

Citizens Advisory Board Presentation

Integrated Waste Treatment Unit

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EM *Environmental Management*

Facility Description

- **New Hazard Category 2 Nuclear Facility:**
 - Process Building with reinforced concrete process cells inside a structural steel building, along with a Product Storage Building
- **Steam Reforming Process:**
 - First of its kind, full scale steam reforming process; reformer vessels use superheated steam and nitrogen gas, along with coal and coke, to convert acidic radioactive liquid waste to solid carbonate particles



Event Description

- **June 16, 2012**
 - Off Gas Filter bundles lift due to high delta pressure releasing coal fines and bed material
 - Process HEPA filters load up, fail, and release from the stack
 - No radioactive or hazardous material released to environment
 - Rapid Shutdown System operated as designed



OGF—Filter Bundle, Before and After



Clogged OGF Filter



Cleaned OGF Filter



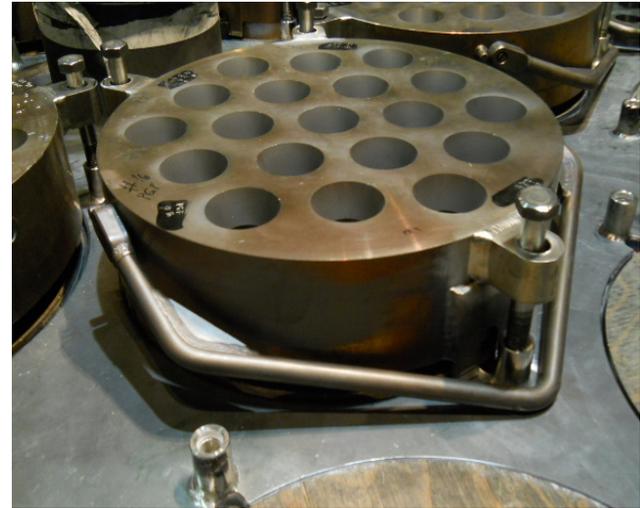
Facility Recovery—Modifications

Facility Modifications Include:

- ✓ Process filter bundle restraints to prevent lifting, all four filter vessels
- ✓ Re-design of filter bundle gaskets
(Reassembly of vessels has begun)
- ✓ Install pre-filter differential pressure transmitters on process off-gas High Efficiency Particulate Air (HEPA) Filters
(allows Rapid Shutdown System trip)

✓ = Completed Activity

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Facility Recovery—Modifications

Facility Modifications Include:

- ✓ Process filter bundle fuses removed from all four filters
- ✓ Product Receiver Filter and Product Handling Vacuum Filter pressure relief valves installed
- Install oxygen inlet lower in Carbon Reduction Reformer vessel
- Evaluate and modify the Rapid Shutdown System alarm and trip strategy – **evaluation completed, modifications in progress**

✓ = Completed Activity

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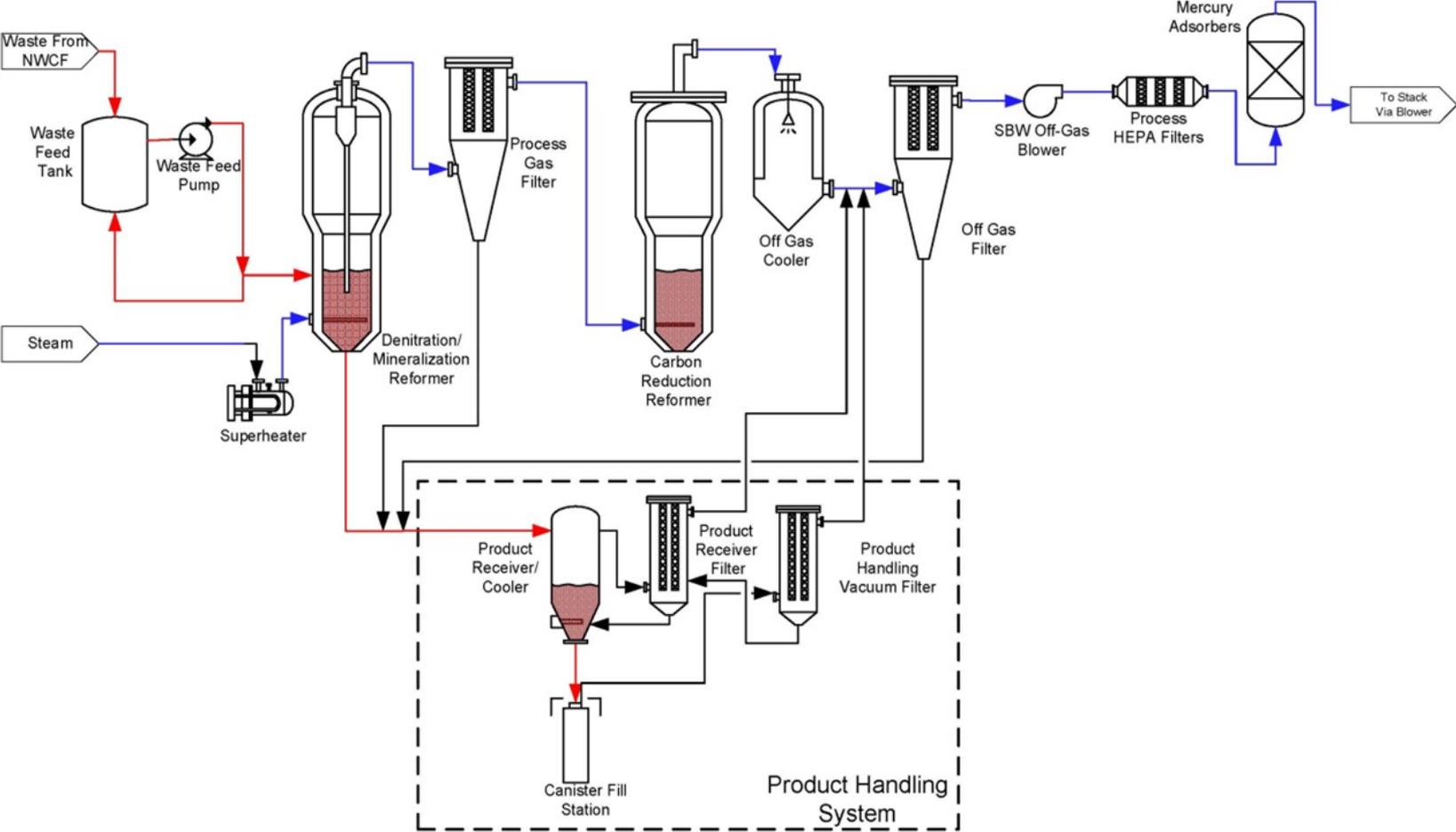
Facility Recovery—Modifications

Facility Modifications Include:

- DMR Feed Nozzle modifications
- Off Gas Blower Seal Upgrades
- Redesign of Fluidizing Gas Rails in DMR and PRC to prevent solids plugging
- Redesign of Fluidizing Gas Ring Header in DMR to prevent solids plugging



Integrated Waste Treatment Unit Process



Path Forward

- ✓ CWI Submits Corrective Action Plan (CAP) to DOE
- ✓ DOE Idaho approves CAP after review with DEQ and DNFSB
- ✓ **Submit Proposed Permit Modifications to DEQ**
- ✓ **Receive Temporary Authorization from DEQ for modifications**
 - ✓ DNFSB site visit on 11-12 Dec 2012
 - ✓ Idaho DEQ and EPA Region 10 site visit on 18-19 Dec 2012
- Complete Process System Modifications
- Revise Safety Basis Documents
- Complete Revisions to Operating Procedures – **Submitting to DEQ**
- Revise Training Classes from Lessons Learned and Retrain

✓ = Completed Activity



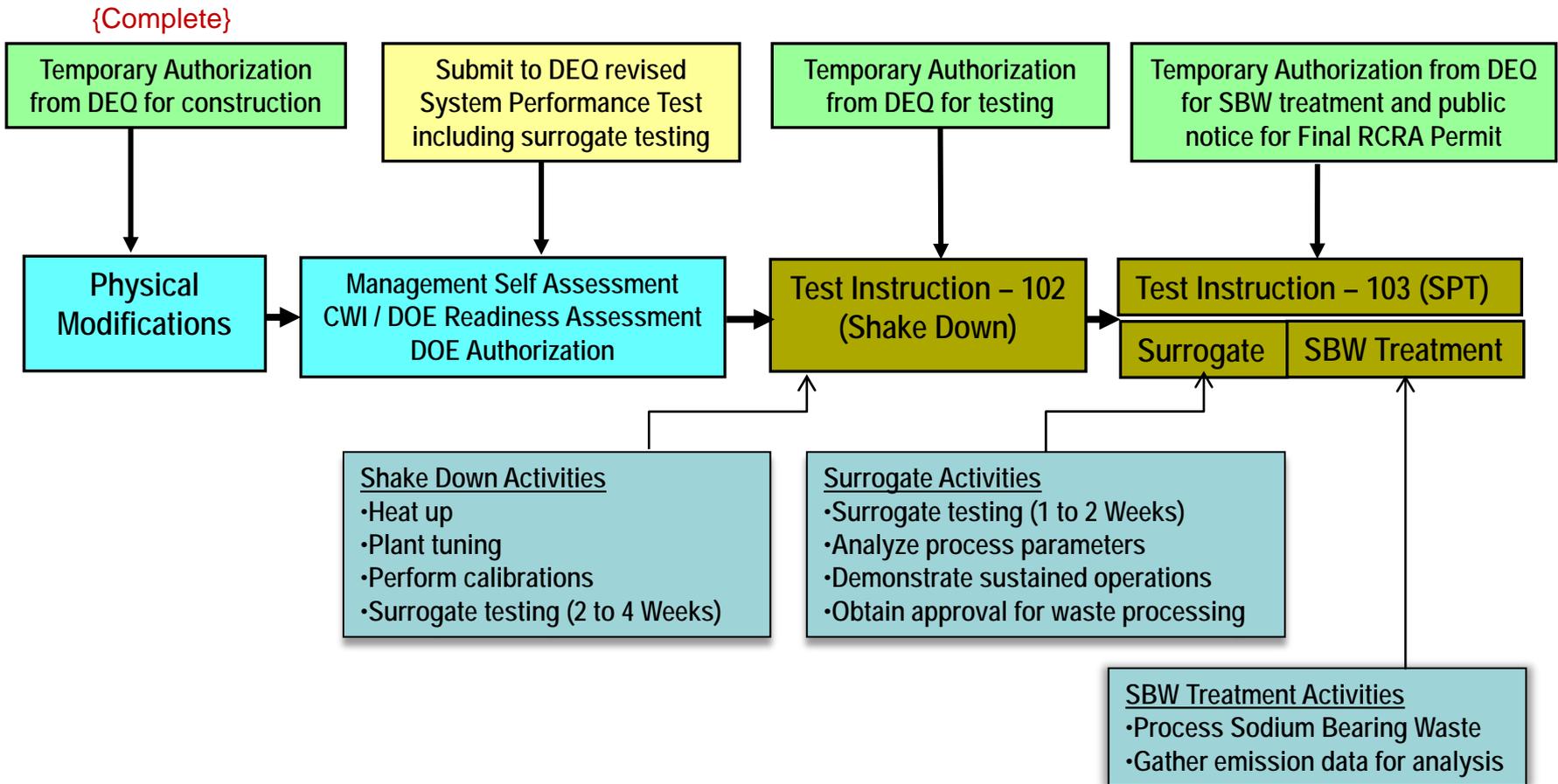
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Path Forward

- Perform Readiness Assessment Reviews for Recovery Phase
 - Contractor Management Self Assessment (MSA)
 - Contractor Readiness Assessment (CRA)
 - DOE Readiness Assessment (RA)
- Resume Facility Heat-up
- Receive Temporary Authorization from DEQ for testing
- Complete System Startup Testing (TI-103)
- Receive Temporary Authorization from DEQ to Introduce Radioactive Waste for Processing
- Complete DEQ System Performance Test (TI-102)



Permitting and Startup Strategy



Questions?



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BACKUP SLIDES

- CRR
Fluidizing
Rail

