



U.S. DEPARTMENT OF
ENERGY



Systems Flow Modeling at Savannah River Site

June 6 - 7, 2011

Presentation to the Nuclear Waste Technical Review Board

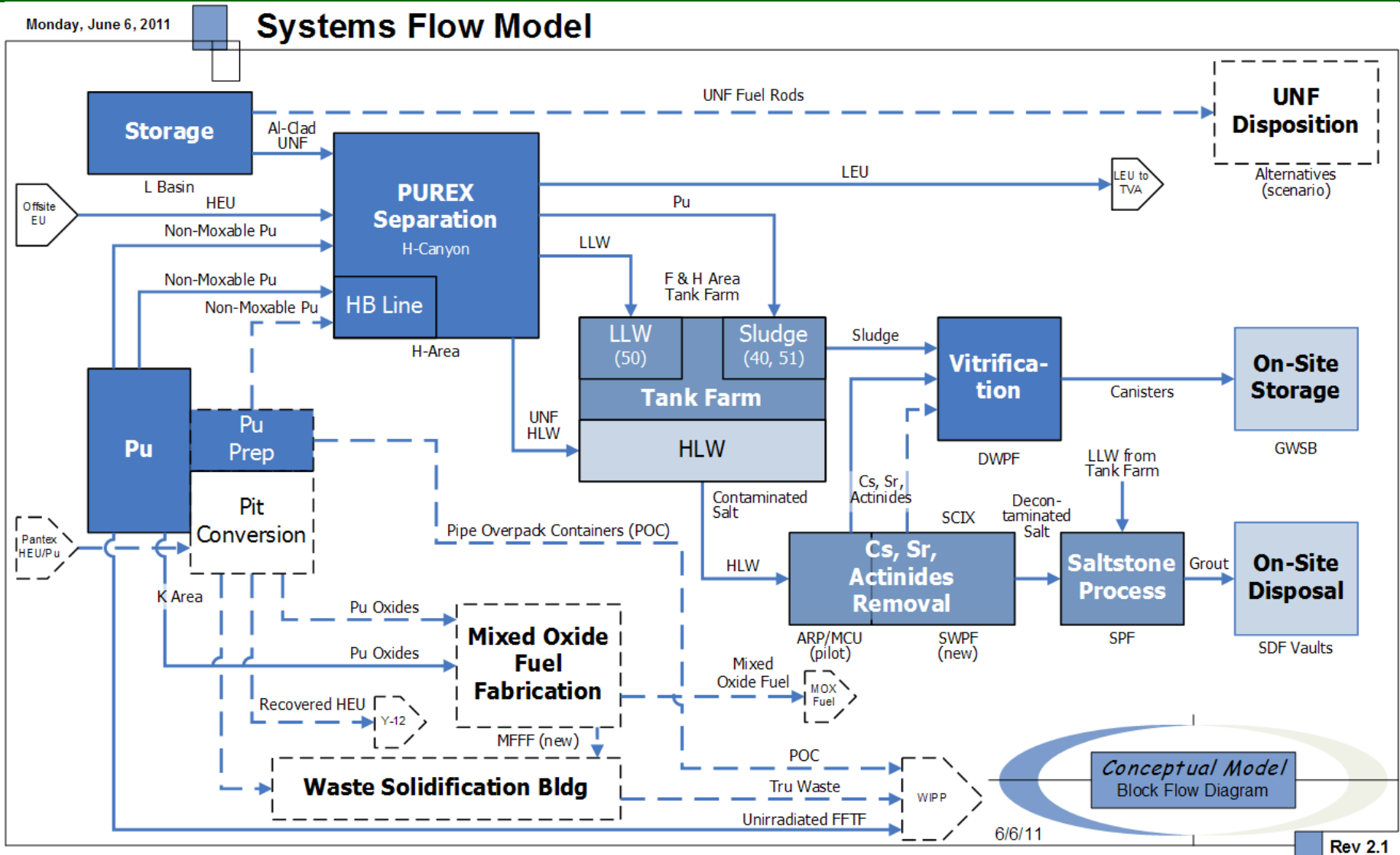


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SFM Block Flow Diagram



Darker to lighter color indicates higher to lower fidelity model implementation →

Model Objective

Develop planning, budgeting and technical models of nuclear material disposition and liquid waste treatment and disposal options at SRS.

The model:

- Supports scenario analysis through 2035
- Explores alternative strategies
- Calculates the mass and volumetric balances of surplus nuclear materials and radioactive waste byproducts; and
- Calculates lifecycle costs.



Purpose

The model supports decisions with quantitative analysis intended to:

- Explore policy options;
- Analyze plans;
- Address management challenges; and
- Develop mitigation strategies.



Application

- Simulate system behavior over time;
- Assess system sizing and performance;
- Identify bottlenecks;
- Validate operational schedules;
- Link investment decisions to operational plans;
- Perform analysis of alternatives;
- Accelerate cleanup while managing total program costs to a level funding profile; and
- Assist with managing the interface between M&O contractors.



Process Flowsheet Example



[Click to view
Material Components](#)

Legend

- Plutonium
- Neptunium
- Uranium
- Acid
- Solvent
- Overheads
- Offgas
- Waste



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Brief Walkthrough



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Discussion and Questions

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