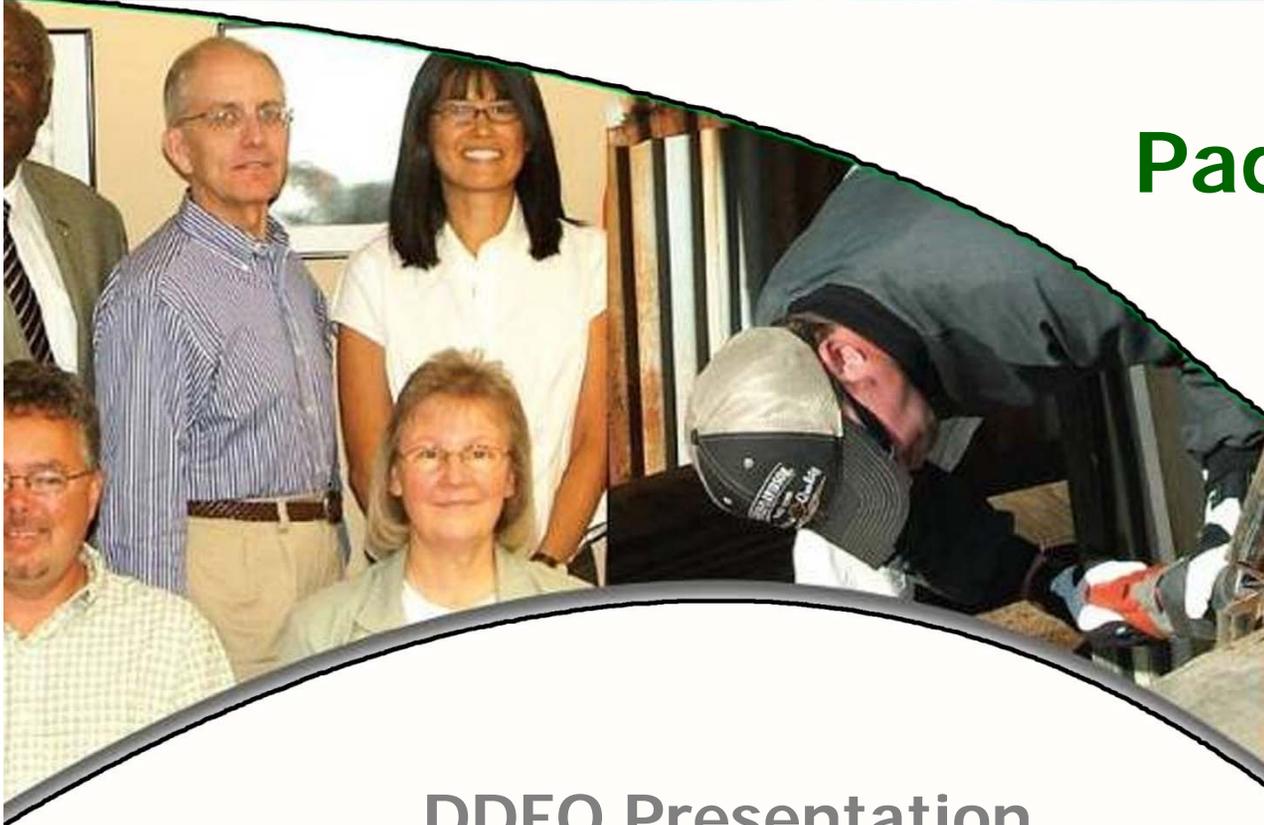




U.S. DEPARTMENT OF
ENERGY



Paducah Cleanup Progress



DDFO Presentation

Reinhard Knerr, Site Lead and DDFO
Paducah Citizens Advisory Board
November 18, 2010

Presentation Agenda

ARRA Project Update

- C – 340
- C – 410
- C – 400

Ground Water Operable Units

Site Management Plan

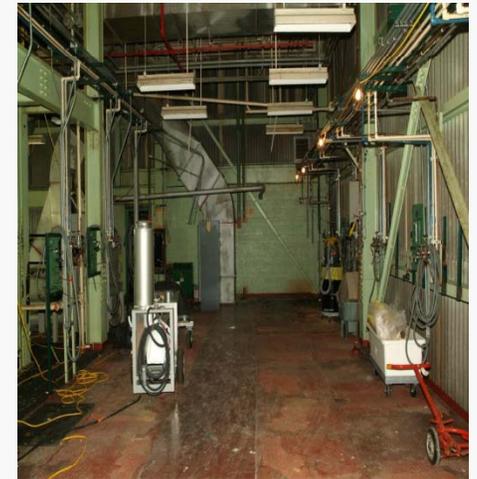
DUF₆ Update

Federal Facilities Agreement Disputes

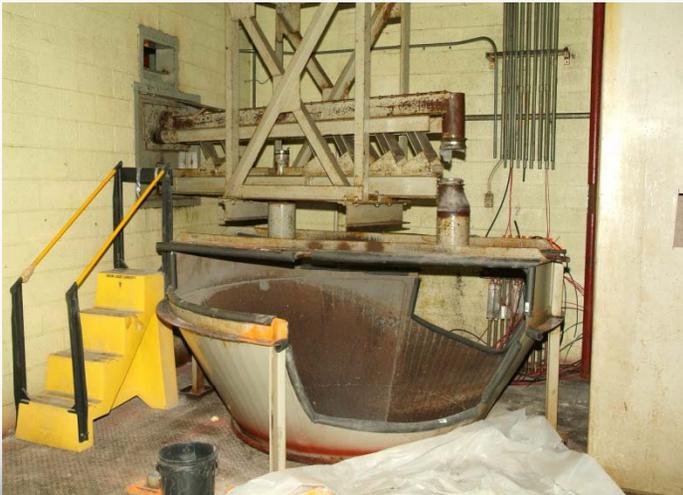
C-340 Complex Accomplishments

Complex (~65,000 ft²) operated 1953-62, 1968-73 to convert DUF₆ to U metal or UF₄ – second of the two large inactive facilities planned for D&D. Demolition accelerated under ARRA

- ✓ Completed ~ 29,000 ft³ of loose material removal
- ✓ Completed accessible asbestos abatement
 - ✓ 11,000 ft³ of asbestos waste packaged and disposed
 - ✓ Over 95% complete
- ✓ Demolished C-340-E Emergency Power Building, C-340-D
- ✓ Magnesium Storage Building, conveyer connecting C-340-D
- ✓ to Main Building
- ✓ Removed magnesium fluoride system from C-340-C Building
- ✓ Completed stabilization and/or removal of 54000 ft³ (52%)
 - ✓ fifth-floor UF₆ test cabinets
- ✓ EE/CA, AM, and RAWP for structural demolition approved



C-340 Remaining Work



Completing Building Deactivation

- Complete stabilization and removal of hydrogen fluoride system
- Complete stabilization and removal of the uranium hexafluoride reactor towers and piping
- Complete removal of asbestos containing HVAC Gaskets
- Complete removal of hazardous materials from electrical cabinets
- Complete potassium hydroxide system removal

C-340

C-340 Metals Reduction Plant



Disassembling equipment for removal



A worker removes process piping

All ARRA major milestones met on or ahead of schedule

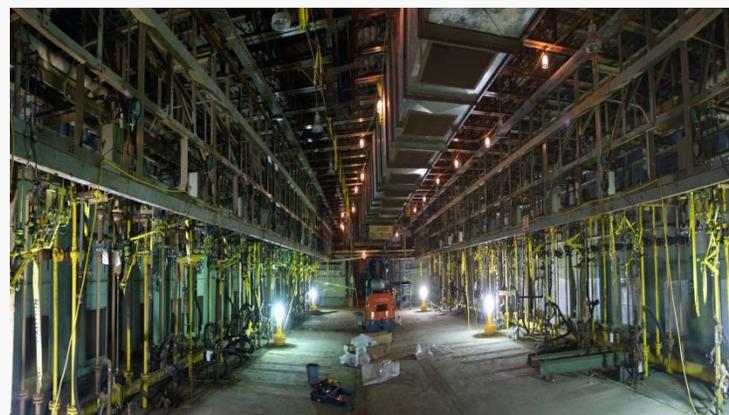
- Demolition of support facilities
- Demolition of conveyor system
- Systems removal



C-410 Complex Accomplishments

Complex (~200,000 ft²) operated 1957-1977 to make UF₆ and fluorine. First of two large inactive facilities to undergo D&D. Demolition accelerated under ARRA

- ✓ Abated accessible asbestos
 - ✓ ~ 41,000 linear feet of piping
 - ✓ ~ 9,000 ft² from tanks, equipment
 - ✓ Over 95% complete with all removal
- ✓ Completed stabilization and/or removal of 26,000 ft³
- ✓ (37%) of the piping and equipment required to
- ✓ complete deactivation
- ✓ Removed HF, F₂, & other systems eastern end of
- ✓ C- 410 (~ 30,000 ft²)
- ✓ Completed hazardous material removal in eastern end
- ✓ of building
- ✓ Vacuuming, decontamination and fixative work is
- ✓ ongoing to prepare for demolition
- ✓ Removed electrical switches, recycled fluorine cells (70),
- ✓ removed ~30,000 lbs. (~ 15 tons) of copper bus work
- ✓ for reuse through PACRO



C-410 Remaining Work



C-340

- “Cattle Shed” demolition scheduled to begin November, 2010
- Subcontract in place, preparation to mobilize underway
- Debris characterized and meets C-746-U landfill waste acceptance criteria

C-410 Remaining Work



Transformer
Shelter

C-411

C-410
Sector 4

- Demolish transformer shelter south of C-410 in late November
- Complete stabilization of hydrogen system on roof of eastern end of building, and remove transite from around this system
- Complete asbestos wire and "inaccessible asbestos" removal in Eastern End of Building
- Demolish Eastern 1/3 of building (January/February, 2011)
- Award subcontract for specialty support subcontractor to stabilize UF₆ traps and lines
- Complete removal of ammonia, glycol, HF, F₂, H₂, uranium powder systems
- Complete removal of hazardous material from electrical components

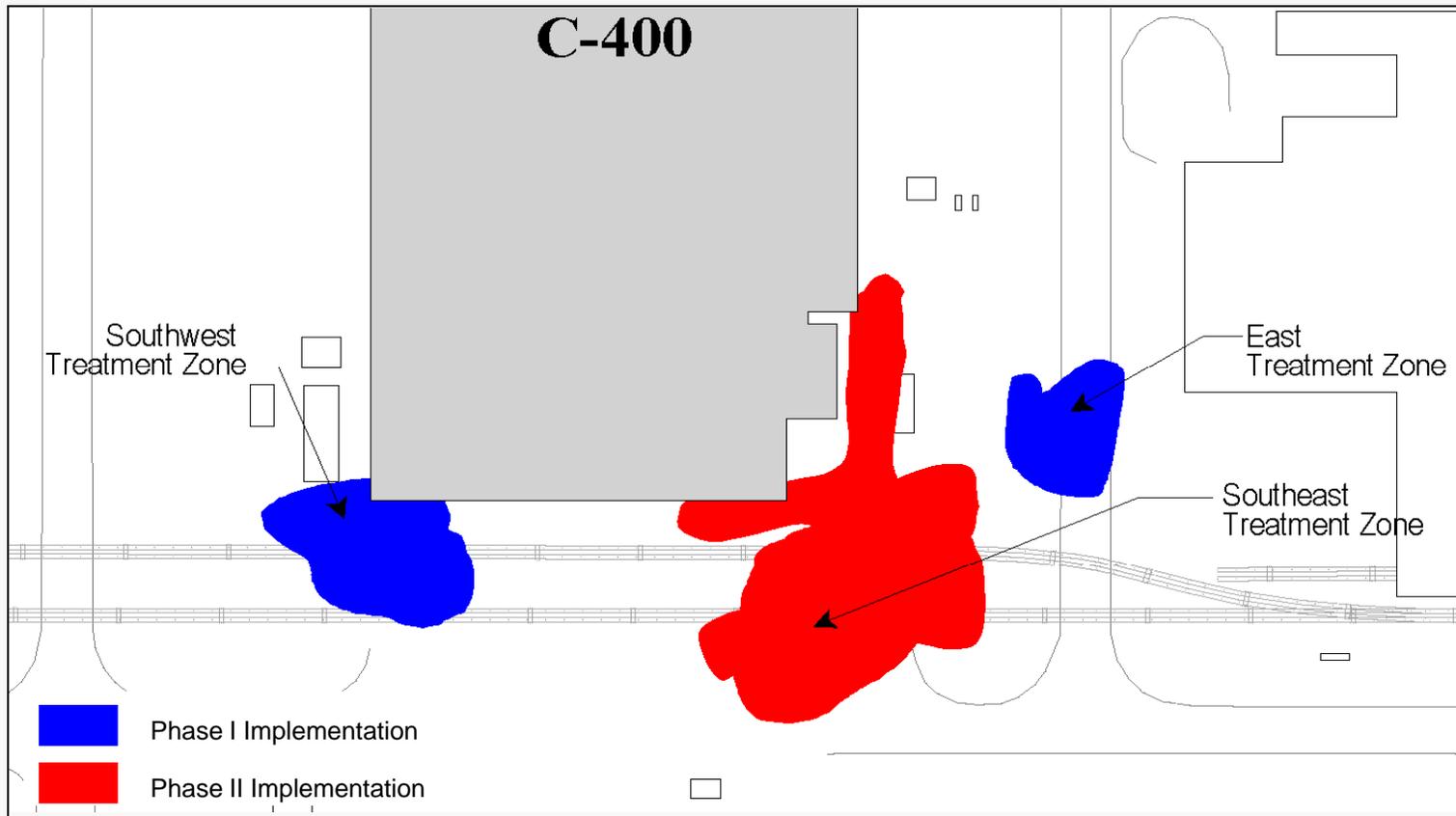
C-340

C-410 Feed Plant - Recycling



**15 tons of copper
bus work to be
transferred to
ToxCo Inc. for
reuse**

C-400 Source Reduction

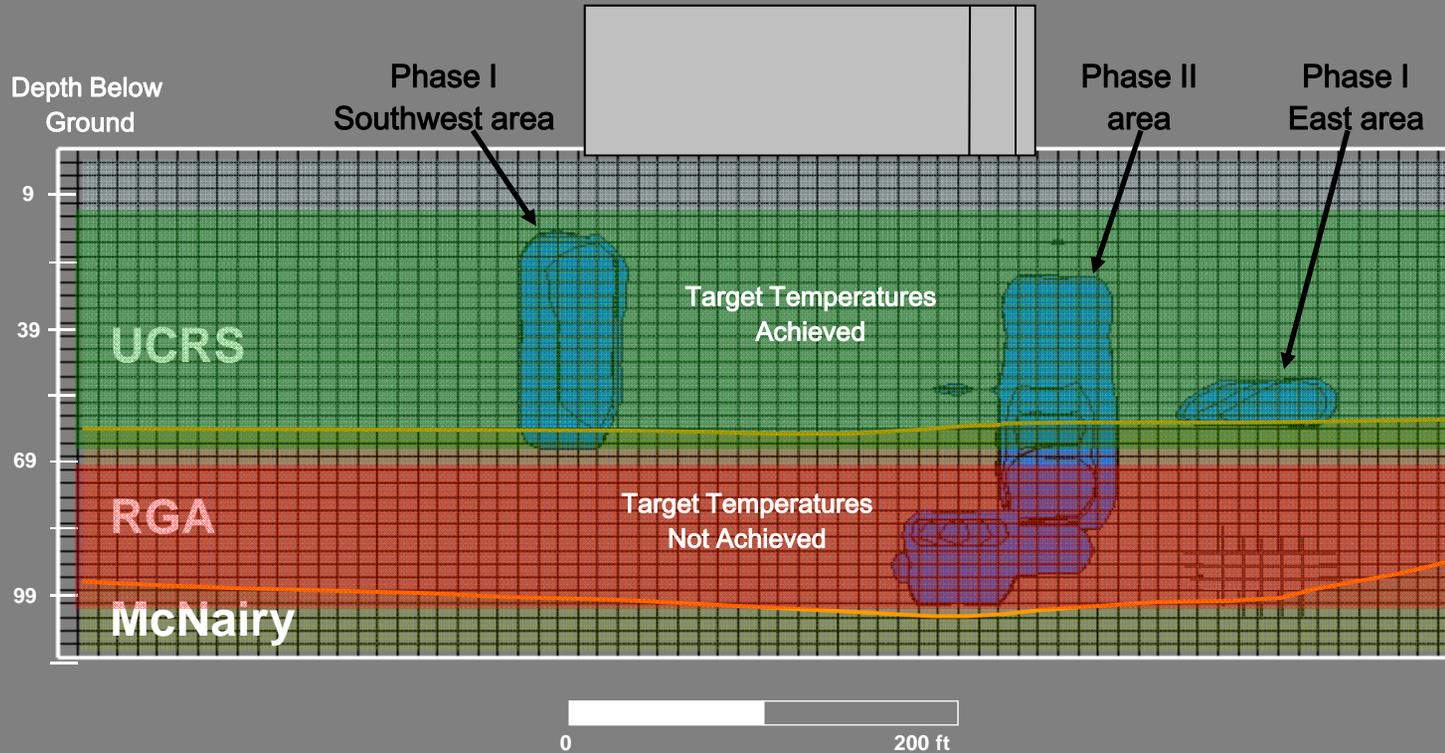


- **Completed Phase I heating operations 10/29/2010**
- Recovered ~560 gal. of TCE from Phase I source areas
- Soil vapor extraction continues to facilitate subsurface cooling
- Evaluating Phase II path forward

C-400 TCE Source Reduction

Conceptual Site Model

CROSS-SECTION VIEW (looking north)



C-400 TCE Source Reduction

- Recovered TCE volume was significantly less than estimated
- Inability to reach target temperature in RGA
- Difficulty in reaching consensus for ceasing operations of Phase I

C-400 Source Reduction



Southwest Treatment Area

- Extracted, treated more than 2.5 million gallons of groundwater
- Recovered 174 gallons of TCE from extracted vapor



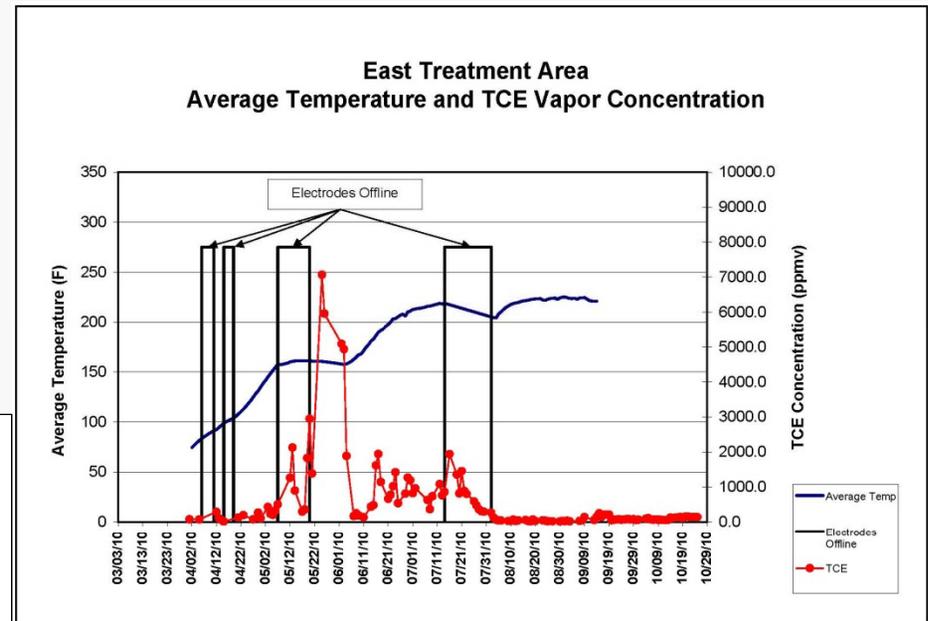
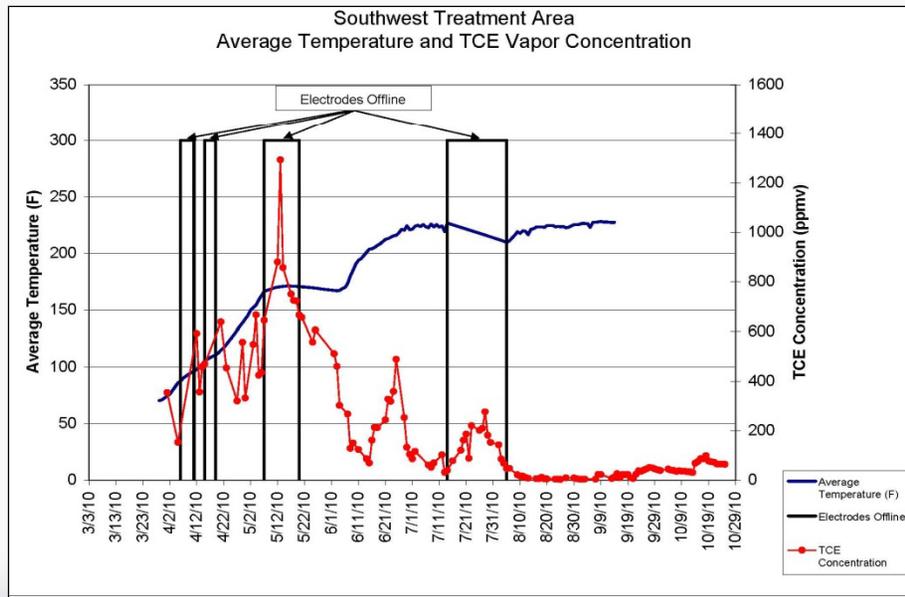
East Treatment Area

- Extracted, treated more than 1.5 million gallons of groundwater
- Recovered 289 gallons of TCE from extracted vapor

Groundwater Operable Unit

ROD Goals Achieved in Phase I Areas

- Reached stable target temps
- TCE mass removal in vapor at asymptotic level



Site Management Plan

- The D1 FY 2011 Site Management Plan is due to EPA and Kentucky on November 15, 2010
- The Federal Facilities Agreement parties have agreed to extend the submittal of the D1 SMP by 30 days to December 15, 2010
- The extension allows for the FFA parties' respective senior managers to discuss the budget and scheduling impacts on the Paducah Remediation Program
- The extension also allows for the FFA parties to receive senior management feedback and guidance prior to finalization of the D1 FY 2011 SMP

DUF₆ Conversion Plant



Testing program includes:

- Phased introduction of Hydrogen Process Gas started on Nov.15 2010
- Phased heat up of 1st DUF₆ Cylinder projected by end of Nov. 2010
- Test conversion of minimum amount of DUF₆ to Uranium Oxide anticipated by Spring, 2011
- Test/Commissioning complete by end of Spring, 2011
- **DOE Operations Readiness Review team stated that the Paducah Operations Organization demonstrated superior operational performance during the O.R.R.**

Federal Facility Agreement

FFA dispute process:

- Formal dispute
 - FFA parties meet within specified time to try to agree on resolving disputes
- If unsuccessful, has provisions to elevate dispute to higher management
- Elevated dispute levels
 - Informal - Discussions at Project Manager/immediate supervisor level
 - Formal - Dispute Resolution committee (next management level)
 - Senior Executive Committee
 - EPA Administrator - final authority

FFA - CERCLA Waste Disposal Options Dispute

Background

- Submitted Remedial Investigation Work Plan to EPA and KY for review and approval
- Received EPA approval on February 8, 2010
- Received KY conditional concurrence on June 28, 2010
- Multiple conference calls held with EPA and KY to address KY's approval conditions. Project team discussed proposed changes with the agencies prior to submitting the document
- Submitted D2/R1 Remedial Investigation Work Plan addressing KY's conditions for approval September 28, 2010
- Kentucky invoked an informal dispute on the RI/FS Work Plan on October 28, 2010 stating that conditions for approval were not met
- EPA withdrew it's previous approval on October 28, 2010

FFA - Burial Grounds OU Informal Dispute

Background

- Draft Remedial Investigation Report submitted to EPA and Kentucky in July 2008; approved in March 2010
- FFA parties jointly scoped Feasibility Study starting in early 2009; multiple meetings held in effort to reach consensus
- D1 Feasibility Study was submitted to EPA and Kentucky in April 2010
- Revised version of FS due to EPA and KY on December 1, 2010
- EPA and KY will have 30 days (December 31, 2010) to review and concur, conditionally concur or non-concur with the revised FS
- DOE requested 127-day extension for the submittal due date for the Proposed Plan and subsequent documents
- EPA and KY approved a 66-day extension
- Proposed Plan now due on December 29, 2010



DOE Portsmouth/Paducah Project Office