

**Project Status Update for DOE Paducah Citizens Advisory Board  
June 15, 2006**

**Project: Solid Waste Contained Landfill**

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**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

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**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:**

- The Kentucky Resources Council has petitioned Kentucky for an administrative hearing on permit renewals for the C-746-S and C-746-T landfills and approving the construction and use of a leachate treatment facility for the C-746-U landfill.

**Recent accomplishments/activities:**

- A&K Construction broke ground for the C-746-U Leachate Treatment Facility in late March and completed utility and foundation construction in early April
- Building construction was completed May 5
- Treatment equipment installed in the building on May 16
- Operational testing and training scheduled for completion on July 20
- In May, loads containing 93.34 tons of waste material were disposed in the landfill

**Activity over next 60 days:**

- Complete construction of the C-746-U Leachate Treatment Facility
- Continue disposal of construction debris and other non-hazardous solid waste streams
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study

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**June 15, 2006**  
**Project: Waste Disposition**

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**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

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**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 288.55 cubic feet of mixed low-level waste to TSCA Incinerator
- Disposed 1080 cubic feet outside legacy waste in C-746-U Landfill

**Activity over next 60 days:**

- Ship several trucks of 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  
June 15, 2006**

**Project: Decontamination & Decommissioning (D&D)**

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**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

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**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 is under development.

**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:**

- Developed and implemented an approach for resuming activities in the C-410 Complex, and completed performance of walkdowns inside C-410 to identify, mark, and protect potential hazards prior to resuming work in the complex. Completed approximately marking of hazards on ground floor of building in up to a height of 8 feet in May.
- Continued D&D activities in the C-402 Limehouse
- Busswork removal from Sector 2 is approximately 40% complete. Initiated hazard marking in overhead spaces (areas where busswork is located) to allow busswork activities to resume.
- Resumed packaging loose debris and waste; packaged 6,000 cubic feet (10 Intermodals in May)
- Completed application of fixative on stacks and continued fixative application on painted metal outside building
- Completed sampling activities in C-405 to support waste characterization

**Activity over next 60 days:**

- Continue packaging of loose materials in C-410 Complex
- Continue demolition activities in C-402 Lime House
- Continue fixative application to exterior painted metal surfaces of the building
- Package demolition debris for shipment to EnergySolutions of Utah
- Submit RAWP for C-405 Incinerator and C-746-A West End Smelter to regulatory agencies for review and approval
- Perform sampling for waste characterization of C-746-A West End Smelter
- Resume busswork removal in C-410
- Initiate asbestos abatement activities and piping removal in C-410

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 15, 2006**  
**Project: DOE Material Storage Areas (DMSAs)**

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**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

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**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:**

- 4,399 ft<sup>3</sup> of material characterized (including sampling) during May
- 8,214 ft<sup>3</sup> of material packaged for disposal during May
- 2,312 ft<sup>3</sup> of material disposed during May

**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

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 15, 2006**  
**Project: Groundwater Operable Unit**

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**Contact Persons:**

**Paducah Remediation Services LLC:** Joe Tarantino/Mike Clark/Mike Troutman

**Commonwealth of Kentucky:** Jon Maybriar/Todd Mullins

**U.S. Environmental Protection Agency:** David Williams

**Citizens Advisory Board:** Jim Smart

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**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 (<sup>99</sup>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&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 updated utilizing revised degradation values in the groundwater modeling.

**Recent accomplishments:**

- Paducah Remediation Services made a decision to self perform the selected remedy for the C-400 Remedial Action. Preparations are currently being made to begin the Remedial Design Support Investigation.
- Regulators approved the D2 Site Investigation Report for the C-746-S&T Landfills. All additional environmental restoration activities will be evaluated and implemented as part of the Burial Grounds Operable Unit.

- Responded to DOE and regulator comments on the D1 Land Use Control Implementation Plan (LUCIP) for the C-400 Interim Remedial Action
- Revised the D2 Remedial Design Work Plan to include the LUCIP as an appendix
- Continued Supporting a Department of Energy Headquarters Remedy Review Team in evaluating the status of remediation at PGDP for Burial Grounds and Groundwater
- Issued D2 Site Investigation Report for the Southwest Groundwater Plume

**Activity over next 60 days:**

- Initiate design and design investigation activities for the implementation of the C-400 Interim Remedial Action

**FFA Milestones:**

- D1 Proposed Remedial Action Plan by 7/16/06 (Milestone being modified pending resolution of the degradation factor use in groundwater models)

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 15, 2006**  
**Project: Surface Water Operable Unit (On-Site)**

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**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

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**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:**

- Issuance of the SWOU SI/RA Draft D0 to DOE for 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**  
**June 15, 2006**  
**Project: Scrap Metal Removal Project**

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**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

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**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 April 21, 2006, over 349 tons of scrap were shipped, and on May 30, 2006, 3,269 tons of scrap metal were shipped via rail to EnergySolutions
- Since January 1, 2006, 6,976 tons of scrap metal have been shipped via rail to EnergySolutions
- High sided gondola cars are allowing ~25% more material in each car. That, combined with twice as long 50-car trains, has resulted in the May 30 train to match the tonnage in the previous three trains combined.

**Activity over next 60 days:**

- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Continue shipment of scrap metal to EnergySolutions

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 15, 2006**  
**Project: Burial Grounds Operable Unit**

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**Contact Persons:**

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

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**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:**

- 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 are scheduled to be received by June 21, 2006

**Activity over next 60 days:**

- Receive regulator approval of the RI/FS Work Plan

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**April 11, 2006**  
**Project: Depleted Uranium Hexafluoride (DUF<sub>6</sub>) 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:**

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**Purpose:** Maintain safe storage of DOE DUF<sub>6</sub> cylinder inventory pending disposition.

**Description:** The Atomic Energy Act, as amended, gives DOE responsibility for the DUF<sub>6</sub> 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<sub>6</sub>. There are also 182 cylinders of low-enriched UF<sub>6</sub>, about 900 cylinders of "normal" UF<sub>6</sub> (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<sub>6</sub>. 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<sub>6</sub> Cylinders at Paducah (UDS-PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF<sub>6</sub> Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF<sub>6</sub> 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:** OIG Review of 30A Cylinders

**Recent accomplishments/activities:**

- An agreement with the Bonneville Power Administration (BPA) has been approved to transfer 672 cylinders of DUF<sub>6</sub> to BPA to supply power reactor fuel; 513 cylinders have been transferred through May 2006
- An agreement with USEC has been approved to "clean up" 743 cylinders of off-spec "normal" UF<sub>6</sub>; 619 cylinders have been transferred through May 2006
- Issued a Characterization Report on the resolution of the phosgene issue in 30A cylinders
- As of the end of May, UDS has completed 77% of the annual cylinder inspections, 99% of the quadrennial cylinder inspections and 71% 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