U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Integrated Waste Treatment Unit LINE Commission 2.0 Update

John P. Zimmerman
U.S. Department of Energy
Idaho Cleanup Project
Deputy Manager

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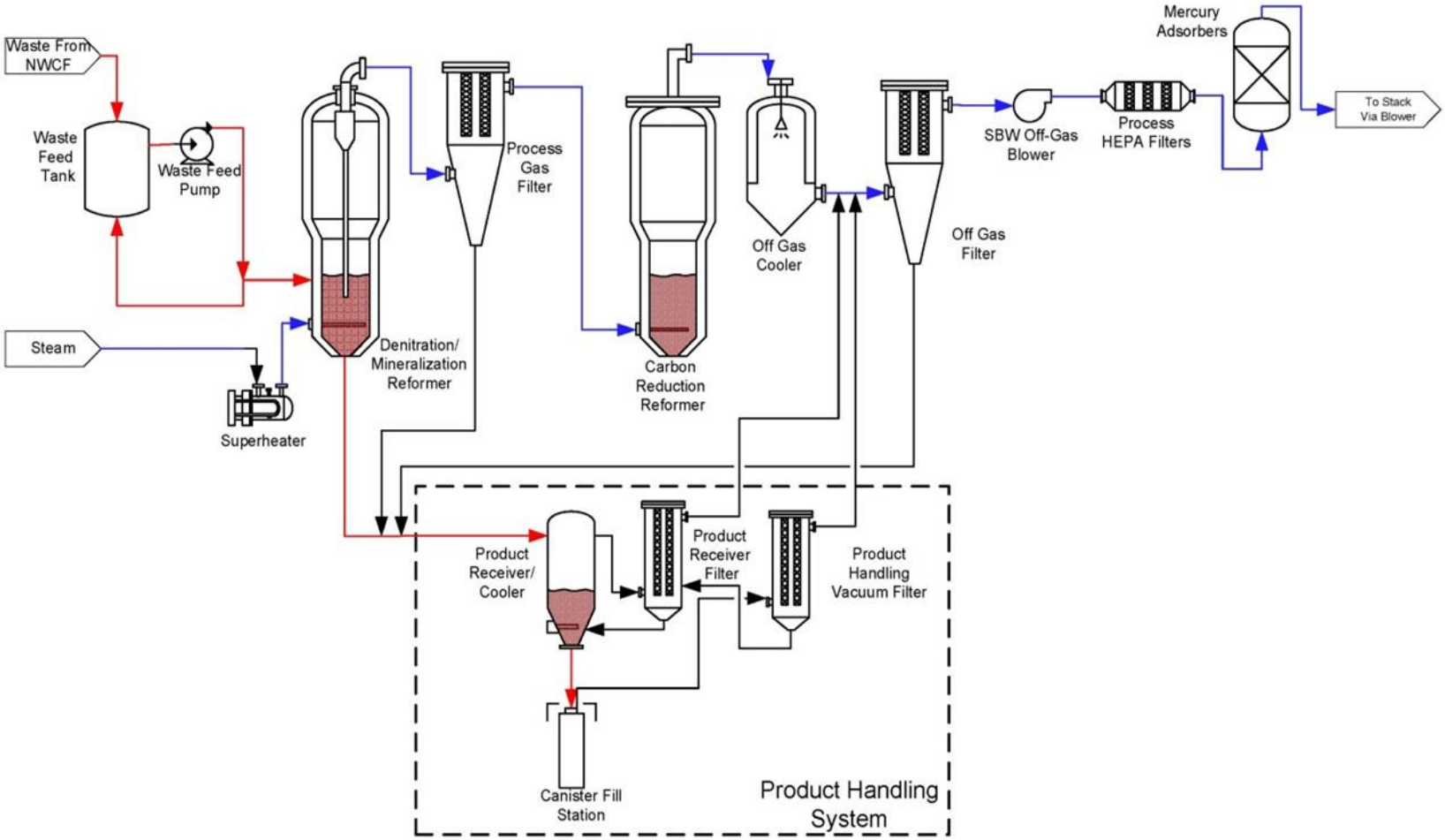
Integrated Waste Treatment Unit

Integrated Waste Treatment Unit

- A 53,000 square foot, first-of-a-kind facility constructed to treat 900,000 gallons of sodium-bearing waste stored in three underground tanks at the Idaho Nuclear Technology and Engineering Center
- The waste was generated during the later stages of the Idaho Site's spent nuclear fuel reprocessing campaign (1950s until 1992)
- Uses a steam-reforming technology to heat up the liquid waste, essentially drying it; packages the granular material in to stainless steel canisters; for storage in concrete vaults at the site.
- The treatment supports the 1995 Settlement Agreement milestone between the DOE and the State in a manner such that the waste would be ready for shipment out of Idaho by 2035.

Tank Waste Disposition Process - Idaho

Integrated Waste Treatment Unit Process



IWTU Current Status

- The plant has gone through several heat-up/cool down cycles due to equipment issues preparing for simulant introduction
- Resumed heating up November 11, 2014 to normal operating temperature and pressure in preparation for steam re-introduction and simulant processing
- Simulant processing began on December 2, 2014

Start-up Approach

- Methodical approach to start-up. Supplemented the process by the following:
  1. Operations Support Team using support from DOE-HQ and National Energy Technology Laboratory with expertise in coal fluidization and steam reforming.
  2. Independent review of test process to identify opportunities to minimize test risk.
  3. Independent process review by fluidized process expert.

Path Forward to Begin Waste Processing

- Following simulant testing, the facility will conduct a confirmatory outage to inspect specific equipment to verify performance, and to complete other planned maintenance
- Following satisfactory completion of simulant testing, the confirmatory outage and the Integrated Operations Review, IWTU will be in a position to transition to radioactive waste operations once the regulatory approvals are received
- Obtain Idaho DEQ Regulatory Approvals for radioactive waste processing
- Commence Radioactive Waste Processing (Actual processing rate will be based upon simulant processing results)