

**Project Status Update for Paducah DOE Citizens Advisory Board
April 21, 2005**

Project: Surveillance/Maintenance & Conversion, Depleted Uranium Hexafluoride (DUF₆)

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:

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. Approximately 739,000 metric tons of DUF₆ 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 DUF₆. 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 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 DUF₆ 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 UF₆ Cylinders at Paducah (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, BJC/PAD-461

Issues: (none)

Recent accomplishments/activities:

- Completed 2186 cylinder inspections and 845 radiological surveys in March
- Resumed relocating cylinders from gravel C-yard to new concrete K-yard
- Completed 324 cylinder relocations and 11 valve changes
- Cleaned 570 cylinder skirts
- Site preparation for the DUF₆ Conversion Facility substantially complete
- Preparations ongoing to establish DOE cylinder yards as Property Protection Area (PPA)
- Facility 90% design under DOE review

Activity over next 60 days for surveillance/maintenance:

- Continue cylinder relocations
- Continue cylinder inspections
- Continue installation of underground utilities
- Complete storm drains and final grade for DUF₆ Conversion Facility
- UDS preparing to award contracts for Warehouse and Administration Building; construction to begin in May 2005.

Project Status Update for Paducah DOE Citizens Advisory Board
April 21, 2005
Project: Solid Waste Contained Landfill

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:

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 171 tons of waste in March
- Submitted Annual Survey for the C-746-U Contained Landfill to Kentucky Division of Waste Management

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
April 21, 2005
Project: Waste Disposition

Contact Persons:

Bechtel Jacobs Company LLC: Pat Gourieux/Greg Shaia

Commonwealth of Kentucky: Mike Guffey

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 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 with management approval on a case-by-case basis after in-depth review.

Recent accomplishments/activities:

- Disposed 953 cubic feet of Agreed Order waste in the C-746-U landfill
- Processing of Agreed Order waste for landfill disposal and shipment to Envirocare continues
- Disposed 3,779 cubic feet of newly generated waste in the C-746-U landfill.
- Shipped 190 cubic feet of mixed waste for treatment/disposal to Permafix

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

**Project Status Update for DOE Paducah Citizens Advisory Board
April 21, 2005**

Project: Decontamination & Decommissioning (D&D)

Contact Persons:

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

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:

- Demolition of equipment and material in Sector 1, Zone 21 continues, and is now approximately 70% complete. This area will be developed into a permanent boundary control station for personnel entry and exit.
- Continued installation of temporary power and emergency lighting in C-420.
- Completed non-friable asbestos abatement (floor tile and mud from piping insulation) in Sector 1, Zone 21
- Completed demolition and packing of material from Zone 19, Electrical Switchgear Room
- Submitted Notification of Work in a SWMU and began RFP preparation for accelerated D&D of the C-603 Nitrogen Facility
- Issued Removal Notification and began development of Engineering Evaluation/Cost Analysis for C-402 Limehouse, C-405 Incinerator and C-746-A West End Smelter.

Activity over next 60 days:

- Continue packaging of loose materials in C-410 Complex
- Continue installation of temporary power and emergency lighting in C-410 Complex
- Complete asbestos insulation abatement and other demolition in Zone 21.
- Develop landfill package and disposition material from C-410-A Hydrogen Holder in landfill
- Complete repackaging and shipment of scrap metal from HF Tank Farm for disposition at Envirocare.

Project Status Update for DOE Paducah Citizens Advisory Board
April 21, 2005
Project: DOE Material Storage Areas (DMSAs)

Contact Persons:

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

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. Case-by-base authorization is now available for shipments to the Landfill and to off-site facilities except the Nevada Test Site.

Recent accomplishments/activities:

- A total of 1,400 cubic ft. of material was characterized during March, including approximately 500 cubic feet sampled and awaiting results. Approximately 632,000 cubic ft. of material has been characterized to date.
- 1,200 cubic ft. packaged for disposal in the month of March; 268,000 cubic ft. over project life
- 13,800 cubic ft. repackaged in March to meet revised packaging requirements for shipping to disposal facilities (not counted in project progress statistics)
- 6,900 cubic ft. disposed in March, including 1,200 transferred for reuse/recycle
- Drummed material being removed, sorted, characterized, segregated, and repackaged
- Characterizing materials 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
- Obtain approval and ship LLW to Envirocare

**Project Status Update for DOE Paducah Citizens Advisory Board
April 21, 2005**

Project: Groundwater Operable Unit

Contact Persons:

Bechtel Jacobs Company LLC: Bryan Clayton/Craig Jones

Commonwealth of Kentucky: Todd Mullins

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board:

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 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 D2 ROD edits to regulators April 20, 2005; Kentucky requested extension of review period to May 6, 2005
- Completed 90% contracting package for RFP 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
- 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 (complete).
- 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.

Project Status Update for DOE Paducah Citizens Advisory Board
April 21, 2005
Project: Surface Water Operable Unit (On-Site)

Contact Persons:

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

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 Polycyclic Aromatic Hydrocarbons (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. SAP is now in formal dispute.
- Completed brush clearing activities at outfalls and ditches in preparation of implementing the sampling activities out lined in the D2 SWOU SAP.

Activity over next 60 days:

- Work to resolve formal dispute regarding KDEP's comments on 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 the 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
April 21, 2005
Project: Scrap Metal Removal Project

Contact Persons:

DOE Site Office:

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

Commonwealth of Kentucky: Tony Hatton/Mike Guffey

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board:

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 881 drums of machine turnings (of an estimated 3,000) have been processed and packaged for shipment and disposal through the end of March.

Activity over next 60 days:

- Complete development of corrective actions and begin implementation to resume general scrap metal shipments to NTS. NTS audit scheduled for the first week of May.
- 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.

Project Status Update for DOE Paducah Citizens Advisory Board
April 21, 2005
Project: Burial Grounds OU

Contact Persons:

Bechtel Jacobs Company LLC: John Young/Craig Jones
Commonwealth of Kentucky: Tony Hatton/Mike Guffey
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 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:

Recent accomplishments:

- D1 Burial Grounds OU Scoping Document was issued 11/23/04.
- State and EPA comments were addressed in a series of meetings, including one on March 17, 2005.

Activity over next 60 days:

- D1 Work Plan is scheduled to be completed and distributed on June 30, 2005
- State and EPA Scoping Document comments will be addressed in Work Plan