

**Project Status Update for Paducah DOE Citizens Advisory Board  
June 16, 2005**

**Project: Surveillance/Maintenance & Conversion, Depleted Uranium Hexafluoride (DUF<sub>6</sub>)**

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**Contact Persons:**

**DOE Site Office:** John Sheppard

**Bechtel Jacobs Company LLC (surveillance/maintenance):** Don Ulrich/Craig Dowdy

**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 36,200 cylinders contain approximately 436,400 metric tons of DUF<sub>6</sub>. There are also 182 cylinders of low-enriched UF<sub>6</sub>, about 1,500 cylinders of "normal" UF<sub>6</sub> (which has not gone through the enrichment process), and 275 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 which had surface corrosion. DOE continually monitors and inspects its cylinder inventory to assure safe storage. **Conversion** is expected to begin in 2006. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF<sub>6</sub> to a more stable form for disposal or recycling. DOE is reviewing draft conceptual design reports for the conversion facilities. Construction began in July 2004.

**Key Documents for surveillance/maintenance:**

- Handling and Inspection of DOE 48-Inch Diameter UF<sub>6</sub> Cylinders at Paducah (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, BJC/PAD-461

**Issues:** (none)

**Recent accomplishments/activities:**

- Completed 12,709 cylinder inspections in FY 2005 through May
- 9,969 radiological surveys completed
- 1,908 cylinder skirt cleanings completed
- Completed 376 cylinder relocations to improved storage in May; 849 in FY 005
- Conversion plant warehouse building foundation contract awarded
- Facility 90% design under DOE review

**Activity over next 60 days for surveillance/maintenance:**

- Begin warehouse foundation field work
- Issue warehouse building contract.

## **Project Status Update for Paducah DOE Citizens Advisory Board**

**June 16, 2005**

### **Project: Solid Waste Contained Landfill**

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#### **Contact Persons:**

**Bechtel Jacobs Company LLC:** Steve Davis/Dwight Lamb

**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:** None

#### **Recent accomplishments/activities:**

- Disposed of 91 tons of waste in May
- Received permit modification for construction of a leachate treatment facility May 12, 2005
- Signed subcontract for construction of leachate treatment facility
- Initiated fabrication of leachate treatment unit.

#### **Activity over next 60 days:**

- Continue disposal of construction debris and other non-hazardous solid waste streams
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study
- Construct leachate treatment facility, to be completed in August 2005.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 16, 2005**  
**Project: Waste Disposition**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Pat Gourieux/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 DWM-30039-42

**Issues:**

- Because of transportation related issues at Paducah, BJC self-suspended off-site shipments in September 2004 pending a review of the shipping program. Waste Disposition Project schedules are being revised as effort continues in developing the corrective actions necessary to resume safe, compliant shipments. Off-site shipments have resumed, except to the Nevada Test Site.

**Recent accomplishments/activities:**

- Disposed 1,730 cubic feet of Agreed Order waste in the C-746-U landfill
- Shipped 5,951 cubic feet of Agreed Order waste to Envirocare
- Processing of Agreed Order waste for landfill disposal and shipment to Envirocare continues

**Activity over next 60 days:**

- Continue shipment of mixed low-level waste to PermaFix facility and Envirocare
- Continue disposition of solid waste in the C-746-U Landfill
- Continue disposition of ~ 5100 containers of Agreed Order "no-longer contains" waste at Envirocare or the C-476-U Landfill, as appropriate
- Begin shipments of UF4
- Begin disposition of approximately 2000 containers of LLW stored in outside facilities.

**Project Status Update for DOE Paducah Citizens Advisory Board  
June 16, 2005**

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

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Brad Montgomery  
**Commonwealth of Kentucky:** Jon Maybriar  
**U.S. Environmental Protection Agency:** David Williams  
**Citizens Advisory Board:**

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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.

**Key documents (C-410):**

- 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:**

- Commonwealth of Kentucky permit regulations are more stringent than Federal Regulations, and will not allow disposition of scrap metal from tank farm demolition in the C-746-U Landfill due to levels of PCBs in the paint.
- Disposition of HF Tank Farm Residuals was delayed during the transportation suspension
- Schedule for feed plant equipment demolition and removal has been impacted as a result of minimizing waste generation while shipment issues are being resolved.

**Recent accomplishments/activities:**

- Performed extensive cleaning (vacuuming) and initiated fixative application after asbestos clearance sampling indicated presence of asbestos in Zone 21
- Shipped LLW waste from C-410 HF Tank Farm to Envirocare
- Issued RFP for removal of C-603 Nitrogen Facility as a maintenance action
- Initiated evaluation of response to C-603 RFP from subcontractor
- Submitted D1 Engineering Evaluation/Cost Analysis (EE/CA) for C-402 Limehouse, C-405 Incinerator and C-746-A West End Smelter to EPA and Kentucky on June 10, 2005

**Activity over next 60 days:**

- Continue packaging of loose materials in C-410 Complex
- Complete landfill package and disposition material from C-410-A Hydrogen Holder in landfill
- Complete packaging and shipment of scrap metal from HF Tank Farm for disposition at Envirocare

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 16, 2005**  
**Project: DOE Material Storage Areas (DMSAs)**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Rick Keeling  
**Commonwealth of Kentucky:** Jon Maybriar/Mike Guffey  
**U.S. Environmental Protection Agency:** David Williams  
**Citizens Advisory Board:**

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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 that are now the DMSAs, 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:**

- Because of recent shipment difficulties at Paducah, BJC self-suspended shipments pending a programmatic review. This review included transporting waste to the C-746-U Landfill and off-site disposal facilities. Shipments have now resumed to the Landfill and to off-site facilities except the Nevada Test Site.

**Recent accomplishments/activities:**

- A total of 1,200 cubic ft. of material was characterized during May, including approximately 260 cubic feet sampled and awaiting results. Approximately 638,000 cubic ft. of material has been characterized to date.
- 1,300 cubic ft. packaged for disposal in the month of May; 265,000 cubic ft. over project life (recalculated over the last 30 days)
- 930 cubic ft. disposed in May; 243,000 over project life (recalculated over the last 30 days)
- Six of 14 coolers from DMSA OS-15 have been resized and packaged
- Drummed material being removed, sorted, characterized, segregated, and packaged for disposal

**Activity over next 60 days:**

- Continue packaging and disposition of DMSA OS-15 material
- Pursue disposition of OS-4 and OS-14 material
- Pursue boundary removal of OS-02, C-331-04, -07, and -20
- Continue characterization of "Priority B" DMSAs under the Agreed Order

**Project Status Update for DOE Paducah Citizens Advisory Board  
June 16, 2005**

**Project: Groundwater Operable Unit**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Bryan Clayton/Craig Jones  
**Commonwealth of Kentucky:** Jon Maybriar  
**U.S. Environmental Protection Agency:** David Williams  
**Citizens Advisory Board:**

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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 Workplan (DOE/OR/07-2094)
- S&T Landfill Site Investigation Workplan (DOE/OR/07-2098)
- Record of Decision for Interim Removal Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2150)

**Issues:** None

**Recent accomplishments:**

- Continued development of the Southwest Plume Site Investigation Proposed Plan
- Received Kentucky comments on D2 C-400 ROD June 15, 2005
- Completed 90% contracting package for RFP for selecting a remedial contractor for the implementation of electrical resistive heating/direct heating in the C-400 area.

**Activity over next 60 days:**

- Respond to Kentucky comments on D2 C-400 ROD by July 15, 2005
- Continue development of the Remedial Design Work Plan to support development of the C-400 Remedial Action design and construction specifications for submission
- Submit the C-746-S&T Landfill Site Investigation Report
- Obtain C-400 ROD signature in Summer 2005

**FFA Milestones:**

- Submit the D1 C-400 Remedial Design Work Plan within 30 days after signing of ROD
- Submit the D1 S&T Landfill Site Evaluation Report by September 30, 2005 (date to change with proposal for new milestones).

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 16, 2005**  
**Project: Surface Water Operable Unit (On-Site)**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Dave Guyan/Craig Jones  
**Commonwealth of Kentucky:** Jon Maybriar  
**U.S. Environmental Protection Agency:** David Williams  
**Citizens Advisory Board:**

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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)

**Issues:** None

**Recent accomplishments:**

- EPA issued unconditional approval of the sampling proposed in the D2 SWOU SAP on January 18, 2005; KDEP conditionally approved on February 3, 2005
- Teleconference held April 28, 2005 with DOE, KDEP and EPA to discuss KDEP issues, which were in Formal Dispute
- Formal Dispute issues resolved in meeting on May 4, 2005
- Submitted revised D2/R2 SAP on May 13, 2005
- Received KDEP SAP approval letter on May 13, 2005
- Began preparation for field sampling activities
- Began field mobilization activities on June 13, 2005.

**Activity over next 60 days:**

- Begin sampling June 20, 2005.

**FFA Milestones:**

- Issue Site Investigation/Risk Assessment Report by April 27, 2006
- Issue Removal Notification by June 23, 2006.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**June 16, 2005**  
**Project: Scrap Metal Removal Project**

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**Contact Persons:**

**DOE Site Office:**

**Bechtel Jacobs Company LLC:** Chris Marshall/Wes Bass/Craig Jones

**Commonwealth of Kentucky:** Jon Maybriar

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

**Citizens Advisory Board:**

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**Purpose:** Environmental Cleanup/Waste Disposition

**Description:** About 54,000 tons of scrap metal exists at the PGDP. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and 15,600 tons of classified material. This 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
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

**Issues:** Several sealand containers packaged for transport of general scrap to NTS leaked moisture prior to shipment. Container inspections identified the presence of circuit boards and other electronic devices that conflict with the NTS waste acceptance criteria. Currently shipments to NTS are suspended and scrap metal waste has not been shipped off site in several months.

**Recent accomplishments:**

- Approximately 2,850 drums of machine turnings (of an estimated 3,000) have been processed and packaged for shipment and disposal
- Over 172 tons of D-yard scrap is packaged and ready for shipment.

**Activity over next 60 days:**

- Complete development of corrective actions and begin implementation to resume scrap metal shipments from C-746-D yard to NTS (NTS audit scheduled for the week of June 13)
- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Complete the inspection, segregation, and packaging of machine turnings waste
- Obtain security approval for shipment and disposal of machine turnings waste
- Initiate shipment of machine turnings waste to Envirocare for treatment and disposal
- Initiate shipment of cargo containers of scrap metal to Envirocare via rail for disposal
- Resume shipment of scrap metal to NTS following recertification of waste disposition program.

**Project Status Update for DOE Paducah Citizens Advisory Board  
June 16, 2005  
Project: Burial Grounds OU**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** John Young/Craig Jones  
**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 has been developed to assist in preparation of the RI/FS Work Plan for the investigation and possible subsequent remediation of the Burial Ground Operable Unit (BGOU) at PGDP. The document utilizes a compilation of sampling information collected on and around the PGDP over the course of the last ten years. The subject of this scoping document is the BGOU (Solid Waste Management Units [SWMUs] 2, 3, 4, 5, 6, 7, 30, and 145).

**Key documents:**

- D1 Burial Grounds OU Scoping Document
- D1 Burial Grounds Work Plan

**Issues:** None

**Recent accomplishments:**

- D1 Burial Grounds OU Scoping Document was issued November 23, 2004
- State and EPA comments were discussed in a series of meetings, including one on March 17, 2005, and will be addressed in the Work Plan.

**Activity over next 60 days:**

- D1 Work Plan is scheduled to be completed and distributed on June 30, 2005