A presentation to the
SRS Citizens Advisory Board
Facilities Disposition and Site Remediation Committee

D-Area Operable Unit
Early Actions Status Update

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Purpose

• Provide a status update to the Facilities Disposition and Site Remediation Committee as requested, and in accordance with the Committee’s Work Plan.
Background

• Site of heavy water production and rework facilities between 1952 and 1982.
• Completed characterization of concrete pads, sumps, process sewers, soil, and vadose zone.
• Constituents of concern identified are solvents, tritium, metals, polychlorinated biphenyls, low pH and pesticides.
Early Actions

• Bubble Tower Subunit
  – Solvent contamination

• Moderator Facility Subunit
  – Tritium contamination in concrete slabs and soil

• Powerhouse Subunit
  – Waste Oil Facility: Arsenic contamination
  – Coal Pile Runoff Basin: Heavy metals, arsenic and low pH

• D-006 Outfall
  – Pesticides and polychlorinated biphenyls
Status, Bubble Tower Subunit

• Eleven soil vapor extraction wells equipped with solar-powered MicroBlowers were installed to address solvent contamination in the subsurface. Due to the shallow depth (~10 feet), a barometric barrier (impermeable membrane) and vegetative soil cover was also installed.
• Operation of the passive soil vapor extraction system started November 2010.
MicroBlower and Solar Panel Close-up
Status, Moderator Facility Subunit

• Starting March 2009, constructed four Thermal Detritiation Units to treat 1,650 cubic yards of D-Area concrete and soil contaminated with tritium.
• Thermal detritiation is an innovative technology that uses resistance heaters to drive off tritium from contaminated media (1500°F concrete and 212° F soil).
• Treatment of the inventory contaminated concrete and soil was completed July 22, 2011. The treated material was returned to the excavated areas.
Thermal Detritiation Unit Schematic

**Legend**
- Clean, Coarse Gravel ~ 14 cu.yd.
- Concrete Rubble ~ 7 cu.yd.
- Soil ~ 70 cu.yd.

Array (36) Multicell Heaters
Installed in Metal Pipe
Q = 7778 Watts / 175 in

Metal Roofing:

Concrete Blocks
2' x 6' x 2' Hgh
2 Rows

421-D Concrete Slab
(6" Thick)

2 ft 3 ft 18 ft 3 ft 2 ft
Status, Coal Pile Runoff Basin, Waste Oil Facility and D-006 Outfall Waste Units

- Removed contaminated sediment/soil from the D-006 Outfall stream channel (pesticides) and 484-10D Waste Oil Facility (arsenic) and consolidating the materials in the Coal Pile Runoff Basin (arsenic, metals and low pH) and will install a vegetative soil cover over the closed portion of the basin.

- Field work started April 17, 2011. On target to finish September 23, 2011.
Cost

- D-006 Outfall: $1,000,000
- Moderator Facility Detritiation: $10,000,000
- Coal Pile Runoff Basin & Waste Oil Facility: $5,600,000
- Bubble Tower: $1,723,000
- Regulatory Documents: $846,000
Early Action Status Update Summary

• Three Early Actions at the D-Area Operable Unit were funded by the Recovery Act. These Early Actions accelerated remediation by six years.

• To date, two of the three Early Actions have been completed and the last one will be completed on schedule.
Schedule

- Submit Rev. 0 Early Action Land Use Controls Implementation Plan: 7/25/2011
- Submit Rev. 1.2 Early Action Record of Decision: 8/28/2011
- Implement Early Action Land Use Controls: 9/1/2012
- Submit Rev. 0 Early Action Post-Construction Report: 12/1/2012