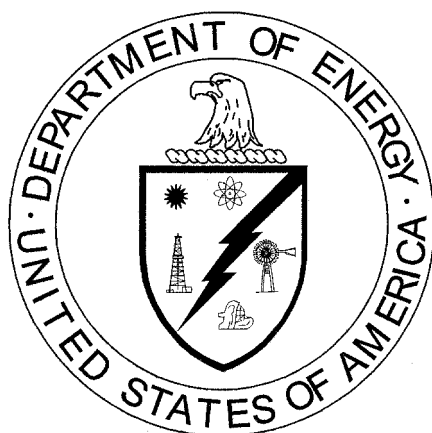


**Removal Action Work Plan Addendum for
C-410 Complex Infrastructure D&D Project at the
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**



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C-410 Complex Infrastructure D&D Project at the
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**

Date Issued—June 2010

Revised Date—September 2010

Prepared for the
U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Managed by
LATA ENVIRONMENTAL SERVICES OF KENTUCKY, LLC
managing the
Environmental Management Activities at the
Paducah Gaseous Diffusion Plant
under contract DE-AC30-10CC40020

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The five core functions of ISMS are as follows:

- (1) Define scope of work
- (2) Analyze hazards
- (3) Develop and implement hazard controls
- (4) Perform work within those controls
- (5) Provide feedback for continuous improvement

Following are the eight guiding principles of ISMS:

- (1) Line management responsibility for safety
- (2) Clear roles and responsibilities
- (3) Competence commensurate with responsibility
- (4) Balanced priorities
- (5) Identification of safety standards and requirements
- (6) Hazard control tailored to work being performed
- (7) Operations authorization
- (8) Worker involvement

During implementation of this removal action, environmental impacts and worker safety will be controlled through various mechanisms, including, but not limited to, work sequencing and work practices (such as wearing proper personnel protective equipment). Fugitive dust emissions will be mitigated by misting surfaces with water prior to dismantlement and applying fixative to surfaces prior to demolition. Use of water will be controlled in an effort to eliminate an additional waste stream.

Cross-contamination will be controlled through a combination of methods, including, but not limited to, fixing agents, physical barriers, and other contamination control measures. Barriers will be installed as the demolition progresses and may include plastic screens, temporary walls, isolation of areas using existing doors, etc. Spraying fixative on the interior surfaces will minimize airborne contamination.

Decontamination is required for large field equipment or equipment components that touch or enter the ground and parts of the equipment that become splattered with potentially contaminated material. Except for instances where field decontamination is appropriate, cleaning and decontamination of all equipment shall occur at a designated area (decontamination pad) on the site.

Disassembly of equipment may be required for areas that are inaccessible (i.e., tracks, pumps, etc.). Decontamination shall be accomplished using brushes or pressure washers with appropriate solvents or tap water and soap, if necessary, to remove particulate matter and surface films. The component shall be rinsed with tap water prior to relocation to an appropriate storage area. All equipment will be surveyed by radiation control personnel prior to free release from the plant.

Air monitoring in the areas around the structures will allow for identification and mitigation of airborne contamination. Asbestos control procedures will be instituted during the removal of the transite siding. These procedures will be implemented in strict compliance with ARARs.

ACMs will be managed in accordance with the ARARs from time of removal until they are disposed of in the C-746-U Landfill or an approved off-site landfill in accordance with applicable regulations.

Erosion control structures will be erected to control surface drainage around the facility to minimize sediments in receiving streams. Storm-water containment structures will be constructed, where necessary, to prevent off-site migration of potentially contaminated storm water. Figure 3 illustrates the general

configuration of the storm-water sewers associated with the C-410 Complex. The storm-water inlets will be protected by the installation of silt fences. Other sediment barriers and/or temporary storm-water control structures such as ditches or retention basins will be installed, as needed, to minimize excessive erosion and resulting sediment entering the receiving stream. These controls are similar to existing structures installed during the ongoing deactivation activities.

Hazardous Energy. Hazardous energy sources such as steam and electrical power, will be identified. Those sources will have been de-energized, air gapped, and marked during the deactivation process. Removal activities that could be affected by these sources will be initiated only after verifying that the energy sources have been isolated. Lock out/tag out procedures will be applied. All hazardous energy sources will be considered active until proven otherwise. Temporary energy source installs to support the decommissioning activities will be managed in the same manner as permanent sources.

Water. The decommissioning activities are not expected to generate significant wastewater discharge volumes. The nature of the materials identified within the C-410 Complex would preclude the use of water to decontaminate the wastes generated. All identified floor drains in the C-410 Complex have been plugged to eliminate the uncontrolled discharge of water from the building. Water used to decontaminate personnel will be containerized, transported, and treated, if necessary, prior to discharge through an existing Kentucky Pollution Discharge Elimination System outfall. Shower water for personnel will be treated in the PGDP Sanitary Wastewater Collection Treatment System. Water used for dust control will be minimized.

Air. The C-410 Complex decommissioning may generate airborne particulates that may be radiologically and/or chemically contaminated. The migration pathways for airborne emissions include vents, broken windows, wall penetrations, open doorways, and fugitive emissions when the structures are demolished. Mitigation measures will include, but are not limited to, water spray, vacuuming, and fixative application techniques for fugitive dust emissions.

Hazardous Materials. Transite siding, containing asbestos, will be removed prior to structural demolition and managed in accordance with ARARs. The systems left in place, following deactivation, may contain small quantities of hazardous substances, but the levels are not expected to result in the building debris being characterized as a RCRA-hazardous or TSCA-regulated waste. Small volumes of hazardous waste, such as paint chips or vacuum dust, may be generated during building demolition. These waste streams will be segregated from the building debris and managed in accordance with ARARs. Most of the resulting waste from building demolition is expected to be low-level radiologically contaminated waste and/or PCB bulk product waste.

Transite Removal. The only ACM expected to remain after the deactivation activities will be the transite siding on the exterior of the buildings. The hazards associated with the removal of transite include the fugitive ACM emissions from possible breakage of the transite panels and the lead in the “lead heads” of the screw fasteners that attach the panels to the buildings.

The panels will be removed by detaching the screws from the building. The lead headed screws will be collected as they are removed and packaged for disposal in appropriately labeled containers. Plastic sheeting placed on the ground beneath the work area will prevent the loss of any lead-based material into the soils.

Transite siding will be placed on two 4 inch x 4 inch x 12 ft-long wood posts and stacked approximately 2-ft high and double wrapped with 6-mil-thick plastic sheeting and one layer of absorbent material prior to removal for disposition. Misting with water will be utilized during the transite removal process to minimize airborne contamination. Care will be taken not to break or crush the transite panels during removal.

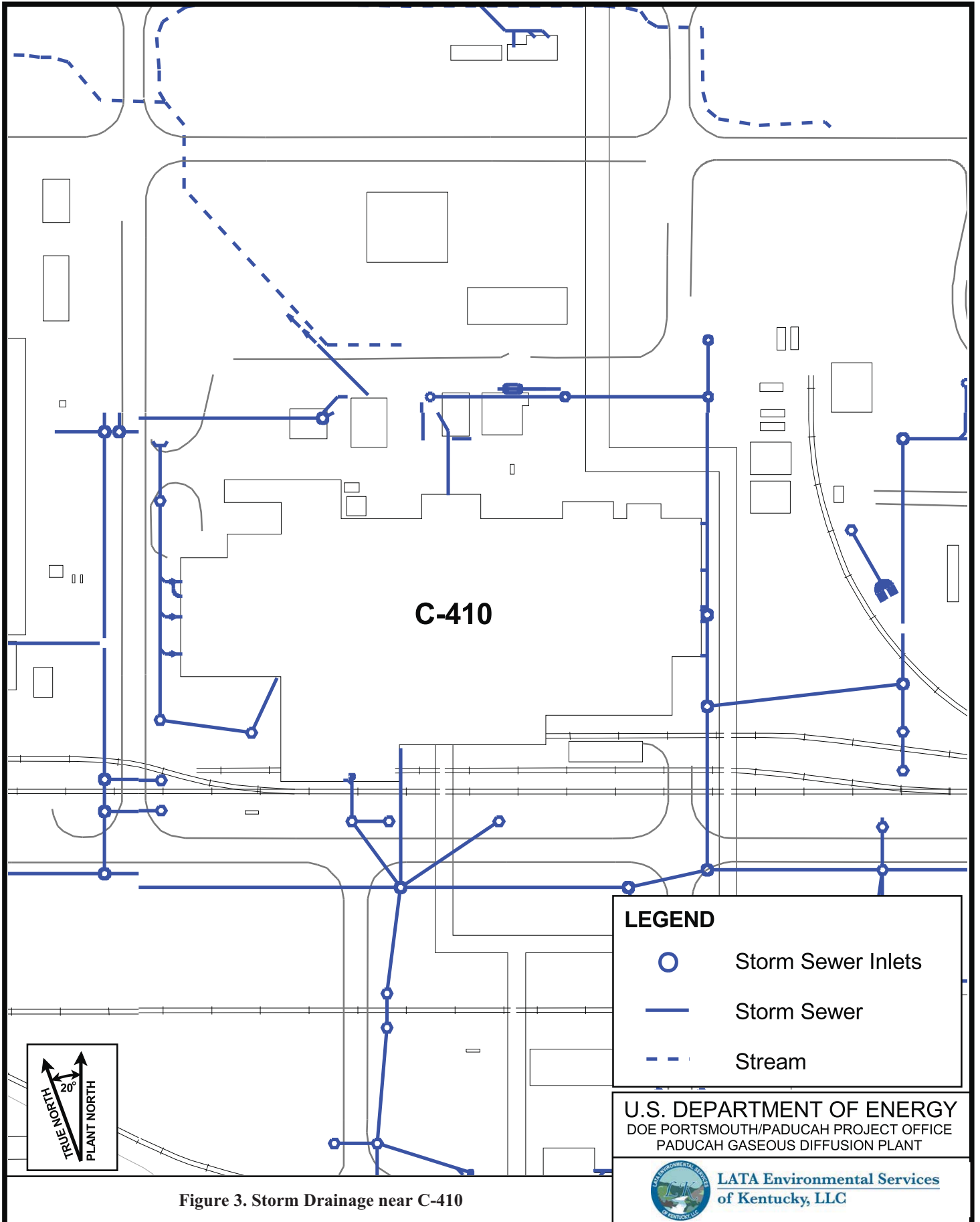


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2.3.4 Characterization

Characterization activities will identify materials and augment the information developed during the deactivation activities through process knowledge and historic data research. The need to collect samples will be determined on a case-by-case basis and will be based on the characteristics, hazards, and process knowledge of the facility components to be dismantled. The waste superintendent is trained and experienced in the characterization of waste materials associated with the C-410 D&D activities. The waste superintendent will determine the need to collect samples with input from SMEs who have direct knowledge of the facility and components that are being assessed. The types and numbers of samples will be determined by the waste superintendent prior to initiating the demolition activities.

Characterization is necessary to ensure a safe working environment, as well as to determine the proper disposition of materials from the project. The waste materials that will be generated during the decommissioning process will be sampled and the samples analyzed to determine the potential exposures to the workers and environment, establish the levels of personal protection required, establish disposal requirements, and produce necessary documentation for shipment of the material.

Depending upon the characteristics of the material, it may be treated, as required, and dispositioned in compliance with the ARARs, in addition to the WAC of the designated disposal facility. Characterization will be necessary to segregate the waste material in accordance with the compliance criteria of the disposition facilities. These activities will involve the application of process knowledge and/or sampling and analysis of the waste materials in accordance with Sampling and Analysis Plans (SAPs).

2.3.5 Demolition

During demolition of the C-410 Complex, typical, standard demolition-type construction equipment will be used. Other specific equipment that also may be utilized is included in Table 4. Appendix A of this RAWP Addendum identifies the methodology and approach for the demolition of the C-410 Complex. Key contractor-developed procedures affecting work controls and implementation are listed in Appendix B. Specific task instructions for field use will be developed, reviewed, and approved by SMEs and experienced demolition personnel. These will be developed in accordance with PRS-WCE-0020 R6, *Work Planning*, listed in Appendix B. These specific task instructions direct the hands-on demolition, waste packaging, and other support activities.

The C-410 Complex demolition will not involve removal of the ground-level slabs, sub-slab penetrations, and/or foundations. The slabs that will remain after structural demolition will be visually inspected, surveyed, decontaminated as appropriate, and sealed to minimize the possibility of spreading contamination. It is anticipated that the slab decontamination will include the application of a fixative/stabilizer coating(s) (such as latex paints, gums, or epoxy). Sub-slab penetrations, such as basements, pits, and sumps will be backfilled to prevent accumulation of water and eliminate hazards to on-site personnel.

Figure 4 depicts the slab design/construction of slab floor openings following demolition.

2.3.6 Waste Material Disposition

Most waste generated during this action will be loaded directly into shipping containers in areas immediately adjacent to the C-410 Complex. Staging areas such as the C-759 Scrap Metal Staging Area or the C-760 North-South Diversion Ditch Laydown Gravel Pad will be used for storage of loaded containers prior to loading containers onto conveyances (railcars or trucks) for shipment. Existing waste storage facilities may be

used for staging and storage of waste (e.g., hazardous or PCB waste) prior to shipment for disposal. Wastewater will be transferred to temporary storage pending characterization and treatment. All waste storage locations will be located inside the DOE controlled area. The waste storage will adhere to the substantive waste storage requirements established in the ARARs.

Waste materials will be sorted and segregated on-site and crushed, dismantled, packaged, and staged for disposal in accordance with ARARs. It is anticipated that waste generated by the decommissioning activities will be segregated, sorted, and size-reduced in close proximity to the C-410 Complex site. Any on-site treatment will be ARAR compliant. Waste material will be shipped in accordance with U.S. Department of Transportation (DOT) requirements. ACM will be managed as a separate waste stream in accordance with the ARARs and disposed of in the C-746-U Landfill or an approved off-site landfill in accordance with applicable regulations.

Demolition of the C-410 Complex will generate different types of waste streams. The primary waste stream will be construction/demolition debris, which is expected to be categorized as low-level radiologically contaminated waste (LLW). This waste likely will be disposed of at an off-site commercial disposal facility or the Nevada Test Site. Sanitary/solid waste will be disposed of in the C-746-U Landfill on-site, in accordance with ARARs.

2.3.6.1 Waste material segregation and treatment

Waste materials will be separated, to the extent practical, into waste streams that conform to the WAC of the proposed disposal facility. The majority of this waste is expected to be LLW; however, small volumes of contaminated material, such as paint chips or vacuum dust, PCB bulk product waste, and residual quantities of ACMs may be generated during building demolition. Where possible, these materials will be segregated from the building debris by vacuuming or other physical means and managed in accordance with ARARs.

Demolition debris will be staged at processing areas in preparation for disposal. Where appropriate, some components will be size reduced to meet transportation or disposal criteria.

Should any of the materials removed from the C-410 Complex require on-site or off-site treatment in order to comply with environmental regulatory requirements prior to disposal. On-site treatment will be performed in accordance with ARARs. Off-site treatment activities will be in accordance with applicable regulations.

2.3.6.2 Waste packaging

The waste generated during D&D will be packaged for transportation and disposal. The volume of waste that requires packaging will utilize methods for component disassembly and selected transportation/disposal options. A variety of containers are available that would be appropriate for the different waste streams generated. Some examples of appropriate transportation packages include Sealand containers, intermodal containers, ST-90 boxes (B-25), steel drums, polyethylene drums, and railcar gondolas. All wastes generated during this project will be packaged in accordance with ARARs.

The waste streams may be described with one of the following DOT proper shipping names:

- Low Specific Activity
- Surface Contaminated Objects
- Hazardous Waste, Solid/Liquid
- PCBs, Solid/Liquid
- Asbestos
- Solid Waste

Wastes not meeting the above classifications will be evaluated on a case-by-case basis for proper classification and packaging.

2.3.6.3 Waste shipping

Wastes generated from this decommissioning activity may be transported by a variety of methods depending upon the characteristics of the waste and the disposal facility. Typically, the wastes designated for off-site disposal will be shipped in one of these:

- Intermodal containers on over-the-road trucks
- Intermodal containers on flatbed railcars
- Gondola railcars
- Semi dump trailers

Materials designated for disposal in the on-site landfill will be transported in roll-off bins, in tandem dump trucks, or similar conveyances.

Processed material destined for off-site shipment will be packaged in accordance with applicable DOT regulations and placed in a temporary staging area pending transportation to the final treatment/disposal site. Transportation of waste material to the on-site landfill will be conducted in accordance with PGDP and DOE procedures.

Samples collected during the course of this project that must be shipped off-site, will be shipped in accordance with DOT regulations if transported by ground. Samples shipped by air are governed by applicable International Air Transport Association/International Civil Aviation Organization and DOT regulations. On-site transportation of samples will be conducted in accordance with PGDP and DOE procedures.

2.3.6.4 Waste disposal

Disposal options that will be considered for the wastes generated during D&D of the C-410 Complex are limited by the presence of radioisotopes at levels that exceed most industrial/sanitary landfills radioisotope limits. Three facilities are being evaluated as primary disposal options for the waste generated from the D&D activities: Nevada Test Site, an off-site commercial disposal facility, and potential on-site disposal of nonhazardous solid waste at PGDP C-746-U Landfill. Disposal at the on-site landfill will be consistent with WAC developed through an authorized limits evaluation and performance evaluation for the landfill. Other facilities may be evaluated on an as-needed basis.

2.3.6.5 Equipment recycle/reuse

The recycle and/or reuse of materials from decommissioning the C-410 Complex will be consistent with DOE policy and federal and state requirements. Currently, DOE has suspended the unrestricted release for recycling of scrap metals from radiation areas within DOE facilities. The reuse of equipment from the C-410 Complex will be designated for locations within DOE- and/or Nuclear Regulatory Commission-approved facilities. Should the new location be an off-site facility, the equipment will be packaged and prepared for transport in accordance with the ARARs.

2.3.7 Demobilization

Project demobilization includes completing assessments and documentation verifying that the activities described in this RAWP Addendum have been performed in a satisfactory manner, dismantlement of all site support equipment and materials, removal of all support equipment, and site restoration. The Removal Action Verification Plan, Appendix C, provides additional details regarding the verification and completion of the removal action objectives.

3. PLANS AND WORK CONTROL DOCUMENTS

The following plans either have been or will be developed to ensure the proper execution of decommissioning the C-410 Complex and to ensure compliance with the AMA and ARARs.

3.1 DEMOLITION PLAN

The Demolition Plan (Appendix A) includes the details for demolishing the six structures that are included in this RAWP Addendum.

3.2 DEMOLITION REMOVAL ACTION VERIFICATION PLANS

The Demolition Removal Action Verification Plan (Appendix C) identifies sampling and/or monitoring necessary to confirm that the ground-level slabs and foundations have been left in a protective state that will prevent the migration of contaminants from the facility slab after the facility structures have been demolished.

3.3 SAMPLING AND ANALYSIS PLANS

The SAP for the C-410 Complex infrastructure removal was submitted with the original RAWP in 2002. This SAP remains in place for the demolition of the building because the governing principles of characterization for waste disposition will remain the same throughout the course of the added scope. The plan enables contaminants of concern to be identified, sampled, and the samples analyzed according to standing programs and processes developed by DOE's contractor. The plan defines the process for establishing sampling requirements for each task and subtask, selection of the proper sampling protocols, and documentation of sampling for use in future activities.

3.4 PROJECT HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) outlining the necessary controls and requirements to protect worker safety during the D&D project for the C-410 Complex was included with the original RAWP in 2002 and approved in April 2003. The HASP complies with the requirements of 29 *CFR* § 1910.120 and addresses the safety and health concerns for D&D of the C-410 Complex. The activities included in this RAWP Addendum will be performed under the currently approved C-410 HASP, as updated. During implementation of the removal action, specific work instruction and hazard controls will be developed at the task level for use by the personnel performing the work. The ISMS process will be used in preparation of these work instructions.

3.5 WASTE MANAGEMENT PLAN

The Waste Management Plan documents the processes, procedures, and methods that have been used to ensure safe and compliant execution of waste management work performed during execution of the removal action. The Waste Management Plan was included with the original RAWP in 2002 and will remain in effect throughout the remainder of the project.

3.6 SPECIFIC WORK DOCUMENTS AND PLANS

Additional special condition documents, including, but not limited to, work control documents, activity hazard analyses, and work permits also will be developed, as appropriate.

- B. Obtain approvals from internal support groups such as the following:
- (1) Engineering
 - (2) Radiological control (RADCON)/as low as reasonably achievable
 - (3) Safety
 - (4) Environmental Compliance
 - (5) Quality Assurance
- C. Construct work zone fence.
- D. Construct silt fence, install water retention barriers as required.
- E. Ensure all unnecessary utilities (permanent and/or temporary) are “locked out/tagged out” and/or air gapped prior to commencing work.
- Remove/relocate new transformer prior to building C-420 demolition.
- F. Perform gross decontamination—Vacuum all surfaces inside building. Use hydraulic man lifts and scissors lifts to reach elevated surfaces.
- G. Perform asbestos abatement verification surveys following the asbestos-containing material (ACM) abatement activity.
- H. Apply fixative to all decontaminated interior surfaces as directed by RADCON.
- I. Package and load equipment, work platforms, mezzanines, pit, and basement covers.
- J. Remove debris from basements and pits.
- K. Vacuum basements and pits.
- L. Flowable fill material will be placed in basements and pits to create safe work areas for personnel and equipment as directed.
- M. Demolish buildings to slab.
- N. Radcon surveys will be performed on remaining slab in accordance with Appendix C.
- O. Oil stained areas or areas of known PCB spills will be sampled in accordance with Appendix C.
- P. Fixative paint will be applied to the slab.

BUILDING DEMOLITION

The Demolition Plan defines the detailed activities required to remove the structures of the C-410 Complex to slab and to decontaminate/stabilize the slabs, sumps and other subgrade structural features for subsequent actions under the post-gaseous diffusion plant Soils and Slabs Operable Unit activities.

Figures A.3 through A.11 are photographs of demolition activities that have been conducted on structures

similar to the C-410 Complex. These photos are for illustration only and do not necessarily depict activities within PGDP.

The suggested demolition sequence for the C-410 Complex is from east to west. The following is the detailed order in which the buildings will be demolished.



Figure A.3. Building Structure and Roof Demolition (Shear and Fugitive Dust Control)

APPENDIX B
LIST OF PROCEDURES

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List of Procedures

This appendix includes a nonexhaustive list of DOE contractor procedures that is provided as an example of the types of procedures that may be used in the decommissioning process. This list of procedures was developed based on experience with other D&D activities at Paducah by including procedures used in performing those activities. Additionally, activities that will be performed during the C-410 D&D were evaluated, and existing procedures that address performance of those activities were included in the list. Other PGDP procedures may be used, or new procedures or work documents may be generated if needed. Development of these procedures included input from various DOE contractor functional groups (e.g., Safety and Health, Engineering, Quality Assurance, Project Management, Facility Management, Radiological Control, Work Controls, Training, Environmental Compliance, Waste Certification Officials, Transportation, Compliance, Nuclear Safety, Waste Disposition, and members of the craft). These procedures may be revised or deleted without update to this appendix and are identified for information. They are not being provided for regulator review and approval.

- PRS-ENM-0015 R0, *Asbestos Waste Sampling*
- PRS-ENM-0017 R0AC1, *Paint Chip Sampling*
- PRS-ENM-0018 R0FC1, *Sampling Containerized Waste*
- PRS-ENM-2002 R0, *Sampling of Structural Elements and Miscellaneous Surfaces*
- PRS-ESH-1008 R0, *Facility Hazard Assessment*
- PRS-ESH-2010 R1, *Hazard Assessment*
- PRS-ESH-2020 R0FC1, *Hot Work*
- PRS-ESH-5138 R0, *Confined Space Program*
- PRS-ESH-5201 R0, *Asbestos and Other Fibrous Materials*
- PRS-FCD-1010 R0, *Equipment Decontamination and Fixative Application*
- PRS-FCD-2701 R0FC1, *Large Equipment Decontamination*
- PRS-RAD-0301 R0, *Radiological Characterization Data*
- PRS-RAD-0501 R0, *Posting and Labeling Policy for the Paducah Environmental Remediation Project*
- PRS-RAD-1101 R1, *Radiation Exposure Limits*
- PRS-RAD-1107 R1, *Workplace Air Monitoring for Radioactivity*
- PRS-RAD-1109 R1, *Radioactive Contamination Control and Monitoring*
- PRS-RAD-1110 R1, *Radiation Surveys*

- PRS-RAD-1112 R0, *Air Sample Collection, Analysis, and Documentation*
- PRS-RAD-1113 R0, *Handling of Samples Potentially Contaminated with Hazardous Material*
- PRS-RAD-1118 R1, *Use and Maintenance of Non-Fissile HEPA Filter-Equipped Vacuum Cleaners*
- PRS-RAD-1119 R1, *Operation and Maintenance of Negative Air Machines*
- PRS-WCE-0012 R2, *Hoisting and Rigging Operations*
- PRS-WCE-0020 R6, *Work Planning*
- PRS-WCE-0021 R4, *ACI Work Execution*
- PRS-WSD-0019 R2, *On-Site Transfer and Movement of Waste Containers and Other Support Equipment*
- PRS-WSD-0022 R3, *Waste Water Accumulation, Storage Treatment, and Disposal*
- PRS-WSD-0437 R5, *Waste Characterization and Profiling*
- PRS-WSD-3015 R6, *Waste Packaging*
- PRS-WSD-3028 R5, *Off-Site Shipping*
- PRS-WSD-9503 R0AC1, *Off-Site Sample Shipping*

APPENDIX C

**C-410 COMPLEX DEMOLITION
REMOVAL ACTION VERIFICATION PLAN**

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C-410 Complex Demolition Removal Action Verification Plan

This Demolition Removal Action Verification Plan identifies sampling and/or monitoring that may be necessary to confirm that the ground level slabs of the C-410 Complex have been placed in a protective state that will prevent migration of contaminants from the slab after the buildings have been demolished. This will ensure that the removal action objectives have been met for this removal action. Those objectives are as follows:

- Reduce the potential exposure to on-site personnel from hazardous substances due to the structural deterioration of these facilities; and
- Reduce risk of releases to the environment and exposure to future industrial workers that may result from uncontrolled releases of hazardous substances, including radiological contamination, from these facilities.

The criteria for determining success of the removal action include the following:

- Removal of the physical structures to the slabs; and
- Management of the slab as described below.

During structural demolition, specifically transite removal, the surfaces around the perimeter of the C-340 Complex will be protected through the use of physical barriers such as plastic sheeting from cross-contamination by lead headed bolts that fasten transite to the structure, paint chips, and other debris.

The slabs that remain after structural demolition will be inspected, visually surveyed, decontaminated, as appropriate, and sealed to minimize the possibility of spreading contamination. Loose and scaling paint will be removed from the foundation and other hard surfaces to the extent practicable using available equipment and techniques. Successful removal of paint chips will be verified by visual inspection of the slab and soils immediately adjacent to the slab.

Fixatives may be applied to prevent scaling paint and fugitive dust, which may contain contaminated materials, from being released to the environment. Loose material such as paint chips will be segregated from the primary waste streams to the extent possible by vacuuming or other physical means.

Any PCB spills that cannot be cleaned to levels prescribed by the applicable or relevant and appropriate requirements will be sealed and/or covered and left for subsequent action under the Soils and Slabs Operable Unit. Small areas of PCB-contaminated concrete may be scabbled if the U.S. Department of Energy determines that is the most efficient way to address them.

Radionuclides

Radionuclides may be present on the slab due to the operations that took place when the facility was active. Following demolition, the slab will be surveyed to determine fixed and removable levels of radiological contamination. Swipe samples will be collected and analyzed in a fixed-base laboratory. If the survey indicates that only fixed contamination is present, the slab will be posted according to the requirements of 10 *CFR* § 835. Conversely, if the survey indicates that removable radiological contamination exists at levels exceeding those in Table C.1, the slab surface will be decontaminated by physical means such as vacuuming or washing. Based on the results of a subsequent survey, the slab will be posted according to the requirements of 10 *CFR* § 835, Appendix D. Regardless of radiological survey results, a fixative will be applied.

Table C.1. Removable Surface Contamination Limits

Radionuclide	Removable dpm (disintegrations per minute)
Alpha emitters	200
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission)	1,000

Table C.2 lists the analytical parameters and test methods for radiological samples.

Table C.2. Radiological Sampling Parameters and Test Methods

Analytical Parameter	Test Method
Total U, U-234, U-238, Th-228, Th-230, Th-232, Pu-238, Pu-239, Pu-240, Np-237, Am-241, Mass of U-235, Activity of U-235, Weight Percent of U-235 Cs-134, Cs-137, Co-60, Th-234, K-40 Tc-99, Sr-90	Alpha Spectroscopy/Inductively Coupled Plasma Mass Spectrometry Gamma Spectroscopy Liquid Scintillation

Polychlorinated biphenyls

PCBs may be present at the slab of the demolished building either as paint chips that flaked off of equipment and/or structural elements or as PCB-contaminated concrete from spills onto the slab from overhead piping and equipment. Loose paint chips will be collected and characterized for PCBs as well as other contamination. Successful removal of paint chips will be verified by visual inspection of the slab and soils immediately adjacent to the slab.

Concrete that is suspected of being PCB-contaminated will be sampled with hexane wipes to determine the initial PCB concentration, decontaminated according to applicable or relevant and appropriate requirements, and then posted, if necessary, in accordance with applicable or relevant and appropriate requirements. This determination will be based on process knowledge and/or visual inspection and evidence of staining.

Table C.3 lists the U.S. Environmental Protection Agency test methods for PCBs that may be used during the decommissioning activities.

Table C.3. PCB Analytical Test Methods

Analytical Parameter	Test Method
PCBs in paint	EPA SW-846-8082
PCB hexane wipe analysis	EPA SW-846-8082

PCB = polychlorinated biphenyls

Asbestos-containing materials

Asbestos may be present on the concrete slab from removal of the transite siding. Prior to structural demolition, the slab will be vacuumed using a vacuum with a high-efficiency particulate air filter to ensure that no loose asbestos fibers remain on the slab and are not dispersed during removal. The resulting waste will be sampled and characterized for appropriate disposal according to applicable or relevant and appropriate requirements.

Table C.4 lists the analytical test methods for asbestos samples that may be obtained during the decommissioning activities.

Table C.4. Asbestos Test Method

Analytical Parameter	Test Method
Asbestos	NIOSH-9002

Residual metals contamination

Residual metals contamination may remain on the slab as contaminants in dust from demolition. The slab will be vacuumed, and the resulting waste will be characterized for metals contamination to determine its regulatory status and appropriate disposition.

Table C.5 lists the analytical parameters and U.S. Environmental Protection Agency test methods for samples requiring metal analysis that may be obtained during the decommissioning activities.

Table C.5. Metals Analytical Test Methods

Analytical Parameter	Test Method
TCLP Metals (except Mercury) plus Zn	EPA SW-846-6010
TCLP Metals—Mercury	EPA SW-846-7470
Total Metals (RCRA 8 plus Zn, Tl)	EPA SW-846-6020 EPA SW-846-6010
Total Metals—Mercury	EPA SW-846-7470/7471

RCRA = Resource Conservation and Recovery Act

TCLP = toxicity characteristic leaching procedure

Total metals include arsenic, barium, cadmium, chromium, lead, selenium, silver, beryllium, antimony, nickel, and zinc.

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