

WM2015 Conference Panel Report

PANEL SESSION 093: **US DOE Nevada National Security Site (NNSS) - A Focus on Safe and Responsible Waste Acceptance/Disposal**

Session Co-Chairs: **Christine Gelles**, *US DOE, Office of Environmental Management (EM-30)*
Sydney Gordon, *National Security Technologies, LLC (NSTec)*

Panel Reporter: **Dona Merritt**, *Navarro*

Panelists:

- **Scott Wade**, *US DOE, National Nuclear Security Administration Nevada Field Office*
- **Teri Browdy**, *National Security Technologies, LLC (NSTec)*
- **Christine Andres**, *Bureau of Federal Facilities, Nevada Division of Environmental Protection*
- **Darrell Lacy**, *Nye County Nuclear Waste Project Office*
- **Phil Klevorick**, *Clark County Department of Comprehensive Planning Nuclear Waste Division*
- **Donna Hruska**, *Nevada Site Specific Advisory Board*

A panel was convened at the 2015 Waste Management Symposium which brought together representatives of stakeholder organizations with an active interest in low-level/mixed low-level radioactive waste disposal at the NNSS. Panelists shared their perspectives on NNSS waste disposal operations, public interest level, transportation and emergency preparedness. A summary of the panel discussion and audience questions is presented below.

Introductions and Summary of Presentations:

The session was introduced by Co-chairs Christine Gelles and Sydney Gordon who provided a quick overview on the geographic areas represented by each of the panelists. Ms. Gelles also noted that DOE values the perspectives of stakeholders and that Nevada disposal facilities serve a very important mission in the DOE Complex.

Following the Co-chairs opening, **Scott Wade**, Assistant Manager for Environmental Management at the Nevada Field Office, presented an overview on safe, secure and responsible disposal operations at the NNSS Area 5 Radioactive Waste Management Site. Mr. Wade covered the geographic and environmental attributes of the NNSS Area 5 disposal facility, ongoing monitoring activities, the waste acceptance process (including rigorous criteria that must be followed and how profiles are reviewed), shipping and transportation requirements, waste receipt and disposal at the NNSS, emergency preparedness grant funding for Nevada counties and training for local emergency responders, and stakeholder involvement activities. He also discussed the ability to retrieve waste packages, the corrective action closure approach, and established interactions with the Nevada Division of Environmental Protection.

Teri Browdy, NSTec Director for Environmental and Waste Management, then leveraged off Mr. Wade's discussion through a presentation titled *Nevada National Security Site (NNSS) Area 5 Radioactive Waste Management Site – Environmental and Waste Management Perspective*. During this briefing, Ms. Browdy highlighted that the Area 5 disposal facility (real estate) is owned by DOE, and provided statistics on the amount of waste disposed and estimates of its capacity and lifespan. Additionally, Ms. Browdy touched on funding of operations; planning levels for maintaining a stable,

WM2015 Conference Panel Report

trained and qualified work force; and the mixed low-level waste disposal cell. She wrapped up her introductory briefing by discussing the various type of environmental monitoring conducted at Area 5.

Christine Andres, Federal Facility Bureau Chief for the State of Nevada Division of Environmental Protection (NDEP), then briefly discussed her organization's participation in NNSS radioactive waste disposal activities. Ms. Andres highlighted NDEP technical oversight through the Agreement in Principle, which includes participating in the waste acceptance process, generator site inspections, waste profile and waste acceptance criteria reviews, and inspections at the Area 5 disposal facility - including re-vegetation efforts.

Going from the State to a local perspective, **Darrell Lacy**, Director of the Nye County Nuclear Waste Project Office, highlighted that the NNSS is the largest employer in Nye County where tax revenues are generated by just 2% of the land since 98% is federally-controlled (this was reinforced by the maps shown). He emphasized that communications are especially important to Nye County (home of the Sagebrush Rebellion, where anti-government sentiments prevail) as they are not afforded the same day-to-day interactions as with NDEP. Mr. Lacy noted that low-level radioactive waste shipped to the NNSS may traverse some roads in need of improvements. However, he did point out that there is "good coordination on emergency response and training at the local level." Going back to the importance of communications, Mr. Lacy recommended doing more to reach out to local government, raising awareness of local concerns, and thinking ahead of mitigation instead of it being an "afterthought."

Continuing on with local government opening perspectives, **Phil Klevorick** with the Clark County Nuclear Waste Division discussed key areas of interest for Clark County (where 82% to 85% of the state population resides) regarding NNSS radioactive waste disposal. Mr. Klevorick noted that he is focused on transportation and emergency preparedness/training since emergency response is a critical issue. He further shared information on distribution of the monies from the Emergency Preparedness Working Group (EPWG) grant funded by DOE and administered by the Nevada Division of Emergency Management. Mr. Klevorick indicated that Clark County receives the least amount of grant money distributed but is encouraging of the other counties that receive more funding since they have less resources for obtaining needed equipment. Wrapping up his introductory remarks, Mr. Klevorick recommended working together to get results the right way as opposed to having something escalate quickly and get reported negatively by the media.

The final panelist, **Donna Hruska**, provided some background on the Nevada Site Specific Advisory Board (NSSAB) and explained how it is involved with NNSS radioactive waste disposal activities. Ms. Hruska discussed the NSSAB approach on work plan items and resulting recommendations made to DOE, participation in site tours, experience with outreach events, observation of technical meetings and peer reviews, visits to generator sites, and hosting of educational sessions held before NSSAB public meetings. At the conclusion of her opening remarks, the session co-chairs then kicked off the panel discussion questions.

Summary of Panel Discussion Questions/Responses

1. All of you have observed waste disposal operations at the NNSS. What's your organization's perspective?
 - a. Ms. Browdy: Controls implemented at Area 5 are one element of a rigorous safety program at the NNSS. In addition, NNSS Voluntary Protection Programs (VPP) certification rolls into Integrated Safety Management (ISM) principles providing a constant feedback loop for

WM2015 Conference Panel Report

continuous improvement. Other safety mechanisms include: the Disposal Authorization Statement which binds Area 5 disposal facility operations with conditions to mitigate safety risks; and completion of the Package, Storage, and Disposal Request (PSDR) from which radionuclide information is entered into the NNSS database. This serves as a comparison against the approved profile to flag inconsistencies (checks & balances). Confidence in safety protocols is one reason visitors are encouraged to observe disposal processes at the NNSS where (from cradle to grave) everything is checked before waste is escorted to a disposal cell and radiological surveys are conducted before, during, and after waste package placement in a disposal cell.

- b. Ms. Andres: Under the Agreement in Principle, NDEP staff has a very specific role during participation in facility visits to verify documentation. Based on this experience, in general, NDEP is of the opinion that workers take their job very seriously and run a very safe and compliant program.
 - c. Mr. Klevorick: Acknowledging the NNSS tremendous safety record (risk is probably very close to zero), there is a high volume of trucks transporting low-level radioactive waste to the NNSS. Clark County has an understanding that shipments need to get to NNSS, but preferred routing will need to continue in the future to avoid population centers. There isn't a whole lot of interest within Clark County government (emergency management and public officials) to see NNSS disposal operations.
 - d. Mr. Wade: NNSS is learning from activities at other sites and strives for improvement; especially if there is a better way to do something and communicate with the community. It is important to be accountable and transparent if mistakes are made.
 - e. Mr. Lacy: About 75% of low-level radioactive waste shipments to the NNSS may go through Clark County, but 100% go through Nye County. Public perceptions lean toward conspiracy theories when a radioactive placard is seen on a shipment for the first time. There is more of an interest by Nye County residents to see the site.
 - f. Ms. Hruska: The NSSAB has observed packaging and security inspections, audits of generator sites, examined cell lining and offloading activities. On a monthly basis, the NSSAB receives an update of waste volumes and number of shipments.
2. What is your organization's experience of public interest regarding NNSS radioactive waste programs?
- a. Ms. Hruska: It varies depending on the item and how much press coverage. The public is not of one voice, but the NSSAB wants to hear all the voices and encourages public comment. Not as much interest in Clark County; Nye County more so. The NSSAB does get some public comments.
 - b. Mr. Lacy: Nye County perspective is based on the knowledge that most people either work at the site or know someone who works there. So, in general, there is more awareness and interest in Nye County.
 - c. Ms. Browdy: Continue to encourage tours. Feedback from those that have toured the NNSS is that people don't realize the process is so detailed. A common question is whether workers get exposed. Highest dose received by a radioactive worker was 57 mrem (to put that into perspective, a lumbar spine x-ray is 130 mrem).

WM2015 Conference Panel Report

- d. Ms. Andres: Interest runs the gambit. The challenge is getting people information to educate in a format that is appealing. NDEP does feel that participation as a liaison to the NSSAB helps with education; along with events like the Groundwater Open House (feedback received is an appreciation for the NDEP oversight).
 - e. Mr. Klevorick: Public interest ebbs and flows especially dependent on media coverage. The challenge is explaining radiation to people who fear it. When the public calls for information on radioactive shipments that are seen in their jurisdiction, the information needed to respond is not necessarily readily available. Regular access to the monthly reports is helpful; people do read the reports. There is a need to be more forthcoming regarding errant shipments.
 - f. Mr. Wade: There is still public mistrust of DOE, and there is a need to recognize that it will take more than one interaction to change those negative perceptions. In the last year, 4-5 busloads of Pahrump residents toured the Area 5 disposal facility (at their request). During these tours, changes in perceptions were apparent as the tour participants observed operations. DOE does ask the NSSAB if there are better ways to engage the public; seeking feedback from the NSSAB, such as was provided for the groundwater animation.
 - g. Ms. Gelles: Consideration of public perception matters.
3. As Mr. Wade mentioned in his briefing, waste destined for the NNSS must be U.S. Department of Transportation compliant. This includes both packaging and transportation. What is your organization's current assessment of how transportation routing decisions are made?
- a. Mr. Klevorick: A "gentleman's handshake" agreement to avoid the Las Vegas Valley was never documented. As part of the recent Memorandum of Understanding (MOU), Clark County would like to see routing commitments formalized. It should be recognized that 20-30 years from now routing decisions will be superseded by I-11. There is a significant congestion issue in Las Vegas; population and routing restrictions will change – direct routes are preferable, but traffic congestion is a consideration.
 - b. Mr. Lacy: Disagrees that traffic congestion should be an overriding consideration since routing restrictions have shipments taking longer routes through less populated areas where roads need significant improvements.
 - c. Mr. Wade: There are only so many routes to the NNSS; DOE's challenge is balancing the needs of both Clark and Nye County through middle ground that meets the DOE's mission. The Transportation Working Group's mission is to engage and get broader input on routing. DOE recognizes the value of continued dialogue and gains perspective for continued learning and insight.
 - d. Ms. Andres: Regulatory speaking, NDEP does not have jurisdiction over transportation but there are other state agencies that do. The Senior Working Group is addressing routing issues.
 - e. Ms. Hruska: The NSSAB does receive comments from the public asking questions. One example is: "Why don't we fly it in?" This comment was passed along to DOE. The NSSAB monitors transportation activities through observations of exercises and participation in audits of generators.
 - f. Ms. Browdy: Conditions of roads, congestion and other factors are a balancing act. Driver safety also needs to be considered. Area 5 Disposal Operations has put into place options to enhance driver safety while balancing the needs of communities. In addition, drivers

WM2015 Conference Panel Report

complete questionnaires upon delivery of their shipments; information provided is reviewed and compiled for reporting.

- g. Mr. Klevorick (follow-on comments): The Site-Wide Environmental Impact Statement does evaluate routing requirements/restrictions and intermodal shipments through Arizona. There have been serious security issues in rail yards around Las Vegas Valley, such as an unsecured 30,000 gallon chlorine tanker that rolled down the line and presented a significant risk.
4. Talk about your organization's involvement with emergency preparedness activities through their interactions with the NNSS.
 - a. Mr. Lacy: This is a positive interaction with the NNSS – training and MOUs in place that support Nye County emergency response. This should be used as a model.
 - b. Mr. Wade: There is a great deal of cooperation between Nye County and the NNSS via Mutual Aid agreements that benefit everyone when responding to accidents along the highway (US-95). Emergency response training has been conducted 3-4 times in the last year. The Transportation Emergency Preparedness Program (TEPP) filmed a training video last week in cooperation with Nye County. NNSS is self-contained but also has direct access to national resources, such as the Radiological Assistance Program (RAP) and the Federal Radiological Monitoring and Assessment Center (FRMAC), to supplement emergency response activities. DOE also funds the EPWG grant which augments the capabilities of local emergency responders – based on a \$.50 surcharge per cubic foot of waste disposed at the NNSS; more than \$12 million has been distributed to Nevada counties.
 - c. Mr. Klevorick: Clark County has not taken its fair share of the \$12 million distributed through the EPWG grant – money that is being used by other counties for training and/or equipment. The NNSS has a great opportunity to do more to prepare and train first responders, and Clark County needs new equipment/technology/training to be prepared for radiological response. Emergency preparedness interactions are continuing in a positive direction.
 - d. Ms. Andres: The Nevada Division of Emergency Management is responsible for coordinating any emergency response training/needs; however, NDEP does participate and/or observe exercises/training, and would coordinate with the State Department of Health to address any incident.
 - e. Ms. Browdy: NNSS regularly conducts training and exercises, and all work activities have emergency response plans integrated. In addition, checks and balances exist through PSDRs and there are also controls in place through the Documented Safety Analysis (DSA).
 - f. Ms. Hruska: NSSAB members have participated in tabletop exercises; this was facilitated by communications from NSSAB liaisons.
 - g. Mr. Klevorick (follow-on comments): Tabletop exercises are good and we need to keep MOUs updated. The Office of Secure Transport was impressed by how Clark County emergency responders played well together during exercises. Clark County encourages DOE to host exercises and have local emergency responders participate.
 - h. Ms. Gelles: DOE Headquarters Packaging and Transportation program, TEPP, is a nationally-recognized resource available.

WM2015 Conference Panel Report

Synopsis of Audience Questions/Responses

- *Is the LLW buried in Area 5 considered a permanent disposal, for the foreseeable future?*
 - Ms. Browdy: Area 5 disposal is permanent.
- *How do you actually ensure – the long term – that waste migration into soil is prevented?*
 - Mr. Wade: Engineered disposal units, performance assessment and long-term monitoring. Waste must be isolated for 1,000 year compliance period and augmented by monitoring and modeling (performance assessment). No transuranic waste is accepted. There are performance assessment objectives for groundwater, vadose zone, and air which ultimately factor into the robust waste acceptance criteria.
 - Ms. Gelles: Site selection is based on hydrology and geology – very defined and rigorous criteria.
- *How many CARs have been written on transportation in the last two years?*
 - Mr. Wade: There may have been two; the one that comes to mind was an errant driver who traveled through the Las Vegas Valley along an “off-limits” route. Though not many, we do take it very seriously.
 - Ms. Gelles: Correct answer is one (1) for the errant driver.
 - Ms. Browdy: The lesson learned from this incident is that the map on the driver’s questionnaire was not clear with regards to routes off-limits; this was corrected with a revision.
- *Can anyone come to the site to observe off-loading? If so, how would that be arranged and how far in advance must a visit be planned?*
 - Ms. Browdy: Public tours do visit the site.
 - Mr. Wade: Security requirements must be followed, to include those regarding foreign nationals.
- *The entire panel may have their differences but give the impression they value the NNSS as a “national treasure.” How can the DOE Complex help to keep the NNSS’ doors open?*
 - Mr. Wade: Compliance with requirements and improved communications.
 - Ms. Andres: Compliance with all requirements and communications.
 - Mr. Lacy: This goes broader than waste disposal; more opportunities for Work For Others and diversify.
 - Ms. Hruska: Believes it will never close because of interest in the geology, wildlife and plant life protections, and the waste disposal facility.
 - Mr. Klevorick: Open communications and no surprises. National need for training. Understand there is a need for waste disposal and there is no desire for it to close, but transportation and emergency response planning must be considered.
 - Ms. Browdy: Compliance and communications. Non-proliferation and training for emergency responders.
 - Ms. Gelles: Nevada plays an important role and DOE is committed to not overburdening Nevada. Only 5% of DOE complex waste is disposed at the NNSS; balancing the use of NNSS with other disposal options/sites.

WM2015 Conference Panel Report

- *For waste from out-of-state DOE sites, does the lab performing (analysis for conformance with) NNSS WAC need to be certified by the State of Nevada? What kind of accreditation or certification is required for WAC analyses?*
 - Ms. Andres: Yes, NDEP does look at whether the lab is Nevada-certified. Certifications are through the Bureau of Safe Drinking Water.
- *The DOE-Nevada MOU calls for an “independent scientific body” to review the low-level waste classification system. Has the review begun? What is its timeline? What do you hope to learn from it? Potential outcomes?*
 - Ms. Andres: These are day-to-day activities.
 - Mr. Wade: Recognition that the MOU addressed it means there is more work to be done. Policy level discussions are needed to address waste classification system.
 - Mr. Klevorick: Need a policy group to jointly determine system while, concurrently, a scientific group looks at it. The Nuclear Regulatory Commission (NRC) needs to be included in discussions. Universal commonality would be very beneficial to all.
- *Would have a classification system averted problems with the CEUSP?*
 - Mr. Klevorick: Maybe.