



U.S. DEPARTMENT OF
ENERGY



IDAHO CLEANUP PROJECT

2009 NUCLEAR CLEANUP CAUCUS

June 4, 2009

Richard B. Provencher
DEPUTY MANAGER FOR ENVIRONMENTAL MANAGEMENT
Idaho Operations Office

Jeffrey D. Mousseau
Bechtel BWXT Idaho

John C. Fulton
CH2M-WG Idaho



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safety ❖ performance ❖ cleanup ❖ closure

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Components of DOE's Idaho Site

- 890 square miles
- Cleanup workforce of ~2,500
- Originally established in 1949 as a national reactor testing station; 52 "first-of-a-kind" reactors were constructed at the site
- Cleanup focuses on 5 major geographic areas
 - Idaho Nuclear Technology and Engineering Center (INTEC)
 - Radioactive Waste Management Complex (RWMC)
 - ✓ Test Area North D&D - complete
 - Advanced Test Reactor Complex (RTC)
 - ✓ Power Burst Facility (PBF)- complete



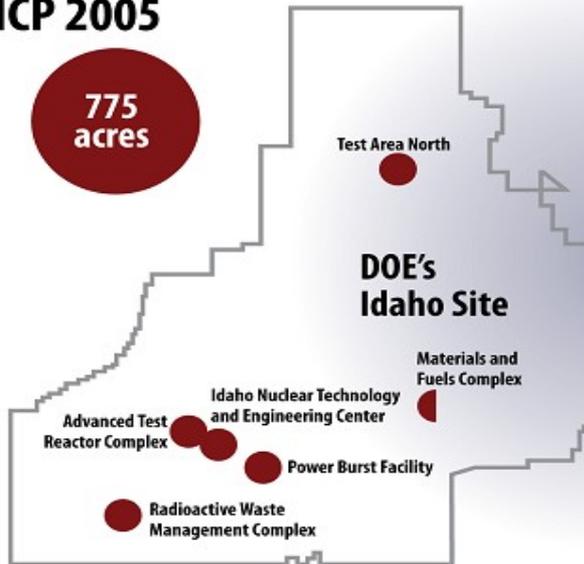
Facility Missions

- **Idaho Nuclear Technology and Engineering Center** – established in 1950s to remove usable fuel (uranium) from spent nuclear fuel to fuel government reactors and to store unusable spent nuclear fuel
- **Radioactive Waste Management Complex** – used since 1950s to manage, store, and dispose waste contaminated with radioactive elements generated in national defense and energy programs, such as transuranic waste from Rocky Flats, Colorado
- **Advanced Test Reactor Complex**
 - Materials Test Reactor and Engineering Test Reactor (now closed) - studied neutron irradiation effects on materials, fuels and equipment
 - Advanced Test Reactor (operating) - neutron irradiation studies on fuels & materials
- **Test Area North** – supported nation's commercial nuclear industry research, from nuclear powered jet engines to operation of reactors that simulated accidents
- **Power Burst Facility** – experiments conducted at the facility helped determine safe operating limits for the commercial nuclear industry

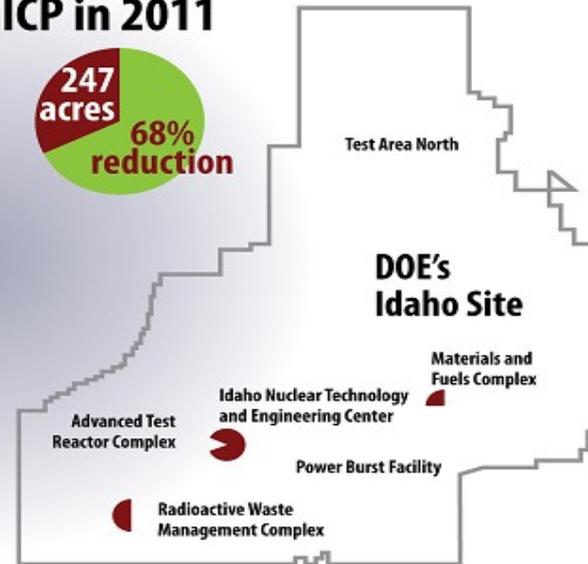


State of the Cleanup (2005 vs. 2011)

ICP 2005



ICP in 2011



Year	2005 (beginning of current contract)	2009 (Today)	2011 (Expected)
Acreage	775	658	247
Buildings and Structures (in square feet)	3,635,948	3,134,436*	2,322,159
Square foot reduction		601,579	1,413,856

* An additional 100,067 sq. ft., have been added as a result of the NE liabilities transfer.



State of the Cleanup (2005 vs. 2009)

Test Area North Complex

Before



The **Test Area North Complex (TAN)** was largely constructed between 1954 and 1961. The TAN structures supported a variety of DOE reactor and nuclear research projects. D&D of the TAN buildings and facilities began in 2005 and was completed in 2008.

After



The **Test Area North Complex** was home to a number of impressive facilities such as the **Loss Of Fluid Test Reactor**, and **153,000 square foot Hot Shop**.



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State of the Cleanup (2005 vs. 2009)

The Power Burst Facility (complete)



The reactor core internals were removed in whole and transported to the on-site CERCLA disposal area along with the contaminated debris from the reactor facility.

The Power Burst Facility operated from 1972 to 1985 and was primarily used to test the performance of light water reactor fuel elements during sudden bursts of power. D&D work scope began in 2005 at the Power Burst Facility and was completed in 2008.



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Investments to Maximize Risk Reduction

Solid Waste Disposition

- Continue meeting Idaho Settlement Agreement by shipping record amounts of transuranic waste to the Waste Isolation Pilot Plant
- Assuming responsibility for waste owned by the Office of Nuclear Energy
- Soliciting final contract for the Advanced Mixed Waste Treatment Project
- Majority of EM owned remote-handled transuranic waste dispositioned to WIPP (199 of 225 shipments)

Interim Storage Container lid placement



Remote-Handled TRU leaving Idaho



Investments to Maximize Risk Reduction

Soil and Water Remediation

- Resolved the litigation with the state of Idaho regarding buried transuranic waste and carrying out agreement
- Implementing the Record of Decision for Waste Area Group 7 at the Radioactive Waste Management Complex
- Exhuming targeted waste from the Subsurface Disposal Area (0.99 acres of the total 5.69 acres have been exhumed to date)

Buried waste exhumation inside a retrieval enclosure at the Subsurface Disposal Area



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Investments to Maximize Risk Reduction

D&D

- The Idaho Cleanup Project is approximately two years ahead of schedule and has a significant cost savings
- Reduced the EM Idaho Site footprint by 601,579 square feet since start of contract in May 2005
- Continue to make progress on moving spent nuclear fuel from wet-to-dry storage. EM-owned Spent Nuclear Fuel (SNF) transfers to be complete by the end of 2010



Materials Test Reactor Shielding Demolition



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Funding Profile FY2009 – FY2010

	FY2009	FY2010
Appropriation	489.2	TBD
President's Budget	436.5	411.2

American Recovery and Reinvestment Act	467.9
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*To ensure adequate controls only 80% of ARRA funds are being allotted to the sites for obligation against contracts. The remaining 20% is being held at Headquarters and will be released after the projects are demonstrating adequate performance. Additionally, only \$ 112.3M of ARRA funds can be used until all contractor baseline plans have been submitted, reviewed, validated and approved.



ARRA at the Idaho Site

- The Idaho Site expects to receive **\$468 million** in Recovery Act Funding from the Office of Environmental Management
- The funding will be used at the Idaho Site to:
 - Deactivate & Decommission 89 excess buildings and structures, resulting in a footprint reduction of 812,000 square feet
 - Accelerate removal and disposal of remote-handled transuranic waste and mixed-low-level waste
 - Ship contact-handled low-level-waste offsite
 - Construct new retrieval enclosures at the Subsurface Disposal Area to enable the acceleration of the removal of buried radioactive waste. Resulting in 2.55 acres being retrieved of the total 5.69 acres by the end of 2012



ARRA Funding by Project FY2009 – FY2011

DVR Site: SW/ East [6/13/2008 8:45:37 AM] [Motion]

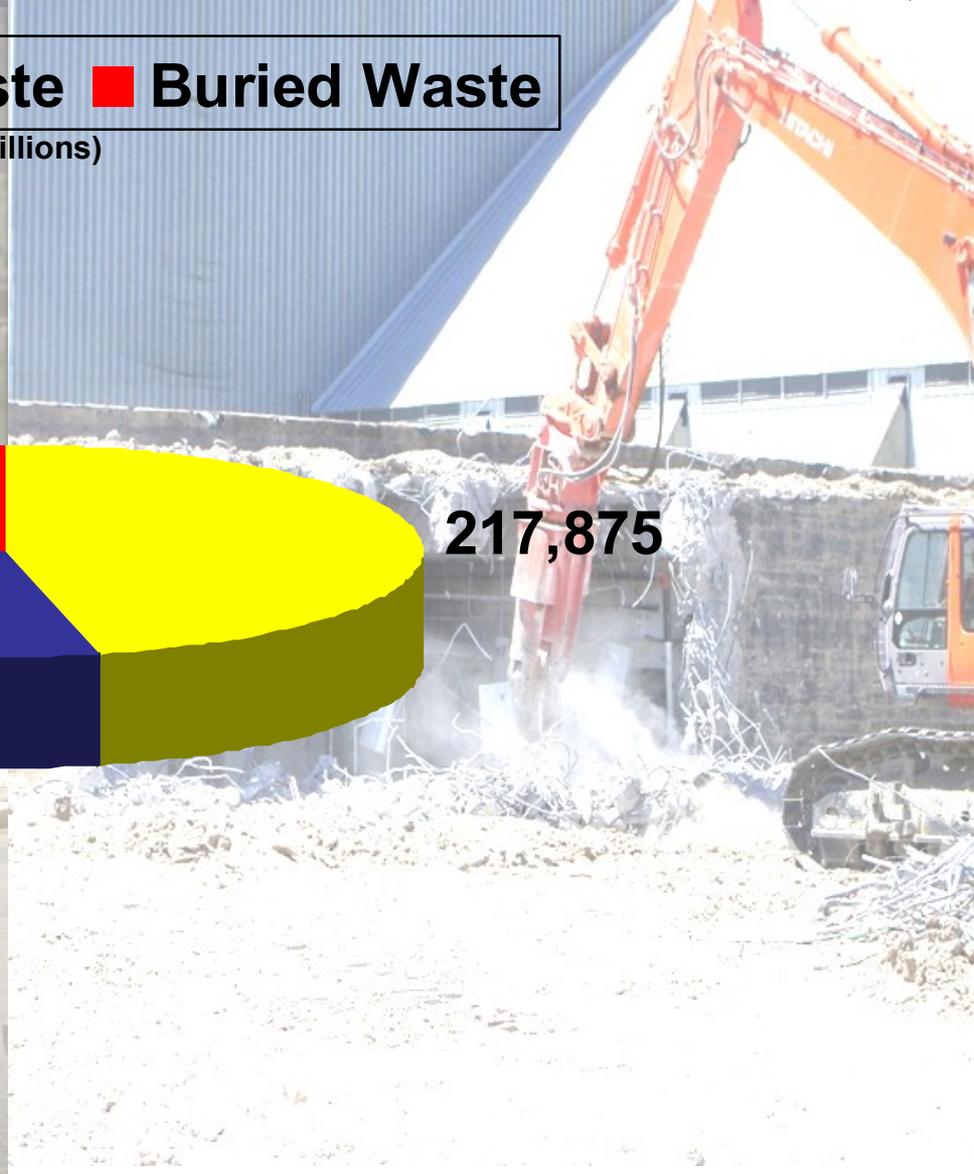
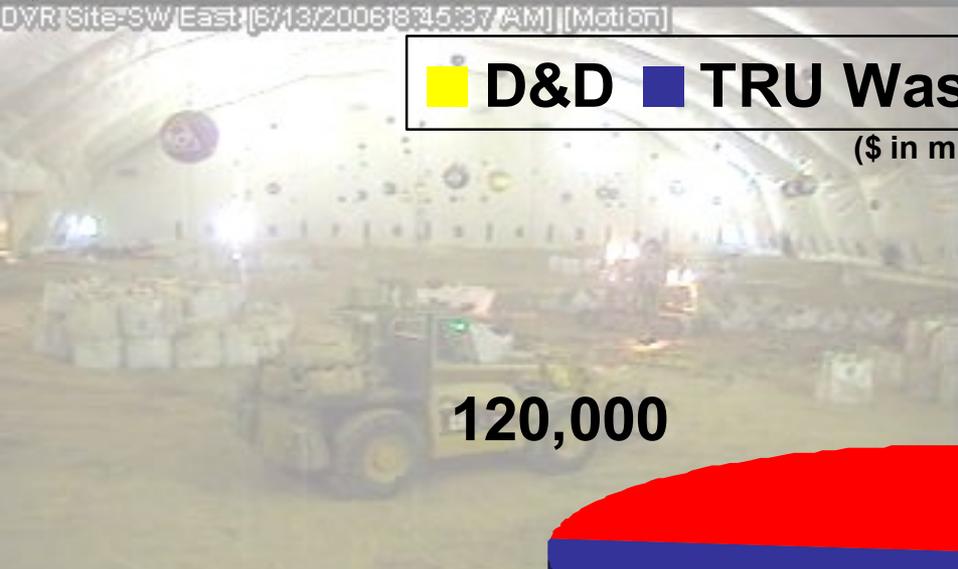
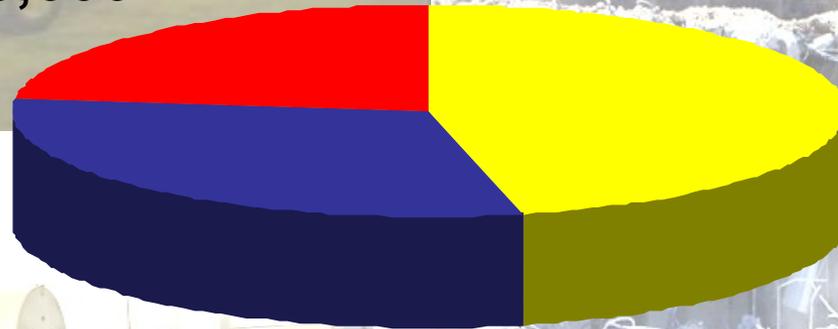
■ D&D ■ TRU Waste ■ Buried Waste

(\$ in millions)

120,000

217,875

130,000



Summary

- FY09 funds, FY10 funds, and ARRA funding supports funding for original contract work
- No compliance issues or regulatory milestones in jeopardy
- Timing of funding and transfer of work from the Office of Nuclear Energy to the Office of Environmental Management allows full immediate use of Recovery Act funds
- Saves jobs and creates new work
- Optimizes utilization of experienced work crews
- Results in accelerated risk, footprint, and mortgage reduction



Advanced Mixed Waste Treatment Project



*Jeffrey D. Mousseau, P.E.
President and General Manager
Advanced Mixed Waste Treatment Project
Bechtel BWXT Idaho, LLC*



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Advanced Mixed Waste Treatment Project (AMWTP)

Mission

Safely and compliantly retrieve, characterize, treat, and ship 65,000m³ of stored transuranic and mixed low-level contaminated waste out of Idaho to the Waste Isolation Pilot Plant or acceptable mixed low-level waste disposal facility

AMWTP Operations

- Retrieval and storage
- Characterization and treatment
- Data validation and Waste Isolation Pilot Plant certification
- Payload assembly and shipment
- Offsite waste receipt and processing



An aerial view of the Advanced Mixed Waste Treatment Facility

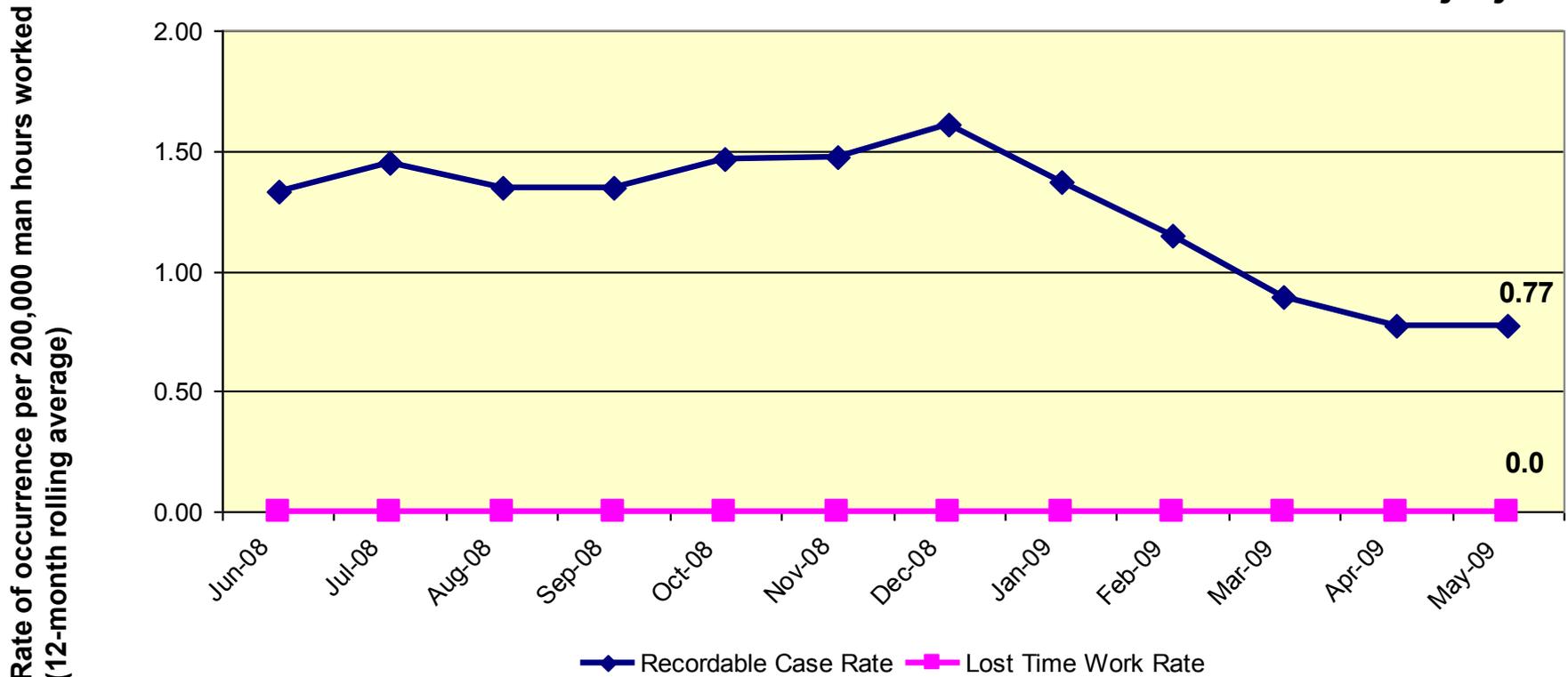


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Safety Is Our #1 Value

• 8.5 million hours worked without a lost time injury

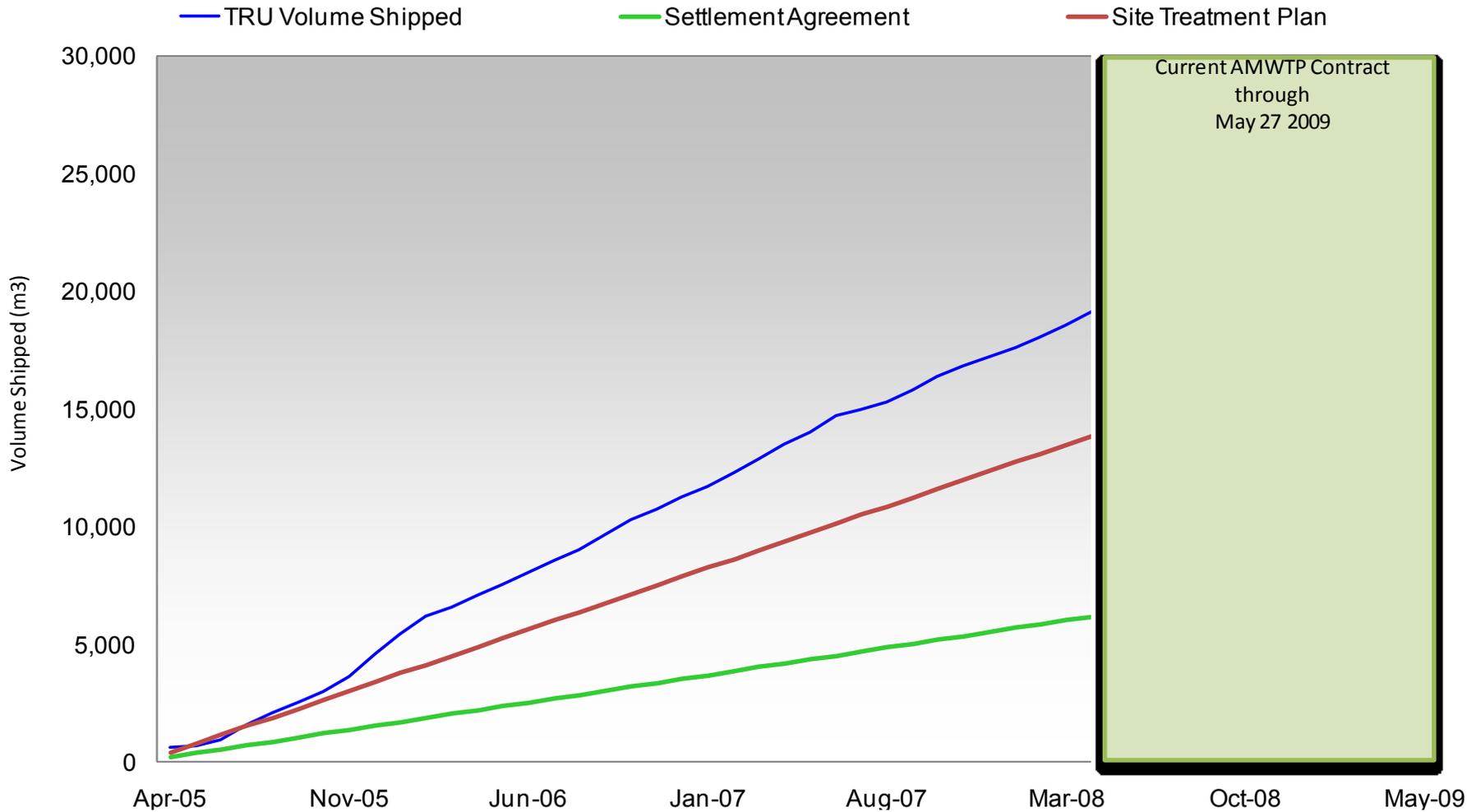


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Production Achieved As Our Priorities Are Met

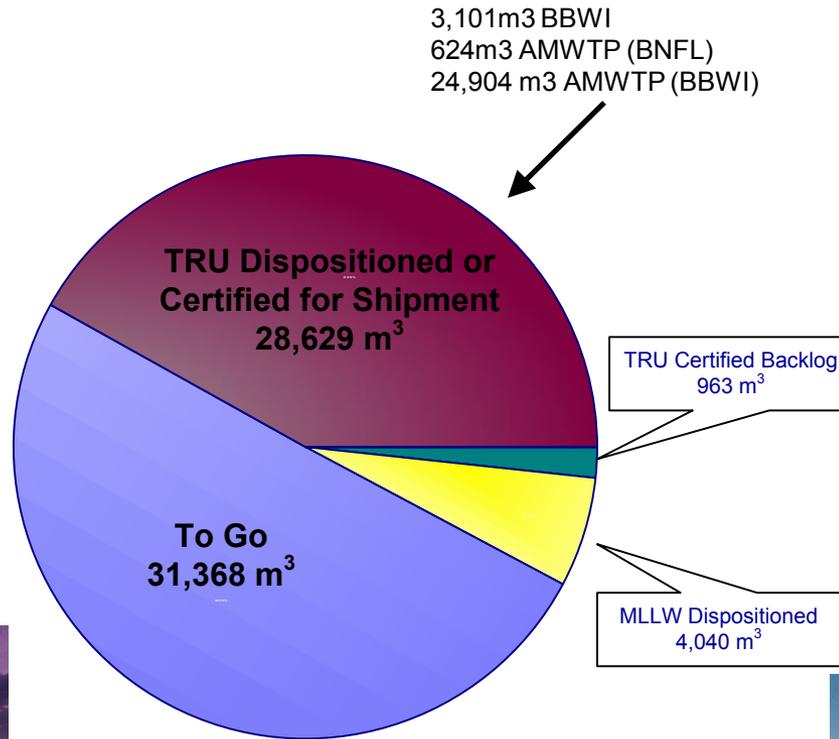


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Total Disposition of Stored TRU-Contaminated Waste



As of May 27, 2009



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American Recovery and Reinvestment Act

- \$12 million for FY-2009
- Up to 60 new AMWTP and subcontractor jobs
- Scope and schedule for FY-2009
 - Accelerate waste retrieval by establishing 24 x 7 operations
 - Accelerate drum treatment tent operations to 12 x 7 operations
 - Ship an additional 800 cubic meters of mixed low-level waste by Sept. 30, 2009
 - Ship an additional 500 cubic meters of low-level waste by Sept. 30, 2009
 - Ship 90 cubic meters of organic mixed low-level waste and treat 5% by Sept. 30, 2009
 - Demonstrate proof-of-principle acoustic mixing for organic sludge
 - Ship 21 legacy concrete vaults for disposal by Sept. 30, 2009

AMWTP ARRA website: http://amwtp.inl.gov/com_in1.cfm



First shipment of ARRA funded mixed low-level waste leaves the Idaho Site on May 6, 2009



AMWTP employees hired with ARRA funds receive accelerated training at labor boot camp in Spokane, WA



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AMWTP: Poised For Continued Success

- Two and one-half years ahead of Idaho Settlement Agreement regulatory schedule
- Meeting compliance and safety requirements
- Delivering lowest transuranic waste processing costs to DOE
- Receiving and processing off-site contact-handled transuranic waste

***28,629m³ transuranic waste
+4,040m³ LL & MLLW waste
32,669m³ of waste out of Idaho***



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Idaho Cleanup Project Update

John C. Fulton
President and Chief Executive Officer
CH2M-WG Idaho (CWI)



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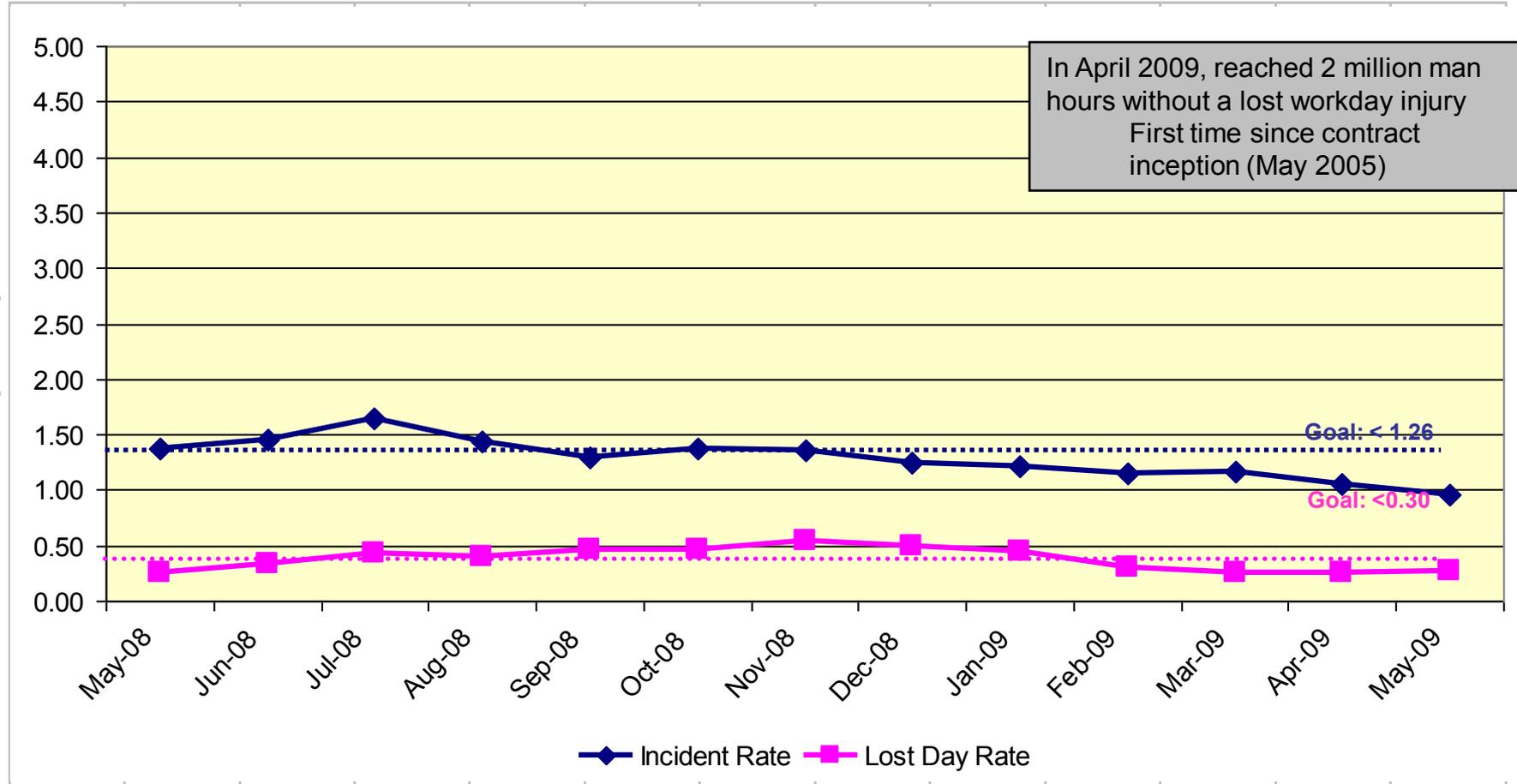
CWI Scope of Work

- **The Idaho Cleanup Project involves the safe, environmental cleanup of the DOE Idaho Site**
- **To achieve cleanup commitments, CH2M-WG Idaho will**
 - Disposition 652 nuclear material items
 - Transfer 3,186 spent nuclear fuel assemblies from wet to dry storage
 - Treat 900,000 gallons of sodium-bearing liquid waste in 4 large tanks
 - Exhume 2.55 acres of buried waste
 - Disposition ~37,000 cubic meters of low-level and mixed low-level waste
 - Demolish or otherwise decommission 171 facilities and structures including reactors, spent nuclear fuel storage basins, and laboratories used for radioactive experiments
 - Close 68 small hazardous waste tank systems
 - Remediate 118 contaminated environmental sites



Safety Performance

Rate of occurrence per 200,000 man hours worked
(12-month rolling average)



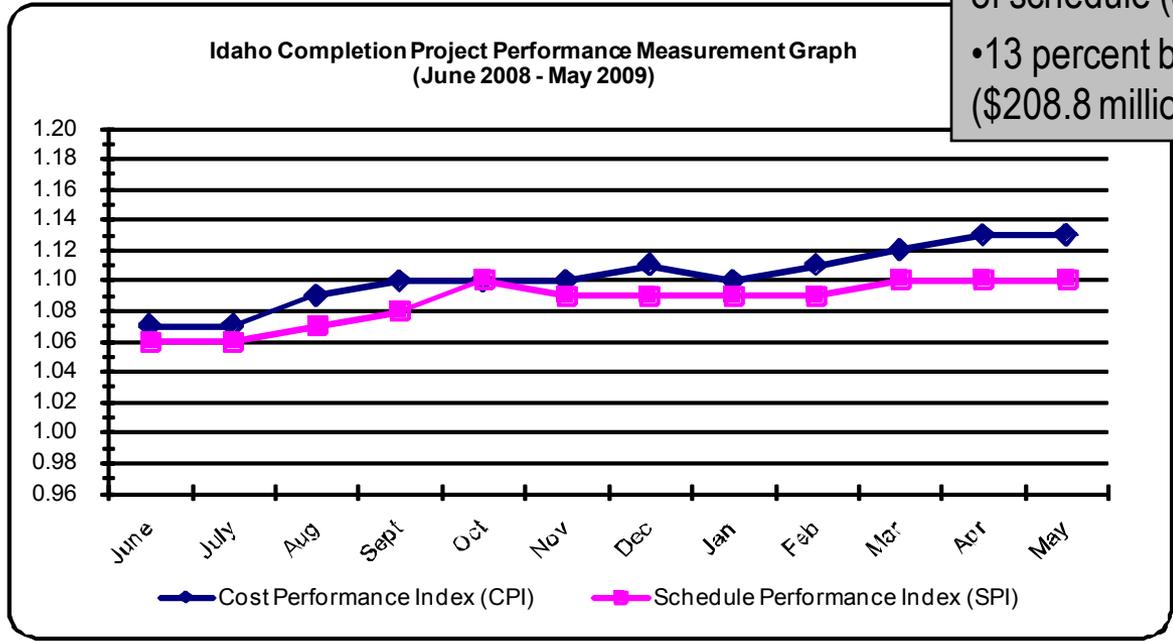
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Cost and Schedule Performance

- 10 percent ahead of schedule (\$165.1 million)
- 13 percent below budget (\$208.8 million)



	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Cumulative												
CPI	1.07	1.07	1.09	1.10	1.10	1.10	1.11	1.10	1.11	1.12	1.13	1.13
SPI	1.06	1.06	1.07	1.08	1.10	1.09	1.09	1.09	1.09	1.10	1.10	1.10



Sitewide Decontamination, Decommissioning, Demolition

Original contract scope

- Reduce site footprint by 1.4 million square feet

ARRA scope

- Demolish 89 facilities and structures including Experimental Breeder Reactor II and spent nuclear fuel reprocessing facility (CPP 601/640)
- Reduce site footprint by an additional 812,000 square feet



Demolition of the Materials Test Reactor

Demolish buildings/structures

Total 171 buildings

130 buildings demolished



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Buried Waste Exhumation

Original contract scope

- Completed 0.99 acres of waste exhumations from the Subsurface Disposal Area

ARRA scope

- Construct two waste retrieval enclosures and one storage enclosure
- Complete a total of 1.7 acres of waste exhumations by the end of 2011



Construction of Accelerated Retrieval Project IV Waste Retrieval Enclosure

Exhumed buried waste

2.55 acres

0.99 acres



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Remote Handled Transuranic Waste Disposition Project

Original contract scope

- Completed 91% of remote-handled transuranic waste shipments to Waste Isolation Pilot Plant – the largest shipper of RH-TRU waste in the DOE Complex

ARRA scope

- Complete 177 additional shipments of remote-handled transuranic waste to WIPP

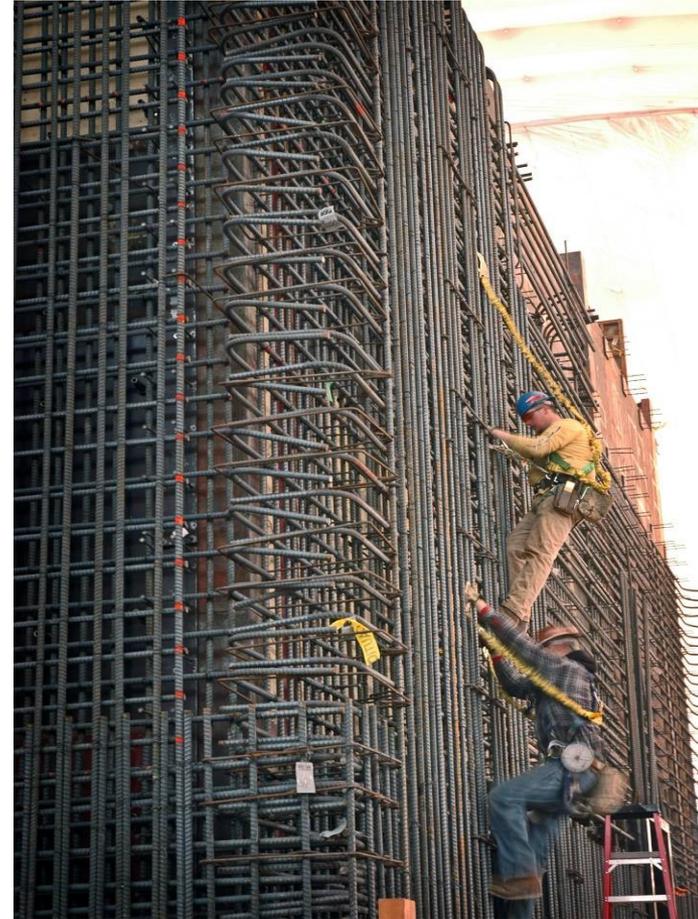


Innovative pipe cutting technology allows access to waste materials inside



Sodium Bearing Waste Treatment Unit

- Project 60 percent complete
- Construction 26 percent complete
- Estimate to Complete within baseline cost and schedule
- Construction completion set for August 2010
- Startup set for April 2011
- Treatment complete by the end of 2012



Workers safely install rebar on concrete walls prior to pouring



Summary

- Employee-owned safety culture (24/7)
- Cost and schedule performance excellence
- Risk reduction/protection of the Snake River Plain Aquifer
- Delivery of what we promised (and more)
- Partnership with stakeholders and regulators

*Enables our success in protecting
Idaho residents and the environment*



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