

**Project Status Update for Paducah DOE Citizens Advisory Board  
February 10, 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. Approximately 739,000 metric tons of DUF<sub>6</sub> is stored in solid form in metal cylinders at the DOE Paducah site as well as the Portsmouth, Ohio, and Oak Ridge, Tennessee, DOE sites. At Paducah, approximately 38,000 cylinders contain approximately 437,000 metric tons of DUF<sub>6</sub>. 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>. Portions 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

**Recent accomplishments/activities:**

- Completed 1,789 cylinder inspections and 953 radiological surveys in December
- Resumed relocating cylinders from gravel C-yard to new concrete K-yard
- Transition 216 Metric MTU UF<sub>6</sub> to USEC per barter agreement

Ongoing construction of the DUF<sub>6</sub> Conversion Facility includes installation of temporary construction power and utility duct banks and water lines.

**Issues:** (none)

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

- Continue cylinder relocations
- Continue cylinder inspections
- Complete installation of utility lines and complete storm drains and final grade for DUF<sub>6</sub> Conversion Facility

**Project Status Update for Paducah DOE Citizens Advisory Board  
February 10, 2005  
Project: Solid Waste Contained Landfill**

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**Contact Persons:**

**DOE Site Office:**

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

**Commonwealth of Kentucky:** Todd Mullins

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

**Citizens Advisory Board:**

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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:**

**Recent accomplishments/activities:**

- Resumed full operations capability
- Disposed of 621 tons of waste in January.
- Submitted permit modification for construction of a leachate treatment facility

**Activity over next 60 days:**

- Continue disposal of construction debris and other non-hazardous solid waste streams
- Receive permit modification for construction of a leachate treatment facility
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study

**Project Status Update for DOE Paducah Citizens Advisory Board  
February 10, 2005  
Project: Waste Disposition**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Steve Davis/Greg Shaia/Sam Leone

**Commonwealth of Kentucky:** Tuss Taylor/Mike Guffey

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

**Citizens Advisory Board:**

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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.

**Recent accomplishments/activities:**

- Disposed 1,864 cubic feet of Agreed Order waste in the C-746-U landfill.
- Processing of Agreed Order waste for landfill disposal continues.
- Shipped 7.5 cubic feet of mixed low-level waste for treatment/disposal.

**Activity over next 60 days:**

- Continue shipment of incinerable RCRA PCB wastes (PPE, sludges, and wood) to the TSCA Incinerator
- Continue shipment of mixed low-level waste to PermaFix facility
- 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

**Project Status Update for DOE Paducah Citizens Advisory Board  
February 10, 2005**

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

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Brad Montgomery  
**Commonwealth of Kentucky:** Tuss Taylor/Todd Mullins  
**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.
- Based on waste shipment suspension, disposition of HF Tank Farm Residuals has been delayed, and feed plant equipment demolition and removal is being rescheduled to focus on activities that do not generate large volumes of waste for disposition.

**Recent accomplishments/activities:**

- Demolition of equipment and material in Sector 1, Zone 21 continues, and is now approximately 35% complete. This area will be developed into a permanent boundary control station for personnel entry and exit.
- Engineering and work planning to begin active D&D operations (equipment and piping removal) inside C-410 Complex is underway
- Continued installation of temporary power and emergency lighting in C-420. Installation of generator to provide emergency lighting to western half of building completed, and began vendor testing.
- Received results of asbestos sampling in Sector 1, Zone 21, indicating most of insulation is non-asbestos.
- Disposed of 14 B-25 boxes of non-hazardous scrap metal from sulfuric acid tank demolition in the C-746-A Landfill.
- Preparations underway to ship 17 B-25 boxes of mixed low level waste (tank residuals and HF piping) from HF Tank farm demolition to Envirocare for treatment and disposal.
- Initiated planning for accelerated D&D of the C-603 Nitrogen Facility.

**Activity over next 60 days:**

- Ship HF Tank residuals (17B-25 Boxes) to Envirocare.
- Continue packaging of loose materials in C-410 Complex
- Continue installations of temporary power and emergency lighting in C-410 Complex

- Continue construction of power distribution throughout building
- Develop landfill package and disposition material from C-410-A Hydrogen Holder in landfill
- Begin asbestos abatement and continue demolition in Sector 1
- Begin repackaging of scrap metal from HF Tank Farm for disposition at Envirocare.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**February 10, 2005**  
**Project: DOE Material Storage Areas (DMSAs)**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Rick Keeling  
**Commonwealth of Kentucky:** 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 nonleased 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 has self-suspended shipments pending a programmatic review. This review includes transporting waste to the C-746-U Landfill and off-site disposal facilities.

**Recent accomplishments/activities:**

- A total of 781 cubic ft. of material was characterized during January, and approximately 634,000 cubic ft. of material has been characterized to date.
- 370 cubic ft. packaged for the month of January; 185,587 cubic ft. over project life
- Drummed material being removed, sorted, characterized, segregated, and repackaged
- Initiated mobilization and characterization activities in Priority "B" DMSAs

**Activity over next 60 days:**

- Complete disposition activities in DMSA OS-17
- 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

February 10, 2005

### Project: Groundwater Operable Unit

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#### **Contact Persons:**

**Bechtel Jacobs Company LLC:** Bryan Clayton/Craig Jones

**Commonwealth of Kentucky:** Tuss Taylor/Todd Mullins

**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 Report
- Submitted the D2 C-400 ROD to regulators December 2; Kentucky requested extension of review period to February 19, 2005
- Initiated procurement activities for selecting a remedial contractor for the implementation of electrical resistive heating/direct heating at the C-400 area

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

- Continue development of the Remedial Design Work Plan to support development of the C-400 Remedial Action design and construction specifications for submission in early 2005
- Continue development of the Southwest Plume Site Investigation Report
- Initiate development of the C-746-S&T Landfill Site Investigation Report
- Obtain C-400 ROD signature in Spring 2005

#### **FFA Milestones:**

- Submit the D1 C-400 Record of Decision by August 3, 2004 (complete).
- Submit the D1 Southwest Plume Site Investigation/Risk Assessment Report by February 17, 2005.
- Submit the D1 C-400 Remedial Design Work Plan by March 23, 2005
- Submit the D1 S&T Landfill Site Evaluation Report by September 30, 2005.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**February 10, 2005**  
**Project: Surface Water Operable Unit (On-Site)**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Rudy Bonilla/Craig Jones

**Commonwealth of Kentucky:** Tuss Taylor/ John 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:**

- On December 15, 2004, DOE submitted to the regulators the D2 Sampling and Analysis Plan (SAP) of the Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site).
- EPA issued unconditional approval of the sampling proposed in the D2 SWOU SAP on January 18, 2005.
- On February 3, 2005, DOE received conditional concurrence from KDEP, dated January 31, 2005, of the D2 SAP for the SWOU (On-Site). KDEP's conditional concurrence set forth certain changes to the SAP that KDEP would require before approving the document. One of the five conditions set forth in KDEP's letter included changes to the SAP to require DOE to include Total PAHs as an indicator chemical for all Activity 1 samples collected during the implementation of the SWOU (On-Site) project. Previously, DOE, the U.S. Environmental Protection Agency (EPA), and KDEP have discussed this issue without reaching an agreement. Pursuant to these discussions, DOE considered additional indicator chemicals, however, based on review of historical analytical data and the intent of the sampling strategy proposed, DOE determined that including these additional indicator chemicals would not be consistent with the project goals and would not be cost effective.

**Activity over next 60 days:**

- Resolve KDEP's comments received in the conditional approval of the D2 Sampling and Analysis Plan of the Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site).
- If comments are resolved and SAP is unconditionally approved, start mobilization activities for the site investigation of the Surface Water Operable Unit.

**FFA Milestones:**

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

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**February 10, 2005**  
**Project: Scrap Metal Removal Project**

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**Contact Persons:**

**DOE Site Office:** J. Raúl Castañeda

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

**Commonwealth of Kentucky:** Tuss Taylor/Tony Hatton/Mike Guffey

**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; 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 are suspended and scrap metal waste has not been shipped off site in several months.

**Recent accomplishments:**

- The Scrap Metal project and Paducah programs have been evaluated for improvements.
- Corrective action development is near completion.
- Over 200 drums of machine turnings waste have been processed for shipment and disposal.

**Activity over next 60 days:**

- Complete development of corrective actions and begin implementation to resume general scrap metal shipments to NTS.
- Continue disposition operations: scrap metal will be removed from the pile, inspected, size-reduced as necessary. Packaging and shipment for disposition will resume upon completion of corrective actions and certification by NTS.
- Continue inspection, segregation, and packaging of machine turnings waste
- Ship containers of machine turnings waste to Envirocare for treatment and disposal.
- Continue downsizing of classified scrap metal from the Kellogg pad.