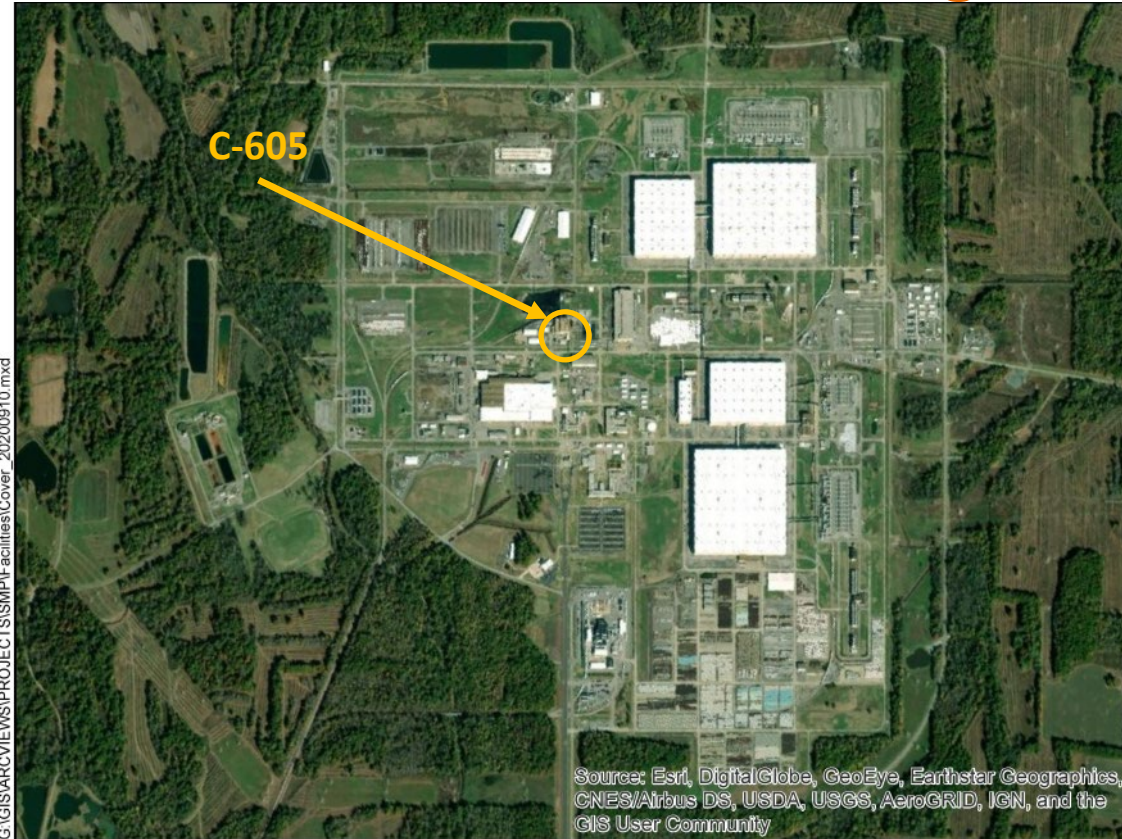


C-605 Substation Building



Facility Overview Briefing

July 16, 2021

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on July 12, 2021.

Purpose

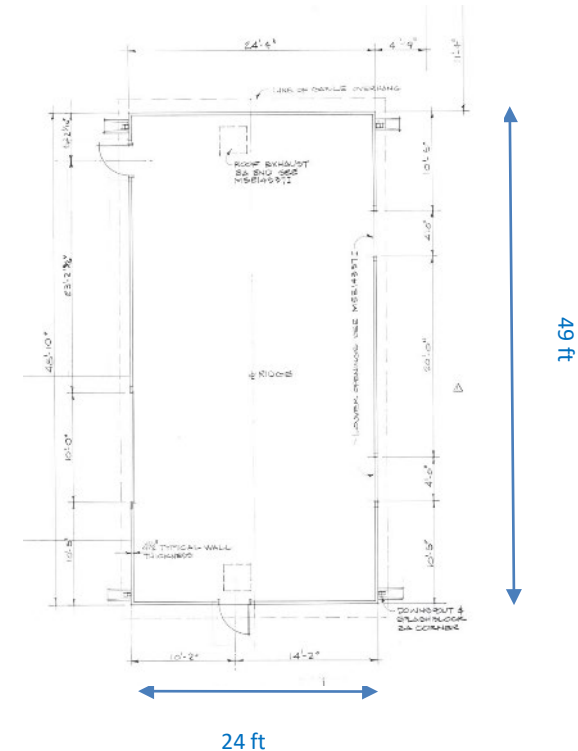
- The C-605 Substation Building is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended to serve 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) 12.



C-605 Facility Photo: 4/2021

Construction History

- C-605 is located within the Paducah Site security fence, south of C-600.
- The facility was constructed in 1976.
- The facility is constructed of prefabricated metal on a concrete slab (6-inch perimeter and 10-inch center).
 - ❑ The structure is fully enclosed with pedestrian doors located on the west and south ends and a rollup door on the west end.
 - ❑ Sump pumps and floor drains were not included as part of the structure design.
 - ❑ The structure was specifically designed and constructed to house the switchgear transformer and substation.
- The facility is approximately 1,176 ft².
 - ❑ Measuring ~49 ft x ~24 ft.



Floor Plan View: Excerpt from Engineering Drawing A5E14337 B, dated 1977

Operational History

- C-605 began operations as a substation for the C-600 Steam Plant in 1976.
- USEC leased the facility in the early 1990s and continued to use C-605 as a substation for the C-600 Steam Plant.
 - ❑ In 2014, C-605 also was used for a short time by the mechanical maintenance group as a temporary storage area for miscellaneous parts.
- C-605 transitioned from USEC to DOE in 2014 and continues to operate as a substation.
- Once the plant ceased operations, the need for electricity in the C-600 Steam Plant decreased.
 - ❑ C-605 houses two indoor 14-kv/480 volt transformers.
 - ❑ Transformers are dry-type transformers and do not contain any oil.
 - ❑ In 2017, transformer SP3 was de-energized and air gapped.

Substation
Transformer
North End



Substation
Transformer South
End



South Side
of C-605



Current Status

- C-605 continues to operate as a substation to the C-600 Steam Plant.
 - ❑ Provides electricity to the C-600 trailer mounted boilers east of C-600, C-604, and some lift stations near C-600.

- Miscellaneous equipment is stored in the facility.

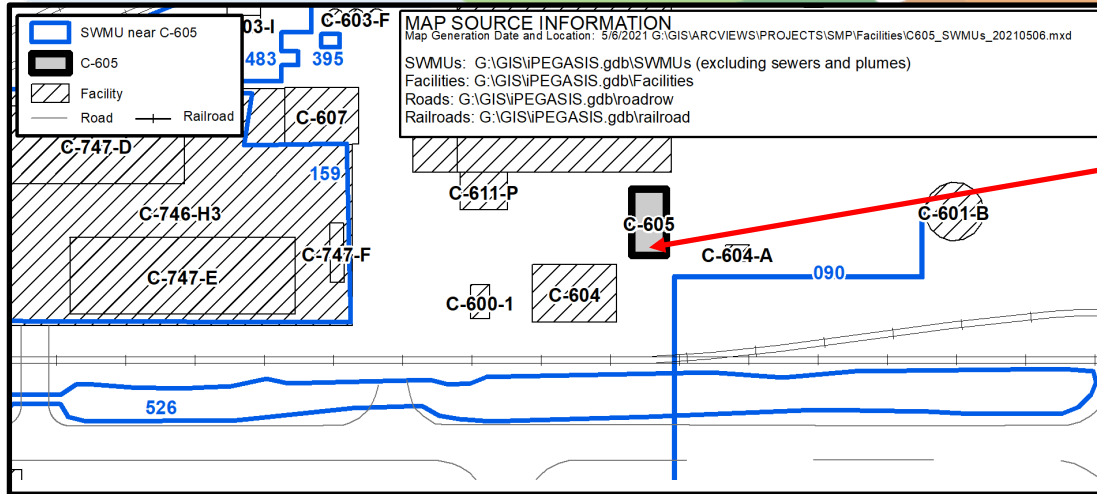
- Walkdown inspection conducted in April 2021 and employee interviews confirmed no unusual conditions.
 - ❑ No floor sumps or floor drains are present.
 - ❑ Not used for radiological storage, nor does the facility contain any radiological postings; however, there was an isolated incident in 2014 where the lockers used for storage were found to contain radiological contamination and were removed from the facility (facility was resurveyed and no further radiological contamination was found).
 - ❑ No oils or PCBs in the indoor electrical 480-volt transformers.
 - ❑ No generator staging area (GSA) or satellite accumulation area (SAA).
 - ❑ No asbestos-containing materials (ACM) or lead-based paint.
 - ❑ No signs of cracks in concrete pad.



Photos showing miscellaneous equipment in facility



Environmental Impacts (Solid Waste Management Units)



• The C-605 Substation Building is not designated as a SWMU/AOC.

| SWMU No. | Facility Name | Current Status | NFA Approval By |
|----------|--|----------------------|-----------------|
| 090 | C-720 Petroleum Naphtha Pipe | NFA | KDWM 1/14/2015 |
| 159 | C-746-H3 Storage Pad (slab and underlying soils) | Soils and Slabs OU | |
| 395 | G-600-01 | NFA | KDWM 3/8/2007 |
| 483 | Nitrogen Generating Facilities (slab and underlying soils) | Soils and Slabs OU | |
| 526 | Internal Plant Drainage Ditches (includes KPDES 016) | SWOU Remedial Action | |

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-605 has operated as a substation from 1976 to present; C-605 also stores miscellaneous equipment.
 - ❑ Building materials used for construction do not contain ACM or lead-based paints.
 - ❑ No history or records of chemical use or spills that would pose an environmental release threat.

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-605 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

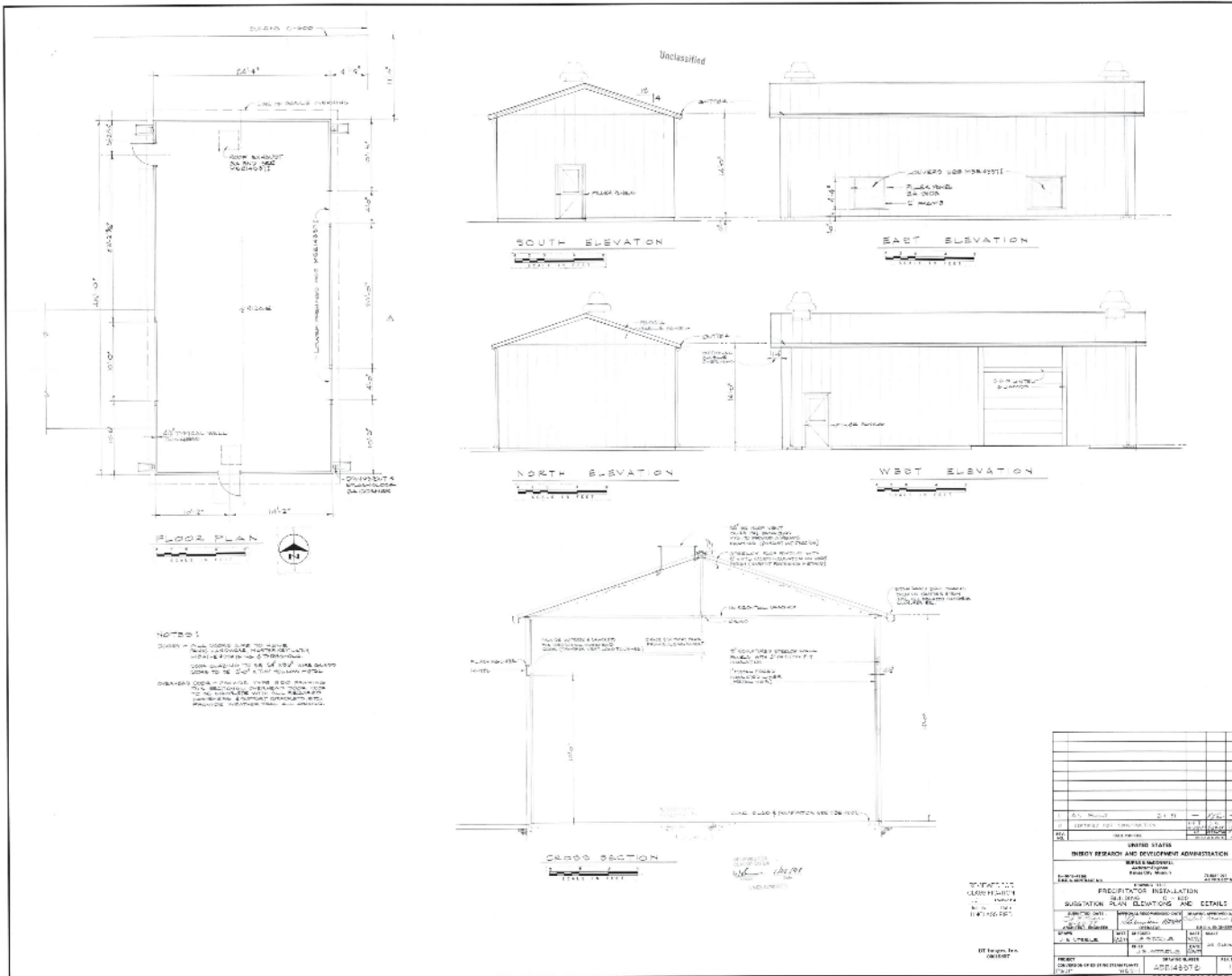
- As part of the demolition of the aboveground structure, the appropriate best management practices (BMPs) will be evaluated and implemented (as needed) to prevent/minimize the pooling and/or migration of storm water that may come into contact with any contamination that may exist on the pad/subsurface 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-605 facility will be documented in the appropriate annual SMP revision.

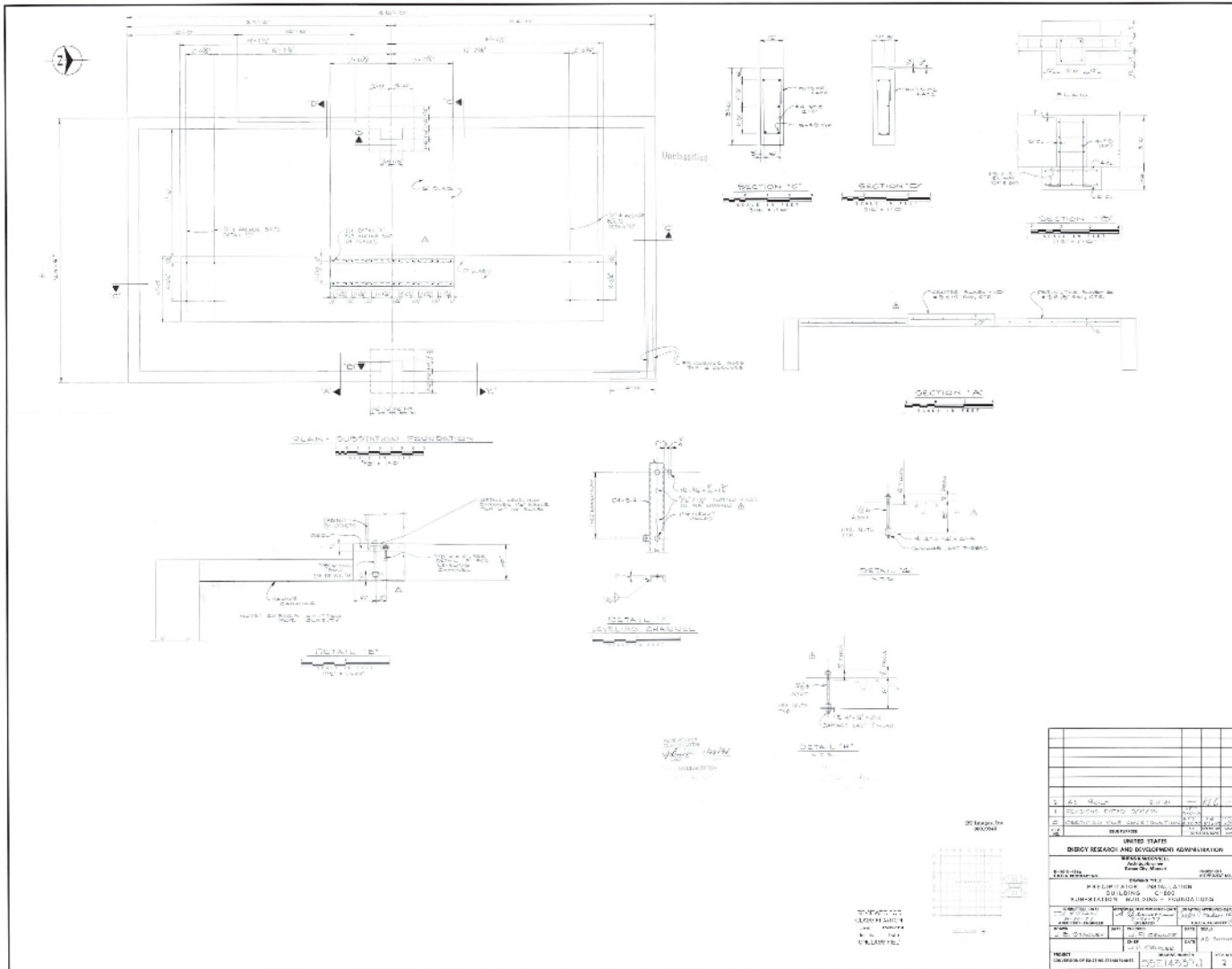
- The future evaluation conducted for GA 12 will further evaluate the potential threat of release associated with the slab/soils from the C-605 facility.

BACKUP INFORMATION

C-605 Engineering Drawings



C-605 Engineering Drawings



SSE 14337J, Rev 2

Best available copy

C-605 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 (42 years plant expertise)
 - Compliance Subject Matter Expert (45 years plant expertise)
- Documents:
 - Paducah Gaseous Diffusion Plant Sitewide Strategy Facility Background Information, FPDP-RPT-0021, May 2016
 - Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to the United States Enrichment Corporation, DOE/OR/1087&V5, June 1993
 - Fluor Federal Services, Inc., Paducah Deactivation Project Comprehensive Environmental Compliance Due Diligence Review, CP5-ES-0101, October 2014