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

Contact Persons:
Paducah Remediation Services LLC: Joe Tarantino/Mike Clark/Bryan Clayton
DOE Site Office: David Dollins
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 (^{99}Tc). 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&D2)
- 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 Plume Site Investigation Report is currently being reviewed for approval.

Recent accomplishments:

- C-400 Remedial Design Support Investigation subsurface profiling was completed on August 25, 2006. The subsurface investigation was performed at 51 locations on the south side of C-400. Results of this investigation will be used during the design of the treatment system to be installed in that area.

Activity over next 60 days:

- Continue with development of the C-400 Remedial Action Work Plan and Design Report
- Complete the development of the D1 Proposed Remedial Action Plan for the Southwest Groundwater Plume Sources.

FFA Milestones:

- D1 Southwest Plume Proposed Remedial Action Plan by 10/14/06 (Milestone being modified pending resolution of the degradation factor use in groundwater models)
- D1 C-400 Remedial Action Work Plan by 11/22/06
- 90% C-400 Remedial Design Report by 12/8/06

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

Contact Persons:
Paducah Remediation Services LLC: Joe Tarantino/Kendall Holt
DOE Site Office: Jeff Snook
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup

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:

- BGOU D2 RI/FS Work Plan was completed and distributed to the Commonwealth of Kentucky and the EPA on December 19, 2005
- Comments from the Commonwealth of Kentucky were received via letter dated June 20, 2006
- D2 R1 RI/FS Work Plan incorporating Kentucky and EPA comments was resubmitted on August 28, 2006

Activity over next 60 days:

- Receive approval of the RI/FS Work Plan
- Mobilize and begin remedial investigation field activities

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

Contact Persons:

Paducah Remediation Services LLC: John Samples
DOE Site Office: Reinhard Knerr
Commonwealth of Kentucky: Jon Maybriar/Leo Williamson
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.

Recent accomplishments/activities:

- In August:
  - Characterized 3,345 ft^3 of material characterized (including sampling)
  - Packaged 11,136 ft^3 of material
  - Disposed of 5,109 ft^3 of material

Activity over next 60 days:

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

Project Status Update for DOE Paducah Citizens Advisory Board
September 14, 2006
Project: Decontamination & Decommissioning (D&D)

Contact Persons:
Paducah Remediation Services LLC: Don Ulrich/Brad Montgomery
DOE Site Office: Reinhard Knerr
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:
None

Recent accomplishments/activities:
- Initiated activities to isolate utilities at C-405
- Completed sampling activities in C-405 to support waste characterization
- At C-410, packaged 10,800 cubic feet (16 Intermodals and one SeaLands) in August. Since May, 2006, approximately 70,000 cubic feet of material have been removed, size reduced, and packaged. The packaged volume of the waste material is approximately 38,000 cubic feet.
- Initiated asbestos abatement in Zone 53 of the C-410 Complex, and initiated utility piping and equipment demolition in Zones 40, 44, and 38
- Continued emptying, sorting, and segregating of material stored in SeaLands located outside the C-410 Complex

Activity over next 60 days:

- Continue packaging of loose materials in C-410 Complex
- Continue fixative application to exterior painted metal surfaces of the building
- Package demolition debris for shipment to EnergySolutions of Utah
- Perform sampling for waste characterization of C-746-A West End Smelter
- Develop work instructions for C-405 incinerator work
- Ship buss work and switches to ToxCo for reuse
- Continue asbestos abatement activities in Sector 2 and 3 of C-410
- Continue removal of piping and equipment in C-410, Sector 2 and 3
- Begin removal and treatment of chemicals remaining in piping or equipment to convert them to an inert state) in C-410 Complex

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

Contact Persons:
Paducah Remediation Services LLC: Chris Marshall
DOE Site Office: Reinhard Knerr
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 31,000 tons of scrap metal exists at the PGDP, excluding nickel ingots. This project involves the removal of 21,700 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.

Key documents:
- Engineering Evaluation and Cost Analysis
- Action Memorandum
- Removal Action Work Plans
- Documented Safety Analysis (DSA)

Issues: None

Recent accomplishments:
- On June 23, 2006, 3,231 tons of scrap metal were shipped via rail to Energy*Solutions*
- Since January 1, 2006, 10,140 tons of scrap metal have been shipped via rail to EnergySolutions
- The final unit train carrying scrap metal in high sided gondola cars is loaded and scheduled to ship in October 2006; another shipment on regular cars will follow

Activity over next 60 days:
- Complete disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Begin demobilization activities under the Energy*Solutions* contract, including grading and seeding

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

Contact Persons:
Paducah Remediation Services LLC: Joe Tarantino/Kendall Holt/Jana White
DOE Site Office: David Dollins
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 inside the security fence 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 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:
- Issuance of the D0 R1 SWOU SI/RA report to DOE for technical review
- Incorporation of comments and preparation of the D1 SWOU SI/RA report for DOE legal review
- Issuance of milestone extension request for provision of the D1 SWOU SI/RA report

Activity over next 60 days:
- Incorporate D1 comments and prepare final D2 SWOU SI/RA
- Issue the D2 SWOU SI/RA report to EPA and Kentucky

FFA Milestones:
- Issue Site Investigation/Risk Assessment Report by October 15, 2006
- Issue Removal Notification by December 11, 2006

Project Status Update for DOE Paducah Citizens Advisory Board
September 14, 2006
Project: Solid Waste Contained Landfill

Contact Persons:
Paducah Remediation Services LLC: Matt LaBarge
DOE Site Office: Jeff Snook
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). U-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.

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: Kentucky has sent DOE a letter saying there is the potential that liquids have been disposed of at the landfill. PRS is investigating these claims. Kentucky has requested a Plan of Correction for insufficient leachate storage capacity. PRS has determined there is sufficient capacity for current landfill operations and is working with Kentucky and DOE to determine alternatives for future operations.

Recent accomplishments/activities:
- The leachate treatment system passed an Internal Field Review and is ready for operations pending sampling analysis results
- In August, PRS initiated sampling of treated leachate in accordance with the Agreed Order between Kentucky Division of Waste Management and KRC
- In July, 282.18 tons of waste material were disposed in the landfill

Activity over next 60 days:
- Complete additional testing and training of personnel for operation of the leachate treatment system
- Complete evaluation of leachate management and submit permit modification to document Plan of Correction
- Continue disposal of construction debris and other non-hazardous solid waste streams

Project Status Update for DOE Paducah Citizens Advisory Board
September 14, 2006
Project: Waste Disposition

Contact Persons:
Paducah Remediation Services LLC: Matt LaBarge/Greg Shaia
DOE Site Office: Reinhard Knerr
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 1,800 cubic feet of mixed low-level waste to the TSCA Incinerator
- Disposed 1,276 cubic feet outside legacy waste in C-746-U Landfill
- Completed last two shipments of TSCA soft solids on site to TSCA Incinerator

Activity over next 60 days:
- Overpack outside legacy waste for future shipment to Energy*Solutions*
- Repackage low-level for disposal at Energy Solutions
- Dispose legacy waste stored in outside locations in C-746-U Landfill

Project Status Update for DOE Paducah Citizens Advisory Board
September 14, 2006
Project: Depleted Uranium Hexafluoride (DUF_6) Project Surveillance & Maintenance

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

UPDATE

Purpose: Maintain safe storage of DOE DUF_6 cylinder inventory pending disposition.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF_6 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 DUF_6. There are also 182 cylinders of low-enriched UF_6, about 900 cylinders of "normal" UF_6 (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 DUF_6. 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 UF_6 Cylinders at Paducah (UDS-PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF_6 Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF_6 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

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; 606 cylinders have been transferred through July 2006
- Transferring off-spec "normal" UF_6 cylinders to USEC to fulfill an agreement between USEC and DOE for USEC to remove Tc-99 contamination from the cylinders and provide DOE with "clean" UF_6 feed material

Activity over next 60 days for surveillance/maintenance:

- Continue transferring cylinders as per the two previously mentioned agreements
- Perform annual cylinder inventory
- Begin removing cylinders from C-745-C cylinder storage yard so all DOE UF_6 cylinder will be located near the conversion facility

Project Status Update for DOE Paducah Citizens Advisory Board
September 21, 2006
Project: Depleted Uranium Hexafluoride (DUF_6) 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 DUF_6 Conversion Facility.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF_6 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 DUF_6. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF_6 to a more stable form for disposal or recycling.

The project site occupies approximately 11 acres immediately adjacent to DOE's DUF_6 cylinder storage yards. The completed capital costs for the facility at Paducah are estimated to be ≈ $91,000,000. The major facilities on the DUF_6 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 DUF_6 Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF_6 Conversion Facility
- Paducah Conversion Facility Preliminary Documented Safety Analysis, DUF6-C-G-PSA-001, Rev. 0

Recent accomplishments/activities:

- Conversion Building – 663 of 831 (80%) of pre-cast structural components erected and installed temporary construction bridge crane
- Warehouse Building – Work complete except for lightning protection. Punch list being cleared
- Administration Building – Installed windows, doors and trim. Continued to install HVAC duct, sheetrock, conduit, fire sprinklers and paint walls

- Construction on Bayou Creek Railroad – Installed switch in main line, placed sub-ballast, ballast, ties and over one mile of track. Installed derailer and grating at Bayou Creek Bridge
- BOP 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. Placed 500 cubic yards concrete for rail foundations North and South of HF load out, 500 cubic yards for KOH Building foundation, 100 cubic yards for Cooling Tower and Vehicle Access Building foundation. Placed 300 cubic yards for connection slab between full cylinder pad and Conversion Building, 30 cubic yards for the crane foundations on the oxide pad and full cylinder pad and 50 cubic yards for foundations for the pipe racks
- Installed temporary power connections to site to power buildings until permanent power available and raised power lines for rail access
- Mobilized S-44 Power to Facilities and commenced duct cleaning
- On-site fire system activated. USEC second Fire Water connection to UDS system in process

Construction activity scheduled over next 60 days:

- Complete Administration Building
- Complete rail spur to Hobbs Road
- Complete erection of Conversion Building panels and columns
- Caulk Conversion Building concrete panel joints, install enhanced connections and place concrete floor slabs
- Mobilize S-33 exterior steel subcontractor
- Continue pre-mobilization work on the HVAC Package S-42
- Continue pre-mobilization of Conversion Building Roof S-23
- Continue pre-mobilization of Piping/Mechanical Equipment package S-40
- Continue pre-mobilization of Electrical Distribution and Instrumentation S-43
- Turn Potable water on for DUF_6 Site
- Begin pre-mobilization of KOH Building S-31
- Accept delivery of conversion units and install

Procurement activity planned next 60 days:

- Award Fire Protection – S-41
- Bid Architectural Finishes – S-32
- Continue to Bid and Procure Major Equipment RFPs
- Bid project painting inside the Conversion Building S-38 and general facility painting S-37

Project Notes:

- Project schedule modified to reflect Conversion Building delay
- Schedule being developed to integrate electrical, HVAC and piping subcontractor work by area in Conversion Building
- Design and construction of remaining S-39 foundations awaiting selection of vendors for Nitrogen and Hydrogen systems