concentration of tritium assumed to yield four mrem per year is 20,000 picocuries per liter (two liters per day, every day)
  - On average, a general member of the public receives 620 mrem/year (a mrem is 1/1,000 of a rem)

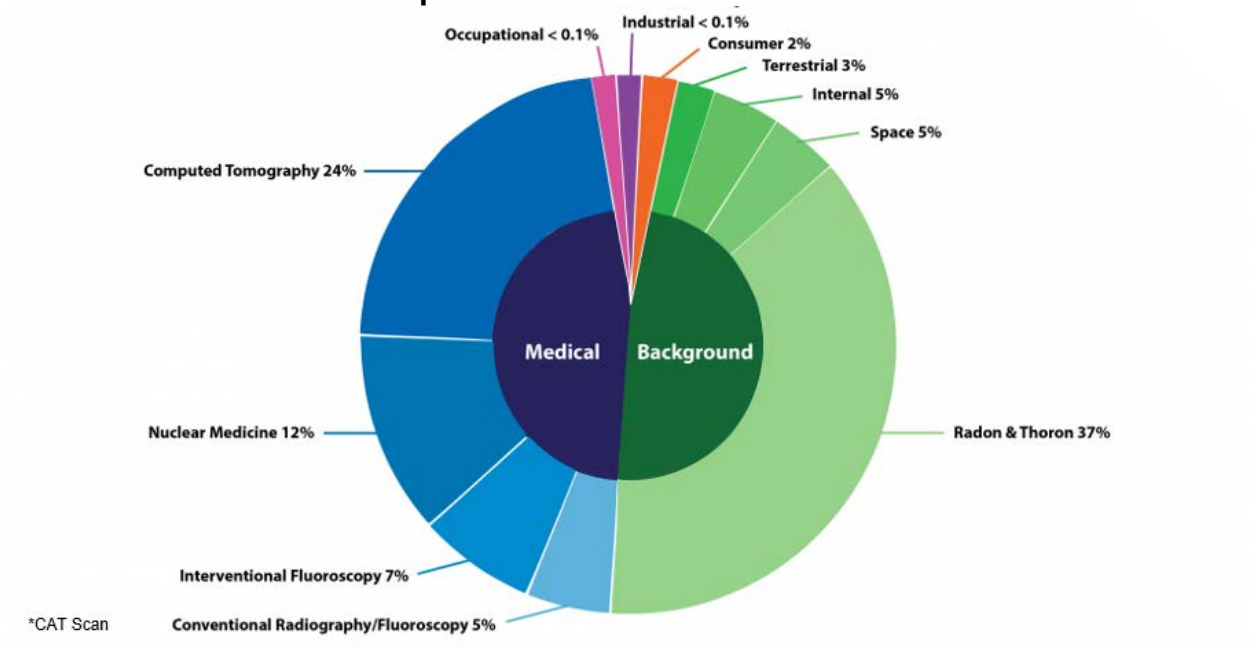
- U.S. Environmental Protection Agency has estimated that consumption of 4 mrem of beta/photon emitters in drinking water over a lifetime may result in an individual cancer risk of .000056 (5.6 x 10^{-5} or 1 out of 17,857)

- **Radiation Doses and Regulatory Limits (in Millirems)**



  - Source: https://www.nrc.gov/images/about-nrc/radiation/factoid2-lrg.gif

- **Sources of Radiation Exposure**

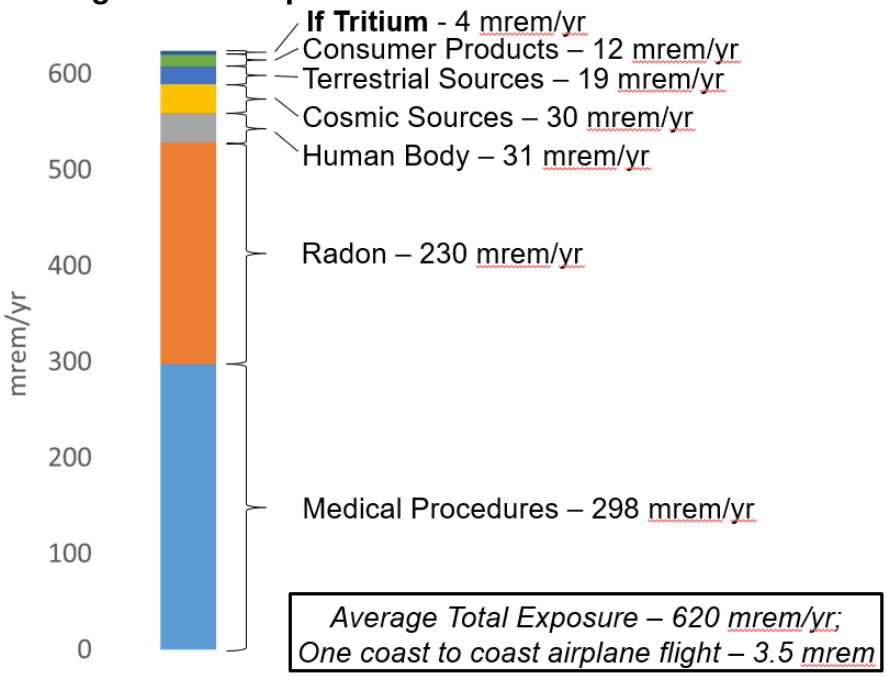


Average Annual Radiation Dose

Sources	Radon & Thoron	Computed Tomography	Nuclear Medicine	Interventional Fluoroscopy	Space	Conventional Radiography/ Fluoroscopy	Internal	Terrestrial	Consumer	Occupational	Industrial
Units											
mrem (United States)	228 mrem	147 mrem	77 mrem	43 mrem	33 mrem	33 mrem	29 mrem	21 mrem	13 mrem	0.5 mrem	0.3 mrem
mSv (International)	2.28 mSv	1.47 mSv	0.77 mSv	0.43 mSv	0.33 mSv	0.33mSv	0.29 mSv	0.21 mSv	0.13 mSv	0.005 mSv	0.003 mSv

  - Source: https://www.epa.gov/sites/production/files/styles/large/public/2017-04/donut-pie-chart.png

- **Putting It into Perspective**



- **Questions**

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

- In the case of tritium, tritiated water ingested will dissipate in the body in about ten days.
- The Safe Drinking Water Act standard of 20,000 picocuries per liter for tritium set by the U.S. Environmental Protection Agency is deemed an acceptable risk.
- During a whole body count, an area of a person's body is shielded from background radiation to detect radioactive material that has been deposited in the body. This process can detect naturally occurring versus man-made radioactive material. A whole body count is not effective with tritium; therefore, a sample, typically urine, is evaluated to detect tritium concentrations in the body.
- Tritium is produced in nuclear reactions, in nuclear reactors, and naturally in the cosmic background.
- During an airplane flight, a person receives a radiation dose from cosmic radiation from deep space. As an example, flights near the north or south poles provide less protection from the magnetic field of the earth, so the dose rate is typically higher than flight paths around the equator or across a continent.

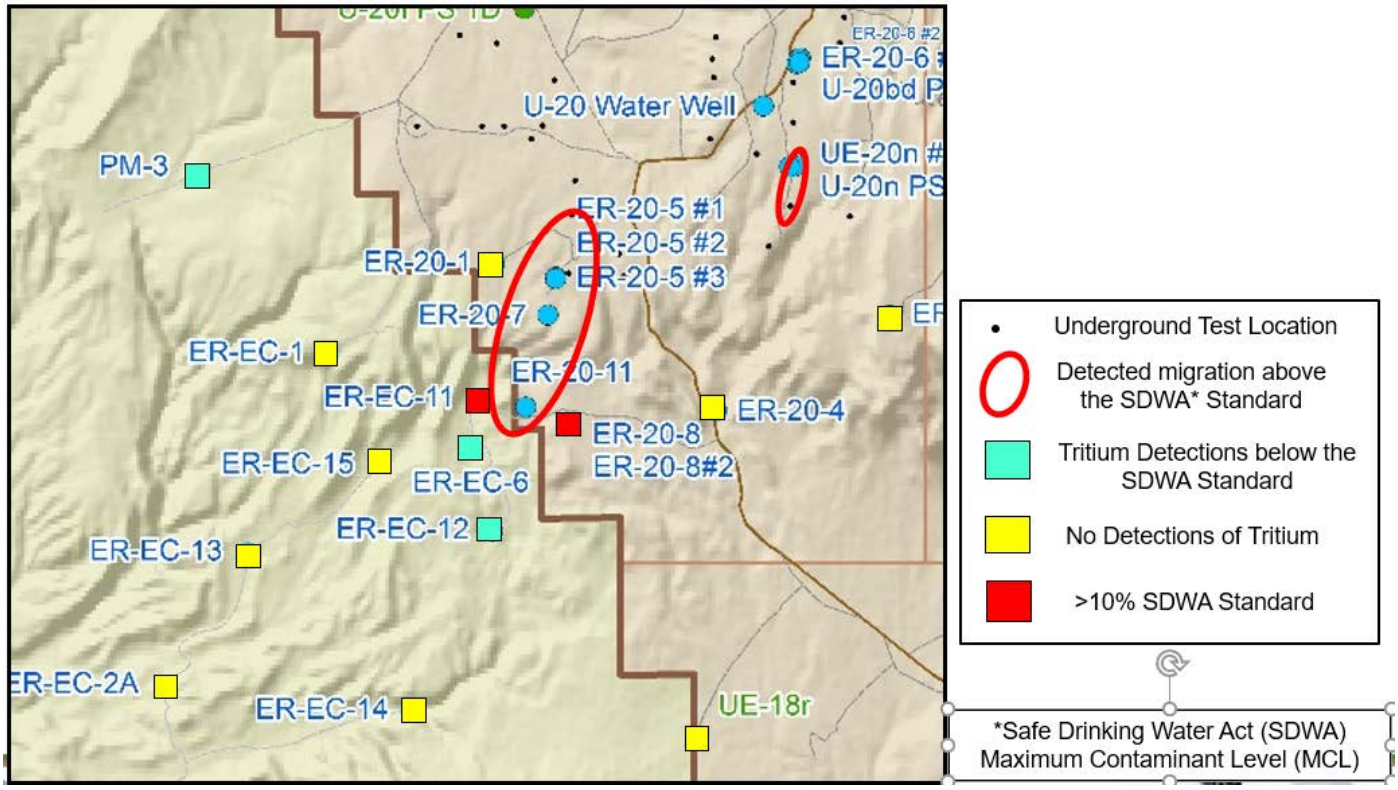
Pahute Mesa Groundwater Sampling Well Prioritization ~ Work Plan Item #1 *(Ken Rehfeldt, Navarro)*

- **Key Message**
  - Current research shows the public water supply in Oasis Valley is safe from the impacts of historic underground nuclear testing
  - Groundwater contamination affected by historic NNSS activities has not gone beyond restricted Federal land
  - Groundwater models will use current monitoring data to provide output that is key to enhancing current and developing future monitoring strategies
- **Outline**
  - Pahute Mesa Pragmatic Approach Recap

- NSSAB Work Plan Item #1 – Prioritization of Factors for Selection of Pahute Mesa Groundwater Sampling Well Locations
- Pahute Mesa Background
- Reasons for Drilling Wells and Timeframe
- Prioritize Factors

- **Pahute Mesa Pragmatic Approach Recap**
  - Use the additional measured contaminant data to the fullest extent possible
    - Evaluate models against measured data (water levels, tritium concentrations, aquifer parameters) to eliminate inaccurate predictions to reduce uncertainty
    - Model must be consistent with the data with acceptable tolerance
    - Models can show contamination where data shows there is none
    - Use the data fully to eliminate bad model forecasts
  - Focus on the monitoring of contaminants that are moving offsite toward Oasis Valley
  - Use the model to help figure out if new monitoring wells should be drilled, and if so, where to drill
    - Modeling will identify and fill in gaps in the current well/monitoring network
  - Develop a robust monitoring well network that is protective of human health and the environment
- **Moving Forward in Pahute Mesa**
  - The data from monitoring wells is a key element of the pragmatic approach
  - Expect that drilling of new wells in support of the pragmatic approach will be needed in the future
  - What factors should the EM Nevada Program use to select new well locations in support of the pragmatic approach?
- **NSSAB Work Plan Item #1**
  - From a community perspective, provide a recommendation on prioritizing the factors used by the EM Nevada Program to prioritize proposed well locations for Pahute Mesa
- **Pahute Mesa Background**
  - 36 underground nuclear tests were conducted in Area 19, accounting for 14.9% of the radionuclide inventory (curies)
  - 46 underground nuclear tests were conducted in Area 20, accounting for 45.3% of the radionuclide inventory (curies)
  - At the present time, ~89% of the radionuclide inventory is from tritium
    - Based on Finnegan et al 2016, corrected to 9/30/2012
- **Groundwater Flow on the NNSS**
  - 60 years of data collected indicate that groundwater:
    - In the eastern portion, eventually discharges to the Ash Meadows/Devils Hole or Death Valley areas
    - In the northwestern portion, locally discharges to springs in Oasis Valley
- **When is New Drilling Planned?**
  - Likely that one or more new wells will be drilled during the corrective action decision document (CADD)/corrective action plan (CAP) stage
  - Current planning to drill new wells is ~fiscal year 2023 or later
    - Steps yet to complete before drilling include: modeling, report preparation, EM Nevada Program and NDEP approval, External Peer Review, CADD/CAP approval, then model evaluation data collection beginning with drilling
  - Important to start thinking now about what factors to use to select well locations
- **Pahute Mesa Well Locations**
  - More than 50 existing well locations
    - Includes more than 80 sampling intervals

- **Why Does EM Nevada Program Drill Wells:**
  There are the factors the NSSAB is being asked to prioritize:
  - Support modeling
    - Forecast contaminant boundary
  - Expand knowledge of the flow system
    - Research areas where there is limited data
  - Refine monitoring network
    - Show where there is no contamination
    - Find the leading edge of plumes
  - Any additional factors?
- **Drilling to Support Modeling**
  - Collect data from wells to support model forecasts (i.e., water levels, model parameters, geology, radionuclide source concentrations)
- **Drilling to Expand Knowledge of the Flow System**
  - Expand knowledge of the flow system for:
    - Areas with few or no other wells
    - Geology, water levels, structures, water chemistry, etc.
    - Wells on the Nevada Test and Training Range
- **Drilling to Refine Monitoring Network**
  - Refine understanding of the nature and extent of radionuclide contamination (monitoring)
- **Plume Monitoring Well Network**



- **Wells Selection Subcommittee**
  - A subcommittee was recently convened to develop technical criteria to consider for selecting future wells locations
  - Members include:
    - EM Nevada Program
    - NDEP

        - Navarro
        - Nye County
        - Desert Research Institute
        - Lawrence Livermore National Laboratory
        - Los Alamos National Laboratory
        - Mission Support and Test Services, LLC
        - U.S. Geological Survey
    - The NSSAB's recommendation on prioritization of the factors will be used by the Well Selection Subcommittee and the EM Nevada Program in making decisions on future well locations
- **Prioritize Factors**
    - From a community perspective, provide a recommendation on prioritizing the factors used by the EM Nevada Program to prioritize proposed well locations for Pahute Mesa
        - Support modeling
            - Forecast contaminant boundary
        - Expand knowledge of the flow system
            - Research areas where there is limited data
        - Refine monitoring network
            - Show where there is no contamination
            - Find the leading edge of plumes
        - Any additional factors?
    - The NSSAB recommendation is due tonight
- **Questions**

In response to a Board question, the following clarification was provided:

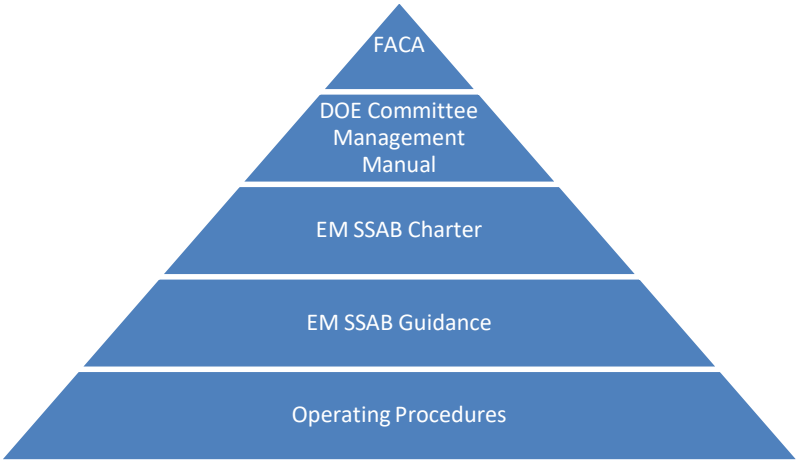
- During characterization sampling of wells, a full suite of radionuclides (iodine-129, technicium-99, chlorine-46, carbon-14, plutonium, uranium, strontium, and cesium) is measured for concentration levels. Tritium is the leading indicator that provides the most information on radionuclide transport. All other radionuclides outside of the test cavity have measured at concentration levels that are below the Safe Drinking Water Act standard. There are no physical or chemical processes that allow other radionuclides to transport ahead of tritium.

Chair Bonesteel lead a group discussion to address any further thoughts, concerns, comments, suggestions, or questions related to the work plan item. After Board deliberation, there were no additional factors suggested by the NSSAB. Member Anthony Graham made a motion that the factors be prioritized from highest to lowest, as follows: 1. Expand knowledge of the flow system, 2. Refine monitoring network, and 3. Support modeling. The motion was seconded and passed with a majority.

Introduction to the EM Site-Specific Advisory Board (SSAB) (David Borak, EM SSAB)

- **Agenda**
    - The Formation of the EM SSAB
    - Federal Advisory Committee Act (FACA) and the Guiding Principles for the EM SSAB
    - Your Roles and Responsibilities under FACA
    - Legal Considerations under FACA
    - Questions

- **What is the EM SSAB?**
  - Chartered in 1994 under FACA to involve local citizens more directly in DOE EM cleanup decisions
  - There is one charter for the EM SSAB-currently eight local boards organized under the EM SSAB umbrella charter
  - These eight local boards are brought together routinely at the EM SSAB Chairs meetings, where the EM SSAB is able to speak in one voice
  - Made up of representative members, not necessarily experts
  - Focus on stakeholder values
  - DOE receives independent input and focus on transparency to build trust
- **FACA**
  - Purpose of FACA
    - Ensure that advice by advisory boards/committees is objective and accessible to the public
    - Formalize process for establishing, operating, overseeing and terminating advisory boards
    - Create the Committee Management Secretariat
    - Require that boards advise and recommend, not decide and implement
  - Benefits of FACA
    - Transparency and participation improves citizens' trust in government
    - FACA requirements lend credibility to the boards' advice
- **FACA by the Numbers**
  - ~1,000 federal advisory committees in existence at any time
  - ~65,000 committee and subcommittee members at any time
  - ~60 executive departments and agencies that sponsor committees each year
  - ~1,000 reports issued each year
  - ~7,000 meetings held each year
- **Basic Legal Requirements of FACA**
  - Requires a charter outlining the committee's mission and specific duties
  - Allow for open access to committee meetings and operations
    - Meetings must be accessible to the public and announced in the Federal Register
    - Committee documents must be maintained and made available for public inspection
  - Maintain a "fairly balanced" membership
  - Provide an opportunity for Public Comment
  - Violations?
- **Guiding Documents**



- **Member Responsibilities**
  - Attend regular meetings and learn about the site's EM cleanup mission
  - Provide recommendations at the request of EM management
  - Work collaboratively and respectfully with other Board members
  - Avoid techniques such as **"**bargaining**"** and acquiescence simply to avoid conflict and reach agreement
  - Avoid responding directly to public comments
  - Don't use your title or represent the board outside of a meeting
  - Report if an outside entity is attempting to influence your decisions
  - Focus on the Board's mission-collaboratively establishing a work plan
  - Notify the DDFO of any potential or perceived conflict of interest
- **Conflicts of Interest**
  - EM SSAB members are not subject to the same federal ethics regulations as federal employees and Special Government Employees (SGEs)
    - As a matter of policy, however, DOE asks that you:
      - Refrain from any use of your membership, which is, or gives the appearance of being, motivated by the desire for private, professional, or financial gain;
      - Recuse yourself from decisions and discussions related to real or perceived conflicts of interest, act impartially, and avoid the appearance of impropriety; and
      - Seek immediate guidance, beginning with the DDFO, if you are offered anything of value such as a gift, gratuity, loan, or favor in connection with advisory board service

There were no Board questions following the presentation.

Other NSSAB Business (*Frank Bonesteel, Chair*)

Chair Bonesteel reported that he and Vice-Chair Steve Rosenbaum attended the spring EM SSAB National Chairs Meeting in Augusta, GA. During the meeting, the EM SSAB developed two draft recommendations for consideration by the eight local boards. The first draft recommendation focused on "EM's Review of Cleanup Milestones." Member Karen Eastman made a motion to endorse this draft recommendation. The motion was seconded and passed with a majority. The second draft recommendation that was proposed was "Improving EM's Science and Technology Program." Member DeWitt made a motion to endorse this draft recommendation. The motion was seconded and passed unanimously. The NSSAB Office will notify EM Headquarters that the two draft recommendations were passed by the NSSAB.

Chair Bonesteel asked the committee chairs, Richard Twiddy and Dina Williamson-Erdag, if they had anything to report regarding the two ad hoc liaison participation committees established in November 2018. Committee Chair Twiddy commented that the NSSAB values the input and perspectives that the liaisons bring to the table. The NSSAB has more liaisons than the other EM local advisory boards. His committee interviewed the majority of the liaisons to determine whether their organizations had sufficient resources to continue attending NSSAB meetings. Committee Chair Twiddy continued that the majority of the liaisons responded that they do have sufficient resources. However, liaisons in the outlying counties, such as Lincoln, Esmeralda, and White Pine, represent large geographical areas with small populations, so they do not have the resources as the larger counties or organizations. In some cases, another representative from their county may attend, except for the travel costs incurred. All the liaisons believe that their participation at the meetings is important. Committee Chair Twiddy reminded the NSSAB that the

Board went to great efforts to develop a communication plan last year, and supporting liaisons from the outlying counties with travel reimbursement in order to attend NSSAB meetings would be beneficial for sharing information at the meetings and with their respective communities.

Chair Bonesteel noted that the option to participate by phone is available at most of the meetings. DDFO Kelly Snyder added that the annual confirmation letter with a list of responsibilities was recently sent out to the liaison organizations that detailed the two ways for participation on the NSSAB. A "full" liaison allows liaison organizations to have a seat on the NSSAB, participate in Board discussions, and provide input into recommendations. A "limited" liaison does not include a formal seat on the NSSAB, although they can participate by receiving NSSAB communications. DDFO Snyder noted that the NSSAB could review the list of liaison responsibilities to provide recommendations regarding liaison participation.

Committee Chair Williamson-Erdag clarified that the other ad hoc liaison participation committee reviewed the option of increasing the number of liaison organizations. This discussion had been tabled, because funding may be an issue with an increase of liaisons. Member Dick Gardner made a motion that the NSSAB recommend that the EM Nevada Program conduct an evaluation and determine if funding could ever be provided for liaison's travel expenses. The motion was seconded and passed unanimously.

During the March and April 2019 NSSAB meetings, Liaison Klevorick provided updates regarding a supplemental environmental impact statement (SEIS) regarding depleted uranium that could be shipped and disposed at the NNSS. Liaison Klevorick suggested that DOE provide presentations to the NSSAB prior to the close of public comment for actions that could have a potential impact in Nevada regarding operations at the NNSS. These actions could be resulting from an environmental impact statement, SEIS, or environmental assessment that requires a NEPA review. The NSSAB and the public would then have an opportunity to be educated on these activities and the ability to provide timely comments on actions that could have a significant impact in Nevada. Liaison Klevorick continued that if there is not a comment period, a presentation should be provided to the NSSAB in a timely manner for informational purposes, such as, unique waste streams and other non-NEPA actions. As an EM-chartered board, DDFO Snyder informed the NSSAB that it could make recommendations to the EM Program outside the public comment period and receive a DOE response.

Vice-Chair Steve Rosenbaum made a motion that the NSSAB recommend that DOE provide a presentation to the NSSAB prior to closure of the public comment period on actions that could have a potential impact in Nevada regarding operations at the NNSS. For actions that do not have a public comment period, a presentation be provided in a timely manner for informational purposes. The motion was seconded and passed unanimously.

Facilitator Barbara Ulmer announced that elections will be held for the NSSAB Chair and Vice-Chair positions at the September 18, 2019 Full Board meeting. A list outlining the responsibilities for both positions was provided to the Board. Members were encouraged to consider running for a leadership position. Interested members are asked to notify the NSSAB Office no later than August 31, 2019.

Four letters were provided to Board members for informational purposes:

- NSSAB Recommendation for FY 2021 Baseline Prioritization (Work Plan Item #7) – dated April 24, 2019

- DOE Response to NSSAB Recommendation for FY 2021 Baseline Prioritization (Work Plan Item #7) – dated May 7, 2019
- NSSAB Recommendation for Audit Determination Process (Work Plan Item #4) – dated March 20, 2019
- DOE Response to NSSAB Recommendation for Audit Determination Process (Work Plan Item #4) – dated June 3, 2019

Meeting Wrap-Up and Adjournment

Chair Bonesteel led discussion for the starting time for the September 18, 2019 NSSAB Full Board meeting that is typically a longer meeting as it includes work plan development for FY 2020. Members voted to start the September meeting at 4 p.m. with the Intergovernmental Meeting starting at 3 p.m.

Upcoming calendar of events:

- NSSAB visit to Northern New Mexico SSAB in Taos, NM – July 24, 2019
- Community Environmental Monitoring Program (CEMP) Training in Las Vegas, NV – July 26, 2019
- LLW Stakeholders Forum meeting in Pahrump, NV –August 7, 2019
- LLW Visual Verification in Los Alamos, NM (NSSAB Observe) – August 21, 2019
- UGTA Technical Information Exchange Workshop and Celebration in Las Vegas, NV – August 29, 2019
- NSSAB Full Board meeting in Las Vegas, NV – September 18, 2019
- Intergovernmental Meeting with NSSAB liaison in Las Vegas, NV – September 18, 2019
- RadWaste Summit 2019 in Henderson, NV – September 3-5, 2019
- EM Cleanup Workshop in Alexandria, VA – September 10-12, 2019
- EM SSAB National Chairs Meeting in Sun Valley, ID – October 27-30, 2019

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

Member Twiddy made a motion to adjourn the meeting. The motion was seconded and passed unanimously. The meeting was adjourned at 8:14 p.m.