

# **Joint Meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group**

Hilton Austin  
Austin, Texas  
December 12-13, 2018

## **Meeting Summary**

The Southern States Energy Board's (SSEB) Joint Meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group took place on December 12-13, 2018. The event was hosted at the Hilton Austin in Austin, Texas.

Mr. Christopher Wells, Assistant Director of Nuclear Programs for the Southern States Energy Board, called the meeting to order. He formally welcomed the participants and offered logistical and administrative meeting announcements. Following the brief comments, Mr. Wells relinquished the meeting duties to Ms. Denise Brooks (Texas), Chair of the Transuranic Waste Transportation Working Group, who provided opening remarks and commenced with the introduction of all meeting participants.

The first speaker of the event was Mr. Clay Greene of the Federal Motor Carrier Safety Administration (FMCSA) who committed to addressing the following topics: Hazardous Materials Safety Permits; Hazardous Materials Special Permits; Cargo Tank Facility Compliance Reviews; Highway Routing of Hazardous Materials; and Cargo Tank Rollover Prevention. The mission of the Hazardous Materials Division is to reduce the number of serious highway incidents and fatalities that involve hazardous materials; and to develop programs that enhance safety and security. He noted the reasons for a review process of Department of Transportation Special Permits was to further examine out-of-service criteria, crash rates and other safety pertinent information. Mr. Greene continued by discussing the types of cargo tank facilities by region which underwent review. He also displayed a "Top 5" chart with cargo tank and hazardous materials roadside violations. In the area highway routing, he mainly focused on the hazardous materials route registry which is available on the FMCSA website. In conclusion, he provided some resources such as a DVD for cargo tank rollover prevention and highlighted some rulemakings of note pertaining to the transportation of radioactive materials.

The next presenter was Dr. Kenneth Lee Peddicord, Director of the Nuclear Power Institute (NPI) and a Professor of Nuclear Engineering at Texas A&M

University. Dr. Peddicord briefed the attendees on the merits of his organization and its association with the University. He explained how nuclear utilities in Texas approached Texas A&M for assistance in workforce development. The result of those discussions yielded NPI which is a partnership with a focus to inform, attract and prepare students for all facets of the technical workforce for the nuclear industry and develop public understanding and acceptance of nuclear energy. NPI uses an integrated approach and works with industry, universities, and technical and community colleges to provide associate degrees/certificates/hands-on nuclear power plant training activities and outreach programs to prospective students.

Mr. William Jeffries and Mr. Brandon Warburton of the North Carolina Radiation Protection Division spoke to the committees about the use of drones in nuclear response. They began by showing a video which provided an overview of the program and unique video footage from the perspective of the drones. They explained how radiation field monitoring teams are deployed to enter the most contaminated and highly radioactive radiation localities to retrieve environmental radiation data. The drones were devised as a solution to reduce the radiation dose received by personnel, prevent the contamination of equipment and vehicles and to reach areas not easily accessible by conventional methods. The next steps involved identifying partners interested in using the technology, establishing and provide funding for training and developing procedures to evaluate the effectiveness of the technology and program. They proceeded to give details regarding the specific drone technologies and their technological capabilities (equipment, payload, flight duration, etc.). Lastly, they talked about the lessons learned from embarking on such an ambitious program and conveyed advice to other states and tribes who entertained following a similar path.

Next, Dr. Miles Greiner who serves as the Mechanical Engineering Department Chair at the University of Nevada Reno (UNR) talked about the Graduate Certificate in Nuclear Packaging (GCNP) offered by his institution. The program began as a collaboration between the Department of Energy's Office of Environmental Management, three national laboratories and UNR to formalize courses based on needed knowledge and skills of packing professionals (engineers, managers, designers, reviewers, analyst and users). Dr. Greiner noted because students and professional take classes together there was a natural nexus to form additional partnerships which has resulted in several internship opportunities. Approximately 47 students have taken GCNP courses since 2015, and the first Certificate was awarded in 2017. UNR is currently developing a new Graduate Certificate in Transportation Security and Safeguards.

Mr. Richard Arnold representing both the Pahrump Paiute Tribe of Nevada and the Tribal Radioactive Materials Transportation Committee (TRMTC) talked to the audience regarding tribal perspectives on emergency response and radioactive materials transportation. Mr. Arnold displayed a slide identifying the current (18) tribes who comprise the TRMTC membership and he talked about

the cooperative agreement managed by the National Conference of State Legislatures for consultation with the Department of Energy (DOE). He discussed TRMTC activities which took place in 2018 including the committee's agreement to host the 2019 National Transportation Stakeholders Forum. Other accomplishments by TRMTC included submitting a proposal to present at the 2019 Waste Management Symposium and producing the document entitled "The Role and Authority of Tribes in the Transportation of High-Level Radioactive Waste and Spent Fuel". Finally, he ended with a continued commitment to work with SSEB and the other regional groups to bridge gaps in order to develop and foster relationships with tribes located in the various region.

The last speaker of the first day of the conference was Dr. Dale Klein who was sworn into the U.S. Nuclear Regulatory Commission in 2006, and was appointed Chairman by President George W. Bush, serving in that role from July 2006 to May 2009. Dr. Klein rejoined The University of Texas System in January of 2011 as Associate Vice Chancellor for Research in the Office of Academic Affairs. Dr. Klein provided those in attendance with a very broad perspective on the status of nuclear energy from a global point of view. He noted although many plants are exploring decommissioning in the United States, there is an escalation of construction in countries such as China and India. Dr. Klein also briefed the participants concerning his work with TEPCO as a member of an independent advisory committee investigating aspects of the Fukushima nuclear accident. Finally, he gave an overview of administrative processes (refined licensing, permitting and certification) and technologies (advanced nuclear with improved safety features) beneficial to the industry before he entertained questions from the audience regarding his vast experience and career.

Before the first day officially concluded, Mr. Demitrous Blount of the DOE Environmental Management's Office of Packaging and Transportation provided a notice about the National Transportation Stakeholders Forum (NTSF). Mr. Blount explained the origins of the NTSF including the purpose, goals and objectives and functioning of the planning committee in handling the administrative and logistical matters of the annual meeting. He reiterated the Tribal Radioactive Materials Transportation Committee was the host of the upcoming June 10-14, 2019, Annual Meeting in Washington, DC.

The second day of the meeting began with an administrative business session led by Mr. Christopher Wells. Mr. Wells thanked the committee members for their contribution to the final request solicited by DOE's Office of Nuclear Energy (DOE/NE): Summary of legal frameworks by state for Class 7 Highway Route Controlled Quantity shipments applicable to spent nuclear fuel. He also informed the members how SSEB staff worked with other state regional group and tribal counterparts to draft a letter to DOE on behalf of all the state regional groups and the tribes. The letter spoke of the efforts of a NTSF Working Group whose task was to review and provide recommendations for DOE's Radioactive Materials Transportation Practices Manual. Furthermore, he noted since DOE is

initiating new efforts to revise the Manual, the correspondence requested they consider the comments of the Working Group when developing the new product. Next, he mentioned Ms. Kathy Sammons (SSEB Director of Business Operations) was not in attendance but would be available for one-on-one consultation to provide them with details regarding the current financial standing of work plans and budgets in support of transuranic waste shipments to the Waste Isolation Pilot Plan (WIPP). Finally, he told committee members to be expeditious in returning their expense reports because the SSEB office would be closing soon for the holidays. Following these remarks, Mr. Wells introduced Mr. Roger Thompson of Tennessee who was serving as the Chairman of the Radioactive Materials Transportation Committee. Mr. Thompson formally commenced the second day of the meeting by initiating the introduction of all presenters as identified on the program agenda.

Mr. Demitrous Blount with the U.S. Department of Energy/Environmental Management (EM) Office of Packaging and Transportation kicked off the round of presentations for the second day of the conference. Mr. Blount told the group he would discuss cleanup priorities, site updates, EM organizational structure and activities within his division. Mr. Blount indicated that over a third (37%) of EM's FY 2019 budget (\$7.175 Billion) was committed to radioactive tank waste issues. He talked about EM's 120-Day Initiatives which included such measures as streamlining orders and regulations for efficiency and workforce succession planning to capture critical knowledge. Mr. Blount noted DOE has not made a decision regarding the interpretation of the definition of high-level waste and the comment period was extended to January 9<sup>th</sup>. He displayed a map illustrating the various EM shipping campaign across the country and another one with potential shipping routes. He provided slides geared to waste disposition activities at three sites within the EM complex located in the SSEB region: Oak Ridge, Savannah River and Portsmouth/Paducah. Mr. Blount displayed an EM organizational chart and identified where the Office of Packaging and Transportation stood within the management structure. Next, he specifically addressed the DOE Order revision process and gave a brief overview of the Transportation Emergency Preparedness Program (TEPP). He described the Department's undertakings in regard to DOE Order 460.2A (Departmental Materials Transportation and Packaging Management). An integrated project team will perform an extensive review of the Radioactive Materials Transportation Practices Manual with subject matter experts dedicated to specific topical areas. Regarding TEPP, he provided the committee with a chart of the FY 2018 training courses in the southern region (76 classes) as well as the number of students (1152) who participated in these activities. Mr. Blount concluded his presentation by referencing a redesign for the TEPP website and the renewal of the TEPP Working Group.

The committees also received information regarding a new proposal for the disposal of nuclear waste. Ms. Betsy Madru, Vice President of Government and Regulatory Affairs talked about this approach known as Deep Isolation. Rather than creating large tunnels, Deep Isolation will place nuclear waste in narrow 18-

inch horizontal drillholes in rock that has been stable for millions of years. No humans need go underground. The Deep Isolation repository begins with a vertical access drillhole extending thousands of feet deep and will then gently turn horizontal. Canisters containing nuclear waste would be stored in the deep horizontal section.

Benefits of this patented design:

- One drillhole can store 8 years of waste from a Boiling Water Reactor (BWR) and 33 years of waste from a Pressurized Water Reactor (PWR).
- Tilted horizontal drillhole offers excellent isolation from surface.
- The drilling, placement, and retrieving techniques are standard and reliable.
- Sites can be at or near power plants to minimize transportation.

Ms. Madru concluded by discussing the legislative and regulatory, community and utility engagement and the scientific and technological development approaches which must be accomplished to have viable commercial spent nuclear fuel disposal.

Mr. Bobby St. John, Deputy Manager of Nuclear Waste Partnership Communications provided the Waste Isolation Pilot Plant update. Mr. St. John began by noting WIPP has received in excess of 12,000 shipments since it opened in 1999 and over 400 since the restart after the fire. Currently, the facility averages a receipt rate of approximately 8-10 shipments per week. The most significant measure taking place is the installation of an improved ventilation system. Mr. St. John showed members several slides with the design and engineering specifications of the system. Construction is set to begin in December 2018 with a budget of \$288 million which will include a new filter building, salt reduction building and a fabrication facility. After the presentation Mr. James Mason, Institutional Affairs Manager, of the National TRU Program at the Carlsbad Field Office informed the committee he has taken on additional management duties at the site and that Mr. St. John will be assisting him with future briefings regarding the WIPP project. He noted he would still work closely with SSEB regarding the issuance of the agreements with the states in support of the WIPP program.

Todd Cannan and Ron Crane of Summit Exercises and Training held an interactive tabletop discussion with the participants regarding the security and other operational protocols which apply to radioactive material during transit. The purpose of the exercise was to promote information sharing, joint situational awareness, team building, and problem resolution in a crisis response situation. Mr. Cannan and Mr. Crane chose a scenario similar to one utilized in their popular Isotope Crossroads series involving the theft of radioactive materials to be used for a weapon of mass destruction. They posed several questions to the audience using a catch box to enhance participation and they also used a live

polling device to get immediate feedback. The discussion proved to be very beneficial in identifying roles and responsibilities and better conveying how communication, emergency response and security protocols are conducted across the region.

Mr. Mike Rutherford, Texas Department of State Health Services, gave an overview of the 2018 Texas WIPPTREX. Mr. Rutherford began by showing a map illustrating the WIPP route in Texas along the Interstate 20 corridor. He proceeded to give a brief overview of the previous eight exercises which had taken place in east, west and central Texas. Mr. Rutherford explained the planning process for the ninth WIPPTREX (Fort Worth, Texas) including meeting with local officials, developing objectives and scenarios with the host agencies and offering training for participants. The exercise took place at the Bob Bolen Public Safety Complex on October 9 thru 11<sup>th</sup> utilizing the “rodeo format” where several shifts of responders are testing under the same scenario over the three -day period. The first day of the event was canceled due to bad weather, but it allowed for participating agencies to walk thru the scenario in a tabletop format. The accident scene involved a WIPP truck with two TRUPACT-II transport packages, seven crashed vehicles and a delivery truck carrying radioactive material. The design was intended to allow first responders to perform scene and injury assessment and to transport patients to the hospital for decontamination measures. He provided the attendees with multiple photos of the exercise activities. Mr. Rutherford hailed the exercise as an overall success and noted an After-Action Report would be generated to detail any potential corrective actions and lessons learned.

The final speaker of the conference was Mr. Patrick Brady, General Director of Hazmat Safety for the BNSF Railway. The company has 32,500 miles of track and operates in 28 states within the US. He noted hazardous materials represent a very small percentage of rail freight and BNSF has an excellent safety record moving the materials. Mr. Brady informed the crowd human factor was the primary cause of train derailments, but BNSF was employing many strategies to reduce risk including training and the use of technology such as positive train control and trackside detectors. When it comes to inspections, Mr. Brady told participants BNSF conducts rigorous bridge and track inspections on a regular basis and complies with Federal Railroad Administration requirements to perform hazardous materials inspections. He explained how BNSF uses 27 safety and security factors in the process of performing route analysis. BNSF understands why dedicated trains are preferred for spent fuel shipments because of equivalent weight distribution, less interchange of railcars and the availability of the best technology. Mr. Brady completed his presentation by showing a slide with a schematic of a spent nuclear fuel train complete with the locomotive, buffer cars, cask cars and security car.

The remaining portion of the meeting consisted of a round table discussion to highlight the activities of all states in attendance. After all states had provided an update, Mr. Wells reported on the status of activities at SSEB.

The final order of business at the meeting was the announcement of the location and date of the next meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Working Group. Since the group continues to meet in conjunction with the NTSF for their Spring meeting, it was reported that they would gather again on June 10-14, 2019, during the Annual Meeting in Washington, DC.

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