

WM2015 Conference Panel Report

PANEL SESSION 079: **US DOE Mixed Waste: Addressing Proposals for Dealing with Problematic Waste Streams and Policy Changes Affecting Waste Disposition**

Session Co-Chair: **Dick Blauvelt, *Portage Inc.***
Douglas Tonkay, *US DOE*

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

Panelists:

- **Bruno Zovi**, *Waste Generator Services Group Leader, AMWTP Idaho Treatment Group*
- **Ken Grumski**, *Vice President Federal Services, Waste Control Specialists*
- **Michelle Coriz**, *LANL*
- **John Gilmour**, *Director, Solid Waste and F Area Operations, Savannah River Nuclear Solutions*
- **Scott Anderson**, *Waste Disposal Manager, UCOR, ETTP Oak Ridge*
- **Renee Echols**, *Senior Vice President Sales and Marketing, PermaFix Environmental Services*

This panel convened again at WM15 to discuss progress made to resolve remaining issues surrounding 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 Land Disposal Requirements (LDR) 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 EnergySolutions have tackled treatment technology issues; the NNSA site in Nevada has developed a fully permitted disposal facility. Waste Control Specialists (WCS) has opened a mixed waste disposal facility in west Texas and also provides treatment and storage capabilities. With these major issues having been resolved, some challenges remain with some waste stream inventories with “no path to disposal” and potential impacts from regulatory and policy issue changes in addition to the impact of the WIPP shutdown.

Panel members along with Session Co-chairs Dick Blauvelt and Doug Tonkay, DOE/EM HQ, reviewed and discussed the remaining issues and challenges represented by this waste disposition activity.

Summary of Presentations:

Ken Grumski of (WCS) discussed the capabilities of the WCS facility with focus on operation of the federal mixed waste disposal cell and how they have served DOE contractors with treatment, storage and disposal options. They have been particularly important in the disposition of LLMW from LANL and have several other DOE contractors with certification or pending certification. Their facility has the capability of MLLW large component size reduction, macro-encapsulation and disposal. Future capabilities include the disposition of large quantities of depleted uranium.

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Michelle Coriz reviewed the LANL improved strategies for currently generated mixed waste disposition and progress to date with its implementation. Training, sorting and segregation and waste avoidance has had a significant impact on MLLW generation. Legacy waste in the past was poorly characterized based on multiple data bases and with overly conservative hazardous waste assignments. An organized and focused strategy has resulted in decreased generation of mixed waste, with emphasis on meeting the disposal site WAC, and the development of multiple options for disposition with 99% of the waste going offsite. FY 2015 saw the disposition of several problematic streams including high activity tritium mixed waste and contaminated lead reuse

Scott Anderson reviewed some of the major accomplishments at ORNL with resolution of six problematic waste streams first introduced at WM14 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. Dioxin/furan mixed LLW debris and liquids still needs a disposition path. In addition, some large lithium and sodium bearing waste shields have been added to the problem waste stream list. A potential treatment is available if transportation can be handled.

Bruno Zovi from INL, presented an update of mixed waste disposition at AMWTP in Idaho. This past year has seen increased focus on disposition of low level and mixed low level with the shutdown of WIPP. The project has had to deal with multiple sizes, types and conditions of waste containers, a variety of prohibited items, PCBs and Remote Handled components. Mixed waste requiring LDR treatment has benefited from the macro-encapsulation program which recently has been enhanced with the deployment of a high modulus polymeric packaging system, the macro bag. This bag meets DOT packaging requirements, NNSS WAC packaging criteria and LDR requirements.

Renee Echols of PermaFix Environmental Services, reviewed successes PermaFix has had in dealing with wastes with a lack of characterization data, multiple treatment steps, no available packaging and issues of accessibility such as waste in tanks, and large pieces of contaminated equipment. PermaFix has systematically addressed these challenges and others to solve some of the most difficult waste streams generators have faced.

John Gilmour of SRS, reviewed progress in the disposition of mixed low level waste that dropped out of the original TRU waste inventory. A substantial amount of this waste was “almost TRU”. Of particular difficulty in this inventory was Pu-238 mixed waste. Commercial treatment facilities required changes or exemptions to permits to provide assistance. So RTR and NDA results from the TRU certification process continue to provide valuable characterization data. In addition the use of waste consolidation as allowed by DOE Order 435.1 has allowed SRS to reclassify problematic TRU waste in large boxes, for example, as low level waste.

Doug Tonkay concluded the session with comments regarding the continued focus on and support for the disposition of mixed low level waste. He thanked both the panelists and the attendees for their involvement and interest.

The session was well attended. It is anticipated that another session on this topic will be proposed for WM16. 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

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blending/consolidating wastes. Finally, the panel will discuss remaining problem streams and reasons for their difficulty.