



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Integrated Waste Treatment Unit Update

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Integrated Waste Treatment Unit (SBW) Project

Key Activities/Actions:

- Began confirmatory outage end of January (inspection of equipment)
- Completed evaluation of TI-102 test results
- Updating operating procedures in accordance with lessons learned from testing
- Implementing equipment modifications and maintenance activities

Upcoming Activities:

- Complete confirmatory outage (facility maintenance and modifications)
- Run additional simulant to verify effectiveness of modifications

Metric	Baseline
Treat sodium-bearing waste	~ 850,000 gallons to loss of suction
Package SBW Waste	704 canisters filled
Process tank "heels"	360,000 gallons



Integrated Waste Treatment Unit Facility

Integrated Waste Treatment Unit Outage Issues

1. “Bark” formation in the DMR – Vessel inspection revealed deposition of “bark like” material on the auger grinder and interior of the DMR.
2. DMR Auger Grinder – at the end of TI-102 Testing the auger grinder would not rotate. Repairs required to packing seal and rear bearing.
3. CRR Refractory Lining – Erosion of soft refractory lining around penetrations into the CRR discovered during modification activities.
4. OGF material transfer – material cohesiveness causing bridging effect in the cone of the filter vessel inhibiting transfer of material.
5. Off-gas blowers – shaft vibrations are out of specification. Repair of one motor required
6. Pressure Relief Study – An evaluation of the pressure relief system restricts feed rates to the DMR to less than 2.8 gpm.

Integrated Waste Treatment Unit Path Forward

1. “Bark” formation in the DMR – Chemical analysis under way to determine chemical reaction forming bark leading to changes in DMR bed material and additives.
2. DMR Auger Grinder – Repairs required to packing seal & rear bearing.
3. CRR Refractory Lining – Plans underway to repair refractory lining.
4. OGF material transfer – Transfer line size has been increased and air flow upgrades to gas cannons implemented.
5. Off-gas blowers – Engineering and technicians from the supplier are testing and evaluating blower specification and conducting repairs.
6. Pressure Relief Study – Engineering designs are being install to upgrade the pressure relief system on the two vessels affected.

Consent Order Status

- DOE and the State of Idaho Signed a Modification to the Notice of Noncompliance-Consent Order on March 2, 2015.
- Under the order, DOE submitted for state approval a new compliance schedule for start-up and operation of the Integrated Waste Treatment Unit, and completion of processing of the remaining liquid sodium bearing waste.
- The State approved DOE's new compliance schedule on March 26, 2015, which also establishes interim milestones for the IWTU project.
- DOE must complete processing and cease use of the liquid storage tanks by Dec. 31, 2018.

Key Activities/Actions:

- Completed Contractor and DOE Tank Washing Closure Readiness Assessments
- Continuing with draining of the cooling coil underground line headers in preparation of flushing the system

Upcoming Activities:

- Start tank washing activities

Metric	Baseline
Close liquid waste tanks	4 tanks by 9/2015



Prepping for tank farm work

Interim Milestones

- The new compliance schedule for IWTU, as approved by the state, includes:
 - a. Initiation of waste treatment in IWTU by Sept. 30, 2016
 - b. 30 percent of waste treated by Sept. 30, 2017
 - c. 70 percent of waste treated by Sept. 30, 2018
 - d. Permanently cease use of tanks by Dec. 21, 2018

- DOE will pay the state \$648,000. DOE may submit for state consideration one or more supplemental environment projects in lieu of the penalty. We anticipate submitting a project or projects for the state's consideration.
- Stipulated penalties: If DOE misses interim milestones, it will be subject to a penalty of \$1,200 for each violation for each non-empty tank for each day it is out of compliance for the first 180 days.
- Thereafter, DOE will be subject to a penalty of \$2,000 for each violation for each non-empty tank for each day DOE is out of compliance until the requirement is met.
- Stipulated penalties will not accrue if the reason for DOE's failure to meet the requirement was caused by a problem with the treatment process that required treatment to be stopped in order to protect human health and the environment.

Termination Clause

- If DOE determines that operation of IWTU is not feasible or protective of human health and the environment, then DOE shall cease operation of the IWTU, terminate the project and be subject to a stipulated penalty of \$2 million.