



Cleanup Progress Report

April – June 2001

Fluor Hanford

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Fluor Hanford

Project Hanford Management Contractor:
Fluor Hanford, Inc., A Fluor Global Services Company

Principal Subcontractors:

- Day & Zimmerman Protection Technology Hanford
- Duratek Federal Services of Hanford, Inc.
- DynCorp Tri-Cities Services, Inc.
- Numatec Hanford Corporation

Technology Management:

- Pacific Northwest National Laboratory

Hanford Environmental Restoration Contractor:

- Bechtel Hanford, Inc.

Contents

Highlights	2
Restore the River Corridor	5
Nuclear Energy Legacies	5
River Corridor Project	6
Spent Nuclear Fuel.....	10
Environmental Restoration Along the River	14
Transition the Plateau.....	15
Central Plateau Planning & Integration	15
Fast Flux Test Facility.....	15
Fire Services Consolidation.....	16
Nuclear Material Stabilization	17
Waste Management	21
Environmental Restoration on the Plateau	24
Prepare for the Future.....	25
Economic Transition	26
Volpentest HAMMER Training & Education Center	28
Support & Services	30
Environment, Safety & Health	32
What's Next?	35
Hanford Site Map.....	38
Contacts.....	39

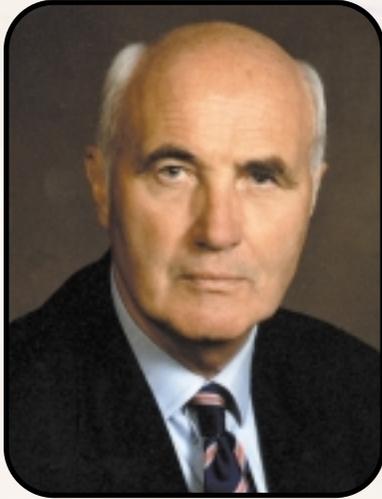
3RD QUARTER FISCAL YEAR 2001 HIGHLIGHTS

- ✓ **Removed nine more loads of spent nuclear fuel from the K-West Basin, taking about 1.2 million curies of radioactivity away from the Columbia River shore.**
- ✓ **Began initiatives to accelerate K-West Basin fuel cleaning and removal and speed movement of fuel out of the K-East Basin.**
- ✓ **Became the first DOE site to fully comply with new standards for safe, long-term storage of plutonium.**
- ✓ **Stabilized and packaged all plutonium-bearing metallic alloys and residues and started up equipment to double the rate of solutions stabilization.**
- ✓ **Moved 19 grout containers (of 21 planned by July 31) from the 300 Area to compliant storage in the 200 Area.**
- ✓ **Shipped all excess uranium billets to Ohio and moved all contaminated uranium fuel to storage in central Hanford.**
- ✓ **Demolished one 300-Area water tower and prepared to demolish a second one as part of the accelerated “skyline reduction” initiative.**
- ✓ **Resumed cleanup activities on key nuclear energy legacy facilities in the 300 Area.**
- ✓ **Made another shipment of transuranic (TRU) waste to New Mexico and DOE recertified Hanford’s TRU Program.**
- ✓ **Completed a Central Fire Station remodel as part of long-range plans to consolidate emergency services on the central plateau.**

Continued

3RD QUARTER FISCAL YEAR 2001 HIGHLIGHTS

(CONTINUED)



You'll find the details on these and many other cleanup activities described on the following pages. On pages 7, 18 and 28, you'll also learn more about some of the robotic and advanced technologies that we are deploying, with the help of the Pacific Northwest National Laboratory, to perform cleanup with less risk to our workers, the public and the environment.

When I was named Fluor Hanford's new chief executive in late April, I was immediately impressed with the professionalism and strong safety ethic of the workforce. I am convinced that this is a key reason why so much technically complex and challenging cleanup work continues to be accomplished safely and effectively at Hanford.

As we move forward, we will continue to seek new opportunities to apply proven project-management practices, new technology and the best corporate commercial models to help the Department of Energy efficiently fund its cleanup work. We will maintain a great passion for safety and excellence in execution and build on our achievements and successes to date to keep the momentum going.

A handwritten signature in black ink that reads "E. Keith Thomson". The signature is written in a cursive style with a large, stylized "E" and "T".

*E. Keith Thomson
President and Chief Executive Officer
Fluor Hanford*

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

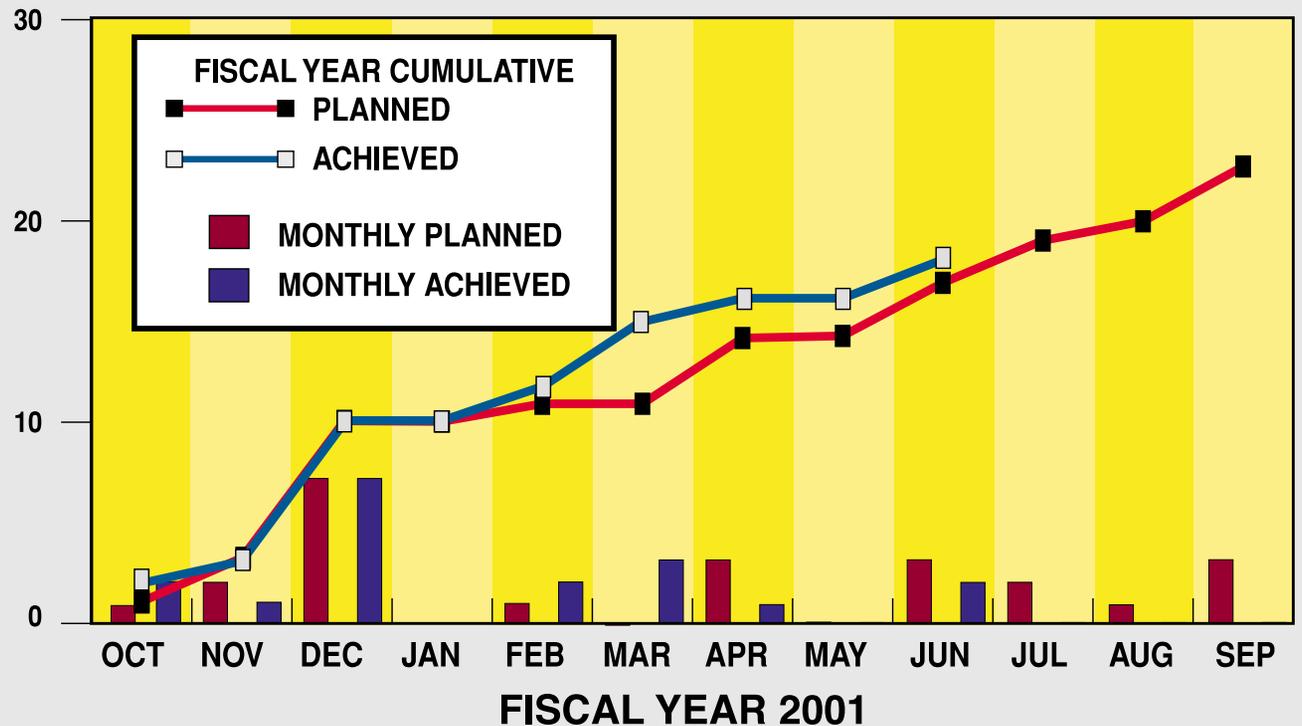
HANFORD
SITE MAP

CONTACTS



Tri-Party Agreement milestones achieved this quarter include submitting the conceptual design for storage at T Plant of sludge from the K Basins to regulators for review. Project teams are on track to meet the remaining commitments for this fiscal year.

Tri-Party Agreement Milestones





RESTORE THE RIVER CORRIDOR

Nuclear Energy Legacies

Cleanout and stabilization activities resumed at the fuel transfer pit for the former Plutonium Recycle Test Reactor (309 Building), including fixing with paint any loose contamination on the sidewalls and preparations to remove sludge from the pit. Workers also resumed dismantling of the High Temperature Sodium Test Facility in the 337 Building and completed the first part of an asbestos abatement program there. Both efforts are part of 300-Area cleanup to move environmental hazards away from the Columbia River and nearby Richland.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



River Corridor Project

The 324 Building Deactivation Project team made significant progress toward completion of Tri-Party Agreement Milestone M-89-02 workscope to remove mixed waste and equipment from the highly contaminated hot cell known as B Cell. Nineteen grout containers have now been loaded and shipped from the 300 Area to compliant storage in the 200 Area. There are a total of 21 of these waste canisters to be shipped to the Low-Level Burial Grounds by July 31 to complete the requirements for this milestone.

Through effective deployment of a minimal operations staff at the 327 Building, legacy waste buckets were removed from one former testing hot cell; seven cans of materials were transferred from dry storage to another cell; and the team began final cleanup of yet another cell. Readying legacy waste containers for shipment are, from left on the flatbed, senior quality assurance technician Chuck Geiss and riggers Bob Massingale and Mark Ray. In the foreground is the 327 Building Project's person-in-charge Mardy Klinginsmith.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

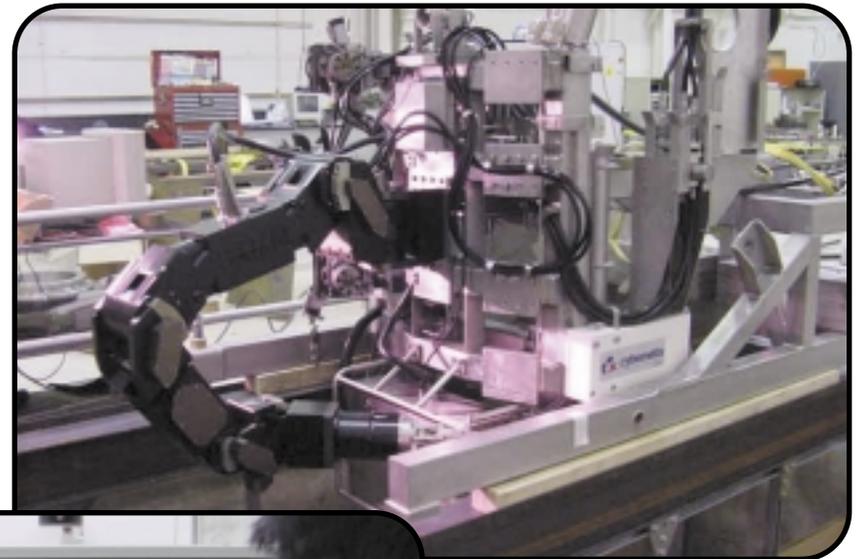
HANFORD
SITE MAP

CONTACTS



River Corridor Project

Onsite testing and training continued with a new robotic work platform to be used for 324 Building in-cell and pipe-trench cleanout. The unit is shown here in a pipe trench mockup. Workers will remotely control the very dexterous heavy-duty robot arm with the aid of monitors (below). The system will allow cleanup work to proceed safely in these highly radioactive areas, where manned entry is not practical.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



River Corridor Project

At the Treated Effluent Disposal Facility (TEDF) and the much older and currently closed 340 Facility, where all process wastes from the 300 Area flow for treatment, workers successfully completed major tasks this quarter to maintain environmental compliance. At the 340 Facility, they safely replaced pre-filters and High Efficiency Particulate Air (HEPA) filters. Containment tents were used due to windy conditions during the work. At the

TEDF, the resin in four ion-exchange columns was replaced — the first change-outs since the facility opened in the mid-1990s. Workers removed the resin and installed more than 7 tons of new resin in columns C and D in just one day. A few days later, they achieved the same one-day feat with columns A and B.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

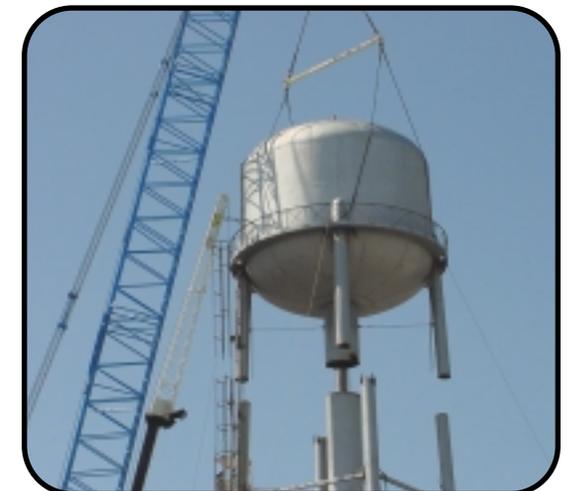


River Corridor Project

Disposition of surplus uranium continued, with shipment of all 421 boxes of excess uranium billets (about 235 metric tons) and 2.3 metric tons of uranium dioxide powder to the DOE Portsmouth Site in Ohio. Here, carpenters Jim Brown and Jim Fragola secure the last billet for shipment. Project workers also completed all nine planned shipments of contaminated uranium fuel (about 135 metric tons) to the Low-Level Burial Grounds in central Hanford.



The Accelerated Deactivation Project team successfully demolished one 300-Area water tower and prepared to demolish a second one in early July as part of the accelerated “skyline reduction” initiative. Workers also initiated non-manned, remote entry into the 224-T Building process cells to ensure there is no potential risk to the public or the environment. The cells have not been used since 1956 and not been entered since the 1980s.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Spent Nuclear Fuel Project

Project workers successfully removed another nine loads of spent nuclear fuel from the K-West Basin and dried them in the Cold Vacuum Drying Facility this quarter. Some steps in the drying process are shown. First, nuclear chemical operator John Pugh prepares to remove the lid from the transport cask after its arrival from the K West Basin. Then he prepares the multi-canister overpack (MCO) for the necessary vacuum-drying process connections. Looking on, from left, are health physics technician Tony Diaz, operations engineer Bill Barrett, and nuclear chemical operator Pat McNeill. In the third photo, once the vacuum hoses are attached, McNeill makes any needed adjustments and ensures the connections are secure.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

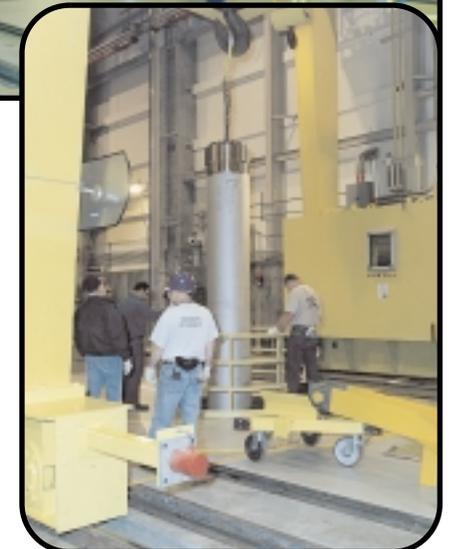
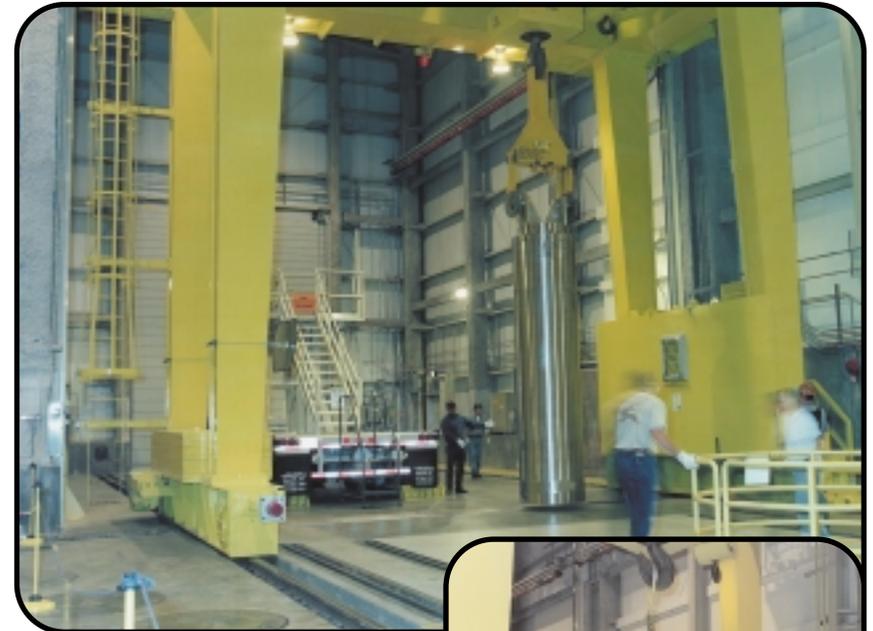
HANFORD
SITE MAP

CONTACTS



Spent Nuclear Fuel Project

The nine loads placed in dry, interim storage at the Canister Storage Building in Hanford's central plateau this quarter effectively moved another 1.2 million curies of radioactivity away from the Columbia River shoreline. At right, quality assurance engineer John Marchand, process crane operator Earl Palmer, rigger Moses Rocha, nuclear chemical operator Kim Armatis and rigger Terry Nygaard accept delivery at the Canister Storage Building of an empty MCO from the warehouse. Rocha, nuclear chemical operator Mike Bryant, Nygaard, Armatis and Palmer later prepare the MCO with an outer cask (bottom photo) before it is sent to the K West Basin to be loaded with spent fuel.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

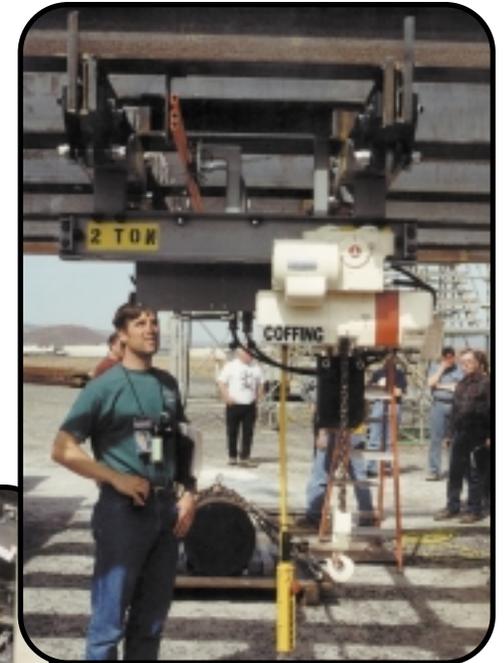
HANFORD
SITE MAP

CONTACTS



Spent Nuclear Fuel Project

Project workers began implementing major baseline changes and breakthrough initiatives to accelerate fuel cleaning and removal in the K-West Basin. A new transfer crane, being inspected by lead engineer Brian Koons at the vendor's shop, was one of the pieces of equipment installed to improve the rate of processing at the K West Basin. Workers also installed two more underwater processing tables, one of which is shown below with boilermaker Mike Downing, and additional fuel- and basket-handling equipment.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Spent Nuclear Fuel Project

Steps were also taken to accelerate spent-fuel movement out of the K-East Basin. A contract was awarded for design of fuel transfer casks to move the K-East Basin spent fuel, some of which is shown here, to the K-West Basin, where it will then be sorted, cleaned and placed in MCOs for transfer to the Cold Vacuum Drying Facility.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

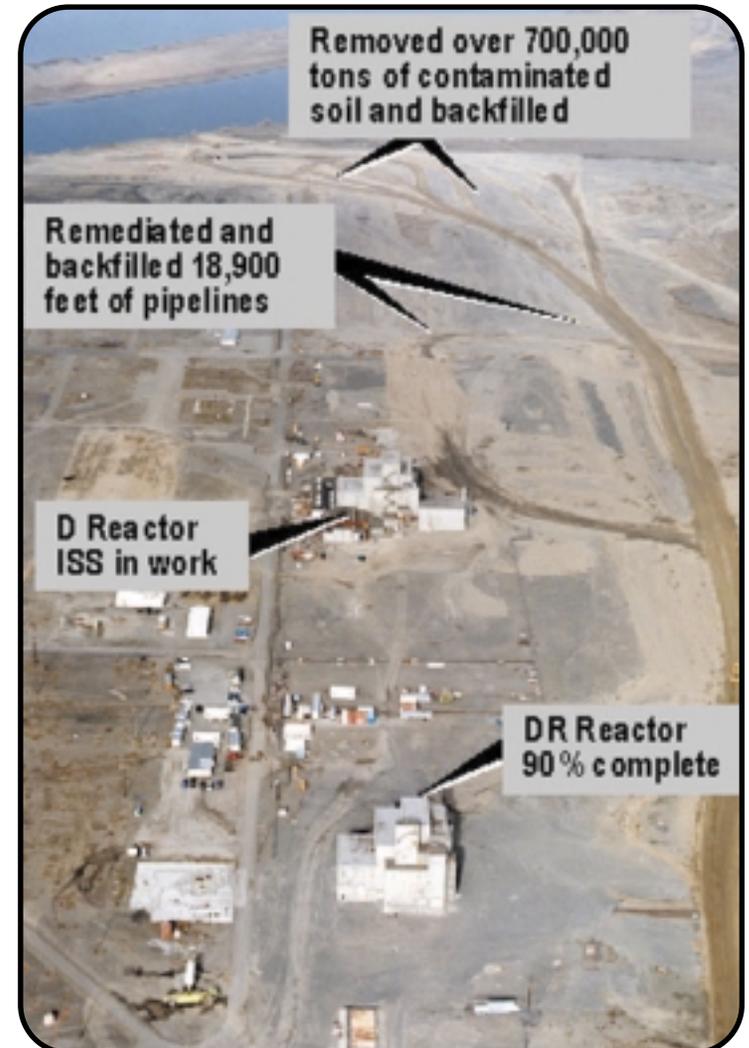
HANFORD
SITE MAP

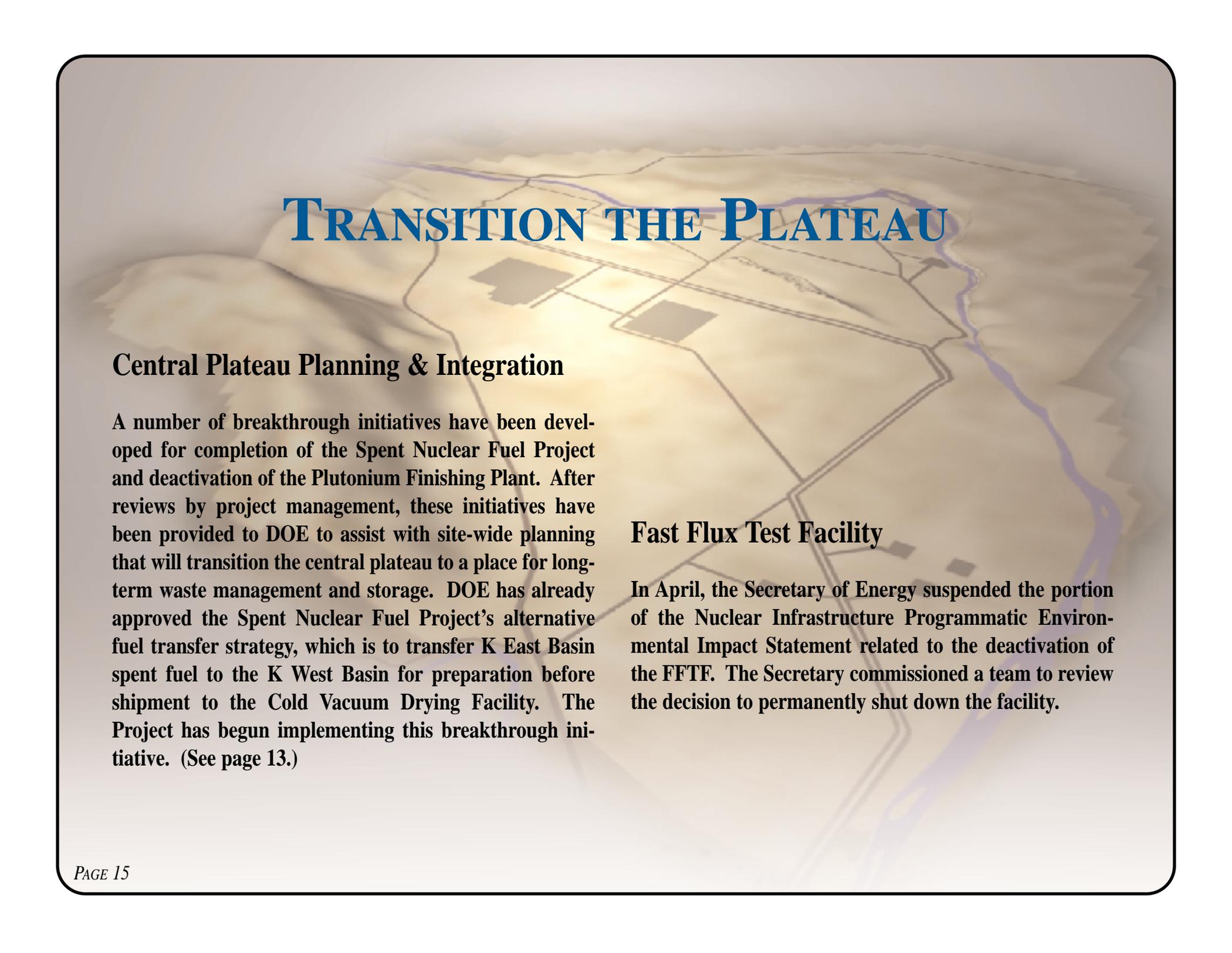
CONTACTS



Environmental Restoration Along the River

The D and DR reactors area is one of six reactor areas along the Columbia River shoreline in which environmental restoration is in progress, as described by the callouts on the photo. Similar progress has been made in some of the other reactor areas, as well as in the 300 Area. To date, 3 million tons of contaminated soil and other material have been removed from the river corridor and safely disposed in the Environmental Restoration Disposal Facility on the central plateau. The 3 million tons represents nearly a third of the estimated volume required to restore the river corridor.



An aerial photograph of a plateau, likely the central plateau at a nuclear site. The terrain is a mix of light brown and tan colors, with a prominent river or stream flowing through it. Several rectangular structures, possibly industrial buildings or storage tanks, are visible on the plateau. The overall scene is somewhat hazy, suggesting a high-altitude or distant perspective.

TRANSITION THE PLATEAU

Central Plateau Planning & Integration

A number of breakthrough initiatives have been developed for completion of the Spent Nuclear Fuel Project and deactivation of the Plutonium Finishing Plant. After reviews by project management, these initiatives have been provided to DOE to assist with site-wide planning that will transition the central plateau to a place for long-term waste management and storage. DOE has already approved the Spent Nuclear Fuel Project's alternative fuel transfer strategy, which is to transfer K East Basin spent fuel to the K West Basin for preparation before shipment to the Cold Vacuum Drying Facility. The Project has begun implementing this breakthrough initiative. (See page 13.)

Fast Flux Test Facility

In April, the Secretary of Energy suspended the portion of the Nuclear Infrastructure Programmatic Environmental Impact Statement related to the deactivation of the FFTF. The Secretary commissioned a team to review the decision to permanently shut down the facility.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Fire Services Consolidation

One element of the long-range central plateau transition plan is to consolidate the 100- and 200-Area fire stations in the 200 Area, where long-term waste management activities will occur. To support that goal, the Central Fire Station was remodeled. DOE and the Hanford Fire Department held a ribbon-cutting ceremony in April to mark completion of the renovation, which expanded the station's firefighter dormitory and relocated the Emergency Services Dispatch Center and shift supervisors' offices to the Central Fire Station. In the top photo, Hanford firefighter Gary Bumgarner, chief steward, Local 24, International Association of Firefighters, shows employee-suggested equipment innovations to John Wood, Fluor Hanford vice president for Hanford Site Operations, during an open house at the station.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

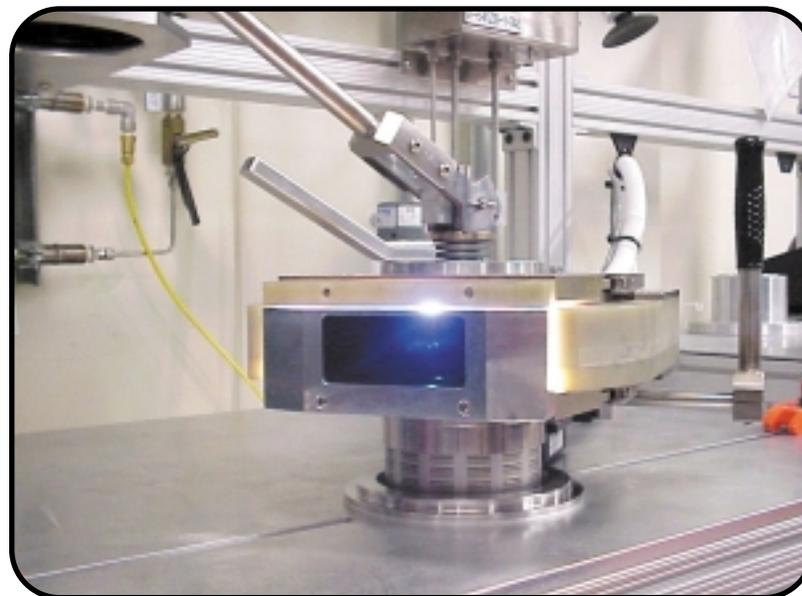
HANFORD
SITE MAP

CONTACTS

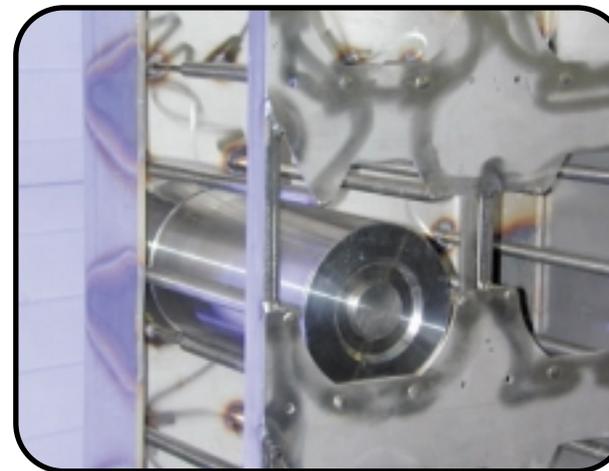


Nuclear Material Stabilization

Startup operation of the Outer Can Welder on April 10 made Hanford the first DOE site to fully comply with the new triple-container national standard for safe, long-term storage of plutonium. Through June, the new equipment produced 211 compliant containers as packaging of stabilized material continues at the Plutonium Finishing Plant (PFP).



Twenty new racks were installed in May in the PFP vault to store the compliant containers, which are larger than previous storage containers because of the new triple-canister system.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Technology for Nuclear Material Stabilization

Fluor Hanford, the Pacific Northwest National Laboratory (PNNL) and DOE have teamed to apply an innovative PNNL technology to remotely monitor the new triple-container canisters being used for safe storage of plutonium. PNNL's radiofrequency tag, originally developed for the Department of Defense, is linked with a pressure monitor developed by Vista Engineering Technologies, a local firm. The integrated system will provide continuous monitoring of pressure, temperature and safeguards information for each canister. Cost savings and avoidances are projected to exceed \$10 million while the canisters are stored at the PFP until shipped to DOE's Savannah River Site starting around 2016. Full-scale deployment at PFP is scheduled for this fall.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

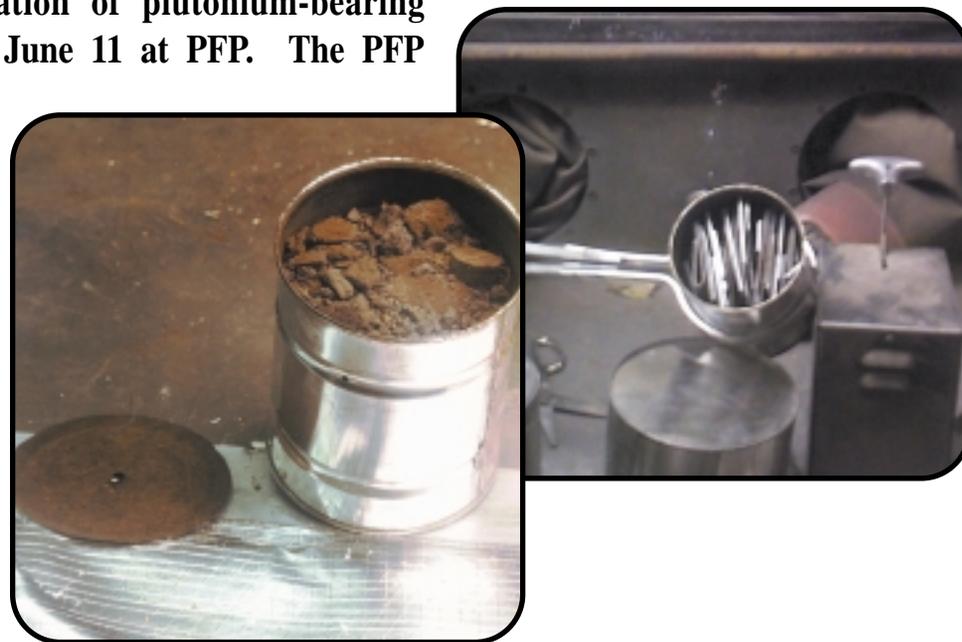
HANFORD
SITE MAP

CONTACTS



Nuclear Material Stabilization

Stabilization of plutonium-bearing alloys began June 11 at PFP. The PFP Residues Project team completed the packaging of metallic alloys, such as the alloy plates shown far right, and residue alloys, similar to those in the canister shown near right, just eight days later, on June 19.



Another group of PFP workers began processing and packaging Hanford plutonium ash April 9. They shipped the first batch of the packaged ash to the Central Waste Complex on May 17. This activity is currently scheduled for completion by the end of this calendar year.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Nuclear Material Stabilization

Nuclear chemical operator Larry Rosane measures out chemicals needed to stabilize plutonium solutions. Operation of a second two-boat hot plate was initiated in June. This is expected to double the rate of solutions stabilization.

The Defense Nuclear Facilities Safety Board recently commended the Nuclear Material Stabilization Project team for its deactivation and decommissioning planning and successful closure of corrective actions following DOE's plutonium vulnerability assessment.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

The Plateau

Key progress was made in process-cell cleanup at the Waste Encapsulation and Storage Facility (WESF). Below, WESF personnel remove a manipulator from one of the hot cells once used to manufacture radioactive strontium and cesium capsules. Replacement of the manipulator significantly reduces the maintenance workload and the associated worker radiological risk at the facility. At right, electrician Melissa Herron was on the team that installed new feeders and ground fault protection at the WESF substation, an effort moving the facility closer to completion of required electrical safety upgrades.



Waste Management



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Waste Management

Waste from decades of defense production continues to leave Hanford. Another shipment of transuranic (TRU) waste made its way safely to the Waste Isolation Pilot Plant (WIPP) in New Mexico this quarter, bringing the fiscal-year total to four shipments. DOE's Carlsbad Field Office recertified Hanford's TRU Program, including the packaging and visual examination of stabilized plutonium waste from the Plutonium Finishing Plant that will be shipped to WIPP for safe disposal.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Waste Management

Workers completed a solid-waste disposal box campaign to move remote-handled TRU waste from the 324 Building's B Cell to the central plateau for storage until the waste is processed and disposed at WIPP. The effort supports the River Corridor Project's B-Cell cleanout schedule and the overall cleanup of the 300 Area, which is adjacent to the Columbia River and just north of the City of Richland.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Environmental Restoration on the Plateau

All field work for the Canyon Disposition Initiative is complete. This included sampling and inspection activities at U Plant, one of five huge former fuel-reprocessing facilities, and completing a feasibility study on alternatives for cleanup. These facilities are the last of Hanford's major legacy components still needing final decisions about disposition. Depending on the final outcome selected, this project has the potential to avoid significant cleanup costs. U Plant, the initiative host facility, is shown. The other photo shows a technician on the operating deck in U Plant preparing to sample a tank 40 feet below.





PREPARE FOR THE FUTURE

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

The Future

Economic Transition

Retail customers look over some of the \$3 million worth of underutilized and excess Hanford equipment for sale. GB Assets of Richland, a new company formed by three former Hanford employees, is disbursing the equipment through retail, auction and direct-business sales under a contract with the Tri-Cities Asset Reinvestment Company.



Workmen help transfer an unneeded 20-ton gantry crane from Hanford's Central Waste Complex to SunStraw Northwest of Walla Walla. SunStraw will use the crane in the manufacture of strawboard.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

The Future

Economic Transition

Local economic growth and diversification is supported in more ways than just equipment and asset transfer. For instance, a \$50,000 grant from Fluor will help the Tri-Cities Visitor and Convention Bureau continue its “Bring ‘em Home” campaign, first funded by Fluor. The 2000 campaign brought \$6 million in new conventions to the Tri-Cities, with a \$13-million economic impact on the community. And with grant-writing help from Fluor Hanford’s Economic Transition staff, the Port of Pasco recently secured \$900,000 for telecommunication improvements that will provide broadband services to Pasco.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Volpentest HAMMER Training & Education Center

Initial testing of the Pit Viper was successfully completed ahead of schedule at HAMMER. Deploying the new technology is a collaborative effort by the Pacific Northwest National Laboratory (PNNL), waste tanks contractor CH2M HILL Hanford Group, Numatec Hanford, HAMMER, and DOE's Tanks Focus Area and Robotics Crosscut Program. The Pit Viper is a robotic arm mounted on the end of a backhoe that will enable vital cleanup work in tank-farm valve pits where high levels of radiation previously made it impossible for people to enter or where entry was limited to short time periods. As PNNL senior development engineer Michael Catalan demonstrates, workers safe inside a nearby trailer will remotely control the Pit Viper's end effectors, which can be used to cut, grab, grind, scrape, lift and spray. By modifying the existing HAMMER waste tank prop, Hanford avoided the cost of building a testing and training facility for the project. A recently signed agreement underscores Fluor Hanford and PNNL's commitment to increase partnering between HAMMER and PNNL for testing of new technologies and training.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

The Future

Volpentest HAMMER Training & Education Center

Firefighter candidates go through the paces of a physical ability test recently held by the Hanford Fire Department at HAMMER. The Center's facilities and staff capabilities make it useful for a wide range of training forums. In May, the Washington State Emergency Management Division's Hazardous Material Workshop, brought to HAMMER by the Federal Emergency Management Agency and the state patrol's Fire Protection Bureau, attracted not only Hanford firefighters but more than 80 other fire, law-enforcement, tribal and industry attendees. Classes covered drug labs, explosives awareness, pesticides and chemicals. Future plans call for an expanded workshop to include Oregon and Idaho participants.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

Support & Services

Infrastructure Support to Other Site Contractors

When CH2M HILL Hanford Group (CHG), Hanford's prime contractor for tank wastes, called on a Friday afternoon for six items needed the next Monday to lift some cover blocks, Site Fabrication Services (SFS) went the extra mile to support their customer. To meet the stringent quality requirements of the job, paperwork and processes had to be approved by Quality Assurance and inspected by Quality Control. SFS developed designs with readily available materials. Machinists, material coordinators, planners, QA/QC and supervision teamed up to provide the finished product in just 24 hours. Fluor Hanford machinist Farrell Coulson is shown with one of the fabricated pieces and a package of items ready for delivery to CHG.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

Support & Services

Spent Nuclear Fuel Project Support

Safeguards and Security adjusted its security measures in the 100-K Area to significantly aid the Spent Nuclear Fuel Project's accelerated schedule while maintaining appropriate protection for DOE assets, the public and the environment.

Fighting Fire With Fire

Hanford firefighter Joe DeRousie Jr. uses a drip torch to ignite dry grass along one of two state highways that run through the Hanford Site. DOE approved the prescribed roadside burning because non-native grasses and weeds that have moved into much of the area burned in last summer's 255-square-mile wildfire pose a considerable fire hazard. The goal is to create improved fire-management zones along Hanford's boundaries.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Safety Performance

- The Fluor Hanford team as a whole has worked in excess of 3.6 million hours since the last lost away workday injury.
- Among the continuing group safety records this quarter were those for two groups involved in multiple highly hazardous and extremely complex cleanup activities:
 - ✓ The Spent Nuclear Fuel Project team has compiled more than 3 million safe hours.
 - ✓ The Nuclear Material Stabilization Project team has now logged close to 2 million safe hours.
- Also, Safeguards and Security employees, whose activities include intense physical training, passed the 1-million-hour plateau, as did a collection of support-staff functions that include Legal, ES&H and Communications.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Safe for Decades

Electrician Randy Phenneger, repairing a surveillance camera, credits the excellent safety culture of the Technical Security maintenance team to coworkers who watch out for each other and seek immediate medical attention when mishaps occur. In April, the group of 30 engineers, instrument technicians and electricians marked 20 years without anyone missing a day's work due to a job-related injury. The crew engineers and maintains Hanford's security equipment.



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Nathan Neff, son of Fluor Hanford chemist Cheryl Neff-Sites, tries operating a model crane at the Hanford Health and Safety Expo. More than 20,000 visited the May Expo's 118 exhibits, 16 demonstrations and forklift rodeo competition put on by Hanford workers. Also in May, Fluor Hanford organized DOE's national ALARA (As Low As Reasonably Achievable) Conference. It showcased radiological work practices in 24 presentations, 6 workshops and a site tour for attendees from Hanford and DOE operations at Idaho Falls, Los Alamos, Rocky Flats and West Valley; the Puget Sound Naval Shipyard; and other nuclear-related facilities.

Sharing Best Practices



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



Restore the River Corridor

Complete cleanout, stabilization and waste-disposal tasks at the former Plutonium Recycle Test Reactor fuel transfer pit by August 20. Perform roof repairs and shut down minor systems to place the 309 Building in a low-cost surveillance and maintenance condition until deactivated under the 300-Area Accelerated Cleanup Plan.

By the end of September, remove, dry and place in storage another 11 loads of spent nuclear fuel from the K Basins.

In the K-West Basin, begin operating newly added spent-fuel processing and removal equipment, and install and begin operating canister-cleaning equipment.

Move the remaining 324 Building B Cell low-level wastes and transuranic debris away from the 300 Area by the end of July, completing the workscope for Tri-Party Agreement Milestone M-89-02.

Remove thorium materials remaining in the 303-K Facility, most recently used for radioactive and mixed-waste storage, and then demolish the structure to further reduce the 300-Area skyline by September 30.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



What's Next?

Transition the Central Plateau

At T Plant, accelerate readiness to receive sludge from the K Basins. Steps include reviewing readiness to transfer Shippingport spent fuel now stored at T Plant to the Canister Storage Building to make room at T Plant for the sludge. T-Plant workers must also clear four canyon cells and remove two major pieces of equipment by September 30.

Complete the installation by September of additional equipment that will speed stabilization and packaging activities at the Plutonium Finishing Plant (PFP). This includes gloveboxes with four new thermal stabilization furnaces and a second bagless transfer system for packaging. When the equipment is operational, all the pieces will be in place to complete PFP's stabilization mission by May 2004 as called for in the Tri-Party Agreement.

Make three more TRU-waste shipments to New Mexico before the end of the fiscal year.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS



What's Next?

Prepare for the Future

Complete a seamless transition of infrastructure services to Fluor Hanford management to cut overhead costs and redirect the savings to cleanup projects.

To diversify the local economy and reduce taxpayer expense, Fluor will assist DOE and the Tri-Cities Asset Reinvestment Company in transitioning from warehousing Hanford's excess assets to selling them.

CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

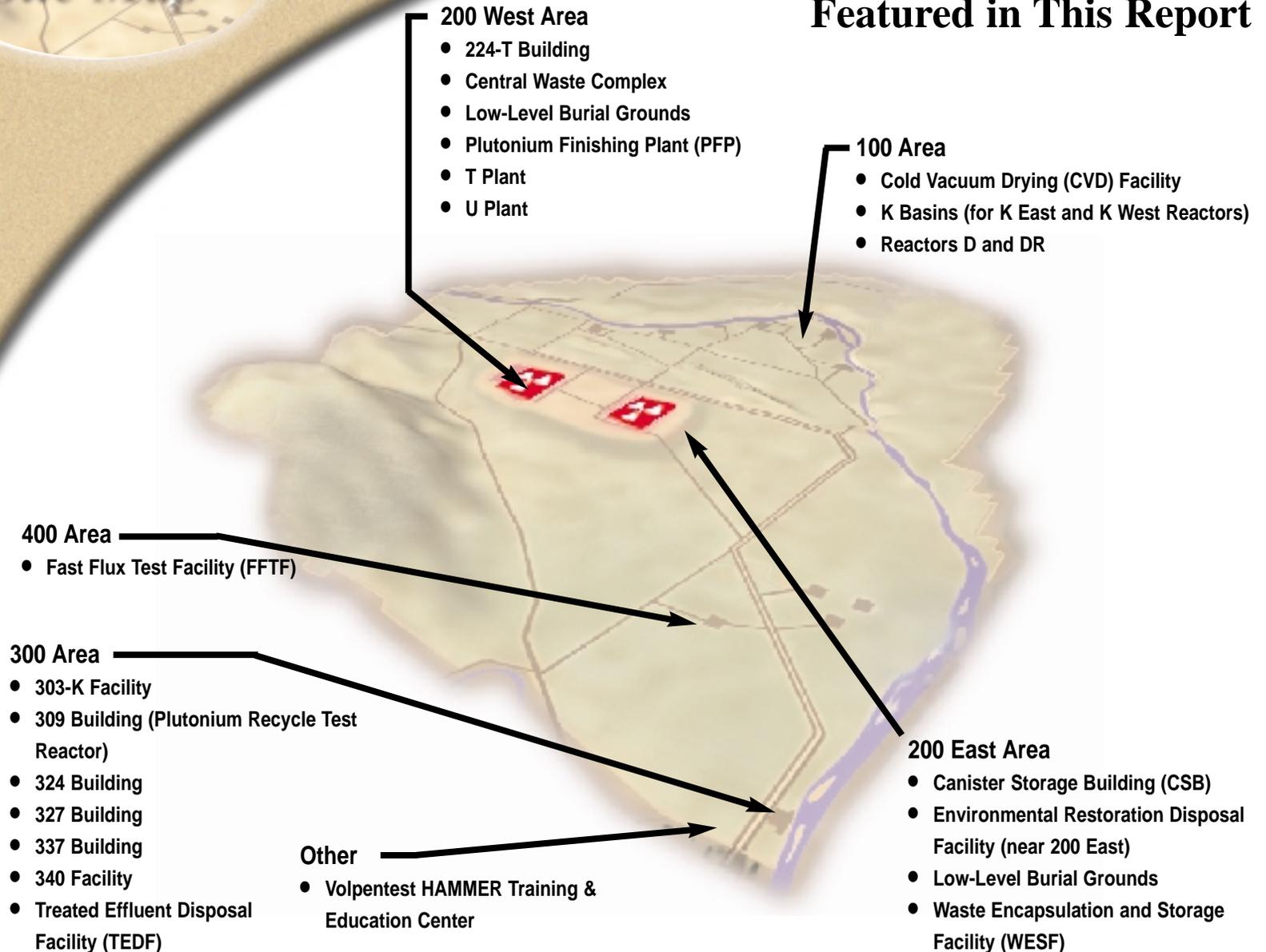
HANFORD
SITE MAP

CONTACTS

PAGE 38



Hanford Facilities Featured in This Report



CONTENTS

HIGHLIGHTS

RESTORE
THE RIVER
CORRIDOR

TRANSITION THE
PLATEAU

PREPARE FOR
THE FUTURE

SUPPORT
& SERVICES

ENVIRONMENT,
SAFETY &
HEALTH

WHAT'S
NEXT?

HANFORD
SITE MAP

CONTACTS

Contacts

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