



Nevada Site Specific Advisory Board Table of Contents

**Full Board Meeting Handouts for
Wednesday, August 16, 2017**

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NSSAB MEETING ATTENDANCE

Full Board Meetings

October 2016 through September 2017 (FY 2017)

Name	11/9/16	1/18/17	3/15/17	4/19/17	6/21/17	8/16/17	9/20/17	Max Terms
MEMBERS								
Michael Anderson	E	√	E	√	E			2020
Amina Anderson	√	√	√	E	√			2020
Arcadio Bolanos	√	E	E	√	√			2022
Francis Bonesteel	√	√	√	√	√			2022
Michael D'Alessio	√	E	√	E	E			2020
Pennie Edmond	√	√	√	√	√			2020
Karen Eastman	√	√	√	√	√			2022
Raymond Elgin	√	√	U	√	√			2022
Charles Fullen	√	√	√	√	E	E		2022
Richard Gardner	√	√	√	√	√			2022
Donald Neill	√	√	E	√	√			2020
Autumn Pietras	√	√	√	E	√			2022
Edward Rosemark	√	√	√	√	√			2018
Steve Rosenbaum	√	√	√	√	√			2020
William Sears	√	√	√	√	√	E		2018
Cecilia Flores Snyder	E	√	E	√	√			2020
Richard Stephans	√	√	√	√	√	E		2022
Jack Sypolt	√	√	E	√	√			2018
Richard Twiddy	√	√	√	√	√	E	E	2022
Dina Williamson-Erdag	E	√	E	√	√			2022
LIAISONS								
Clark County	√	√	√	√	√			
Consolidated Group of Tribes & Organizations	E	√	√	E	E			
Esmeralda County Commission	E	√	U	E	U			
Nye County Commission	U	U	U	U	U			
Nye County Emergency Management	E	E	E	√	E			
Nye Co. Nuclear Waste Repository Project Office	√	√	√	√	√			
State of NV Division of Env Protection	√	√	√	√	√			
U.S. Natl Park Service	E	E	√	E	√			
White Pine County Commission				E	√			
KEY: √ - Present E - Excused V - Vacant U - Unexcused								

Proposed Changes to Long-Term Monitoring at Closed Industrial and Soils Sites~ Work Plan Item 3



Tiffany Lantow, Long-Term Monitoring Technical Lead
U.S. Department of Energy (DOE)
Nevada Site Specific Advisory Board (NSSAB)
August 16, 2017



EM *Environmental Management*

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NSSAB Work Plan Item #3

The NSSAB will provide a recommendation, from a community perspective, regarding proposed changes to current long-term requirements for closed Corrective Action Sites (CASs) on the Nevada National Security Site (NNSS)



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Background

- Federal Facility Agreement and Consent Order sites that have been closed in place have requirements for annual inspections and/or maintenance
- Inspections and maintenance are required to ensure that any controls (posting, fencing, landfill caps, etc.) are maintained and are performing as designed
 - Controls and inspection requirements vary by site based on the potential hazards
 - Climate, weather events, animal burrows, and other factors may affect the controls over time



Background

(continued)

- Based on historical inspection and maintenance results coupled with the potential hazards associated with sites, it is proposed that the frequency of inspection for candidate sites be reduced
- Changes will be proposed to State of Nevada Division of Environmental Protection (NDEP) and require their approval
- Goal is to adjust monitoring at closed sites as appropriate to the risk



Process for Proposed Changes

- Tonight, four sites where changes to long-term monitoring requirements are being considered will be presented
- However, these are just four of the ~150 sites where long-term monitoring inspections are conducted
- DOE has been use-restricting sites for 20 years, and the knowledge and the process has evolved over time
- As the end of the Environmental Restoration program approaches, it is an opportune time to begin looking at each site for standardization



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Process for Proposed Changes

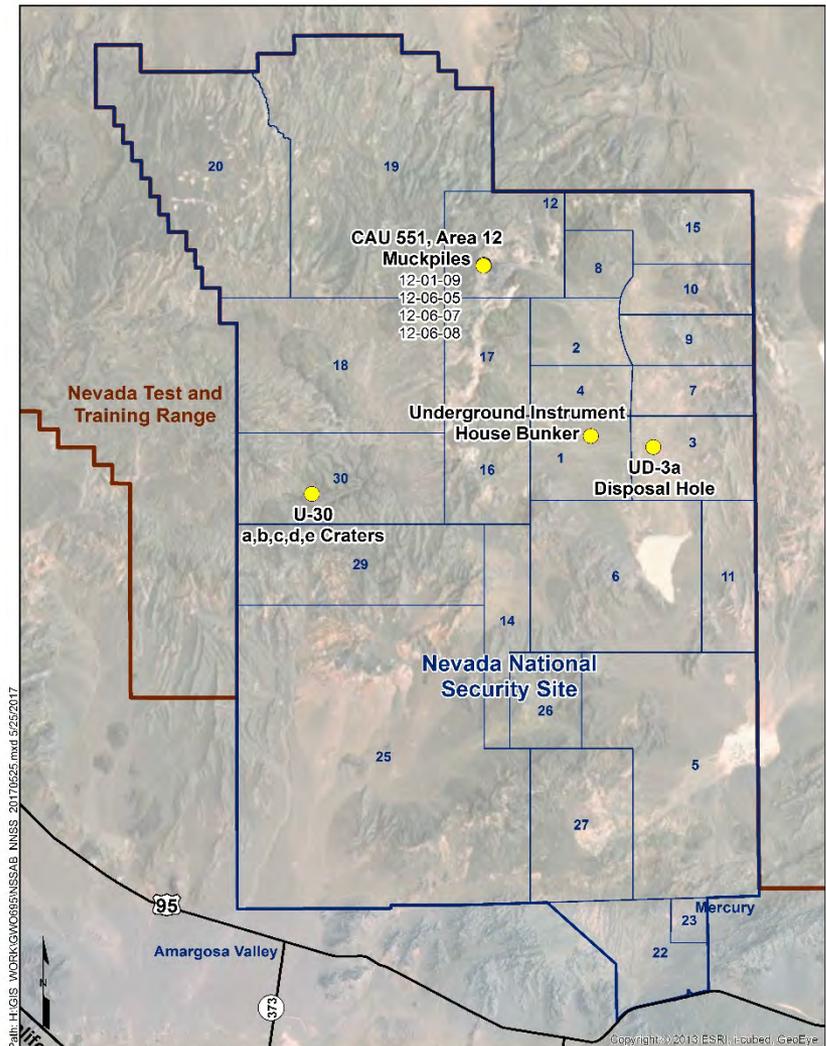
(continued)

- DOE is asking the NSSAB to provide a recommendation regarding the proposed changes for each of the four individual sites presented
- DOE is also asking the NSSAB to consider for each site whether or not the NSSAB believes the approach and reasoning being considered when proposing changes is recommended for similar use-restricted sites



Map of Closed CASs with Monitoring Requirements to be Discussed

- These CASs are candidates for changing the post-closure monitoring requirements
- However, they are representative of a number of other closed CASs on the NNSS where changes may be proposed in the future



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Underground Instrument House Bunker

(CAS 01-34-01)

- Instrument bunker is the site of contamination resulting from legacy testing operations
- Investigation results indicated no contamination outside of the bunker; sample taken inside indicated polychlorinated biphenyl
- Bunker was closed in place with a use restriction (UR)
- Current monitoring requirements: annual inspections
- Current site condition: bunker door closed and secured; warning signs on exterior



Underground Instrument House Bunker (continued)

- Why is change being considered?
 - This site is a candidate for reduction in frequency of inspections due to low risk
- Options:
 - No change; continue annual inspections; or
 - Reduce inspections to every five years



NSSAB Recommendation

Site	Options	NSSAB Recommendation
Underground Instrument House Bunker (CAS 01-34-01)	1. No change; continue annual inspections	
	2. Reduce inspections to every five years	
	3. Other ideas?	



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U-30a, b, c, d, e Craters

(CAS 30-45-01)

- Radioactivity resulting from legacy testing is present at the U-30a, b, c, d, & e Craters (Buggy test)
- UR in place to protect from a radiological dose
- Current monitoring requirements: annual inspection of signs and fencing
- Current site condition: fenced and posted



U-30a, b, c, d, e Craters

(continued)

- Why is change being considered?
 - Remote site in Area 30 with an unmaintained access road that is the only practical route to the site
- Options:
 - No change; leave fence up, and continue inspections of entire perimeter every year; or
 - Change requirement to inspection of the full perimeter every five years and annual verification that only the signs (not fencing) at the access points or along access roads are intact in the intervening years



NSSAB Recommendation

Site	Option	NSSAB Recommendation
U-30a, b, c, d, e Craters (CAS 30-45-01)	1. No change; leave fence up, and continue inspections of entire perimeter every year	
	2. Change requirement to inspection of the full perimeter every five years and annual verification that only the signs (not fencing) at the access points or along access roads are intact in the intervening years	
	3. Other ideas?	



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UD-3a Disposal Hole

(CAS 03-20-07)

- 152-foot deep borehole with a 32-inch diameter steel casing that was used for the disposal of rad-chem effluent associated with testing; because of this radionuclides are assumed to be present at bottom of hole
- Completed restoration activities: gravel-filled from bottom to 20 feet below ground surface and cemented from 20 feet below ground surface to surface; UR warning signs posted
- Current requirements: annual inspections of UR signs



UD-3a Disposal Hole

(continued)

- Why is change being considered?
 - Risk of exposure to radioactive contamination at the bottom of a 152-foot deep borehole that is grouted in place is very low
- Options:
 - No change; annual inspections continue and site remains posted; or
 - Reduce inspections to every five years; or
 - Remove the sign entirely and discontinue inspections



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NSSAB Recommendation

Site	Option	NSSAB Recommendation
UD-3a Disposal Hole (CAS 03-20-07)	1. No change; annual inspections continue and site remains posted	
	2. Reduce inspections to every five years	
	3. Remove the sign entirely and discontinue inspections	
	4. Other ideas?	



EM

safety

CAU 551, Area 12 Muckpiles

(CASs 12-01-09, 12-06-05, 12-06-07, 12-06-08)

- Radioactive contamination at muckpiles resulting from legacy testing
- Completed restoration activities: investigation results indicated total petroleum hydrocarbons and radiological contamination; sites closed in place with UR
- Current requirements: annual inspections of UR signs



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CAU 551, Area 12 Muckpiles

(continued)

- Why is change being considered?
 - Access to this site is extremely difficult and the access road is impassible



- Options:
 - No change; maintain UR and inspection points; or
 - Move UR postings and annual inspection point to the first access location (locked gate) along the road



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NSSAB Recommendation

Site	Option	NSSAB Recommendation
CAU 551, Area 12 Muckpiles (CASs 12-01-09, 12-06-05, 12-06-07, 12-06-08)	1. No change; maintain UR and inspection points	
	2. Move UR postings and annual inspection point to the first access location (locked gate) along the road	
	3. Other ideas?	



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NSSAB Recommendation (FINAL)

Site	NSSAB Recommendation
Underground Instrument House Bunker (CAS 01-34-01)	*
U-30a, b, c, d, e Craters (CAS 30-45-01)	*
UD-3a Disposal Hole (CAS 03-20-07)	*
CAU 551, Area 12 Muckpiles (CASs 12-01-09, 12-06-05, 12-06-07, 12-06-08)	*

*Do you support these approaches for sites with similar conditions?



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FY 2018 Election Time



Elections of the FY 2018 NSSAB Chair and Vice-Chair will take place at the September Full Board meeting. A response is needed from all. Please contact the NSSAB office by August 31 and advise if you would like to be considered for either position.

You may also nominate someone who you feel would be a valuable chair/vice-chair. Anyone nominated will be contacted to ensure they would accept the nomination. A list of interested members will be provided to the Full Board and the officers will be elected by ballot at the September Full Board meeting.

What are the Chair responsibilities?

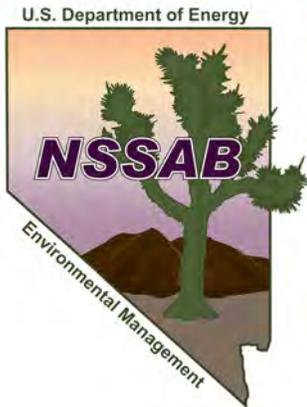
- Serves as the Chair for 12 months (October 1 - September 30)
- Participates in bi-monthly EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Leads full board meetings and ensures all members have the opportunity to participate
- Certifies to the accuracy of all minutes within 45 days
- Signs recommendations that the Board has passed
- Serves as spokesperson for the NSSAB between regular meetings of the Board
- Attends national EM SSAB meetings and/or workshops semi-annually
- Attends quarterly meetings with EM Management
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)

What are the Vice-Chair responsibilities?



- Serves as the Vice-Chair for 12 months (October 1 - September 30)
- Participates in bi-monthly EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Acts as the NSSAB chair in the absence of the elected chair
- Attends national EM SSAB meetings and/or workshops semi-annually
- Attends quarterly meetings with EM Management
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)

Please contact the NSSAB office by August 31 and advise if you are willing to be considered for the FY 2018 Chair and/or Vice-Chair positions.



Nevada Site Specific Advisory Board

April 19, 2017

Members

Amina Anderson
Michael Anderson
Arcadio Bolanos
Frank Bonesteel (Vice-Chair)
Michael D'Alessio
Karen Eastman
Pennie Edmond
Raymond Elgin
Charles Fullen
Richard Gardner
Donald Neill
Autumn Pietras
Edward Rosemark
Steve Rosenbaum (Chair)
William Sears
Cecilia Flores Snyder
Richard Stephans
Jack Sypolt
Richard Twiddy
Dina Williamson-Erdag

Liaisons

Clark County
Consolidated Group of Tribes
and Organizations
Esmeralda County Commission
Nye County Commission
Nye County Emergency
Management
Nye County Nuclear Waste
Repository Project Office
State of Nevada Division of
Environmental Protection
U.S. National Park Service
White Pine County Commission

Administration

Barbara Ulmer, Administrator
Navarro
Kelly Snyder, DDFO
*U.S. Department of Energy,
Nevada Field Office*

Mr. Robert Boehlecke
Environmental Management Operations Manager
U.S. Department of Energy, EM Nevada Program
P. O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Groundwater Sampling Techniques — Work Plan Item #5

Dear Mr. Boehlecke:

The Nevada Site Specific Advisory Board (NSSAB) was asked to provide a recommendation, from a community perspective, to the U.S. Department of Energy (DOE) regarding use of existing and potential sampling techniques.

On March 14, 2017, Vice-Chair Frank Bonesteel and Member Edward Rosemark accompanied Underground Test Area (UGTA) subject matter experts from the Nevada National Security Site (NNSS) to observe the Panacea Pump at BESST, Inc. in San Rafael, California.

At the April 19th Full Board meeting, Chuck Russell, UGTA Science Advisor from the Desert Research Institute, provided a briefing on the current and potential groundwater sampling techniques for the NNSS.

Based on updates by Vice-Chair Bonesteel and Member Rosemark, the briefing, and extensive Board discussion, the NSSAB recommends that DOE pursue obtaining additional information on the inclusive costs of the Panacea Pump. The inclusive costs should include, but not be limited to the following:

- Purchase activities (pump cost, warranty, shipping, taxes, payback analysis, and any miscellaneous costs related to purchase, such as testing)
- Life cycle costs (equipment maintenance, parts availability, consumables replacements and availability, etc.)

The NSSAB recommends that DOE pursue testing the performance of the Panacea Pump at several different wells on the NNSS. While the pump demonstration piqued interest with UGTA subject matter experts and our Board observers, further evaluation of the Panacea Pump is needed in real life scenarios at different wells to test the pump's performance as to whether it is a good fit within the NNSS groundwater sampling program. The costs associated with the testing should also be included in the purchase price for accurate data.

The NSSAB appreciates the opportunity to attend the field trip to observe the Panacea Pump and to provide this recommendation. The NSSAB extends a special thanks to Chuck Russell for his briefing and to the entire UGTA team.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Rosenbaum", with a long horizontal flourish extending to the right.

Steven Rosenbaum, Chair

cc: D. A. Borak, DOE/HQ (EM-3.2)
M. R. Hudson, DOE/HQ (EM-3.2)
B. K. Ulmer, Navarro
NSSAB Members and Liaisons
C. E. Hampton, NFO
K. K. Snyder, NFO
W. R. Wilborn, NFO
NFO Read File



**U.S. Department of Energy
Environmental Management
Nevada Program
P.O. Box 98518
Las Vegas, NV 89193-8518**

JUN 22 2017

Steve Rosenbaum, Chair
Nevada Site Specific Advisory Board
232 Energy Way
North Las Vegas, NV 89030

**RESPONSE TO NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB)
RECOMMENDATION FOR GROUNDWATER SAMPLING TECHNIQUES (WORK PLAN
ITEM #5)**

I would like to thank the NSSAB for taking the time to provide a recommendation regarding use of existing and potential groundwater sampling techniques in your April 19th letter.

NSSAB recommendation: DOE should pursue obtaining additional information on the inclusive costs of the Panacea Pump. The inclusive costs should include purchase activities (pump cost, warranty, shipping, taxes, payback analysis, and any miscellaneous costs related to purchase, such as testing) and life-cycle costs (equipment maintenance, parts availability, consumables replacements and availability, etc.).

DOE Response: The EM Nevada Program supports this recommendation. DOE will complete a thorough assessment (which will include a cost-benefit analysis for life-cycle costs and training) to determine whether to purchase the equipment, obtain a subcontract, or lease the equipment.

NSSAB Recommendation: DOE should pursue testing the performance of the Panacea Pump at several different wells on the Nevada National Security Site (NNSS).

DOE Response: The EM Nevada Program supports this recommendation. At this time, the EM Nevada Program is analyzing existing wells on the NNSS where the Panacea Pump could potentially be tested and utilized to provide added value to long-term sampling efforts. Additionally, we are researching the best approach to potentially utilize the pump that will include a comprehensive look at the best method for implementation.

The Environmental Management Nevada Program appreciates the support of the NSSAB in this endeavor and the efforts made by the Board to provide recommendations. As always, the NSSAB's input is valued and your efforts are greatly appreciated.

Please contact Kelly Snyder at (702) 295-2836 if further information on this matter is needed.

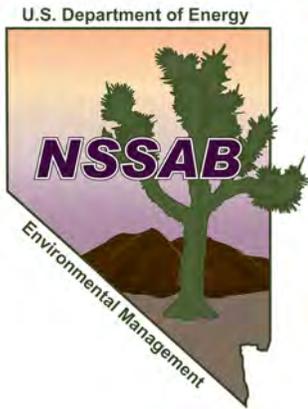


Bill R. Wilborn
UGTA Activity Lead
EM Nevada Program

EMO:12390.BW

cc via e-mail:

D. A. Borak, DOE/HQ (EM-3.2)
M. R. Hudson, DOE/HQ (EM-3.2)
B. K. Ulmer, Navarro
NSSAB Members and Liaisons
R. F. Boehlecke, EM/NFO
C. E. Hampton, EM/NFO
K. K. Snyder, EM/NFO
NFO Read File



Nevada Site Specific Advisory Board

April 19, 2017

Mr. Robert Boehlecke
Environmental Management Operations Manager
U.S. Department of Energy, EM Nevada Program
P. O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Nevada Site Specific Advisory Board (NSSAB)
Recommendation for Internal Peer Review Process
Improvement — Work Plan Item #6

Dear Mr. Boehlecke:

The NSSAB was asked to provide recommendations, from a community perspective, to the U.S. Department of Energy (DOE) on ways to enhance the Underground Test Area (UGTA) internal peer review process.

At the January 18th Full Board meeting, Bill Wilborn, UGTA Activity Lead, provided a briefing on the internal peer review process in support of this work plan item. Three NSSAB subcommittees were formed to observe the internal peer review process for Rainier Mesa/Shoshone Mountain (RM/SM), Yucca Flat/Climax Mine, and the Pahute Mesa corrective action units.

On March 28, 2017, Members Richard Twiddy, William Sears, and Edward Rosemark attended the RM/SM Internal Peer Review meeting for the GoldSim Model. At the April 19th Full Board meeting, this NSSAB subcommittee provided a written and oral update to the Board on their observations of the RM/SM Internal Peer Review.

Based on the updates by the NSSAB subcommittee for the RM/SM Internal Peer Review for the GoldSim Model and Board discussion, the NSSAB recommends that DOE incorporate the recommendations included in the enclosed written update with the understanding that this recommendation may be modified based on observations of subsequent internal peer review conducted during FY 2017 for Yucca Flat/Climax Mine, Pahute Mesa, and RM/SM Flow and Transport Modeling Report.

The NSSAB appreciates the opportunity to observe the RM/SM Internal Peer Review for the GoldSim Model and to provide this recommendation and extends a special thanks to the UGTA Science Advisors and the RM/SM Internal Peer Review committee.

Sincerely,

Steven Rosenbaum, Chair

Members

Amina Anderson
Michael Anderson
Arcadio Bolanos
Frank Bonesteel (Vice-Chair)
Michael D'Alessio
Karen Eastman
Pennie Edmond
Raymond Elgin
Charles Fullen
Richard Gardner
Donald Neill
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Administration

Barbara Ulmer, Administrator
Navarro
Kelly Snyder, DDFO
*U.S. Department of Energy,
Nevada Field Office*

NSSAB Subcommittee Overview of Internal Peer Review Meeting

PER Review of Rainer Mesa/Shoshone Mountain Interim Results of “Top Down” Streamline-Based Models using GoldSim

Meeting conducted 3/28/2017

Attendees: 9 committee members, (1 committee member was sick, not present),
11 interested parties, 3 from NSSAB (Overview)

Overview and conclusions:

The meeting was conducted in accordance with Agenda and Schedule. There was open discussion, with a multitude of questions and responses. At no time were there any extraneous activities. It was apparent that the subject matter presented was clear, understandable, and defensible. The Modelers and Presenters know their data. The meeting objectives were met. In conclusion, there are two recommendations and several observations.

Recommendations:

Overall, the NSSAB attendees were impressed with the professionalism and details provided by the meeting attendees. However, we recommend the following,

1. The presenters should be set up with voice enhancement system. It may even be helpful to include the committee members.
2. The chair (Mavrik Zavarin) should appoint someone from the committee to facilitate the meeting. The various breaks usually went too long and could have been reduced with some individual guidance. However, it should be noted that the meeting ended within the time-frame allowed with all business completed.

Observations:

The NSSAB members were tasked with observing the meeting process and not become involved with the technical aspects of the meeting. After the meeting, however, the three NSSAB members had some observations that may be helpful in the planning for the External PER review. They are:

1. The presentation materials, along with a list of final expectations should be sent to the external reviewers, in advance.
2. The presentation material should include a page of definitions.
3. The package of materials, if sent to the external reviewers, should include a list of expectations.
4. The presentation slides should be boiled down to a few essential, while keeping the details limited and available.

Three members from the NSSAB: Richard Twiddy, Bill Sears, and Ed Rosemark attended the meeting to evaluate the meeting efficiency with the goal of providing any suggestions or comments that could enhance any future meeting of a similar nature. In preparation, a detailed worksheet was developed and used to evaluate the various aspects of the meeting and its attendees.

It was a very open meeting and quite clear, early in the meeting, that the chair was very interested in comments, suggestions, or questions regarding the subject matter from anyone who had an interest. There was never an incident whereby any individual question was censured or rejected for any reason. There was opportunity and plenty of open discussion. It appeared that all questions were adequately addressed and answered to most everyone's satisfaction. One of the biggest agreement from technical aspect was an agreement on terms, i.e. "conservative", "assume", "plausible". When to use and when not to use.

In the end the meeting did serve its purpose. There was achievement of the stated goals and objectives as well as future schedule of activities to complete the task.

cc: D. A. Borak, DOE/HQ (EM-3.2)
M. R. Hudson, DOE/HQ (EM-3.2)
B. K. Ulmer, Navarro
NSSAB Members and Liaisons
C. E. Hampton, NFO
K. K. Snyder, NFO
W. R. Wilborn, NFO
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JUN 22 2017

Steve Rosenbaum, Chair
Nevada Site Specific Advisory Board
232 Energy Way
North Las Vegas, NV 89030

RESPONSE TO NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB)
RECOMMENDATION FOR INTERNAL PEER REVIEW PROCESS IMPROVEMENT
(WORK PLAN ITEM #6)

I would like to thank the NSSAB for taking the time to attend multiple internal peer reviews (IPR) related to the Underground Test Area activity and provide recommendations on how to enhance the process in your April 19th letter.

NSSAB Recommendation: Participants should be set up with a voice enhancement system.

DOE Response: DOE has shared the NSSAB recommendation with each of the IPR Chairs and asked that they consider this recommendation when tailoring the meeting relative to the audience and communication needs.

NSSAB Recommendation: The IPR chair should appoint someone from the committee to facilitate the meeting.

DOE Response: DOE has shared the NSSAB recommendation with each of the IPR Chairs and asked that they consider this recommendation.

The Environmental Management Nevada Program appreciates the support of the NSSAB in this endeavor and the efforts made by the Board to provide recommendations. As always, the NSSAB's input is valued and your efforts are greatly appreciated.

Please contact Kelly Snyder at (702) 295-2836 if further information on this matter is needed.

Bill R. Wilborn
UGTA Activity Lead
EM Nevada Program

EMO:12391.BW