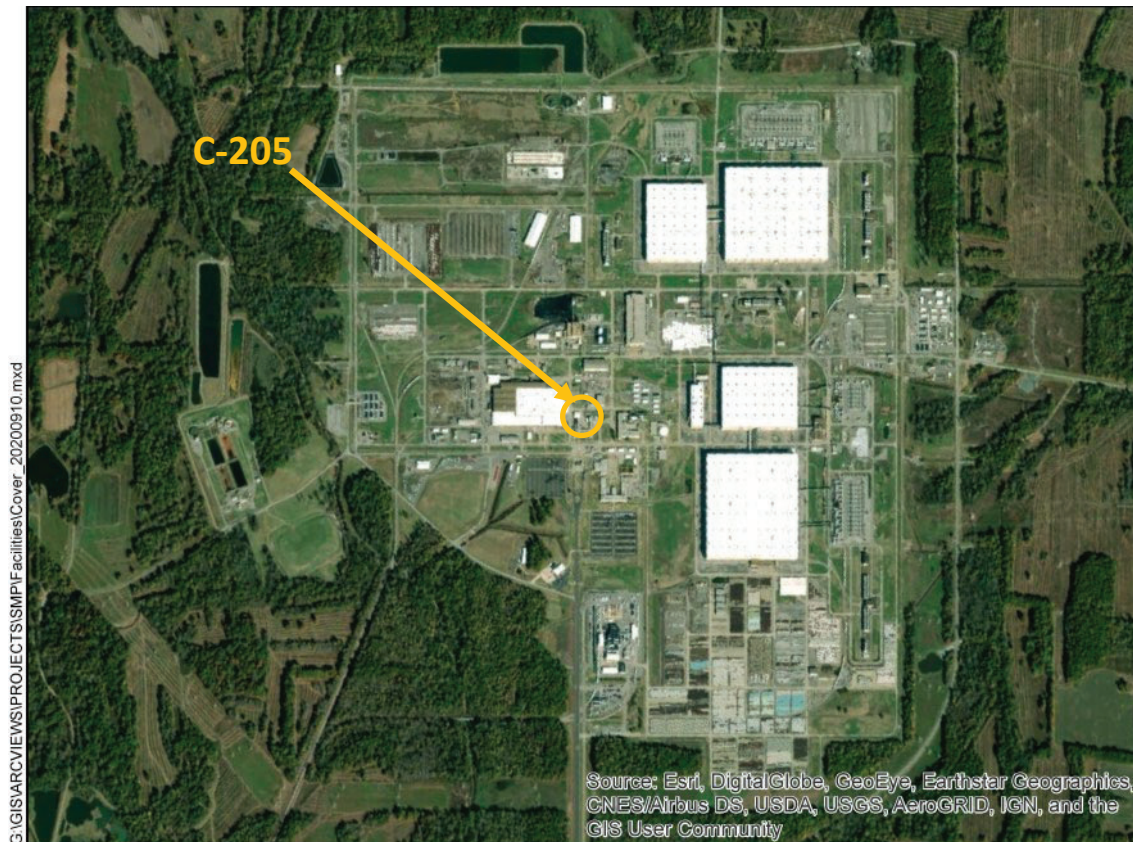


C-205 Respirator Issue Facility



Facility Overview Briefing

November 9, 2021

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on October 25, 2021.

Purpose

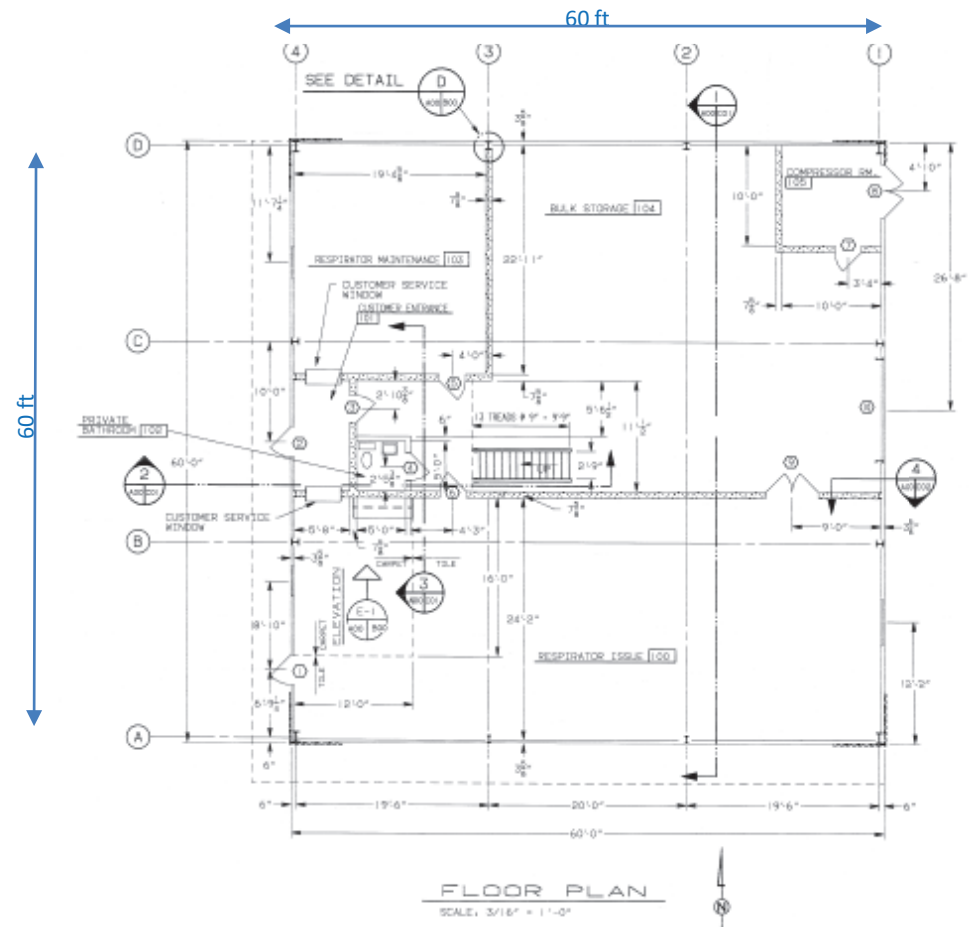
- The C-205 Respirator Issue Facility is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended to serve as consultation, providing the basis for demolition and disposal of the aboveground structure outside of the FFA/CERCLA process.
- The remaining slab/soils will be subject to a future CERCLA evaluation under Geographical Area (GA) 14.



C-205 Facility Photo: 7/2021

Construction History

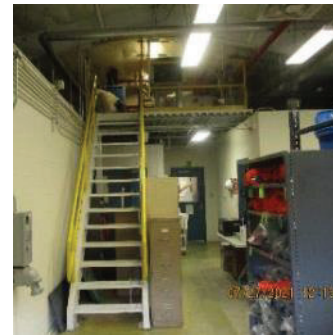
- C-205 is located within the Paducah Site security fence, west of the C-710 Technical Services Building and east of the C-720 Building.
- The facility was constructed in 1996.
- The facility is a prefabricated metal structure on a concrete slab poured over an existing slab/parking area with an estimated concrete slab thickness ranging from ~ 3 inches to ~ 14 inches.
 - ❑ The facility has multiple points of entry (several pedestrian doors and one roll-up door) and houses a centrally located loft/mezzanine area.
 - ❑ The facility is divided into 6 main sections; some of which contain office areas and a breakroom.
 - Respirator Issue Area
 - Customer Entrance Area
 - Private Restroom
 - Respirator Maintenance Area
 - Storage Room
 - Compressor Room
- The facility is approximately 3,600 ft².
 - ❑ Measuring ~ 60 ft x ~ 60 ft.



Floor Plan View: Excerpt A5E-19139-A00, Rev 1. dated 1997

Operational History

- C-205 was originally built and operated as a respirator issue facility from its construction in 1996 to present.
 - ❑ Offsite vendor is used for respirator cleaning services.
 - ❑ Decontamination of respirator equipment does not take place in C-205.
- USEC leased the facility in the early 1996; using the facility primarily as a respirator issue facility.
 - ❑ The compressor room housed the chilled water recirculating system and pumps.
 - ❑ The loft/mezzanine area was equipped with an HVAC system.
 - ❑ The facility was designed with a customer entrance for respirator distribution.
 - ❑ The facility contained a large area for respirator maintenance/testing and storage.
 - ❑ The facility was also setup to house multiple office areas, a breakroom, and a restroom.
- In addition, from 1996 through the mid-2000s, two aerosol penetrometers were used to conduct aerosol particle leak-testing of HEPA filters and leakage of air-purifying respirator facepieces using small quantities of heated oil aerosols (dioctyl phthalate, dioctyl sebacate, and poly alphaolefin).
- C-205 transitioned from USEC to DOE in 2014.



Loft/mezzanine with overhead view of office and storage area



Customer Entrance and Breakroom



Respirator Storage



C-205 Facility Photos: 7/2021

Current Status

- C-205 remains operational and operates as a respirator issue facility and includes repair of all respirator equipment (respirator aerosol particle leak-testing is no longer performed within the facility).
- Walkdown inspection conducted in July 2021 and employee interviews confirmed no unusual conditions.
 - ❑ No sumps or pits are present.
 - ❑ Floor drains associated with the restroom, loft/mezzanine area, and compressor room tie into the sanitary sewer system.
 - ❑ No signs of cracks in the concrete pad/floor.
 - ❑ No known asbestos-containing material (ACM) or lead-based paint.
 - ❑ No satellite accumulation area (SAA); historical generator staging area (GSA) related to aerosol testing removed in mid-2000.
 - ❑ No known chemical spills or releases have occurred within the facility.
 - Two aerosol penetrometers used for aerosol testing have been drained and are stored in facility.
 - Chilled water recirculating system had been upgraded and no longer contained chromium when facility was built; leak occurred in 2021 that drained into the sanitary sewer system.
 - ❑ Not used for radiological storage; however, facility does contain a radioactive material area (RMA).
 - Radiologically contaminated respirator components with fixed contamination (e.g., airline harness, air carts, SCBA bottles, etc.) are stored without bagging in the RMA per site procedures. Components with transferable contamination are placed in sealed RADCON bags, as appropriate, and stored in the facility's designated RMA.
 - ❑ Various storage cabinets and shelving for storage of respirators and supplies.
 - ❑ Chemical storage cabinets/shelving are present that contain small quantities of household type chemicals, sealants, and cleaners that are stored in accordance with regulatory requirements and site procedures.



HVAC and floor drain



Chilled recirculating water system and floor drain

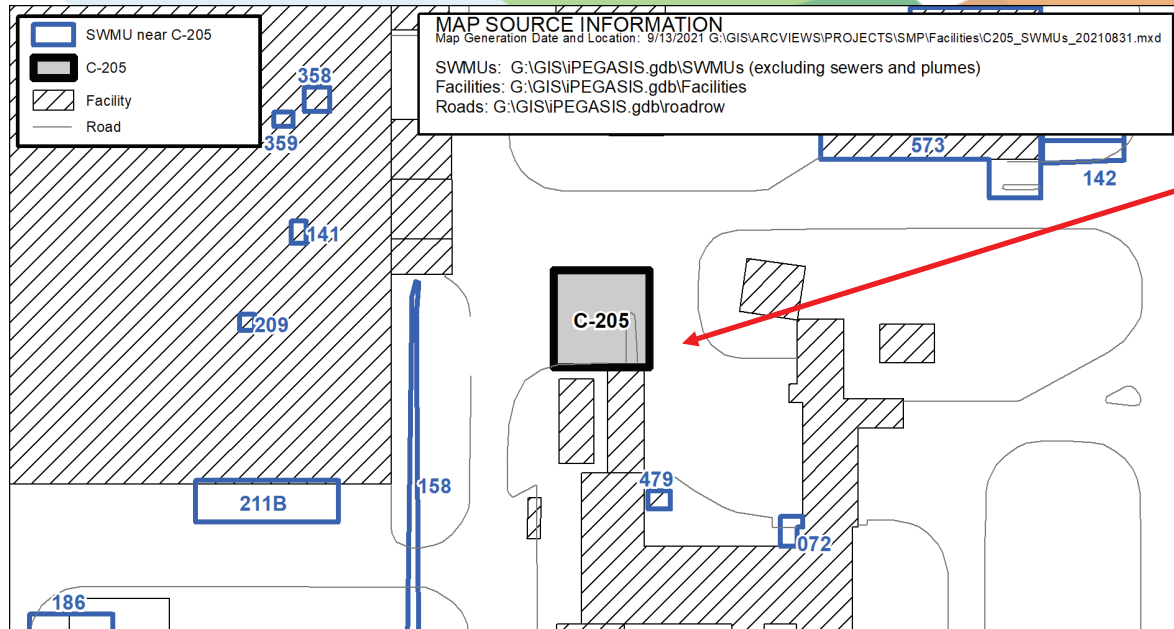


Fire water



Radioactive material area

Environmental Impacts (Solid Waste Management Units)



- The C-205 Respirator Issue Facility is not designated as a SWMU/AOC.

SWMU No.	Facility Name	Current Status	NFA Approved by
072	C-200 Underground Gasoline Tanks	NFA	EPA 3/17/1993; KDWM 11/23/1999
141	C-720 Inactive TCE Degreaser	NFA	KDWM 8/11/1992; EPA 3/17/1993
142	C-750-A 10,000 gal Gasoline Tank (UST)	NFA	EPA 3/17/1993; KDWM 3/25/1999
158	Chilled-Water System Leak Site	Soils OU	
186	C-751 Fuel Facility	NFA	KDWM 10/20/1993
209	C-720 Compressor Shop Pit Sump slab and underlying soils	Soils and Slabs OU	
211B	C-720 TCE Spill Site Southeast	GWOU; Soils and Slabs OU	
358	DMSA C-720-03	NFA	KDWM 4/24/2009
359	DMSA C-720-04	NFA	KDWM 4/24/2009
479	C-204 Disintegrator Building	NFA	KDWM 6/3/2002
573	C-750 Garage Slab and Underlying Soils and Associated Outside Areas	Soils and Slabs OU	

Environmental Impacts

- No information to indicate a release or threatened release of a hazardous substance that would require an evaluation for a potential response action to protect future public health or welfare or the environment.

- ❑ C-205 was built and has operated as a respirator issue facility from its construction in 1996 to present; C-205 was also used to conduct aerosol particle leak-testing of HEPA filters and leakage of air-purifying respirator face pieces using small quantities of heated oil aerosols from 1996 through the mid-2000s.

- ❑ Building materials used for construction do not contain lead-based paints or ACM; however, should their presence be verified during a predemolition inspection, they can be properly managed using standard demolition and waste management practices.

- ❑ No history or records of chemical use or spills that would pose environmental release threat.
 - Small quantities of heated oil aerosols used to conduct aerosol particle leak-testing of HEPA filters and leakage of air-purifying respirator face pieces were captured by the facility exhaust ductwork located along the interior south wall.
 - Leak of the chilled water recirculating system occurred in 2021 that drained into the sanitary sewer system.

Conclusion and Recommendations

- Walkdown inspection of the facility, employee interviews, and other reviewed historical information did not identify any unusual conditions that would pose a potential threat of environmental release during future demolition of the aboveground structure.
 - ❑ Deactivation will include removal of any accessible loose items being stored (to the extent practicable) prior to demolition.
 - ❑ Any floor drains will be delineated, documented, and isolated prior to demolition.
- Pending ceasing of operation, deactivation, and availability of funding, proceeding with demolition and disposal of the C-205 facility (aboveground structure) outside of the FFA/CERCLA process, contingent upon the fact that no additional changes have occurred that would affect the CERCLA determination of the facility prior to demolition, is recommended.
- All applicable laws, regulations, and DOE procedures/protocols will be followed to ensure the demolition and disposal of the aboveground structure occurs in a safe, compliant manner, including conducting any additional radiological characterization through confirmation radiological surveys (as necessary) to support demolition and waste disposition.

Conclusion and Recommendations

- As part of the demolition of the aboveground structure, the appropriate best management practices (BMPs) will be evaluated and implemented (as needed) to prevent/minimize the pooling and/or migration of storm water that may come into contact with any contamination that may exist on the pad/subsurface structure(s). For example, the following BMPs will be implemented as necessary:
 - Radiological surveying will occur following demolition.
 - Decontamination and/or application of fixatives and/or barriers to contaminated surfaces above regulatory posting limits.
 - Isolation measures and other types of barriers to minimize and/or control runoff/pooling of contaminated storm water [e.g., seal inlets to drains/sumps/subsurface structure(s)].

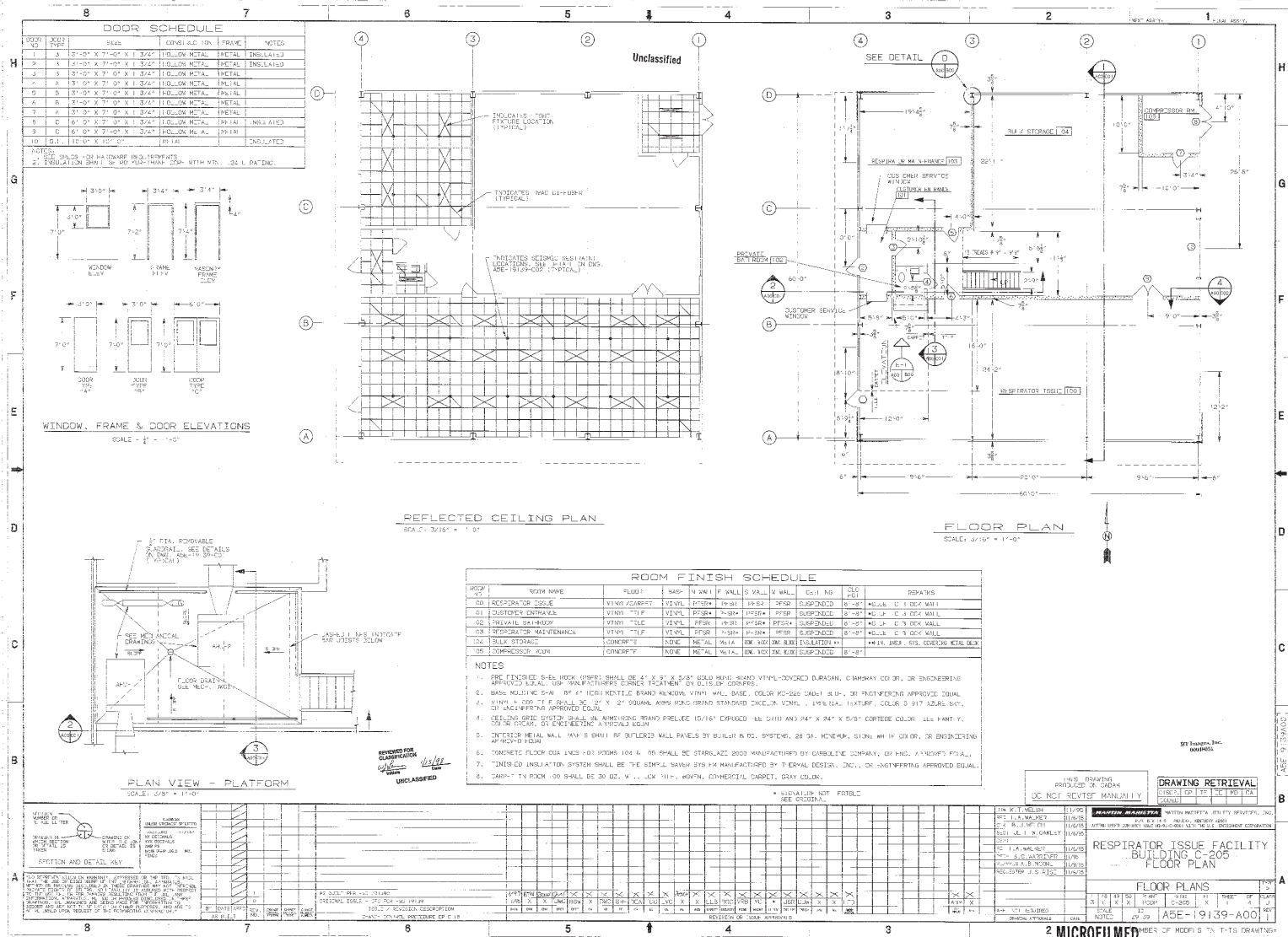
- Removal of the C-205 facility will be documented in the appropriate annual SMP revision.

- The future evaluation conducted for GA 14 will further evaluate the potential threat of release associated with the slab/soils from the C-205 facility.

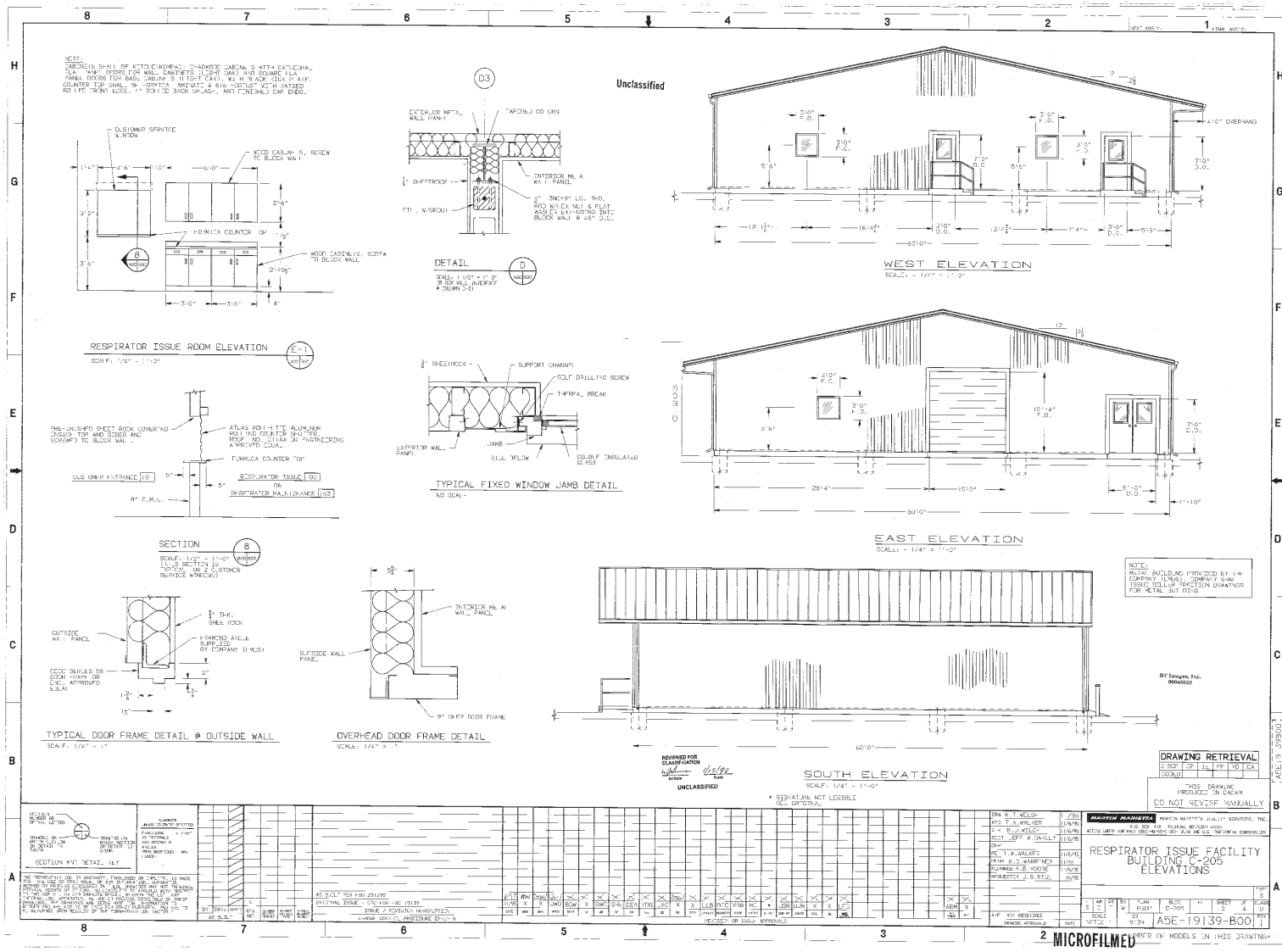
C-205 Respirator Issue Facility

BACKUP INFORMATION

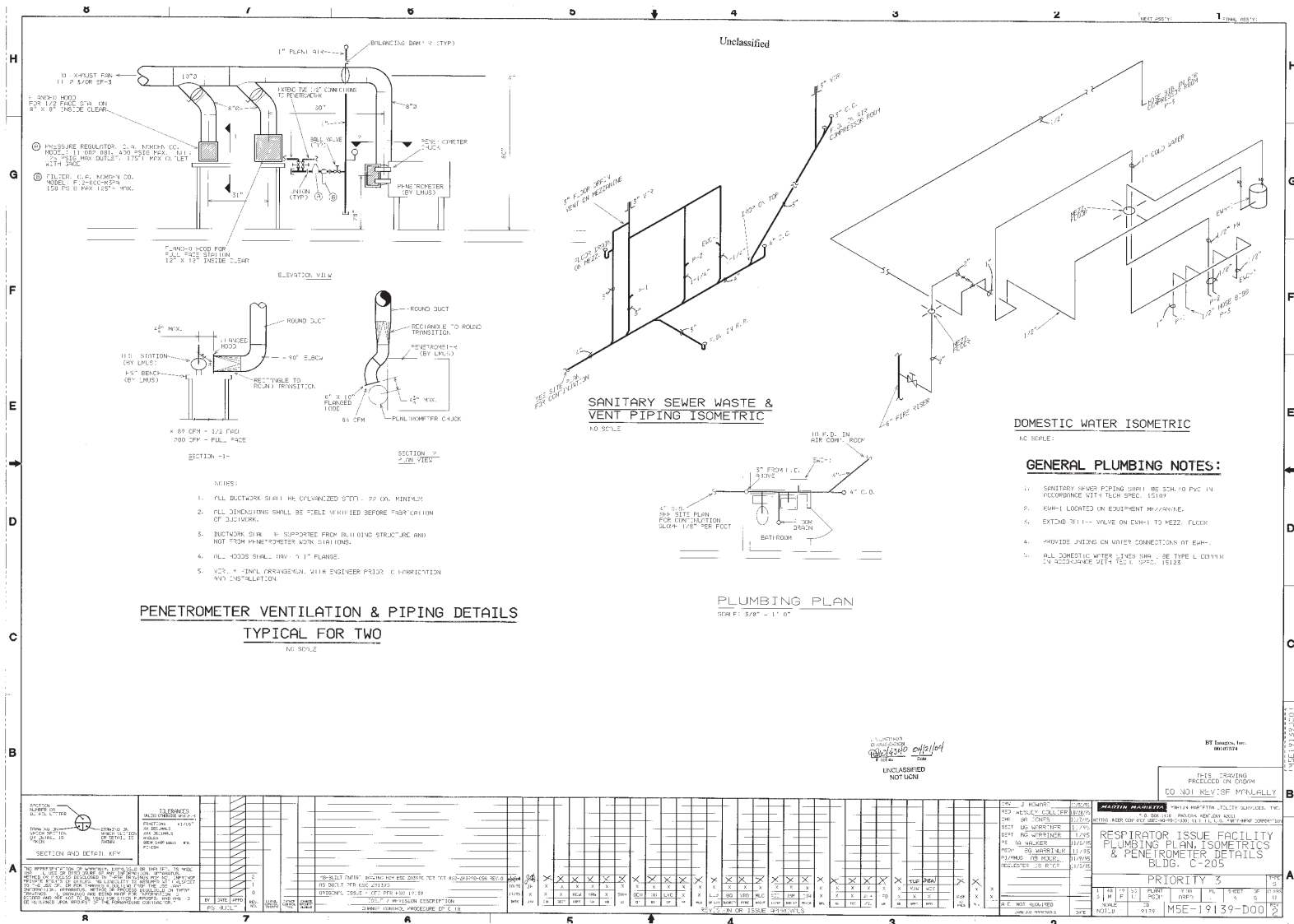
C-205 Engineering Drawings



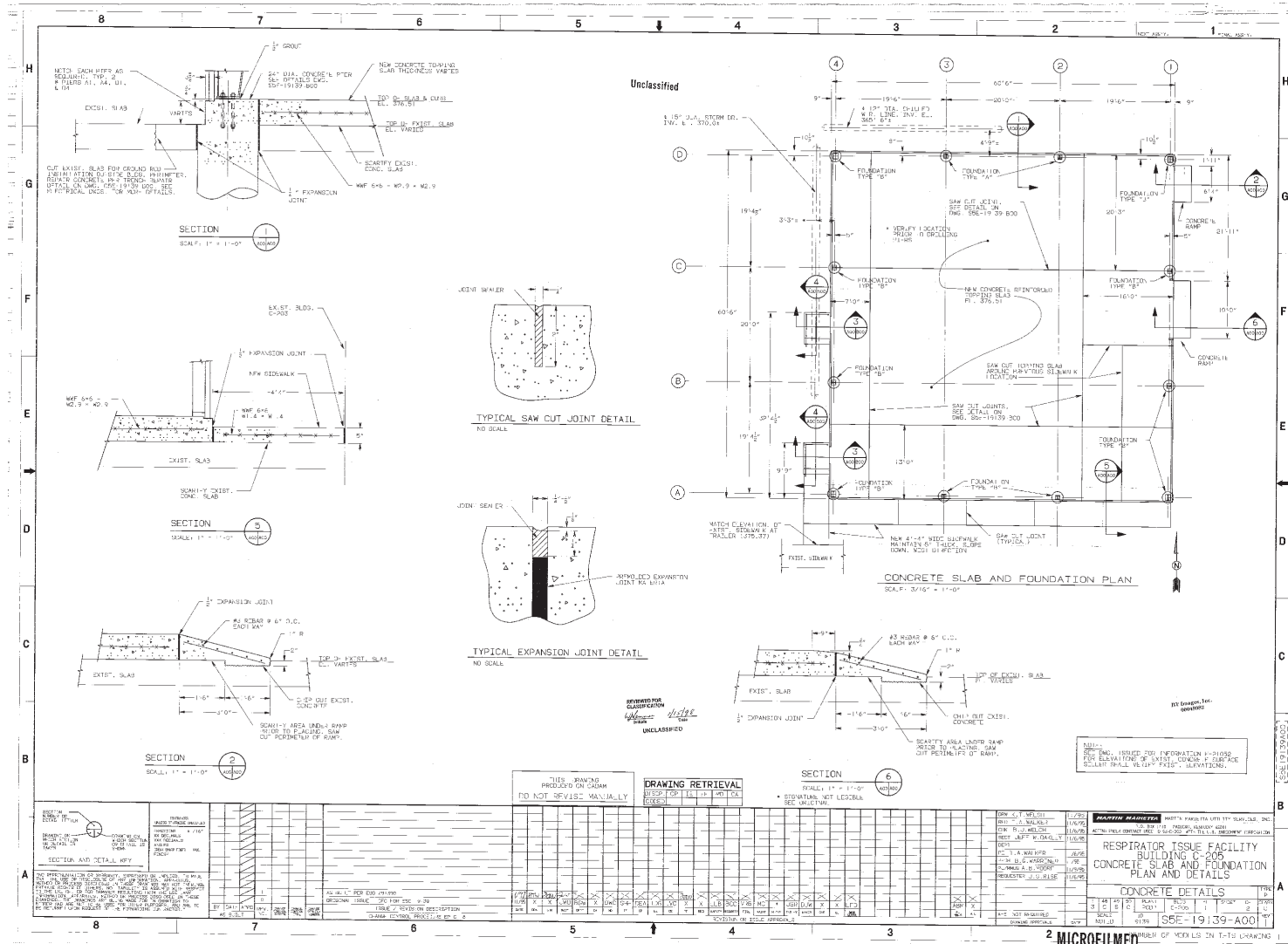
C-205 Engineering Drawings



C-205 Engineering Drawings



C-205 Engineering Drawings



C-205 Sources

- Engineering Drawings:
 - Provided in presentation
- Databases:
 - USEC's BPS
 - Issues Management System
 - Regulatory Compliance Archive Spill Log (pre-2018)
 - PCB Database (1989 – 2021)
 - Active GSAs and SAAs Master List
 - Asbestos Walkdown (October 2020)
- Employee Interviews:
 - Facility Manager (25 years plant expertise)
 - Facility Manager (32 years plant expertise)
 - Industrial Hygiene Program Subject Matter Expert (31 years plant expertise)
 - Utility Operations Subject Matter Expert (45 years plant expertise; operator/manager/supervisor)
 - Compliance Subject Matter Expert (45 years plant expertise)
- Documents:
 - Paducah Gaseous Diffusion Plant Sitewide Strategy Facility Background Information, FPDP-RPT-0021, May 2016
 - Fluor Federal Services, Inc., Paducah Deactivation Project Comprehensive Environmental Compliance Due Diligence Review, CP5-ES-0101