Cleaning up the Columbia River Corridor

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Cleaning up the River Corridor represents major challenges in scope

Hanford's River Corridor is home to Cold War legacy wastes from nuclear reactors and support facilities dating back to the early 1940s.

- $2.2 billion closure project
- 210 square miles

Deactivate, decontaminate, decommission, and demolish 486 facilities

Clean up and close 370 waste sites

Place five reactors into safe storage condition

Treat, transport and dispose 4 million tons of waste

Risk assessment and long-term stewardship

… and in risks and hazards facing our workers

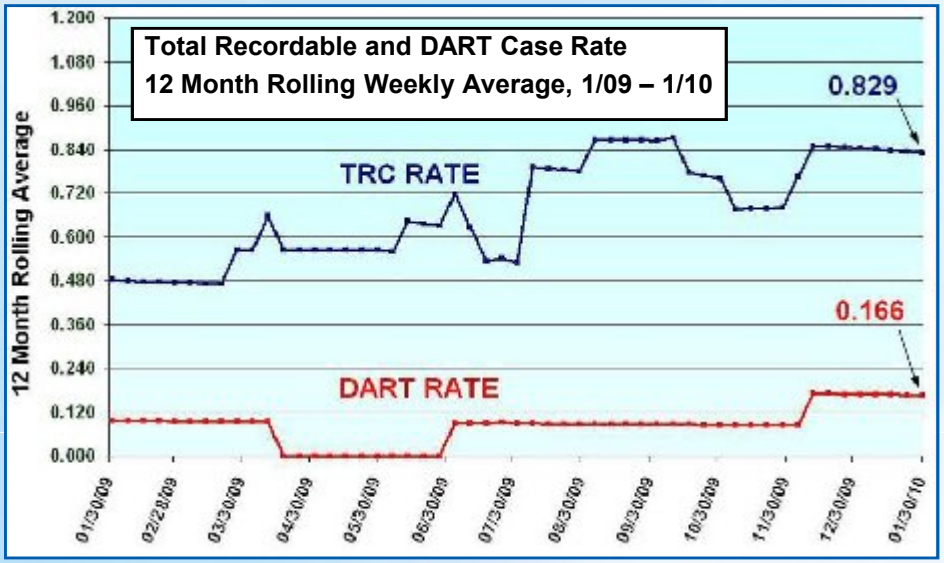
- High risk working conditions
- Hazardous chemical contamination: chromium, asbestos, beryllium, mercury, tritium, etc.
- Industrial and construction hazards
- Un-inventoried waste sites
- Highly radioactive fuel elements, other reactor parts and hot cells

- (Example: 618-7 burial ground)

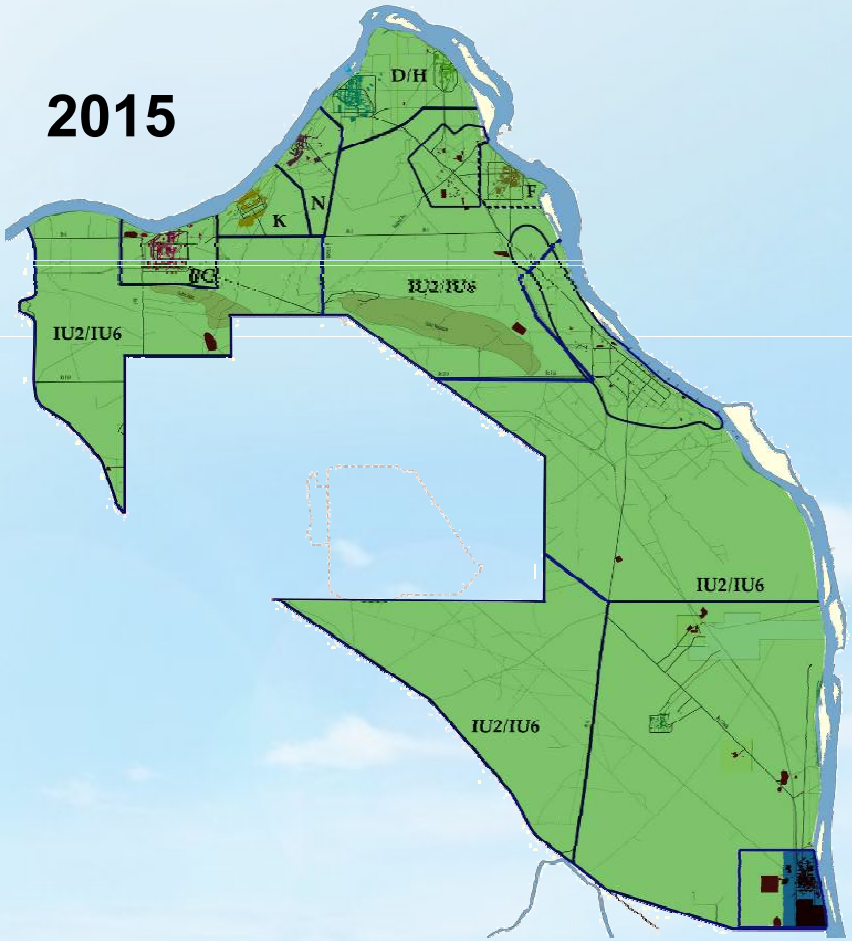
Improving Safety Performance

- Achieved VPP Star Status as a company – 1st at Hanford
- In both FY08 and FY09, achieved 2.5M hours without a lost workday
- Low-level radioactive waste haulers have logged >13 million miles with only one at-fault accident
- Safely demolished and loaded out 133 buildings
- Approximately 42,153 YTD Radiological Work Permit entries:
  - No reportable contaminations
  - No radiological uptakes
- Decreased occurrence reports by 42% compared to previous 12 months

(Through FY09)

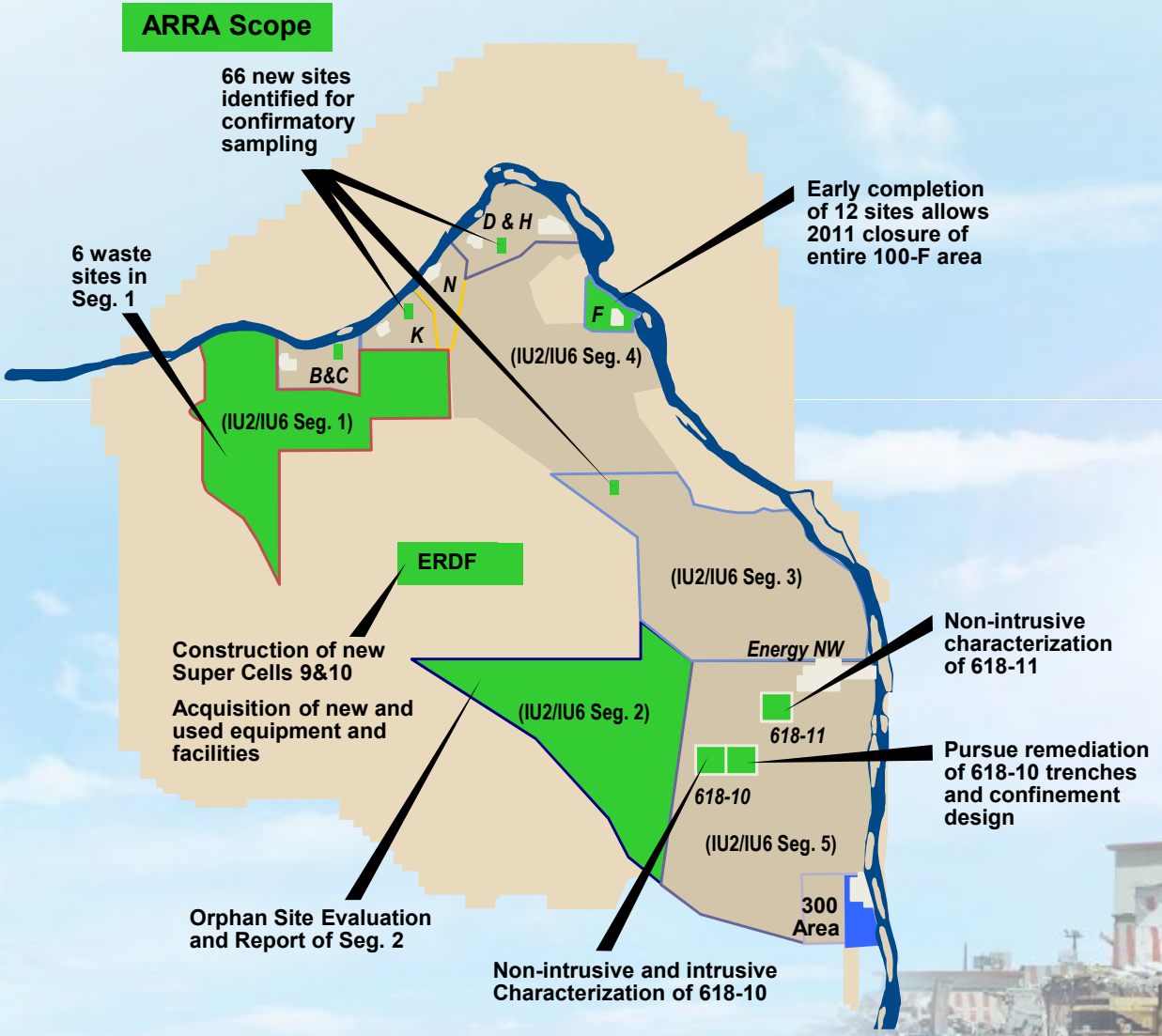


Cleanup Overview



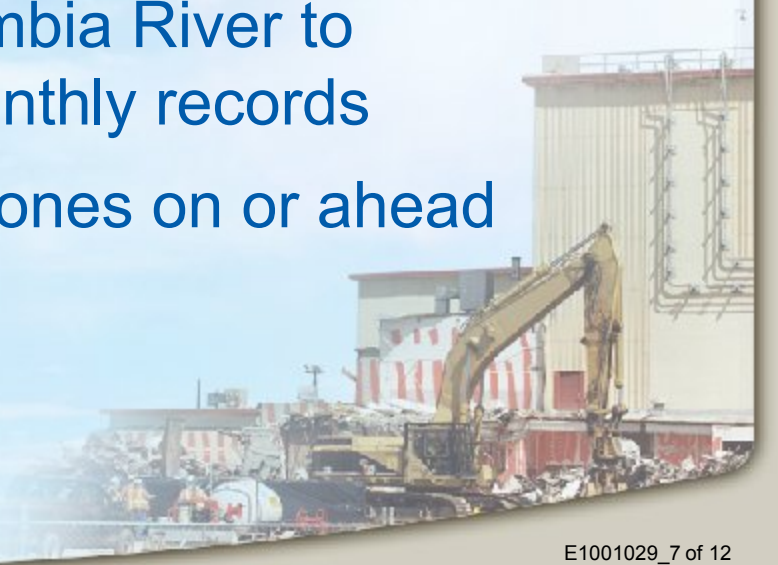
- Work acceleration
- Overall cost reduction
- Reduction in cleanup footprint of site
- Reduction in mortgage costs

ARRA Scope


ARRA Scope
66 new sites identified for confirmatory sampling
Early completion of 12 sites allows 2011 closure of entire 100-F area
6 waste sites in Seg. 1
D & H
N
K
F
B&C
(IU2/IU6 Seg. 4)
(IU2/IU6 Seg. 1)
ERDF
(IU2/IU6 Seg. 3)
Construction of new Super Cells 9&10
Acquisition of new and used equipment and facilities
Energy NW
Non-intrusive characterization of 618-11
(IU2/IU6 Seg. 2)
618-11
Pursue remediation of 618-10 trenches and confinement design
618-10
(IU2/IU6 Seg. 5)
300 Area
Orphan Site Evaluation and Report of Seg. 2
Non-intrusive and intrusive Characterization of 618-10

Here's where we are today

- Decontaminated, demolished and loaded out **133** buildings and work on the most complex and hazardous facilities (324 & 327) is underway
- Remediated **101** hazardous waste sites and burial grounds; 11 new sites added this year
- Transported and disposed of **2.5** million tons of hazardous waste away from the Columbia River to ERDF; continue to break daily and monthly records
- Completed **22** of **22** regulatory milestones on or ahead of schedule



River Corridor Closure Contract
Project Management

- **55%** total project complete
- **15%** ahead of schedule
- **15%** under budget

Through December 2009

Key Activities in 2010

- Demolish 48 buildings
- Clean up 40 waste sites
- Transport and dispose 1.250M tons of contaminated material to ERDF
  - Other Hanford contractors: 250,000 tons
  - Washington Closure Hanford: 1M tons
- Complete river sampling for past Hanford releases
- Issue river corridor risk assessment for public review

Technology at Work

- CRATER
  - Detects spent nuclear fuel at the excavation site, minimizing exposure risks to workers

Suspect spent nuclear fuel found in a burial ground

Session #64, Paper 10384

Technology at Work

- Non-Intrusive Characterization
  - Used to determine if intrusive characterization and sampling is needed
  - Provides data necessary to identify the best protective measures during cleanup

Installation of cone penetrometers around the vertical pipe units at the 618-10 Burial Ground.

Workers drop a multi-detector probe down a cone penetrometer to measure radiation activity at the 618-10 Burial Ground.

Session #64, Paper 10343

Technology at Work

- Groundwater Upwelling Study in the Columbia River
  - A Trident probe is deployed to collect groundwater samples in the river
  - Trident probe technology provides:
    - In-situ measurements and collection of porewater and surface water
    - Application in fast-moving and off-shore water

The Trident probe measures water temperature and conductivity

Session #72, Paper 10558