



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

## **Citizens Advisory Board**

# **Integrated Waste Treatment Unit Update**

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**Jack Zimmerman**  
**Deputy Manager**  
Idaho Cleanup Project

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## IWTU Context

- What is the waste involved? - Sodium Bearing Waste (SBW), approximately 900,000 gallons of liquid radioactive waste stored in three 300,000 gallon underground storage tanks.
- What does the 1995 Idaho Settlement Agreement require for this waste stream? - Requires waste to be treated by 12/31/2012 (deadline missed).
- How is this waste treated and disposed? - The Integrated Waste Treatment Unit will treat the sodium bearing waste using a steam reforming process, which turns the liquid into a more stable, solid powder-like waste form.
- What is the current year budget? - \$60 million.

# IWTU Summary

- Inspections and maintenance activities were completed in May.
- Completed fourth simulant run May, 2016.
- Our focus continues to be on the successful commissioning and safe operations of IWTU:
  - Simulant runs provide valuable plant and operations data.
  - Commencement of “hot operations” will be based on that data.



## *Fourth Simulant Run*

- The May 18-25 simulant run showed better product quality, good temperature control, with a constant feed rate and a total simulant throughput of 15,900 gallons.
- IWTU performance in the test was better than previous runs – notably product consistency and operational stability.
- A number of equipment and operational changes were implemented for the May 2016 simulant test.



Photo shows sample of product produced during May 2016 simulant run.



## Fourth Simulant Run

- During the May simulant run we experienced issues with the new auger-grinder binding.
- The auger-grinder was removed from the DMR the week of June 6, 2016, and Fluor is evaluating its performance.
- Test duration was limited. Run was terminated due to scheduled contract transition, which was completed June 1, 2016.



Re-designed auger-grinder.



- Fluor is taking a deliberate approach with their industry experts to evaluate the best way to operate the DMR to drive the process to steady state conditions.
- Fluor plans to carry out maintenance and inspection (“Outage H”) during which they will evaluate the DMR auger-grinder, review performance of critical plant equipment and perform maintenance as needed.
- DOE-ID is performing a review of the technical approach submitted in Fluor’s Project Plan to resolve technical issues with the IWTU.

