



U.S. DEPARTMENT OF ENERGY

Paducah Gaseous Diffusion Plant Deactivation Task Order Portsmouth Experience/Lessons Learned

April 30, 2013



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Disclaimer!!

This Presentation will cover aspects of the Portsmouth Transition some of which may or may not be applicable to Paducah.

The information provided as part of this presentation should not be construed as direction, or as a requirement of any kind. It is provided only in the interest of sharing the Portsmouth transition experience to those who may, in the future, be involved in a similar transition at the Paducah GDP.



Portsmouth Transition

- Physical Site Transition
- USEC-DOE Transition
- Regulatory Authority Transition
- Contractor Transition
- Staff Transition



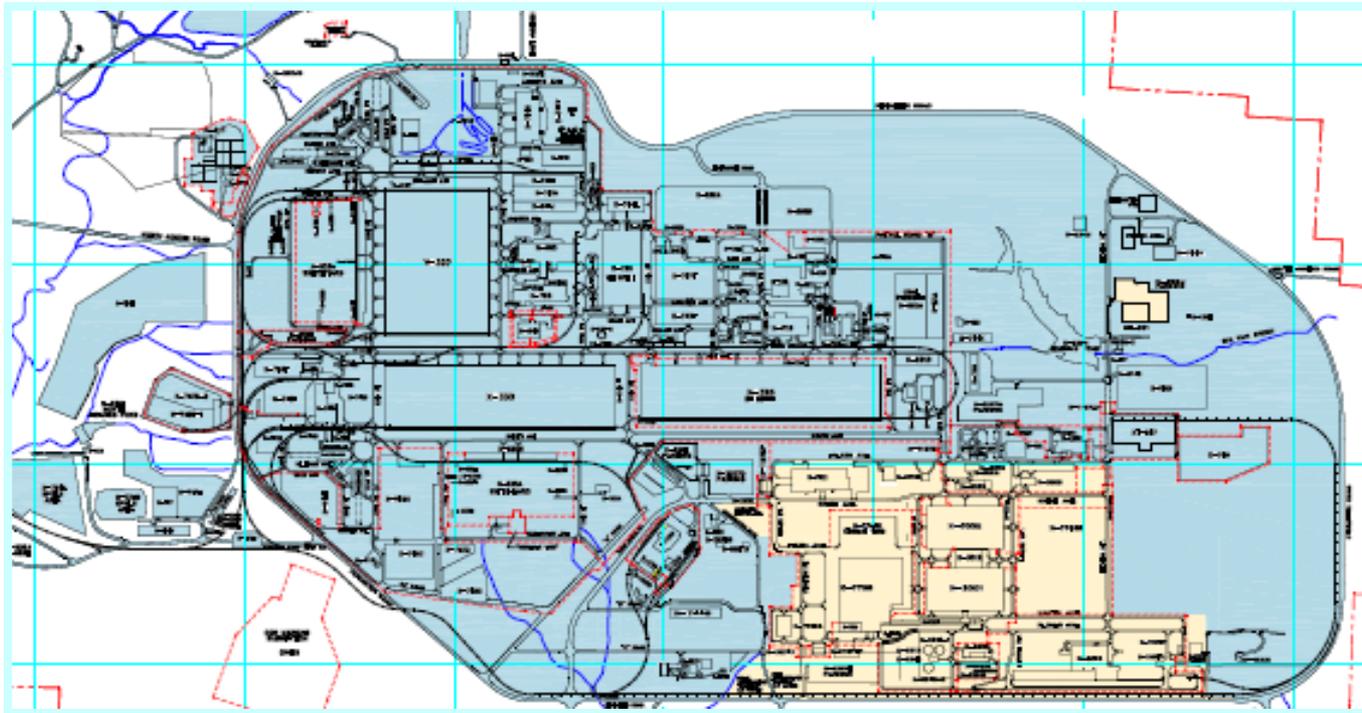
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Physical Site Transition

- 2011



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USEC to DOE Transition

2009

7/09 ♦

*Transfer of select
X533,X633,X760 facilities*

2010

7/10 ♦ 9/10 ♦

*Master Binding
Facility
Agreement*

*Transfer of
Process
Buildings*

2011

8/11 ♦ 9/11 ♦

*Master Binding
Facility
Agreement*

*Transfer
of BOP*

- ▶ **De-Lease process with USEC and DOE/ORO/PPPO**
 - ▶ GDP Lease between DOE and USEC
 - ▶ Real & Personal Property Transfer
- ▶ **Master Binding Facility Agreement**
 - ▶ System Boundaries and Site Services Agreement
 - ▶ Nuclear Material & Waste Inventory Reconciliation
 - ▶ Information Technology Transfer Issues
 - ▶ Equipment for Paducah or American Centrifuge Project (ACP)
- ▶ **Safety Authorization Basis**
 - ▶ Hot Transfer of Facilities



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Regulatory Authority Transition

2009

7/09 ♦

NRC USQD
DOE DSA

2010

9/10 ♦

DOE BIO
NRC CAR

2011

3/11 ♦

FBP Transition Ends
FBP Assumes OPS

9/11 ♦

NRC Certificate
Term.
DOE BIO Revision

▶ Gaseous Diffusion Plant Returned to DOE in Three Pieces

- ▶ NRC USQD/ NRC Certificate Amendment Request/ NRC Certificate Termination

▶ Safety Authorization Basis

- ▶ Remediation Contractor Performed D&D under DOE DSA
- ▶ NRC SAR to DOE BIO for Former Uranium Enrichment Facilities (FUEF)
- ▶ ACP NRC License

▶ Environmental Regulatory Transfer

- ▶ Ohio EPA & U.S. EPA Permits

▶ Security Program Transfer

- ▶ NRC to DOE



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Contractor Transition



▶ Government Contractor to Government Contractor

- ▶ TPMC to WEMS
- ▶ LPP to FBP
- ▶ UDS to BWCS

▶ Private Corporation Business Segment to Government Contractor

- ▶ GDP Lease between DOE and USEC
- ▶ Staff support between USEC Government Services and FBP
- ▶ USEC Government Services to FBP

▶ Contract Alignment Opportunities

- ▶ Complete return of Gaseous Diffusion Plant
- ▶ Remediation in progress / Operational Facilities



Staff Transition

2009

10/09 ♦

*ARRA Staffing
Begins*

2010

3/10 ♦

*TPMC to WEMS
Both Salaried and
Wage*

2011

3/11 ♦

*USEC USW to FBP
LPP Salaried to FBP
LPP Wage to FBP
UDS to BWCS*

9/11 ♦

*USEC Salaried to
FBP
Guard Force to FBP*

▶ Workforce Continuity

- ▶ ~ 2,400 Employees Affected
- ▶ DOE DSA/BIOs – NRC Certificate and License compliance
- ▶ Position Qualification and Certificates
- ▶ Multiple Bargaining Units with Collective Bargaining Agreements

▶ Multiple Prime Contracts

- ▶ United States Enrichment Corporation - USEC
- ▶ Fluor-B&W Portsmouth – FBP
- ▶ Wastren-EnergX Mission Support – WEMS
- ▶ Restoration Services, Inc. – RSI
- ▶ Babcock-Wilcox Conversion Services – BWCS



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Expectations

Assume Nothing!!!

At Portsmouth:

- Identified the physical plant (each building/structure and piece of real estate) to be returned along with the operation status and who will own.
- Limited operations on day 1. Only those processes required for safety of employees, public, plant and the environment.
- Program and procedural expectations were established. The Contractor blue sheeted existing procedures and then modified them after the facilities were returned.
- Gap analyses were performed. Compensatory measures were established and instituted to ensure safe and compliant operations, including personnel qualification.
- Significant difference in workforce orientation: USEC is a private entity with product focus under NRC Regulation and workforce was transitioning to a DOE Prime Contractor under DOE self-regulated ownership.
- Established business systems, IT network and software application requirements. Identified actions to stand-up DOE applications, comp measures, including data migration and verification approach all the way through record retention and access.
- Determined what items/services would be government furnished at transition, what services would be purchased and/or supplied and by whom.
- There were other CBA's on site and the effort for establishing new ones was underestimated. Would establish approved negotiation parameters early for the next transition.



Programs and Procedures, Including GFS&I

At Portsmouth

Authorization Basis

A Basis of Interim Operations (BIO) was selected as the authorization basis for operational facilities. The establishment of a BIO allowed the facilities to be maintained in accordance with existing procedures, while allowing for an eventual transition to DOE Orders and standards. The BIO required approval from DOE-HQ before the de-lease of facilities. The age of the existing facilities any future mission should be considered if DSA is desired as authorization basis (restart is tough).

Protective Force

Obtaining approval from DOE Oak Ridge to transfer protective force to D&D Contractor was a prerequisite prior to transition. DOE HSS approved the use of the NRC Security Plan and Arming and Arrest Authority Plan in order to allow transition to DOE Orders and standards.

Emergency Management

Exemption was granted to continue operating under NRC Emergency Management Program and allow transition to DOE Orders and standards.

Nuclear Material Control and Accountability

DOE Oak Ridge approve revised and integrated Nuclear Materials Control and Accountability (NMC&A) Plan.

Government Furnished Equipment

The DOE government property critical to operations was transferred from USEC to FBP as GFS/I (including quality rated critical spares, supplies, instrumentation, materials, and tools sufficient for six months of operation of GDP facilities including utilities). In addition, the USEC vehicle fleet was transitioned to GSA and then provided to FBP. USEC Protective Force Equipment was initially provided as Government Furnished Equipment (including Weaponry)

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Facilities Being Returned and Their Operational Status

The status of each facility at turnover was pre-determined.

The Portsmouth/Paducah Project Office (PPPO) issued a memorandum to the ORO Lease Administrator stating the desired operational status of facilities on the date of de-lease.

Operational - Facilities were to be returned with operations continuing after de-lease.

Non-Operational - Facilities were to be returned with operations ceasing on or before the date of de-lease or are inoperable.

Jurisdictional boundaries between all tenants at the site were established.

Jurisdictional boundaries were part of the de-lease activity. It established the exact locations at which USEC and/or DOE retained responsibility for site utilities and/or systems, and was included in a Binding Facility Agreement when required.

These were identified and agreed on a drawing and subsequently tagged in the field.



Facility Walk-downs

Regulatory Compliance

Facility walkdowns were performed jointly by ORO, USEC, and PPPO to identify non-compliant conditions (RCRA, OSHA, etc.). A member of PPPO staff was present during any walk downs along with ORO, USEC, and the contractor assuming responsibility of an area.

Waste Disposition Responsibilities

PPPO and ORO agreed upon a classification (“binning”) process which identified what types of items may be returned with the facilities to DOE, and identified those items which are the responsibility of USEC to disposition under the terms of the Lease.

Typical disputes involved items viewed by USEC as personal property which DOE viewed as non-functional and therefore waste (i.e., cannibalized vehicles, forklifts, carts, spare parts etc.).

Jurisdictional Boundaries

Walkdowns of the jurisdictional boundaries by PPPO, ORO, USEC, were performed.

Suggestion: Consider including the contractor assuming responsibility as part of any due diligence.

Work for Others was identified

Work authorizations for those services provided by DOE to USEC, or other contractual vehicle (IDIQ) if service to be provided by contractor between contractors.

Binding Facility Agreements (BFA) were Established

Agreement between PPPO, ORO, and USEC which supplemented the turnover requirements of the Lease by allowing for the conditions by which the terms of the Lease can be met.

Example: A BFA allowed for USEC to identify those items (i.e., nuclear sources, equipment, etc.) which would be returned to DOE, but USEC chose to acquire for its business use at a later date pending DOE approval.



Compensatory Measures

Ensuring Safe Operations:

Examples At Portsmouth:

- Gap Analysis identified areas of concern.
- Operations underwent a management review prior to start up after the stand down to ensure that FBP was ready to operate.
- FBP employed management oversight (Senior Supervisor Watch Program) to ensure operations are performed safely and in compliance with requirements.
- X-344A and X-342B was in a safety pause followed by a slow and deliberate return to operations using blue sheeted procedures. X-342B was dependent on cascade operations.
- Cylinder yards X-745B, D, F and G-2 were in a safety pause and returned to operations using blue sheeted procedures. Implementation of DOE, OHEPA, and USEPA requirements for cylinder storage began in accordance with FBP's schedule.
- Site rail system (former USEC portion) was in a safety pause and returned to operations using blue sheeted procedures.



Facilities Being Returned and Their Operational Status (Cont.)

Only operations that were required for the safety of the employees, public, and environment were operated on day 1 with select plant processes.

- Steam Boiler
- Recirculating Cooling Water (RCW)
- Sanitary (potable) Water
- High Pressure Fire Water
- Sanitary Sewage Treatment
- Nitrogen
- Natural Gas
- Compressed Air System
- Electrical/Power systems
- Additionally, maintenance of communications systems as required
- Operation of the X-326 Cascades (LT/LE) was maintained
- All TSR required surveillance activities were conducted commensurate with the limited operational conditions (S&M of X-326, X-330, X-333, and other GDP Facilities).

Additionally:

Any required preventive maintenance necessary to assure safe conditions on-site was conducted.

Limited operation of the X720 Laboratory to extent necessary to support day 1 operational activities and environmental compliance.

Continuation of waste identification and inspection practices.



Transition of Authority NRC-DOE

The Nuclear Regulatory Commission (NRC):

USEC Certificate of Compliance

- USEC authorized to operate Portsmouth GDP in accordance with NRC Certificate GDP-2

Certificate Termination

- The return of all leased facilities required the termination of USEC's NRC Certificate in accordance with 10 CFR 76.66(b).
- Termination of USEC's Portsmouth Certificate took approximately 3 months from the date the termination request was submitted to NRC, with constant communication between DOE, USEC, and NRC during that time period. (already had significant de-lease under our belt).
- If the Certificate is to be terminated, NRC requires that USEC cannot retain ownership of any nuclear materials (including waste, sources, etc.).

NRC will issue a **COMPLIANCE EVALUATION REPORT FOR PART 76 CERTIFICATE TERMINATION**

"The staff concludes that this action will not significantly increase risk to workers at the PORTS site, and that adequate protection of public health, safety, safeguards, security, and the environment will continue to be provided. The staff determined that USEC has adequately demonstrated compliance with all applicable NRC regulations and sufficiently addressed associated regulatory and technical issues. Therefore, the staff concludes that the proposed Certificate Termination is acceptable and consistent with 10 CFR 76.66(b), and 10 CFR 76.35(n)".

Certificate Amendment Request (CAR)

- Should a partial return of the facilities be desired, a CAR may be required by NRC.
- Past experience at Portsmouth suggests that a CAR may take up to 9 months for approval from NRC.



The NRC Expectations at Portsmouth

The NRC Provided a Checklist

1) Seamless Transition of Regulatory Authority

- United States Enrichment Corporation (USEC) demonstrates that sufficient regulatory basis is in place to transfer authority and that no gaps in the oversight of the Gaseous Diffusion Plant (GDP's) facilities exist at (Diffusion Plant) PORTS
- Documentation that the U.S. Department of Energy (DOE) agrees to assume regulatory authority of all GDP facilities at PORTS when NRC's authority ends

2) American Centrifuge Plant (ACP) Impact

- USEC implements its configuration management process and requests necessary amendments to its Part 70 ACP license to reflect proposed changes in services that support the ACP
- All shared services between PORTS and ACP affected by the Part 76 action will be addressed by amendment (as above) or via discussion in the 76.66 notification submittal

3) Control of Special Nuclear Material

- USEC demonstrates the ability to maintain, follow, and comply with the current Nuclear Regulatory Commission's (NRC's) approved Fundamental Nuclear Material Control Plan and implemented a Material Control and Accounting Program during the transition until the granting of a certificate termination
- USEC provides assurance of full control of all source material and SNM under its possession, including recordkeeping and reporting requirements, and successfully transfers all materials to the DOE authority



The NRC Expectations at Portsmouth

The NRC Provided a Checklist (continued):

4) Decontamination and Decommissioning (D&D) and Waste Disposal

- An USEC submittal for docketing discussing the legal and financial arrangements between USEC and DOE for D&D and disposal of GDP wastes at the PORTS site
- An updated, decommissioning cost estimate and a decommissioning plan for all radioactive waste and material that is not to be transferred to DOE for D&D or disposal

5) Security

- Declaration that information security will be maintained during transition
- Declaration that physical security will be maintained and demonstration that any impacts on the physical security's and classified matter's security plans for the Lead Cascade and ACP have been addressed

6) Staffing

- Documentation of a clear management chain for DOE's contracted workers providing services to ACP, where USEC retains command and control over NRC-licensed activities
- Demonstration that the contracted workers who would provide services to USEC regarding the ACP are working under an entity cleared to possess classified information



Environmental Permit and Certification Transfers

Make a List and Check It Twice

Permit/License	Permit/License #	Regulator	Regulatory Guidance	Permit Recipient
NPDES Permit	OIS00023*CD (Outfalls: 001, 002, 003, 004, 005, 009, 010, 011, 602, 604, 605, 801, 902, & 903)	Ohio EPA	NPDES Permit Part III, Section 19 & Ohio EPA Transfer Guidance	FBP
	OIS00023*CD (Outfalls: 012, 013, & 613)	Ohio EPA	NPDES Permit Part III, Section 19 & Ohio EPA Transfer Guidance	ACP
Title V Permit	0666000000	Ohio EPA	OAC 3745-77-01(C)(4) & OAC 3745-31-07(E)	FBP
Rad NESHAP Permits	N/A	USEPA	40 CFR 61.10(c)	FBP
Open Burning Permit	06-66-73	Ohio EPA	OAC 3745-19-15	FBP
Underground Storage Tanks Permits	Facility ID: 66005107 (Tanks: T00001, T00002, T00007, T00011, T00014, T00015, & T00016)	BUSTR	OAC 1301:7-9-04(D)(1)	FBP
Hazardous Waste Permit	OH987054723	Ohio EPA		FBP
Generator Site Access Permit	0111000043	Utah Department of Hazardous Waste	UAC R313-26-3-8	FBP
Tennessee License for Delivery	T-OH16-K09	Tennessee Department of Environment and Conservation	TDEC Rule 1200-2-10-.19	FBP
Public Water System License	6632414	Ohio EPA	Guidance from Eric Hart (Ohio EPA)	FBP
Director's Final Findings & Orders	STDP	Ohio EPA	N/A	FBP
Toxic Release Inventory Report	4566INTDST3930U (Section 313 of Title III, EPCRA 313 Report)	Ohio EPA	40 CFR 372 & ORC 3751	FBP
Emergency & Hazardous Chemical Inventory Report	EPCRA 312 Report Dun & Bradstreet: 177154820	Ohio EPA	OAC 3750-30	FBP
FCC Radio Frequencies License		FCC		FBP
X-611 Water Treatment Certificate		Ohio EPA		FBP
X-611 Class III Water Operators Certification		Ohio EPA		FBP
X-611 Free & Total Chlorine Analysis Certification		Ohio EPA		FBP
X-600 Licensed Stationary Engineer		Ohio Department of Commerce		FBP
Boilers Certifications	X-600: 231108, 228999, & 228983 X-611: 231109 XT-847: 258203 X-530: 280908 & 280909 X-640-2A: 280907	Ohio Department of Commerce		FBP
	X-1107: 254400 X-112: 258201 & 258202 XT-801: 276382	Ohio Department of Commerce		ACP
X-710 Laboratory Certifications	Industrial Hygiene Analyses	American Industrial Hygiene Association (AIHA)	AIHA Policy 3.8.1	FBP
	Department of Energy Consolidated Audit Program (DOECAP)			FBP
	Potable Drinking Water Certificate	Ohio EPA		FBP
	RCRA Analysis Certification	State of Utah		FBP



Software, Hardware, Databases and Network Infrastructure

Continuation of Operations:

- DYMCAS (Nuclear Material Control and Accountability)
- Overtime Canvassing System (OCS – Fit for duty system for TSR employees)
- CMMS (Work orders and Work control) to include P/Q Shared Drives for work instructions and history files to obtain material procurement data and provide basis for equipment history program)
- ALOHA (Plume Modeling)
- S&M and D&D activities:
 - Time Entry (needed to correlate with OCS System)
 - Steam Plant (program software – to include boiler certifications and all applicable permits)
 - EDMS System (i.e. approved BIO changes)
- Training Implementation Matrix and training/qualification status for personnel performing nuclear work
- All safety basis documentation, NCSEs, NCSAs, safety-related software V&V, plans & procedures, facility drawings, material inventories, etc. required to manage and operate the facilities safely
- Configuration items (CI) database
- Procurement and setup of the workstations and printers for the USEC salaried employees



Software, Hardware, Databases and Network Infrastructure

Data transfers:

- Ports Library (Database and attachments to include CI database, Boundary Manuals, PMT's, NCSA's, and NCSE's, etc.,) (S&M/D&D)
- Drawing Library (Database and attachments) (S&M/D&D)
- RMDC Index (X100 Building)
- Hummingbird Database (S&M/D&D)
- Training Data (entire training history of employees transitioning to FBP)
- Code Inspection (software and programs to support current conditions) (S&M/D&D)
- Clark Database (used to distribute utility use/cost and determine site power consumption) (S&M/D&D)
- SCADA (monitors switch yard breakers) (S&M/D&D)
- IPDC (measures power being supplied) (S&M/D&D)
- Steam Plant (Program Software – to include boiler certifications and all applicable permits) (S&M/D&D)
- Current stores inventory and associated database (S&M/D&D)
- Dosimetry Records (External & Internal - Bioassay) for employees being hired by FBP (ESH&Q)
- Medical Records for employees being hired by FBP (ESH&Q)
- Employee Exposure Records (i.e., Lead, Beryllium, Asbestos, etc) for employees being hired by FBP (ESH&Q)
- Training Records including course materials and all objective evidence of completion for employees being hired by FBP (ESH&Q)



Software, Hardware, Databases and Network Infrastructure

Data transfers (continued):

Items planned Post Transition:

- The connecting of FBP's network throughout the GDP plant
- On-boarding activities such as setup of mail, credentials, etc
- Network/Internet bandwidth upgrade to 10MB/SEC

The above list plus any applications, calculating programs, software, electronic tools, scripts, testing programs, or any other software item or tool that is used to perform duties found on individual computers, shared network drives or on USEC Web based servers that are needed to maintain the current service level.

Government Furnished Systems

Business and Project Management

Cobra

P6



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Staff Transition:

Preparation and Implementation at Portsmouth

- A Communications Plan for employees was developed and implemented.
- Workforce: Negotiating parameters were approved. MOU and Collective Bargaining Agreements were put into place as appropriate.
- Hiring negotiations were completed and employees enrolled in Costpoint HRIS along with complete expanded payroll requirements.
- Staff were trained to implement time collection processes and procedures were instituted for expanded staffing numbers.
- Individual names were mapped to positions.
 - Don't take previous qualifications for granted.
 - Don't underestimate the difference in the work authorization processes.
- Security Protective Force and Fire & Emergency Services personnel were transitioned.
- All salaried USEC staff were transitioned.
- Medical facilities and personnel/subcontracts were in-place and fully operational to support site personnel activities/services.
- Cafeteria operations for providing food services to site personnel were put in place.



Others Items to Consider

Business Segment Closing

- WARN Act applicability
- Inventory verification, records management and future access
- Vacation accruals and sensitivities (USEC accrued vacation differently)

Manage Expectations

- Communicate, Communicate, Communicate
- NOT a Government Owned Contractor Operated (GOCO) to GOCO transition. It was a private corporation transition to GOCO.
- More equivalent to a corporate acquisition and transition.
- DOE hired me to do the job DOES NOT MEAN leave me alone and let me do my job. DOE needs to be kept informed and engaged real time.

Performance Management Baseline and Contract Alignment

- Implement on plan and as planned



Transition Summary

