



U.S. DEPARTMENT OF  
**ENERGY**



# Accelerated Basin De-inventory (ABD) Mission at the Savannah River Site

**Jeffrey Bentley**

Senior Program Manager, Nuclear Materials Stabilization

*Citizens Advisory Board*

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- **CAB Recommendation #378.**
  - Provide the CAB periodic updates on criteria completion and impacts to mission performance.

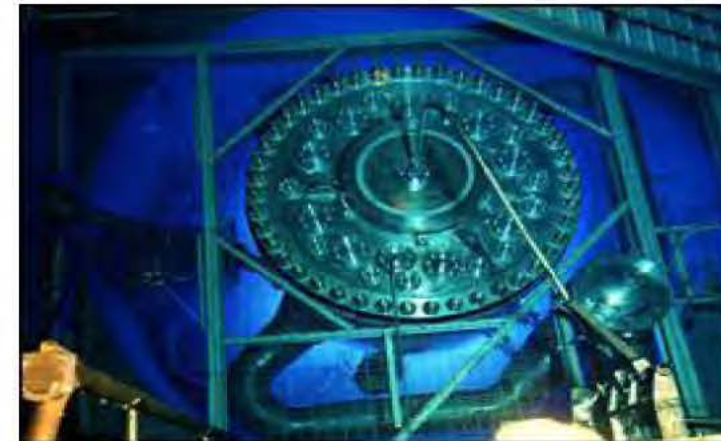


## Reminder - What is ABD?

- **Opportunity to align resources at the Savannah River Site (SRS) to reduce overall liability of the Department.**
  - Integrates with the Liquid Waste system, which is available until 2033.
  - Discards dissolved Spent Nuclear Fuel (SNF) into awaiting Liquid Waste sludge batches.
  - Sludge batches are ultimately vitrified into glass waste canisters at the Defense Waste Processing Facility.
- **ABD mission benefits:**
  - Reduces long-term storage risks and accelerates disposition of SNF.
  - Mission will maximize the de-inventory of SNF in L-Basin.
  - Allows continued SNF receipts, while SNF disposition methods are developed by Offices of Science and Nuclear Energy.



L-Basin SNF Storage



Oak Ridge High Flux Isotope Reactor

## ABD Update (Fiscal Year 2023)

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- **Milestones (October 2022 – Present).**
  - H-Canyon has dissolved 13 batches of Aluminum SNF.
  - Discards of dissolved fuel to H-Tank Farm began in March.
  - A total of 394 kilograms of fissile material have been added to sludge batch 11 during discards from H-Canyon.
- **Planned Milestones for Fiscal Year 2024.**
  - H-Canyon plans to dissolve up to 8 Batches of Aluminum SNF.
  - H-Canyon plans to electrolytically dissolve 5 batches of Fast Critical Assembly (FCA) fuel.
  - Additional fissile material will be discarded into sludge batch 11 during the next available H-Tank Farm discard window (May '24).



## Other Mission Items

- **Fissile mass loading limit increase for Defense Waste Processing Facility glass waste canisters.**
  - Higher limit means less canisters produced.
  - Request submitted.
- **Non-aluminum spent nuclear fuel (NASNF).**
  - Sorting fuel into groupings for choosing the optimum disposition option.
  - Developed and issued a Campaign Plan for the initial fuel to be dissolved in the electrolytic dissolver following FCA.
- **Nuclear Materials/Liquid Waste Integration.**
  - Refining chemical adjustment needs for discard material.



