WM2014 Conference Panel Report

PANEL SESSION 73: US DOE Mixed Waste: Addressing Proposals for Dealing with Problematic Waste Streams and Policy Changes Affecting Waste Disposition

Session Co-Chairs: **Dick Blauvelt**, *Portage Inc.*
Christine Gelles, *US DOE EM*

Panel Reporter: **Dick Blauvelt**, *Portage Inc.*

Panelists:

- **Mike Auble**, *AMWTP Idaho Treatment Group*
- **Ken Grumski**, *Waste Control Specialists*
- **Steve Singledecker**, *LANL*
- **John Gilmour**, *Savannah River Nuclear Solutions*
- **Scott Anderson**, *UCOR, ETTP Oak Ridge*
- **Scott Wade**, *US DOE NNSA, Nevada Site Office*

This panel was reassembled again at WM14 to discuss progress made to resolve remaining issues surrounding primarily the disposition of DOE high activity mixed waste and to examine any remaining challenges in this once problematic waste category. In past years, the mixed waste community has struggled with issues like the availability of appropriate treatment technologies to meet the LDR requirements and of permitted disposal facilities able to accept higher activity mixed waste along with the necessary funding to identify, characterize, treat and dispose of the DOE mixed waste inventory. Treatment vendors like Perma-Fix and Energy Solutions have tackled treatment technology issues and the NNSA site in Nevada has developed a fully permitted disposal facility. WCS has in the past year opened a mixed waste disposal facility in west Texas along with providing treatment and storage capabilities. ARRA funding provided the necessary resources to address much of the waste from the major generator sites. With these major issues having been resolved, some challenges remain with a few waste streams inventories with "no path to disposal" to be dealt with, issues with difficult to handle Pu-238 mixed waste and potential impacts from regulatory and policy issue changes.

Panel members along with co-chairs Dick Blauvelt and Christine Gelles, DOE/EM HQ, reviewed and discussed the remaining issues and challenges represented by this waste disposition activity.

As an introduction, Dick Blauvelt presented a history of the development of mixed waste disposition issues starting with the authorization of the Resource Coservation and Recovery Act in 1976. Christine Gelles provided the view of DOE HQ on disposition activities and future focus for mixed waste, given progress and events of the past year.

Scott Wade discussed the continued success of the mixed waste disposal program at the NNSA Site with more than 10,000 M^3 of mixed low level waste disposed of to date with capacity for future projections through 2019. An issue with efficient utilization of cell

capacity is the inability to stack non-uniform packages such as soft sided bags. A recent addition to the site caspabilites is the dispositon of classified waste, both radioactive and non-radioactive with about 20% having RCRA components

Ken Grumski of Waste Control Specialists (WCS) discussed the capabilities of the WCS facility with focus on the opening and operation of the federal mixed waste disposal cell. He noted that there were currently nine federal waste facility certified generators with two additional audits scheduled. Of particular significance were the services provided to LANL to assist in meeting the Governor's goal of disposition of 3706 M^3 of combustible TRU or suspect TRU waste by June 30 2014. WCS was able to receive, treat and dispose of the non-TRU portion of the inventory to date at a significant cost savings to DOE.

Steve Singledecker previewed LANL's improved strategies for currently generated mixed waste disposition. Legacy waste was poorly characterized and improperly packaged requiring significant efforts in sorting, segregating, repackaging, treatment and other compliance issues. Current waste is characterized by acceptable knowledge, compliantly packaged, certified at time of packaging and tracked by a comprehensive data base. The result is a significant reduction in cost.

Scott Anderson reviewed some of the major accomplishments at ORNL with resolution of six problematic waste streams including F027 and PCB classified waste, reactive and mercury bearing wastes. The solutions included a reassessment of the hazardous waste assignment of the stream, an assessment of the classified status and/or a competitive outsourcing of treatment to the commercial sector. One stream of dioxin/furan mixed LLW debris and liquids still needs a disposition path.

Mike Auble from INL presented an update of mixed waste disposition at AMWTP in Idaho. This past year has seen the disposition of nearly 4,500 M^3 of mixed low level and TRU waste. The project has dealt with multiple sizes and types of waste containers, a variety of prohibited items, such as PCBs and RH components. Mixed waste requiring LDR treatment has benefited from the macro-encapsulation program which has successfully treated 875 M^3 through January of 2014. The AMWTP is considered a DOE asset to be preserved for waste disposition beyond the INL project.

John Gilmour of SRS discussed recent progress in the disposition of mixed low level waste that dropped out of the original TRU inventory of nearly 14,000 M^3. A substantial amount of this waste was "almost TRU". Of particular difficulty in this inventory was Pu-238 mixed waste, waste with very high alpha contamination levels, and the presence of compressed gas cylinders or Li batteries. Commercial treatment facilities required changes or exemptions to permits to provide assistance. RTR and NDA results from the TRU certification process provided valuable characterization data. To date a total of 590 M^3 of this problematic mixed waste has been dispositioned.

The session was well attended. It is anticipated that another session on this topic will be proposed for WM2015, This panel will discuss opportunities for cost efficiencies and impacts on disposal site selection. The panel will also address selected

institutional/regulatory topics such removal of US EPA conservatively assigned Hazardous Waste Numbers (HWNs) and allowances for blending/consolidating wastes. Finally, the panel will discuss remaining problem streams and reasons for their difficulty.