



Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting

**National Atomic Testing Museum
755 East Flamingo, Las Vegas, NV
5:00 p.m. – May 20, 2015**

Members Present: Amina Anderson, Michael Anderson, Pennie Edmond, Donna Hruska (Chair), Janice Keiserman (Vice-Chair), James Manner, Michael Moore, Donald Neill, Steve Rosenbaum, Edward Rosemark, William Sears, Thomas Seley, Cecilia Flores Snyder, Jack Sybolt, Francisca Vega

Members Absent: Michael D'Alessio

Liaisons Present: Phil Klevatorick (Clark County), John Klenke (Nye County Nuclear Waste Repository Project Office [NWRPO]), Mark McLane (State of Nevada Division of Environmental Protection [NDEP]),

Liaisons Absent: Richard Arnold (Consolidated Group of Tribes and Organizations [CGTO]), Ralph Keyes (Esmeralda County Commission), Frank Carbone (Nye County Commission), Jonathan Penman-Brotzman (U.S. National Park Service [NPS])

Department of Energy (DOE): Tiffany Lantow, Kelly Snyder (Deputy Designated Federal Officer [DDFO])

Facilitator: Barb Ulmer (Navarro)

Public Signed In: Wayne Belcher (United States Geological Survey [USGS]), Jenny Chapman (Desert Research Institute [DRI]), Lynn Kidman (Navarro), Ming Lai (Las Vegas, NV), Pat Matthews (Navarro), Dona Merritt (Navarro), Chuck Russell (DRI), Jeff Sanders (North Las Vegas, NV), Judy Treichel (Las Vegas, NV), Lacy Triplett (Henderson, NV), Laura-Marie Taylor (Las Vegas, NV)

Open Meeting/Chair's Opening Remarks

Chair Donna Hruska announced the resignation of Member James Tallant. Following the Chair's opening remarks, Vice-Chair Janice Keiserman moved to approve the agenda as presented. The motion was seconded and passed unanimously.

Public Comment

Judy Treichel noted that she has become aware from several people who have called and been upset that the U.S. Environmental Protection Agency was going to remove its mobile radiation detection unit from the University of Nevada, Las Vegas (UNLV). This mobile radiation detection unit has been at UNLV for a very long time and is now being relocated to Alabama. People are very concerned that with low-level waste being accepted at the Nevada National Security Site (NNSS) and also the fact that there are commercial nuclear power reactors to the west of us; they felt that this unit should stay here. Ms. Treichel posed the question whether the NSSAB was aware of it and if the Board has researched or looked into whether this makes us less safe here? Is this going to be a loss to our ability to respond and be aware if there has been a problem with radiation either on the roads at the former test site or with any nuclear facility here?

U.S. DOE Update (*Scott Wade, DOE*)

Scott Wade was not available to provide an update on Environmental Management (EM) activities at the NNSS.

Liaison Updates

Clark County (*Phil Klevorick*)

Liaison Phil Klevorick reported that at the end of March 2015, he participated in a very informative two-day Native American Youth Awareness Forum on Nuclear Issues at UNLV. Youth members and elders from various tribes around the region were in attendance to discuss tribal perspectives and involvement regarding the NNSS.

Liaison Klevorick noted that about two weeks ago, a test training run for the transportation and acceptance of the Consolidated Edison Uranium Solidification Project (CEUSP) waste stream at the NNSS was reported in the newspapers. Liaison Klevorick said that a pre-notification to the local jurisdictions and public officials prior to the test run would have been beneficial. As a result, he was called upon by the Clark County Commission to provide facts regarding the CEUSP shipments. Additionally, Klevorick said the Governor's Office and the Secretary of Energy's Office have agreed that the shipments would be escorted by the Office of Secure Transportation (OST). As part of OST's policy, it will not be made publicly known when and what routes the shipments will take for security reasons and Clark County is in agreement with this policy, said Liaison Klevorick.

Liaison Klevorick stated that DOE and several emergency managers, including him, have started planning for another tabletop exercise to be held in this fall. The focus will be mainly on the public information aspects regarding emergency response. This tabletop is a follow-on to two prior tabletop exercises held in the past couple years.

Liaison Klevorick reported that Scott Wade and he attended the National Transportation Stakeholders' Forum in Albuquerque, New Mexico last week. He is a member of the Western Interstate Energy Board and the Western Governors' Association. They are working on national transportation plans for both rail and road shipments. There is a proposal that has been approved by Congress to build an interstate from south of Tucson to the Canadian border. This interstate would go through Carson City and may affect transportation routes to the NNSS in the future.

NWRPO (*John Klenke*)

Liaison John Klenke had nothing to report.

NDEP (*Mark McLane, Alternate*)

Alternate Liaison Mark McLane had nothing to report.

Corrective Action Alternatives for Corrective Action Unit 568, Area 3 Plutonium Dispersion Sites (Work Plan Item #2) (*Tiffany Lantow, DOE*)

- **NSSAB Work Plan Item 2**
 - Provide a recommendation, from a community perspective, to the Department of Energy on which corrective action alternative (closure in place or clean closure) should be presented to the NDEP for final approval for Corrective Action Unit 568 – Area 3 Plutonium Dispersion Sites
- **What are the Issues?**
 - Surface soils at the NNSS and the Nevada Test and Training Range (operated by the U.S. Air Force) were contaminated by:
 - Historical atmospheric nuclear weapons tests
 - Nuclear weapon safety experiments
 - Nuclear weapon storage-transportation tests
 - Evaluation tests for peaceful uses of nuclear explosives
- **Addressing the Issues**
 - The Soils Activity is responsible for:
 - Characterizing and/or remediating surface soil contamination
 - Characterize means to identify the nature and extent of the contamination present
 - Remediate means to select and complete a closure option (clean closure, closure in place, etc.)
 - Ensuring appropriate controls (i.e., signage/postings, barriers, etc.) are in place at the sites with remaining contamination
 - Conducting long-term monitoring of sites
 - NDEP provides oversight under the Federal Facility Agreement and Consent Order (FFACO)
- **Key Terminology**
 - Corrective Action Site (CAS): A site that where a potential release of contaminants has been identified
 - Corrective Action Unit (CAU): Grouping of CASs that are similar in remediation technique, type of contaminants, or proximity to each other (grouped to create efficiencies)
- **Principles of Soils Strategy**
 - Uses Soils Risk-Based Corrective Action Evaluation Process, which is:
 - Strategy to plan, implement, and complete environmental corrective actions

- Establishes final action levels, the chemical or radiological level that, when exceeded requires corrective action
 - Corrective actions must be considered when site conditions exceed a final action level
- **Corrective Action Alternatives (CAAs)**
 - CAAs identified in FFAO:
 - Closure in place with use restrictions, as necessary
 - Clean closure (removal of contaminants, no use restrictions)
 - No further action
 - CAAs evaluated based on general standards and remedy selection decision factors defined by the U.S. Environmental Protection Agency (40 CFR 300.430(e)(9))
- **Soils CAU/CAS Summary**
 - 31 total CAUs comprised of 138 Total CASs
 - 115 Closed CASs
 - 48 Closure in Place
 - 7 Clean Closure
 - 60 No Further Action
- **CAAs General Standards**
 - Only Corrective Action Alternatives that meet all of the following standards are scored:
 - Protection of human health and the environment
 - Compliance with environmental cleanup standards
 - Control the source(s) of the release
 - Comply with applicable federal, state, and local standards for waste management
- **CAAs Remedy Selection Decision Factors**
 - The remedy selection decision factors used for scoring CAAs are:
 - Short-term reliability and effectiveness
 - Reduction of toxicity, mobility, and/or volume
 - Long-term reliability and effectiveness
 - Feasibility
 - Cost
- **CAU 568 Overview**
 - 14 CASs, consisting of:
 - 15 weapons-related tests conducted between 1961 and 1967
 - 11 safety experiments conducted between 1958 and 1962
 - Lead items, transformer, soil and debris piles, radiologically-contaminated metallic debris
 - One small drainage
- **CAU 568 Field Activities**
 - Field Activities:
 - Sampling and radiological dose measurements conducted between April 2014 and April 2015, including:
 - Soil sampling (chemical and radiological)
 - Thermoluminescent dosimeter placement
 - Terrestrial radiological surveys
 - Characterization and removal of lead debris and transformer

- **NSSAB Involvement**
 - Department of Energy requests NSSAB provide a recommendation this evening on which corrective Action Alternative for the sites identified in the following slides that should be presented to NDEP for final approval
 - Possible CAAs
 - Closure in Place with use restrictions
 - Clean Closure
- **Corrective Action Alternatives Evaluation Base Assumptions**
 - Site remains in government control
 - Site workers have radiological training
 - No public access
 - If this changes, site closures may be reevaluated
- **CAU 568 Corrective Action Evaluation**
 - Corrective Action decisions are required for:
 - Well Head covers at San Juan, Luna, and Valencia
 - Soil and Debris Piles
 - Lead Shot Area and Lead-Acid Battery Soil
- **Evaluation – Well Head Covers**

CAA	Pros	Cons
Clean Closure Remove ~ 4 yds ³ of debris	Reduces environmental risk by removing hazard Long-term reliability and effectiveness Eliminates long-term monitoring and maintenance costs	Moderate occupational risk during removal due to heavy equipment and location within High Contamination Areas Moderate cost associated with waste packaging and disposal Located within larger contamination areas
Closure in Place	Feasible and cost effective Minimal environmental risk Consistent with other similar sites	Controls exposure but does not remove hazard Will require long-term monitoring and maintenance costs

- **Evaluation – Four Soil/Debris Piles**

CAA	Pros	Cons
Clean Closure Remove ~ 535 yds ³ of debris	Reduces environmental risk by removing hazard Long-term reliability and effectiveness Eliminates long-term monitoring and maintenance costs	Moderate occupational risk during soil removal within High Contamination Areas Moderate occupational risk during soil and debris removal of three piles Moderate cost associated with removal, waste packaging, and

		disposal
Closure in Place	Feasible and cost effective Minimal environmental risk Consistent with other similar sites	Controls exposure but does not remove hazard Will require long-term monitoring and maintenance costs

- **Evaluation – Lead Shot and Debris**

CAA	Pros	Cons
Clean Closure Excavate and remove ~ 75 yds ³ of soil and debris	Reduces environmental risk by removing hazard Long-term reliability and effectiveness Eliminates long-term monitoring and maintenance costs	Low occupational risk during excavation Moderate cost associated with excavation, waste packaging, and disposal
Closure in Place	Feasible and cost effective Minimal environmental risk Consistent with other similar sites	Controls exposure but does not remove hazard Will require long-term monitoring and maintenance costs

- **CAU 568 Next Steps**

- DOE considers NSSAB recommendations
- Complete Corrective Action Decision Document ~ August 2015
 - This document presents the CAAs and identifies the selected alternative

Liaison Klevorick suggested that the financial information, the actual radiological risk (i.e. plutonium), and a risk assessment (low, medium, high) based on environmental concerns, worker safety, etc., be included in the Pros and Cons chart to assist the Board in making better informed decisions.

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

- When a site has contamination left in place, a use restriction is applied that can include fences and signs around the boundary. Information on the use restrictions for each of these sites is tracked in a geographic information system and provides workers with the restrictions for the site.
- The cost of the selected corrective action alternatives will be budgeted in the baseline and the funding will be available to complete the work. A decision to delay choosing a corrective action alternative is not an option as the Soils Activity is working on a timeline with NDEP through the FFACO. The Soils Activity is completing work on its remaining sites with 83% of the CASs already closed.
- Every corrective action site is very different; therefore each individual site is evaluated independently by the Soils Activity and by NDEP (through review of the documentation) in

order to select the optimal corrective action alternative, utilizing the decision factors that were briefed in the presentation above.

- The CAU 568, Area 3 Plutonium Dispersion Sites is located in the Yucca Flat area. Any potential leaching of water with contaminants may flow into Frenchman Flat which the water does not flow out from that area.
- The three well head covers were the actual covers utilized to contain the detonation of the underground safety tests. These covers were replaced by a steel plate welded over the borehole.
- Three of the four soil and debris piles (eastern, western, and central) and the lead shot and debris site include lead and are not radioactive.
- The worker on slide 24 of the presentation (<http://www.nv.energy.gov/nssab/Documents/Handouts/FY%202015/FB/TOC%20Red5-20-15.pdf>) is pictured wearing a respirator as he was pulling swipes and actually sampling the material. The workers on slide 13 at the same CAS were working on the well pad and not sampling or getting close to the well head cover to require use of a respirator. Controls are in place in both instances, but the workers are performing different activities and have different personal protective equipment requirements.
- The well head covers are on a concrete pad and the surveyed contamination is around the bottom of the well head covers. The estimate for clean closure of the well head covers includes moving and disposing the removable contamination on the metal casings and the debris underneath.
- On slide 12 of the presentation (<http://www.nv.energy.gov/nssab/Documents/Handouts/FY%202015/FB/TOC%20Red5-20-15.pdf>), the red-dotted lines indicate contamination areas. These areas are determined by the NNSS demarcation group that surveys the area in order to put barriers in place. There are different designations of radiological-controlled areas, such as high contamination areas (HCA), contamination areas (CA), radioactive materials areas (RMA), and underground radioactive materials areas (URMA). A CA designation is dependent on the level of contamination and is determined by criteria that utilizes disintegrates per minute removable, which means that the contamination could be removed if the site is disturbed. Removal of contamination during the clean-closure of sites may remove or down-post the current designation.
- Removal of the well head covers would remove the CA designation, but since there would still be underground contamination the designation may be changed to URMA. The HCA soil and debris pile is posted, and with clean closure may enable the designation to be down-posted. The three lead-contaminated soil and debris piles (western, eastern, and central) are not posted with a designation, and clean closure would remove the lead in these areas.
- The well head covers sites are considered a high hazard; therefore, the use restrictions are enforced to protect site workers.
- The well head covers sites are not water wells, but holes in the ground for the detonation of legacy underground safety tests.
- The plutonium contained on the well head covers is extremely hazardous, but only if inhaled or ingested internally in the body and does not provide a dose with external contact to the body.
- The well head covers are fenced and posted with signs designating that it is a CA.
- The final decision on whether to clean close or close in place has not been finalized until NDEP agrees with the final corrective action alternatives decision.

- The agreed-upon deadline for DOE to submit its proposed corrective action alternatives for CAU 568 to NDEP is August 2015.
- With closure in place, DOE assumes that there will be monitoring at the closed sites indefinitely; the monitoring at sites has been mutually agreed upon by DOE and NDEP.
- If closure in place is selected for the sites in CAU 568, the additional costs for monitoring, inspections, and maintenance on an annual basis would be nominal after the initial costs of \$50K. The total cost for annual monitoring, inspections, and maintenance for all soils sites at the NNSS is about \$200K a year.
- With clean closure at the well head cover sites, the well head covers and the material inside the covers from the tests would be appropriately packaged and would remove all surface contamination from the sites.
- During significant rain events, some sites are monitored to determine whether the rain moved contaminants. Some closed sites have use restrictions that have precipitation requirements that are monitored by rain gauges located at the sites.
- CAU 568 is a remote site. Any activity or exercise is planned in advance, and one of the criteria is to review the land use restrictions as part of any planning.
- The life of the plutonium will be longer than the steel; therefore the plutonium will be more apt to become airborne or go into the soil after the steel degrades. There has not been an analysis completed to date, but it is estimated that it would take hundreds of years for the steel to degrade.
- While surveying, workers have detected metal fragments that have a removable plutonium component in the HCA Soil Pile.
- There are different views on lead, but the consensus is that lead is primarily a danger for actively growing people; so children and fetuses are most in danger of lead poisoning. Adults have a high tolerance for lead toxicity. For sites containing lead at the NNSS, the risk evaluation is always based on a pregnant industrial worker; so lead levels are set to protect the fetus. Lead does have to be taken internally and mainly by inhalation.
- With closure in place, the sites would be appropriately signed and fenced if required by the use restriction, but would not be covered with dirt.
- With clean closure, the HCA Soil Pile would be low-level waste and disposed at the Area 5 Radioactive Waste Management Complex.

Board members had open discussion regarding the information and the pros/cons analysis presented. After review of the draft recommendation letter for Corrective Action Alternatives for CAU 568, Member Jack Sypolt moved to approve the letter with the following:

- Well Head Covers – San Juan, Luna, Valencia (CASs 03-23-23, 03-23-31, 03-23-33) to recommend Clean Closure.
- Four Soil/Debris Piles (CASs 03-08-04, 03-23-30) to recommend Clean Closure for the High Contamination Area Soil Pile and to recommend Closure in Place for Soil and Debris Piles (eastern, western, and central).
- Lead Shot and Debris (CAS 03-26-04) to recommend Clean Closure.

The motion was seconded and passed unanimously.

Soils Activity Quality Assurance Plan (Work Plan Item #4) (*Tiffany Lantow, DOE*)

- **NSSAB Work Plan Item 4**

- Provide a recommendation, from a community perspective, to the Department of Energy on ways the Soils Activity Quality Assurance Plan (QAP) could be improved or enhanced
- **QAPs – What Are They**
 - Quality Assurance makes sure that quality standards are met
 - QAP describes the procedures, specifications, and other technical activities that must be implemented to ensure that the results will meet the specifications
 - Defines roles and responsibilities
 - Establishes data collection, data management, records, and software/modeling requirements
 - Provides framework for assessments, reports to management, and corrective actions
 - Major objectives of a QAP is to ensure:
 - **Traceability:** is achieved when the flow of information from the beginning to the end is transparent
 - **Reproducibility:** is achieved when a model or data can be reproduced by an independent third party
- **Soils Activity QAP**
 - Department of Energy document overarching Soils participant's quality programs
 - Base requirements
 - Does not preclude participants having corporate QAPs
 - Based on U.S. Environmental Protection Agency guidance and DOE Order 414
 - Reviewed and approved by the State of Nevada Division of Environmental Protection
 - Four sections:
 - Management
 - Work Processes
 - Assessment and oversight
 - Environmental data usability
- **Management Section**
 - Problem definition and background
 - Schedule
 - Roles and responsibilities
 - Qualifications and training
 - Quality objectives and criteria
 - Document control
 - Records management
 - Software
 - Procurement
 - Identification and control of items
 - Measuring and test equipment
- **Work Processes Section**
 - Planning
 - Field Documentation
 - Decontamination
 - Investigation-Derived Waste
 - Decisional Data Collection
 - Decision-Supporting Data Collection
 - Informational Data

- Laboratory Types
- Subcontracted Commercial Laboratory Requirements Data Management
- **Assessment and Oversight Section**
 - Assessments
 - Reports to Management
 - Issue Identification and Resolution
- **Environmental Data Usability Section**
 - Verification
 - Validation
 - Data Quality Assessment
- **NSSAB Involvement**
 - Tonight, provide a recommendation, from a community perspective, to the Department of Energy on ways the Soils Activity QAP could be improved or enhanced
 - Questions/comments?

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

- Qualifiers are used for the data, meaning that the data is only useable under these qualifications; therefore the qualification of the data could result in it being rejected.
- The measuring and test equipment noted in the Management Section of the Soils QAP requires that the equipment be recalibrated to manufacturer's specifications.
- All subcontractor QAPs must comply with the DOE QAP when they perform work for the Department.
- Shipping companies do not sign the chain of custody form, although they sign the waybills. The waybill is used as evidence that the package has not been tampered with when it reaches the laboratory. The waybills are included with the chain of custody documentation for record-keeping purposes.
- DOE adheres to Federal records policies.

After review of the Soils QAP, the briefing, and Board dialogue, the NSSAB recommends that the following improvements and enhancements are considered for the next revision of the Soils QAP:

- Ensure all original records can be accessed (Section 1.8)
- Clarify the acceptable ranges by referencing the precision and accuracy criteria (Section 4.2)
- Review the terms corrective actions and corrective action plans for potential clarification (Section 1.3.3)
- Verify that subcontractor's quality assurance plan meets all the criteria of the DOE quality assurance plan; if there is a conflict, the DOE quality assurance plan must take precedence (Section 3.0)
- Clarify the word, "sample" (Section 2.5.2.2.)
- Secure backup documents in accordance with security requirements (Section 1.8.3)
- Confirm all backups and encryption meet Federal requirements (Section 1.7)

After review of the draft recommendation letter for Soils QAP, Member Edward Rosemark moved to approve the letter with bulleted list of enhancements/improvements above be included before submitting to DOE. The motion was seconded and passed unanimously.

July 15 Full Board Meeting Agenda Discussion (*Kelly Snyder, DDFO*)

- Revision to the Risk-Based Corrective Action Evaluation Process Document – Work Plan Item #3
- Low-Level Waste Transportation – Work Plan Item #6

DDFO Kelly Snyder noted that the next NSSAB meeting is scheduled for July 15, 2015 in Pahrump, Nevada, and there are two work plan items (#3 and #6) currently scheduled for the NSSAB's consideration. Based on comments and interest in transportation by the Board over the last couple of meetings, DDFO Snyder requested that the Board consider changing the structure of the next meeting to an educational workshop on transportation. The Transportation Emergency Preparedness Program is available to provide the Board with a three hour session on the transportation of waste--how waste is transported, emergency-preparedness activities, transportation statistics, including a hands-on portion utilizing a Geiger counter, etc. DDFO Snyder went on to explain that DOE has requested a recommendation on transportation, but there is a lot of background information on transportation and also perspectives from the county liaisons that would be useful to increase the level of understanding before the Board makes a recommendation. Since the workshop would require a large portion of the July meeting, it would be helpful if the Board studied this issue for multiple meetings in order to understand all that it is involved and all the perspectives that stakeholders have on transportation. The other option would be to proceed as normal with the meeting with work plan items #3 and #6.

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

- Work Plan #3 does not have a time frame associated with the document. The NSSAB has reviewed the Risk-Based Corrective Action Evaluation Process document in the past and gave DOE a recommendation on the draft in March 2012, and this work plan is to provide a recommendation on the revised document.
- The transportation workshop will not include the OST.
- Scheduling a waste management/transportation open house geared toward the public in conjunction with the July 15 NSSAB meeting is not feasible in the current time frame and resources available.
- There are a number of topics that would provide a better level of Board understanding of all the elements involved with waste transportation, i.e. emergency response, motor carrier, security, Nevada Department of Transportation regulations, and the counties' perspectives, etc.
- Public response at the July NSSAB meeting may be used to tailor future community events on waste management and transportation.
- If DOE has plans to host a waste management/transportation public open house, the NSSAB would like DOE to announce the date/timeframe at the July 15, 2015 NSSAB meeting.

After extensive Board dialogue, Vice-Chair Keiserman moved to postpone Work Plan Items #3 and #6 for the July 15 meeting in order to have adequate time for a board-focused workshop on transportation with the public observing. Work Plan Items #3 and #6 may be reevaluated and included in the FY 2016 Work Plan during the NSSAB's work plan development session in September 2015. The motion was seconded and passed unanimously.

Other NSSAB Business (*Donna Hruska, Chair*)

Chair Hruska presented the round robin slide and dialogue that she presented at the last EM Site-Specific Advisory Board (SSAB) National Chairs' Meeting in Augusta, Georgia April 2015.

Continuing with a trip report, Chair Hruska noted that the first day of the EM SSAB National Chairs' Meeting was a tour of the Savannah River Site. During the meetings, an update was provided on the Waste Isolation Pilot Plant (WIPP) Recovery and Waste Disposal. Along with Chair Hruska, Member Steve Rosenbaum attended the National Chairs' Meeting and shared his perspectives from attending his first national meeting that DOE places high importance on the engagement, communication, and the feedback that it receives from the Boards. He also noted that DOE nationwide was complex, not only in terms of the physical sites that it manages, but also the work that is completed and how it interrelates among the sites.

Member Rosenbaum continued that WIPP is the only DOE facility that disposes transuranic (TRU) waste. The NNSA has disposed its legacy TRU waste at the WIPP facility. Member Rosenbaum went on that the NSSAB abstained on voting on the last EM SSAB draft recommendation letter regarding WIPP in November 2014 as it was agenda-driven by the sites directly affected by the WIPP shutdown, and the NSSAB also felt that it did not have enough information at that time on the WIPP recovery. Member Rosenbaum added that the revised EM SSAB draft recommendation focuses on giving the highest priority to resumption of safe WIPP operations and providing for an alternative for the storage of TRU waste given the possibility of another incident in the future.

After extensive Board discussion, Member Michael Moore made a motion not to approve the revised EM SSAB draft recommendation letter. The motion was seconded. A consensus was not reached; therefore the motion did not pass. The EM SSAB will be informed that the Nevada delegation did not come to a consensus and will not sign the draft recommendation.

Chair Hruska shared the Budget Best Practices Document that was developed by the EM SSAB and shared at the April 2015 meeting. This white paper does not require a resolution by the Board, but includes items for the NSSAB to consider in developing next FY's work plan.

Chair Hruska informed the Board that a draft recommendation letter regarding conference attendance for EM SSAB Members included in the meeting packet was a result of her attendance at the Waste Management Symposia (WMS) in March 2015. She went on to explain that due to her participation, other Federal employees were not approved to attend the conference due to Headquarter-directed attendee restrictions. The draft letter recommends that DOE consider setting up a separate category for advisory board members; so as not to affect the conference attendance of DOE staff. Chair Hruska felt that the WMS and other appropriate conferences are extremely beneficial and educational for advisory board members. Vice-Chair Keiserman made a motion to approve the draft recommendation letter regarding Conference Attendance for EM SSAB Members. The motion was seconded and passed unanimously.

Four NSSAB Members attended the Devils Hole Workshop in Amargosa Valley, Nevada, in May 2015. Member Sypolt gave the first update by reporting that the workshop began with a memorial for Jim Deacon, a former UNLV biologist whose specialty was the Devils Hole pupfish. He went on to explain that some of the sessions included were water level trends in southern Nye County, the management of groundwater in the Pahrump basin, and a drilling of a new well north of Beatty, Nevada, and the pumping methods that will be utilized.

Member Rosemark continued by updating the Board on a number of sessions that were given by subject matter experts from USGS, DRI, and Navarro. One project that he mentioned was an effort to take high resolution digital photographs of the two million linear feet of geological core samples at the core library at Mercury, Nevada, in order for more people to have access to the information. Member Rosemark also reported on a presentation of the drilling of a new well ER-20-12 which is the next well to be located in the projected Pahute Mesa groundwater flow path. Member Rosemark concluded by noting a presentation on thermophile microbial populations in the lower carbonate aquifers of the Death Valley Regional Flow system. Scientists are working to grow this microbe in the laboratory in order for the national community to accept it as a new organism. A Henderson, Nevada student won a contest to name the microbe.

Member Rosenbaum reported on the Devils Hole pupfish, a variety only found in this one water-filled cavern in the Ash Meadows National Wildlife Refuge and not anywhere else in the world. He reported on the emerging technologies that are being used to protect and propagate this prehistoric fish. The lessons learned are being used for the survival of the species which is currently at 83 fish. The groundwater monitoring at the NNSS is of importance to the survivability of this species.

Chair Hruska provided the last update of the Devils Hole Workshop by briefing the Board on the restoration of the spring areas that are being reclaimed and restocked with pupfish that are surviving well. This work is being done with grants, volunteer time, and equipment. She also noted a basin and range video during one of the presentations that showed the underground movement of the rock formations. Chair Hruska participated in a tour through Shoshone where volunteers are restoring springs and reestablishing habitat for the pupfish and the endangered Amargosa vole. She concluded that the underlying theme of the workshop is “When you follow water, you are following the pathway to life.”

The Board has been invited and is encouraged to attend the Community Environmental Monitoring Program Workshop in Las Vegas from July 20-23, 2015. Members are requested to let the NSSAB Office know if they are interested in attending the workshop.

Four letters were provided to Board members for informational purposes:

- NSSAB Recommendation for FY 2017 Baseline Prioritization (Work Plan Item #7) – dated March 25, 2015
- DOE Response to Recommendation for FY 2017 Baseline Prioritization (Work Plan Item #7) – dated April 2, 2015
- NSSAB Recommendation for Assessment of the Underground Test Area Quality Assurance Plan Implementation (Work Plan Item #8) – dated February 18, 2015
- DOE Response to Recommendation for Assessment of the Underground Test Area Quality Assurance Plan Implementation (Work Plan Item #8) – dated April 13, 2015

Communication Improvement Opportunities (Work Plan #10)

There were no recommendations on ways that DOE can improve/enhance communication to the public.

Meeting Wrap-Up/Assessment/Adjournment (*Barb Ulmer*)

The next Membership Committee meeting is Monday, June 8, 2015, at 1 p.m. at the Sahara Business Center, Las Vegas, Nevada. The next Board meeting will be held on Wednesday, July 15, 2015, at 4 p.m. at the Bob Ruud Community Center, Pahrump, Nevada.

Due to the lateness of the hour, the NSSAB chose not to do an assessment. Vice-Chair Keiserman moved that the meeting be adjourned. The motion was seconded and passed unanimously.

Meeting adjourned at 9:14 p.m.