

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006**

Project: Decontamination & Decommissioning (D&D)

Contact Persons:

Paducah Remediation Services LLC: Don Ulrich/Brad Montgomery

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The D&D project has completed development of Comprehensive Environmental Response, Compensation, and Liability Act regulatory documentation and has initiated actual D&D of the C-410/420 Feed Plant Complex. The current scope of D&D includes infrastructure removal on the C-410/C-420 complex, as well as ongoing surveillance and maintenance of the C-410/C-420 complex and the C-340 Metals Plant complex. Scope also included development of Safety Basis Documentation for the removal of equipment, piping, and stored material from the C-410 Complex. Operations at both complexes ended in 1977.

The Engineering Evaluation and Cost Analysis and the Action Memorandum for three inactive Facilities, the C402 Limehouse, the C-405 Contaminated Items Incinerator, and the C-746-A West End Smelter, have been completed and approved. The Removal Action Work Plan for the C-402 Limehouse has been approved by the regulatory agencies, and the C-405 and C-746-A West End Smelter RAWP was submitted to the regulatory agencies for review and approval.

Key documents (C-410 and Inactive Facilities):

- Engineering Evaluation/Cost Analysis (EE/CA)
- Action Memorandum
- Removal Action Work Plan (RAWP)
- Cultural Resources Assessment of C-410 Complex
- Agreed Order DWM-31434-042

Issues:

A UF6 release occurred inside C-410 Building on March 1, 2006, when a mechanic snagged an instrument line while routing an air line through the building, resulting in the line breaking. The line contained residual material that was not completely removed when the facility was shut down. Monitoring outside the building indicated no detectable HF outside the building. Implementation of the recovery process is continuing.

Recent accomplishments/activities:

- Completed removal of all equipment from the C-402 Limehouse
- Completed filling C-402 Limehouse basement with flowable fill
- Prepared area for C-402 Limehouse structure demolition
- Buss work removal in Sector 2 is about 50% completed
- About 25,000 pounds of copper has been recovered and will be shipped to ToxCo for reuse
- Initiated hazard marking in overhead spaces (areas where busswork is located) to allow busswork activities to resume
- Continued packaging loose debris and waste; packaged 13500 cubic feet (21 Intermodals) in June)
- Completed sampling activities in C-405 to support waste characterization
- Shipped 10 Intermodals of debris from C-410 for disposal

Activity over next 60 days:

- Complete structure demolition activities in C-402 Limehouse
- Package demolition debris for shipment to Energy *Solutions* of Utah
- Continue packaging and shipment of loose materials in C-410 Complex
- Continue fixative application to exterior painted metal surfaces of C-410
- Complete buss work removal in Sector 2 and 3 of C-410
- Ship buss work to ToxCo for reuse
- Initiate asbestos abatement activities throughout C-410
- Initiate removal of thousands of feet of piping in C-410, Sector 2 and 3
- Perform sampling for waste characterization of C-746-A West End Smelter

**Project Status Update for DOE Paducah Citizens Advisory Board
July 20, 2006**

Project: Depleted Uranium Hexafluoride (DUF₆) Conversion Facility

Contact Persons:

DOE Site Office: John Sheppard

Uranium Disposition Services: Guy Griswold

Commonwealth of Kentucky:

U.S. Environmental Protection Agency:

Citizens Advisory Board:

Purpose: Design, build, and operate the DOE DUF₆ Conversion Facility.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,200 cylinders contain approximately 436,400 metric tons of DUF₆. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF₆ to a more stable form for disposal or recycling.

The project site occupies approximately 11 acres immediately adjacent to DOE's DUF₆ cylinder storage yards. The completed capital costs for the facility at Paducah are estimated to be ≈ \$91,000,000. The major facilities on the DUF₆ project include the Conversion Building, Administration Building, Warehouse and Maintenance Building, KOH Regeneration Building, and the HF Neutralization Building. The project work also includes a railroad connection, rail sidings, load out facilities, roads, storage areas for full and empty cylinders, and all utilities.

Groundbreaking occurred in July 2004 and construction has continued since that time. At the conclusion of construction, all systems will be tested and the plant will undergo an Operational Readiness Review. The facility construction is to be complete in 2007. Following Readiness Reviews, facility operations are scheduled to commence in 2008.

Key Documents for the Conversion Project:

- Final Environmental Impact Statement for the Construction and Operation of the DUF₆ Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF₆ Conversion Facility
- Paducah Conversion Facility Preliminary Documented Safety Analysis, DUF₆-C-G-PSA-001, Rev. F

Issues: Resolve Quality Assurance (QA) issues identified on fabricating of the Conversion Building pre-cast concrete panels.

Recent accomplishments/activities:

- Conversion Building – Released fabrication hold on 06/21/06 and erection hold on 07/05/06
- Warehouse Building – Completing finish work inside structure and installing lightning protection. Work 98% complete. Expected completion 07/30/06
- Administration Building – Completed electrical and plumbing rough in, installed elevator, installed stud walls and sheet rock, continued to install HVAC duct, began painting
- Construction on Bayou Creek Railroad Bridge – Tested all structural connections, backfilled behind bridge abutments, dressed up area around bridge, excavated soil for rail bed West of creek, received rail and ties

- Foundations – Placed 980 cubic yards of concrete for empty cylinder storage area, 760 cubic yards concrete for full cylinder storage area pad and 720 cubic yards concrete for HF foundation. Placed concrete switchgear pad, 4 transformer pads and 820 cubic yards concrete for oxide crane foundation. Completed sub-grade for KOH Building and began installing steel and installing conduit and steel for standby generator pad and supporting cooling tower
- Continue receiving equipment at site (material received on 60 packages)
- Resolved QA Plan for S-42 HVAC

Construction activity scheduled over next 60 days:

- Complete Warehouse Building and test systems
- Continue interior work for painting and finish electrical and HVAC and install windows and doors for Administration Building
- Continue construction of offsite rail spur, install switch at USEC line, complete rip rap around Bayou Creek Bridge
- Continue construction of balance of plant foundations S-39
- Resume erection of Conversion Building panels and columns
- Mobilize S-44 Power to Facilities and commence duct cleaning
- USEC to connect 2nd Fire Water connection to UDS
- Mobilize S-33 exterior steel subcontractor
- Begin pre-mobilization work on the HVAC Package S-42
- Begin pre-mobilization of Conversion Building Roof S-23
- Begin pre-mobilization of Piping/Mechanical Equipment package S-40
- Begin pre-mobilization of Electrical Distribution and Instrumentation S-43
- Turn Fire water and Potable water on for DUF₆ Site

Procurement activity planned next 60 days:

- Award KOH – S-31
- Award Fire Protection – S-41
- Bid Architectural Finishes – S-32
- Continue to Bid and Procure Major Equipment RFPs

**Project Status Update for DOE Paducah Citizens Advisory Board
July 20, 2006
Project: Depleted Uranium Hexafluoride (DUF₆) Project Surveillance &
Maintenance**

Contact Persons:

DOE Site Office: John Sheppard
Uranium Disposition Services: Barry Tilden
Commonwealth of Kentucky:
U.S. Environmental Protection Agency:
Citizens Advisory Board:

Purpose: Maintain safe storage of DOE DUF₆ cylinder inventory pending disposition.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,700 cylinders contain approximately 442,790 metric tons of DUF₆. There are also 182 cylinders of low-enriched UF₆, about 900 cylinders of "normal" UF₆ (which has not gone through the enrichment process), and 276 empty cylinders. The DOE inventory at Paducah includes the material generated from 1952 until the establishment of USEC in July 1993, and material transferred from USEC to DOE since that time.

Surveillance and maintenance involves safely storing DUF₆. Most of the 60-acre DOE cylinder yard complex now consists of concrete yards, which provide for improved storage and inspection. In recent years, DOE cleaned and painted 3,368 cylinders that had surface corrosion. DOE continually monitors and inspects its cylinder inventory to assure safe storage.

Key Documents for surveillance/maintenance:

- Handling and Inspection of DOE 48-Inch Diameter UF₆ Cylinders at Paducah (UDS-PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF₆ Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF₆ Conversion Facility
- Documented Safety Analysis for the DOE Cylinder Yards, BJC/PAD-459
- Technical Safety Requirements for the DOE Cylinder Yards, UDS-C-TSR-001

Issues: None

Recent accomplishments/activities:

- An agreement with the Bonneville Power Administration (BPA) has been approved to transfer 672 cylinders of DUF₆ to BPA to supply power reactor fuel; 573 cylinders have been transferred through June 2006
- An agreement with USEC has been approved to "clean up" 743 cylinders of off-spec "normal" UF₆; 683 cylinders have been transferred through June 2006
- As of the end of June, UDS has completed 91% of the annual cylinder inspections, 90% of the quadrennial cylinder inspections and 85% of the radiological surveys required for the fiscal year that ends October 31, 2006

Activity over next 60 days for surveillance/maintenance:

- Continue transferring cylinders as per the two previously mentioned agreements

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006**

Project: Waste Disposition

Contact Persons:

Paducah Remediation Services LLC: Matt LaBarge/Greg Shaia

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: DOE is responsible for disposal and/or recycling of legacy wastes (wastes generated at the PGDP prior to establishment of USEC on July 1, 1993); wastes generated from ongoing DOE projects; and a limited amount of waste generated by USEC. After characterization to assure selection of the appropriate disposition method, non-hazardous and non-radioactive wastes are disposed of in the DOE Solid Waste Contained Landfill. *(Please see landfill update sheet.)* Hazardous and radioactive wastes are treated if necessary and shipped off-site to approved DOE or commercial disposal facilities. Wastewater (collected from sumps in diked areas in DOE waste storage facilities at PGDP) is treated and discharged in accordance with the Kentucky Pollutant Discharge Elimination System permit.

Key documents:

- Paducah Waste Acceptance Criteria (BJC/PAD-11, Revision 4)
- Final Environmental Assessment for Proposed Disposition of Waste from the Paducah Site (DOE/EA-1339 and Addendum DOE/EA-1339-A) (FONSI)
- Agreed Order DWM-31434-042
- Site Treatment Plan (STP) DWM-30039-042

Issues:

- None

Recent accomplishments/activities:

- Shipped 664 cubic feet of mixed low-level waste to Energy *Solutions*
- Disposed 2434 cubic feet outside legacy waste in C-746-U Landfill
- Disposed 276 cubic feet of outside legacy waste metal debris via Scrap Metal Project
- Disposed of approximately 300 empty drums via the Scrap Metal Project
- Treated 1200 gallons of outside legacy wastewater

Activity over next 60 days:

- Overpack and ship asbestos containing legacy waste to Energy *Solutions*
- Ship solid waste to TSCA Incinerator
- Repackage and ship mixed low-level waste to treatment/disposal at Energy *Solutions* and Perma-Fix facilities
- Dispose legacy waste stored in outside locations in C-746-U Landfill

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006
Project: Groundwater Operable Unit

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/Mike Clark/Bryan Clayton

Commonwealth of Kentucky: Jon Maybriar/Todd Mullins

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: This project addresses environmental remediation of groundwater contamination on a site-wide basis at the Paducah Gaseous Diffusion Plant. The main contaminants of concern are trichloroethylene (TCE) and technetium-99 (⁹⁹Tc). Remedial actions will be designed and implemented after completion and signing of Records of Decision (RODs).

Key documents:

- Feasibility Study of the Groundwater Operable Unit at PGDP (DOE/OR/07-1857)
- Agreed Order DWM-31434-042
- Six-Phase Treatability Report (DOE/OR/07-2113)
- Proposed Remedial Action Plan for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2114)
- Southwest Plume Site Investigation Work Plan (DOE/OR/07-2094)
- S&T Landfill Site Investigation Work Plan (DOE/OR/07-2098)
- Record of Decision for Interim Remedial Action for the Groundwater Operable Unit for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2150&D2/R2)
- Remedial Design Work Plan for the Interim Remedial Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2214&D2)
- Remedial Design Support Investigation Characterization Plan for the Interim Remedial Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2211&D2)
- Site Investigation Report for the Southwest Groundwater Plume (DOE/OR/07-2180&D1)
- Site Investigation Report for the C-746-S&T Landfills (DOE/OR/07-2212&D2)
- Land Use Control Implementation Plan: Interim Remedial Action for the Groundwater Operable Unit for the Volatile Organic Contamination at the C-400 Cleaning Building (DOE/OR/07-2151&D1)

Issues: Discussions with the State of Kentucky and EPA are continuing concerning the use of degradation factors utilized in groundwater modeling to support risk assessment development. The D2 SW Site Investigation Report is being reviewed for approval.

Recent accomplishments:

- Remedial Design Support Investigation fieldwork is currently in progress
- Evaluating a request from regulators to include the D2 Land Use Control Implementation Plan (LUCIP) for the C-400 Interim Remedial Action in the C-400 Remedial Design Report.
- Continued supporting a Department of Energy Headquarters Remedy Review Team in evaluating the status of remediation at PGDP for Burial Grounds and Groundwater

Activity over next 60 days:

- Continue design and design investigation activities for the implementation of the C-400 Interim Remedial Action
- Complete the development of the D1 Proposed Remedial Action Plan for the Southwest Groundwater Plume Sources

FFA Milestones:

- D1 Proposed Remedial Action Plan by 8/16/06 (Milestone being modified pending resolution of the degradation factor use in groundwater models)

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006
Project: Scrap Metal Removal Project

Contact Persons:

Paducah Remediation Services LLC: Chris Marshall

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart/John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: About 36,000 tons of scrap metal exists at the PGDP, excluding nickel ingots. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and approximately 7,412 tons of classified scrap. The project does not include the recycling or disposal of 9,700 tons of nickel. Note the classified scrap total has been revised downward based on field experience.

Key documents:

- Engineering Evaluation and Cost Analysis
- Action Memorandum
- Removal Action Work Plans
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues: None

Recent accomplishments:

- On June 23, 2006, 3231 tons of scrap metal were shipped via rail to *EnergySolutions*
- Since January 1, 2006, 10,140 tons of scrap metal have been shipped via rail to *EnergySolutions*

Activity over next 60 days:

- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Continue shipment of scrap metal to *EnergySolutions*
- The final unit train carrying scrap metal in high sided gondola cars is scheduled to ship during the week of July 24, 2006; additional rail cars may need to be shipped following the unit train
- Begin demobilization activities under the *EnergySolutions* contract

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006
Project: DOE Material Storage Areas (DMSAs)

Contact Persons:

Paducah Remediation Services LLC: John Samples
Commonwealth of Kentucky: Jon Maybriar/Mike Guffey
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The 160 DMSAs are non-leased areas inside buildings, as well as outdoor areas. DOE accepted the return of the areas, and the material and equipment they contained from USEC on December 31, 1996, to facilitate NRC certification of the gaseous diffusion plants. At that time, most of the contents needed detailed inventory, characterization, and disposition. Since that time, DOE and contractors have been documenting contents, resolving environmental concerns such as draining and disposing of oils from old equipment, and segregating and disposing of wastes.

Key documents:

- PGDP Department of Energy Material Storage Area Characterization/Remediation Plan (BJC/PAD-186/R4), April 2001
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues:

- Increased rigor in characterizing painted items for PCB content has impacted characterization, packaging, and disposal activities. Effort is under way to resolve different requirements and allowances between Kentucky and EPA regulations for solid waste disposal of painted items.

Recent accomplishments/activities:

- 3,322 ft³ of material characterized (including sampling) during June
- 8,321 ft³ of material packaged for disposal during June
- 8,005 ft³ of material disposed during June

Activity over next 60 days:

- Continue characterization of "Priority B" DMSAs under the Agreed Order
- Initiate final closure certification for approximately 20 DMSA RCRA Closures
- Transition to rail shipment to disposal sites.

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006
Project: Surface Water Operable Unit (On-Site)

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/Kendall Holt/Jana White
Commonwealth of Kentucky: Jon Maybriar/Brian Baker
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: The Surface Water Operable Unit (On-Site) Project includes a site investigation to identify hot spots in ditches and outfalls, including Sections 3, 4, and 5 of the North-South Diversion Ditch. The site investigation scope also includes an evaluation of whether additional sediment control measures are needed, as well as actions for potential legacy releases associated with the storm sewer system. The results of the site investigation will be documented in a Site Investigation/Baseline Risk Assessment Report and non-time-critical removal action documentation, as appropriate.

Key documents:

- Sampling and Analysis Plan for Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site), DOE/OR/07-2137&D2/R2
- Surface Water Operable Unit (On-site) Site Investigation and Baseline Risk Assessment Report at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/LX/07-0001/D0

Issues: None

Recent accomplishments:

- The SWOU SI/RA D0 has been submitted for internal review

Activity over next 60 days:

- Prepare Site Investigation/Baseline Risk Assessment D0 Report for DOE review
- DOE technical review of the SWOU SI/RA D0
- Incorporate D0 comments and prepare D1 SWOU SI/RA

FFA Milestones:

- Issue Site Investigation/Risk Assessment Report by August 16, 2006
- Issue Removal Notification by October 12, 2006

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006
Project: Burial Grounds Operable Unit

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/LeAnne Garner
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: A Remedial Investigation/Feasibility Study (RI/FS) Scoping Document and the RI/FS Work Plan for the investigation of the Burial Ground Operable Unit (BGOU) at PGDP have been developed. The documents utilize a compilation of sampling information collected on and around the PGDP over the course of the last ten years. The BGOU includes Solid Waste Management Units (SWMUs) 2, 3, 4, 5, 6, 7, 30, and 145.

Key documents:

- Scoping Document for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky
- Work Plan for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/OR/07-2179

Issues: None

Recent accomplishments:

- Comments on the BGOU D2 RI/FS Work Plan were received from the Commonwealth of Kentucky were received via letter dated June 20, 2006

Activity over next 60 days:

- Incorporate regulator comments and receive approval of the RI/FS Work Plan

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2006**

Project: Solid Waste Contained Landfill

Contact Persons:

Paducah Remediation Services LLC: Matt LaBarge

Commonwealth of Kentucky: Todd Hendricks

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: The operating landfill and support facilities are located on 60-acres of DOE property near Ogden Landing Road, operating under a permit from the Kentucky Division of Waste Management (KDWM). Landfill disposal operations began in 1997. DOE uses the landfill for disposal of solid waste generated from its operations at the Paducah site. Examples of wastes accepted include non-hazardous soil and debris from environmental cleanup and other DOE projects, protective clothing worn by workers, paper, packaging, and landfill office wastes. No waste classified as hazardous or radioactive is accepted.

Key documents:

- Environmental Assessment for the Construction, Operation and Closure of the Solid Waste Landfill at the Paducah Gaseous Diffusion Plant (DOE/EA-1046)
- Environmental Assessment on the Implementation of the Authorized Limits Process for Waste Acceptance at the C-746-U Landfill (DOE/EA-1414)
- Waste Acceptance Criteria for the Department of Energy Treatment, Storage, and Disposal Units at the Paducah Gaseous Diffusion Plant (BJC/PAD-111R4)
- C-746-U Landfill Solid Waste Disposal Facility Permit Number 073-00045

Issues: None.

Recent accomplishments/activities:

- PRS is currently conducting start-up testing and training and preparing an Internal Field Review to document the facilities readiness to start leachate treatment
- In June, 64.58 tons of waste material were disposed in the landfill

Activity over next 60 days:

- Complete testing and training of personnel for operation of the leachate treatment system
- Conduct an Internal Field Review to document readiness to operate the leachate treatment system
- Continue disposal of construction debris and other non-hazardous solid waste streams