

## WM2008 Conference Panel Reports

### **Panel Session 76B**

#### **Disposition of DOE High Activity Mixed Waste-What Capacity Do We Really Need**

Panel Reporter: Dick Blauvelt, Navarro Research and Engineering Inc.

This panel was assembled to focus on the disposition of DOE high activity mixed waste. The US DOE sites have the bulk of the inventory of 10-100nCi/g alpha mixed waste that was formerly managed as TRU but will not be headed for WIPP. It must now be treated to meet LDR requirements and be disposed of at the DOE Nevada Test Site. Only one commercial vendor, Permafix is currently authorized to treat B/C-like mixed waste although Energy Solutions is moving toward permitting their Bear Creek, TN Facility.

The NTS has a window of opportunity for the disposition of these mixed waste streams that will close in December of 2010. Identification, characterization and treatment to meet LDR standards prior to certification and shipment are time consuming and costly with shipments to NTS to date falling far short of what is authorized. When that window is closed, panel members considered what options could be and/or should be pursued to assure continued access for disposition of mixed B/C waste inventories from DOE.

The panel discussed the likelihood of access to the Hanford site and whether WCS will have their planned Class A, B, C mixed waste disposal site up and running. All panel members along with the attendees and facilitated by co-chairs Dick Blauvelt and Dave Eaton, CH2M-WG Idaho, reviewed and discussed the issues and the challenges represented by this disposition activity.

The panel members included:

- James Zovi, Bechtel BWXT Idaho, LLC.
- Renee Echols, Permafix
- Kaylin Loveland, Energy Solutions
- Frank DiSanza, US DOE NSO
- Beth Bilson, Fluor Hanford
- Mike Lauer, Waste Control Specialists
- Christine Gelles, US DOE EM HQs

James Zovi represented the generator sites on the panel and noted that 732M3 of MLLW was shipped from 05/05 until 4/06 and another 1500M3 is slated for shipment to NTS by April of 2008. However, the estimated inventory of MLLW is still about 8000M3 and it is clear that this will not all make it to NTS before 12/10. One of the more successful LDR treatment processes for high activity mixed waste has been the use of stainless steel cargo containers for macro encapsulation. Commercial vendors are treating an additional 1500M3.

Renee Echols presented the role the Permafix, a commercial treatment vendor with NTS certification that has played and will continue to play in the disposition of DOE high activity mixed waste. All four of their treatment facilities have mixed waste treatment capabilities. Problematic streams include PCB contaminated streams and SNM. They are currently seeking authorization for a thermal destruction unit for the PCBs. Along with standard macro encapsulation techniques, stabilization, and solidification, they have remote size reduction

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capabilities. Ms Echols indicted that they have not received a treatment request that has no technical solution in the works.

Kaylin Loveland from Energy Solutions provided an update on their Bear Creek TN facility that will provide a second commercial option for treatment of high activity mixed waste. The RCRA permit is expected shortly and will allow stabilization, solidification, amalgamation, macro encapsulation and deactivation along with size reduction capabilities

Frank DiSanza provided input from the NTS disposal site perspective. The mixed waste must be DOE generated and be treated to meet LDR. Mr. DeSanza noted that the allowable volume is 20000 M3 with a deadline of December 1, 2010, whichever comes first. Through 1/31/08 a total of 4582 M3 has been received. The projection is that another 9706 M3 will be shipped before closure is initiated leaving a substantial unused capacity. Mr DiSanza discussed three generators that were shut out of the site for a period of time due to noncompliance issues with the WAC. He indicated that the site is eager to assist generators in getting their mixed waste to NTS for disposal before the window closes.

Beth Bilson from Fluor Hanford presented an update on Hanford's mixed waste issues and the likelihood that existing and planned onsite disposal capabilities can address most of Hanford's mixed waste. Offsite receipts are, of course, another issue. Initiative 297 prohibiting receipt of out of state waste has been ruled unconstitutional but is in the appeals court with a ruling expected this spring. The tank closure and waste management EIS is expected in draft by 08/08 with a ROD perhaps issued a year later. This might reopen the door for high activity mixed waste from the DOE complex.

Mike Lauer of Waste Control Specialists (WCS) discussed the existing capabilities they have for treatment, storage and disposal of radioactive, mixed radioactive and hazardous waste. While they have certain unique capabilities for long term storage of a host of radioactive materials, the focus of interest is on the status of the license to operate a class A, B, C mixed waste disposal facility for Federal mixed waste. A draft license is expected any day and they expect to have a final license by June of 2009

Christine Gelles, the disposition program manager from DOE EM in Washington wrapped up this session. She noted that the priority for treatment, storage and disposal of DOE solid waste falls near the cutoff for funding in the out years. This will make it extremely challenging for the disposition of these high activity waste streams even if all other technical and intuitional issues are resolved. Ms. Gelles provided insight on the Waste Information Management System (WIMS) database that is being used along with disposition maps to track problematic waste streams in order to make the most effective and efficient use of the limited funding available. She noted, however, that technical and institutional challenges remain with, for example, some treatment options still lacking. Future D&D activities may uncover more problem waste streams. Where disposal will occur after December 0f 2010 is clearly a major concern. DOE will strive to use all available tools to assure disposition of those streams with programmatic risks in a timely and appropriate manner.

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The session was reasonably well attended and was described by both the participants and attendees as an interesting and timely topic. Follow-up meetings are planned for all stakeholders and a follow-on session will be scheduled for WM09.