Department of Energy
Portsmouth/Paducah Project Office
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513
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May 20, 2020

Ms. Myrna Redfield, Program Manager
Four Rivers Nuclear Partnership, LLC
5511 Hobbs Road
Kevil, Kentucky 42053

PPPO-02-10002491-20C

Dear Ms. Redfield:

DE-EM0004895: RESPONSE TO DELIVERABLE NO. 62, SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN, PAD-REG-1005/R4, AND FACILITY RESPONSE PLAN, CP2-RA-0015/FR1

Reference: Letter from M. Redfield to M. Fultz, "Four Rivers Nuclear Partnership, LLC, Deliverable No. 62—*Spill Prevention, Control, and Countermeasure Plan for the U.S. Department of Energy Paducah Gaseous Diffusion Plant, McCracken County, Kentucky*, PAD-REG-1005/R4, and *Paducah Gaseous Diffusion Plant Facility Response Plan in Accordance with the Oil Pollution Act of 1990*, CP2-RA-0015/FR1," (FRNP-20-3603), dated April 30, 2020

The U.S. Department of Energy (DOE) is providing the final signed copy of the Spill Prevention, Control, and Countermeasure Plan for records purposes. DOE recommends sending the Paducah Gaseous Diffusion Plant Facility Response Plan to the Environmental Protection Agency under Four Rivers Nuclear Partnership, LLC letterhead as was done previously (FRNP-18-0508) on February 22, 2018.

If you have any questions or require additional information, please contact David Dollins at (270) 441-6819.

Sincerely,

Jennifer Woodard

Jennifer Woodard
Contracting Officer's Representative
Portsmouth/Paducah Project Office

Enclosure:
Signed SPCC Plan

I am not authorized to negotiate, or make any agreements or commitments, which involve a change in the scope, price, period of performance, terms or conditions of the contract. If you believe that a change has been directed as a result of this correspondence, then in accordance with contract clause DEAR 952.242-70 "Technical Direction," you are directed to contact the Contracting Officer, in writing, within five (5) working days after receipt of this letter (or email) and prior to taking any action as a result of this letter.

cc: w/enclosure:
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PAD-REG-1005/R4

Spill Prevention, Control, and Countermeasure Plan for the U.S. Department of Energy Paducah Gaseous Diffusion Plant, McCracken County, Kentucky

This document is approved for public release per review by:

David Hayden — 4-30-2020

FRNP Classification Support — Date

PAD-REG-1005/R4

Spill Prevention, Control, and Countermeasure Plan for the U.S. Department of Energy Paducah Gaseous Diffusion Plant, McCracken County, Kentucky

Date Issued—April 2020

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

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract DE-EM0004895

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PROFESSIONAL ENGINEER'S CERTIFICATION [40 *CFR* § 112.3(d)]

By means of this certification, I attest that I am familiar with the requirements of this part; that I or my agent has visited and examined the facility; that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and with the requirements of 40 *CFR* Part 112; that procedures for required inspections and testing have been established; and the plan is adequate for the facility.

Stefanie A. Fountain, P.E.
KY Professional Engineer #27930

3/2/2020
Date

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MANAGEMENT APPROVAL (40 *CFR* § 112.7)

This Spill Prevention, Control, and Countermeasure (SPCC) Plan was prepared in accordance with good engineering practices and has the full approval of the U.S. Department of Energy (DOE); Four Rivers Nuclear Partnership, LLC, (FRNP) (Deactivation and Remediation Contractor); and Swift & Staley Team (Infrastructure Support Service Contractor). Implementation of this plan minimizes the potential for discharges of oil and oil-related products at the DOE Paducah Gaseous Diffusion Plant, located in McCracken County, Kentucky. Management will make available personnel, equipment, and materials necessary to implement this SPCC Plan and control and mitigate any discharges that should occur. The priorities of response team members are based upon protection of human life, prevention of environmental harm, and protection of property, respectively.

This SPCC Plan will be reviewed and evaluated at least once every five years or as required by the Regional Administrator under 40 *CFR* § 112.4. This review will be documented in the SPCC Plan Management Review Record located on the following page of this SPCC Plan and will include a statement as to whether the SPCC Plan will be amended. Any technical amendments to the SPCC Plan will be certified by a professional engineer.

Paducah Gaseous Diffusion Plant management is fully committed to the proper implementation of this SPCC Plan.

Bruce Ford — 4/29/2020

Bruce Ford/FRNP
Environmental Services Director — Date Signed

4/30/2020

Myrna Espinosa Redfield/FRNP
Program Manager — Date Signed

for Tammy Courtney/Swift & Staley Team
Project Manager — 3-9-20 Date Signed

Jennifer Woodard — 5/20/2020

Jennifer Woodard/DOE
Portsmouth/Paducah Project Office, Paducah Site Lead — Date Signed

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SPCC PLAN MANAGEMENT REVIEW RECORD

[40 *CFR* § 112.5(b)]

I have completed review and evaluation of the SPCC Plan for the Paducah Gaseous Diffusion Plant and ___will ___will not amend the SPCC Plan within six months of the date of my review.

Signature	Date Signed
Printed Name	Title

I have completed review and evaluation of the SPCC Plan for the Paducah Gaseous Diffusion Plant and ___will ___will not amend the SPCC Plan within six months of the date of my review.

Signature	Date Signed
Printed Name	Title

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CONTENTS

TABLES

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ACRONYMS

API	American Petroleum Institute
AST	aboveground storage tank
BMP	best management practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
DOE	U.S. Department of Energy
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
ERO	emergency response organization
FRNP	Four Rivers Nuclear Partnership, LLC
FRP	facility response plan
IC	incident commander
ISMS	Integrated Safety Management System
KAR	*Kentucky Administrative Regulations*
KDEP	Kentucky Department for Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
KRS	*Kentucky Revised Statutes*
OCB	oil circuit breaker
OSHA	Occupational Safety and Health Administration
OSRO	oil spill response organization
PA	public address system
PGDP	Paducah Gaseous Diffusion Plant
PPE	personal protective equipment
PSS	Plant Shift Superintendent
RCRA	Resource Conservation and Recovery Act
RQ	reportable quantity
SPCC	spill prevention, control, and countermeasure
STI	Steel Tank Institute
TSCA	Toxic Substances Control Act
UL®	Underwriters Laboratories Inc.®
WKWMA	West Kentucky Wildlife Management Area

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1. INTRODUCTION

The U.S. Department of Energy (DOE) manages work at the Paducah Site to comply with and adhere to applicable laws, regulations, and site-specific regulatory permits. References in this document to the Paducah Site generally mean the property, programs, and facilities at or near the Paducah Gaseous Diffusion Plant (PGDP) for which DOE has ultimate responsibility. PGDP is a government-owned plant that was constructed in the early 1950s and was operated by or for DOE and its authorized agencies for manufacturing enriched uranium. PGDP enriched uranium from the early 1950s until 2013, when PGDP ceased production operations. DOE is currently in the process of removing hazardous materials, including various oil products, from PGDP; preparing buildings for demolition; and remediating the soils, groundwater, and surface waters to allow the site to be used for other purposes.

The Paducah Site is located in a generally rural area of McCracken County, Kentucky, 10 miles west of Paducah, Kentucky, and 3.5 miles south of the Ohio River. The Paducah Site consists of the inactive uranium enrichment facilities and extensive support facilities. The plant is on a 3,556-acre DOE site comprised of the following: approximately 615 acres within a fenced security area, approximately 822 acres located outside the security fence, 133 acres of acquired easements, and the remaining 1,986 acres licensed to the Commonwealth of Kentucky as part of the West Kentucky Wildlife Management Area (WKWMA).

Federal and state regulations prohibit the unauthorized discharge of oil and oil products (e.g., gasoline, diesel fuel, fuel oil, synthetic oil, hydraulic oil, waste oil). The policy of DOE and its contractors/subcontractors is to handle all oil and oil products in a manner that prevents discharges and protects persons and the environment from harm. The purpose of this Spill Prevention, Control, and Countermeasure (SPCC) Plan is to form a comprehensive spill prevention program that minimizes the potential for discharges. This SPCC is prepared in accordance with 40 *CFR* Part 112, *Oil Pollution Prevention*. This SPCC Plan guides DOE and PGDP contractor/subcontractor personnel on avoiding and responding to discharges of oil and oil products into the environment from site mission-related projects and activities. This SPCC Plan is available electronically; copies will be provided to other groups, as appropriate. This SPCC Plan has been prepared for remediation, deactivation, and infrastructure-related projects and activities at DOE PGDP. The Infrastructure Support Service Contractor has voluntarily agreed to comply with this SPCC Plan.

A summary crosswalk of SPCC requirements for this plan is included in Appendix A.

1.1 ENTITIES NOT COVERED UNDER THIS PLAN

Tennessee Valley Authority (TVA) is constructing a substation on Paducah Site property (facility designation C-538). The substation will be managed under a separate TVA SPCC Plan during construction. Once the substation is operational (anticipated mid-2020), the facility will be operating under this SPCC Plan. PGDP inventory has been updated to reflect the containers, contents, and volumes associated with this facility.

The DUF_6 Conversion Project is operated separately from PGDP with distinctly different operations and processes and therefore is a separate facility from PGDP as defined in 40 *CFR* § 112.2. As a separate facility, the DUF_6 Conversion Project is not required to have an SPCC plan because it does not meet the threshold requirements for oil storage capacity as defined in 40 *CFR* § 112.1(d)(2).

1.2 GENERAL SPCC APPLICABILITY—40 *CFR* § 112.1

Requirements to prevent the discharge of oil and oil products into navigable waters of the United States are established in 40 *CFR* Part 112. These regulations are applicable to facilities that have oil and oil products and that reasonably could be expected to discharge oil into navigable waters of the United States; that have an aggregate aboveground capacity of more than 1,320 gal (counting only containers of 55 gal or greater); or have an aggregate underground capacity of more than 42,000 gal [excluding tanks subject to underground storage tank regulations (40 *CFR* Parts 280–281) and permanently closed tanks].

40 *CFR* Part 112 does not apply to any container with a storage capacity of less than 55 gal of oil or oil products. Although the regulations do not specifically define "container," they do define "bulk storage container" as "any container used to store oil" except for "oil-filled electrical, operating, or manufacturing equipment." This means that oil-filled electrical, operating, or manufacturing equipment containing 55 gal or greater of oil or oil products is subject to the general regulations in 40 *CFR* § 112.7, but not to the specific requirements for bulk storage containers in 40 *CFR* § 112.8.

As a non-transportation-related on-shore facility, PGDP engages in activities that reasonably could be expected to discharge oil and other hazardous materials into navigable waters of the United States and therefore is subject to the spill prevention requirements of 40 *CFR* Part 112.

1.3 AMENDMENT OF THE SPCC PLAN—40 *CFR* § 112.4 AND 40 *CFR* § 112.5

This SPCC Plan will be amended when a change in the facility design, construction, operation, or maintenance materially affects its potential for a discharge as described in 40 *CFR* § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to the following:

- Commissioning or decommissioning containers;
- Replacement, reconstruction, or movement of containers;
- Reconstruction, replacement, or installation of piping systems;
- Construction or demolition that might alter secondary containment structures;
- Changes of product or service; or
- Revision of standard operation or maintenance procedures at a facility.

Additionally, the Plan must be reviewed and evaluated at least once every five years per 40 *CFR* § 112.5(b). As a result of the review and evaluation, the SPCC will be amended within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will reduce the likelihood of a discharge. Amendments must be implemented as soon as possible, but not later than six months following preparation of the amendment. Amendments will be documented using the SPCC Plan Management Review Record included at the beginning of the SPCC Plan. A Professional Engineer must certify any technical amendment to the Plan in accordance with 40 *CFR* § 112.3(d). The certification is located at the beginning of this Plan.

The Regional Administrator also may require amendment of the SPCC Plan under 40 *CFR* § 112.4 if the Plan is found not to meet the requirements of 40 *CFR* Part 112 or that amendment is necessary to prevent and contain discharges from the facility.

PGDP SPCC Plan was last revised and issued in April 2018, which was consistent with the review requirements per 40 *CFR* § 112.5(b). This revision reflects the ongoing operational changes at PGDP that have resulted from deactivation and remediation.

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2. GENERAL SPCC REQUIREMENTS—40 *CFR* § 112.7

2.1 MANAGEMENT OVERSIGHT AND APPROVAL—40 *CFR* § 112.7

PGDP management strongly supports the prevention of discharges of oil and oil products. This SPCC Plan has the approval of management at a level and authority to commit the necessary resources toward spill prevention. All PGDP personnel are informed that pollution prevention is an integral part of job performance and of their responsibility for reporting and, where appropriate, correcting conditions that could lead to a discharge. All PGDP personnel are expected to follow applicable procedures and perform their jobs in a manner to prevent oil and oil product discharges.

Each of the contractors at PGDP is required to implement an Integrated Safety Management System/Environmental Management System (ISMS/EMS). The basic tenets of the ISMS/EMS are to systematically integrate safety and environmental management into work practices at all levels to achieve protection of the public, workers, and the environment and to conserve resources. This objective of ISMS is summed up simply by the statement, "Do Work Safely."

Additionally, management is committed to ensuring that workers are involved meaningfully in the processes that comprise ISMS, including work control and feedback processes so that all hazards and requirements specific to the work activity, job site, and/or facility are identified and appropriate controls implemented. All management personnel are held accountable for safety performance and compliance.

Implementing ISMS/EMS requires that regulatory compliance personnel review procedures and work instructions to ensure that any steps involving storage/transfers of oils or oil products include measures to protect the environment and minimize potential releases.

The Director of Environmental Services is responsible for development of the SPCC Plan and its implementation as a PGDP plan. Within the Environmental Services organization, Regulatory Compliance Specialists, knowledgeable about requirements related to discharge/spill prevention and response, are available to provide technical assistance to operating groups responsible for PGDP projects and activities. They also assist in developing training programs for employees related to discharge/spill prevention and response. Field walkdowns and assessments are conducted as an oversight measure to ensure compliance with the SPCC Plan. Discharge prevention also is a key element of the work control planning for facilities that store or use oil and oil products.

2.2 PLAN CONFORMANCE—40 *CFR* § 112.7(a)(1)

This SPCC Plan is written to comply with federal and state regulations requiring a written plan to prevent and respond to oil spills and releases. Spill and release prevention strategies are introduced in the SPCC Plan. The SPCC Plan also serves as a guide for PGDP personnel when responding to releases of oils or oil products. This SPCC Plan is maintained on-site, electronically, and at the C-300 Central Control Facility and is readily accessible for use in emergencies and agency inspections.

Review and evaluation of the SPCC Plan are required every five years per 40 *CFR* § 112.5(b). Reviews will be documented on the SPCC Plan Management Review Record, located near the front of this SPCC Plan. The SPCC Plan will be amended within six months of a change in the facility's design, construction, operation, or maintenance that materially affects its potential for a discharge; the list of Incident Commander (IC) changes; the list of emergency equipment changes; or the SPCC Plan fails in an

emergency. Technical amendments to the SPCC will be reviewed and approved by a licensed professional engineer.

PGDP has containers, oil-filled electrical equipment, and other items containing oil or oil products with capacities of 55 gal or greater that are regulated under Resource Conservation and Recovery Act (RCRA) or Toxic Substances Control Act (TSCA). SPCCs addressing temporary waste storage/accumulation areas [e.g., generator storage areas, 90-day accumulation areas, and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) storage areas] for oil containing RCRA/TSCA-regulated waste items are described in procedures CP2-ER-1125, *Contingency Plan for Temporary Staging Areas at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*; CP3-WM-0016, *Waste Handling and Storage in DOE Waste Storage Facilities*; CP3-WM-0023, *Inspection of DOE Waste Storage Facilities and Tanks*; CP3-EP-1007, *Oil and Hazardous Materials Spills and Releases*; CP3-WM-0034, *PCB Spill Management;* CP3-EC-0001, *Aboveground Storage Tank Management*; CP3-WM-1037, *Generation and Temporary Storage of Waste Materials*; and ISSC-ESH-IN-006, *Environmental Compliance Instructions*.

2.3 PLAN DEVIATIONS—40 *CFR* § 112.7(a)(2)

PGDP SPCC Plan does not deviate from the requirements of the rule. This plan follows and is aligned with the requirements of 40 *CFR* Part 112.

2.4 FACILITY LAYOUT—40 *CFR* § 112.7(a)(3)

Appendix B includes figures and tables showing the locations of the oil and oil products at PGDP and provides information on the individual containers, their location with respect to site facilities, their capacity, the anticipated direction(s) of flow, and the outfall that oil most likely would migrate to during a spill. As part of the revision to the SPCC Plan, an oil inventory review was conducted in January 2020. The current oil and oil product capacity at PGDP is greater than 1,000,000 gal. This inventory/capacity is described in the following subsections.

2.4.1 Description of Oil Storage—40 *CFR* § 112.7(a)(3)(i)

PGDP uses bulk oil and fuel storage tanks, large oil-filled electrical transformers, and other oil-filled equipment. All storage tanks are labeled according to criteria set forth in Occupational Safety and Health Administration (OSHA) 29 *CFR* § 1910.1200. All major storage tanks either are diked or of double-wall construction for spill control. In accordance with applicable regulatory requirements, hazardous waste accumulation areas also use containment dikes and other material control provisions.

As part of the ongoing activities at PGDP to remove hazardous materials, including various oil products, a number of tanks and other containers have been emptied and are not anticipated to be used again. Tanks and containers that have been closed permanently are not included in the inventory of oil storage containers. Those tanks and containers that are empty, but not yet closed permanently, are included in the inventory. These represent 1,049,795 gal of the total capacity of 1,746,646 gal, or 60% of PGDP capacity. Although there may be residual material in these tanks or containers, the volume associated with these tanks or containers is unlikely to migrate to navigable waters. Tanks that are closed permanently will be removed from the inventory in subsequent revisions to this Plan.

An inventory of oil storage containers, including volumes and quantities, is provided in Appendix B, Table B.1.

Two 420,000-gal tanks (C-601-A and C-601-B) are located at the non-operational C-600 Steam Plant Area and are built to American Petroleum Institute (API) Standard 650 (Appendix B, Table B.1 and Figure B.1). The C-601-B tank is used to charge a 500-gal day tank, which is connected to the two package boilers that can operate on fuel oil. The 500-gal day tank is dual-walled with no dike. The C-601-A tank no longer is used for oil storage, but serves as emergency containment for the C-601-B tank in the event of a leak. Both tanks are located within a 675,000-gal capacity containment structure consisting of an earthen dike lined with a synthetic material impervious to oil.

The C-601-B tank currently is partially filled and contained approximately 84,904 gal of fuel oil in July 2019. The C-601-B tank inventory represents the largest single accumulation of oil at the site and the highest risk for an impact from a potential release. Based on current use projections for the two package boilers that can use fuel oil on an emergency basis no additional fuel oil shipments are anticipated.

Two aboveground storage tanks (ASTs) are located at the C-752-B facility, which serves as a satellite refueling station for mobile plant equipment (Appendix B, Table B.1, and Figure B.1). The two 4,000-gal Underwriters Laboratories Inc.® (UL®)-listed, dual-wall tanks are located on the concrete-bermed C-752-B pad. Each tank contains an interstitial leak detection device, which is a continuous monitor with visible and audible alarms. Both tanks have a capacity of 4,000 gal; however, each tank is split internally into a 3,000 gal and a 1,000-gal tank to allow the tank to hold two different types of fuel at the same time. One tank contains E85 and unleaded gasoline; the other tank contains on-road and off-road diesel. The second wall of the tanks is sufficiently impervious to contain oil per 40 *CFR* § 112.7(c)(l)(i) requirement for secondary containment. Absorbent materials are available as a backup/defense in depth. Two 1,000-gal gasoline ASTs are located at C-333 and C-337 (Appendix B, Table B.1, and Figure B.1). The tanks are designed with double-wall construction and leak-detection monitors for the interstitial space; each AST is also equipped with an overfill prevention valve. Fuel facility personnel monitor the filling operations to identify potential for and prevent overfills. Personnel are instructed to use drip pans or buckets under connections to capture any released material during transfer. Additionally, site personnel provide continuous monitoring of the transfer operation, adhering to controlling procedures.

Fuel facility personnel monitor the filling operations for the diesel ASTs (Table B.1 and Figure B.1 in Appendix B include the specific capacity and status of each of these tanks) to identify potential for and prevent overfills. The tanks are designed either with double-wall construction with leak detection monitors for the interstitial space or have diked secondary containment. The tanks are filled via tanker truck; the location where fuel is transferred from the tanker truck is not diked. Personnel are instructed to use drip pans or buckets under connections to capture any released material during transfer. Additionally, site personnel provide continuous monitoring of the transfer operation, adhering to controlling procedures.

Two fuel tanks are located at C-746-U. The 1,000-gal and 500-gal tanks located outside at C-746-U. Each system consists of a primary steel tank and secondary containment the steel tank and insulation material. The C-746-U area, including the location of the diesel and gasoline tanks, drains to a man-made sedimentation basin with a maximum design capacity of 3,750,000 gal. Runoff of precipitation is accumulated in the sediment basin and manually discharged directly to Outfall 019 when the basin nears capacity. The accumulated water is examined before discharge to Outfall 019 to ensure that no oil is discharged. The basin is discharged and monitored for compliance against Kentucky Pollutant Discharge Elimination System (KPDES) permit conditions.

The C-535 and C-537 switchyards no longer are energized and were deactivated in September 2018. The C-533 Switchyard no longer is energized and was deactivated in June 2019. Transformer oil and oil circuit breaker (OCB) oil tanks located at C-533, C-535, and C-537 are empty. Additionally, storage tanks for transformer and OCB oils are located at C-540 and C-541; these tanks are located within concrete

dikes fitted with drain valves. The C-541 tank has been drained. Overhead piping connects C-535 and C-537 to the C-541 oil tanks and has been drained. Piping connects C-533 and C-531 to the C-540 oil tank; C-533 has been drained.

While not considered bulk storage tanks, electrical transformers, circuit breakers, and other electrical devices located in the four switchyards at PGDP are listed in Appendix B (Table B.1 and Figure B.1), with the specific capacity of each of these equipment types since they are considered oil-filled operational equipment. The equipment is located outdoors and does not have secondary containment due to electrical hazards associated with accumulated water in switchyards. If required, oil is delivered to these tanks by tanker truck or via piping systems between the storage tanks and the switchyards. Switchyard areas, including tanker truck loading/unloading areas and piping associated with switchyard equipment, do not have secondary containment dikes. The equipment is qualified, oil-filled operational equipment, as defined in 40 *CFR* § 112.2; additional discussion is included in Section 2.16.

TVA is constructing a substation on PGDP (facility designation C-538).[1] PGDP inventory has been updated to reflect the containers, contents, and volumes associated with this facility, which includes two 5,054-gal capacity transformers and six 121-gal capacity metering units. This equipment is qualified, oil-filled operational equipment, as defined in 40 *CFR* § 112.2; additional discussion is included in Section 2.16. The transformers will be constructed with oil containment pits that drain to a 19,530-gal capacity oil containment pit.

Hazardous Waste Management Facility Permit KY8-890-008-982 applies storage capacity restrictions to the three permitted waste storage facilities at C-733, C-746-Q, and C-752-A. All three facilities have secondary containment and are permitted to store waste oils. The C-733 facility is a partially enclosed facility that has a maximum container storage capacity of 38,500 gal, a secondary containment capacity of 27,900 gal, and can store all hazardous waste as listed in the permit. The C-746-Q facility maximum waste storage capacity is 306,240 gal, with a secondary containment capacity of 58,396 gal; C-746-Q can store all wastes listed in the permit, except for Hazardous Waste Code D001. No ignitable wastes can be stored at C-746-Q. The C-752-A facility has a maximum container storage capacity of 496,000 gal, with a secondary containment capacity of 408,800 gal. All waste streams can be stored at C-752-A, except for flammable wastes with a flash point < 100ºF. Ignitable wastes may be stored at C-752-A with a flashpoint between 100ºF and 140ºF. The permitted storage facilities capacities are not counted as capacity because oil-filled containers stored in the permitted storage facilities are included separately in the inventory (Appendix B, Table B.1, and Figure B.1).

The process building lube oil systems including all supply and drain tanks have been drained (Appendix B, Table B.1 and Figure B.1). All of the lube oil drain tanks are diked with secondary containment capacities identified in Table B.1. During operations, any oil spill would have been contained inside the dikes and inside of the process buildings.

The lube oil systems pose virtually no threat as currently configured. The motor couplings for all process lube and hydraulic system pumps have been removed. Suction piping has been removed to the hydraulic pumps and sight glasses. Holes were drilled at system low points and the drain tank flanges were removed to facilitate system drainage and to ensure that no accumulation of oil could occur. Funnels located on the cell floor and that were previously used to return accumulated oil from maintenance or housekeeping activities to the lube oil systems are locked. Each facility lube oil pipe connection formerly used to add bulk oil from a vendor truck to each lube oil system has a blank flange installed. Each unit lube oil system is independent of the other except for the bulk oil fill piping which connects to the top of each of the

[1] The substation will be managed under a separate TVA SPCC Plan during construction. Once the substation is operational (anticipated mid-2020), the facility will be operating under this SPCC Plan.

system drain tanks. While no accumulated oil is present in any process lube or hydraulic oil system, it would be impossible to backflow oil from one system to the other in the present system configuration. In order to put oil back in the system, some physical control must be violated.

Heavy equipment may be staged between projects at C-745-C in the center of PGDP. This storage yard drains to Outfall 001, which is protected with an underflow dam. Equipment staged for long periods will be drained of oil/oil products to the extent practical prior to placing in storage.

Heavy equipment may be stored in the C-740 yard that drains to Outfall 008. Heavy equipment also may be staged at C-750 and C-755. The C-755 storage area is located on the east side of the plant and drains to Outfalls 002 and 010. The C-750 storage area is located in the center of the plant and drains to Outfall 008. These outfalls are equipped with oil containment dams. Spilled materials from these areas will be contained and collected upstream from the oil containment dams.

Other tanks and equipment on-site that typically contain 55 gal (or greater) of oil products include mobile equipment/vehicles and temporarily located equipment (e.g., generators). In addition, fuel tanker trucks periodically come on-site to refill on-site tanks and equipment. These mobile and temporary items range over a wide on-site area or are not at one location for a substantial period of time. When practical, temporary storage of equipment is done on temporary secondary containment. Transfer of fuel and fueling of mobile vehicles/equipment is performed over drip pads/pans to the extent practical.

2.4.2 Discharge Prevention Measures—40 *CFR* § 112.7(a)(3)(ii)

The handling of oil and oil products is addressed in policies, programs, procedures, and work control documents. Discharge prevention measures begin with management commitment to prevent discharges that may harm workers, the public, or the environment. Workers are trained to perform oil/oil product loading, unloading, and transfers in accordance with management-approved procedures and to recognize and appropriately respond to leaks, spills, and releases.

The C-601-A and C-601-B tanks and other site ASTs have compliant secondary containment, either through dikes/curbing or double-wall construction. Additionally, some tanks are equipped with overfill prevention valves.

Larger site storage tanks generally are filled via tanker truck from a local vendor. Fuel oil is delivered by the project to several small fuel tanks dispersed throughout the site to provide fuel for emergency generators. The areas where the tanker or transfer trucks sit during offloading are not diked; therefore, personnel are instructed to use drip pans or buckets under connections to capture any released material during transfer. Additionally, site personnel provide continuous monitoring of the transfer operation, adhering to controlling procedures.

The gasoline ASTs located at C-333 and C-337 are equipped with an overfill prevention valve. Fuel facility personnel monitor the filling operations to ensure there are no overfills. The area where the tanker truck sits during transfer of fuel is not diked.

The C-752-B Fueling Station tanks are contained by a 7,400-gal capacity, bermed concrete pad. The fuel dispensing station at C-752-B has spill detection alarms and automatic shut-off devices. The area where the tanker truck sits during transfer of fuel is not diked; however, the delivery truck is designed with secondary containment around the hose connections, and there is secondary containment where the hoses are connected to the tanks.

2.4.3 Discharge or Drainage Controls—40 *CFR* § 112.7(a)(3)(iii)

Secondary containment areas located outside will hold at least 110% of the largest tank in the containment area. This will allow enough containment capacity for both expected rainfall and the entire contents of the tank. Secondary containment areas located inside the buildings will hold 100% of the largest tank in the containment area.

The operational electrical transformers and circuit breakers located in the switchyards at PGDP are listed in Appendix B; these are qualified, oil-filled operational equipment, as defined in 40 *CFR* § 112.2. This equipment is located outdoors and does not have secondary containment due to electrical hazards associated with accumulated water in switchyards. Additional discussion is included in Section 2.16.

Procedures establish the administrative controls and provide requirements and processes that govern installation, inspections, and generation of secondary containment systems. Each facility manager/operating group has the responsibility to control its environment and operations in such a manner as to prevent spills and discharges. To assist personnel in preventing spills or minimizing the effects of spills, procedures and work control documents are prepared for operation of equipment, handling of materials and wastes, and cleanup and containment of spills. Inspection techniques and frequencies for bulk storage containers, equipment, and containment dikes also are specified in procedures, work control documents, or other guidance. Appendix C contains an example of the inspection checklist used to inspect secondary containment areas (from CP3-EP-1004, *Maintenance of Emergency Facilities and Equipment*). Records of these inspections are maintained in accordance with the Deactivation and Remediation Contractor Records Management Program (FRNP-TRANS-0013), for a minimum of at least three years.

Procedures control the filling and transfer of oil products, as discussed in Section 2.4.2. Underflow dams designed to permit the passage of water but contain floating materials, such as oil, have been constructed in the drainage ditches flowing to Outfalls 001, 002, 008, 009, 010, and 015. The dams are designed to provide effective oil containment and prevent oil from reaching Bayou or Little Bayou Creeks. Furthermore, should a discharge reach a drainage ditch, inflatable pipe stoppers are available to fit any of the culverts in these ditches. Discharges can be contained within PGDP, if acted upon quickly. Booms and absorbent pads used to cleanup spills on-site also can be used to prevent off-site release when used in the creeks in the unlikely event a spill reaches the creeks.

Outfalls, except Outfall 019 and Outfall 020,[2] are checked per CP4-UT-0405, *Utilities Routine Duties, Checks, and Inspections*, with requirements to check for oil sheen. Outfall 019 is checked per CP4-WM-0620, *Management of the C-746-U Sedimentation Pond*, prior to discharge. This procedure also provides for the inspection and draining of storage tank containment dikes. Checking for evidence of a spill, such as sheen, leak, or discoloration, is required, and the integrity of the dike, including drain piping, valve, and cap/plug, is visually inspected. The results of the inspections are noted on the area Narrative Log. If the diked area shows evidence of a spill, the dike is not to be drained, and the Plant Shift Superintendent (PSS) is called to determine the path forward with appropriate input from Regulatory Compliance.

2.4.4 Countermeasures, Response, and Cleanup—40 *CFR* § 112.7(a)(3)(iv)

Plant procedures contain the reporting process to be followed should a spill occur. All spills are to be reported immediately to the PSS. The PSS directs the emergency containment of any spill that may egress the building or immediate area or have the possibility of entering the environment and also direct initial

[2] Outfall 020 receives only treated leachate from the C-764-U Landfill operations.

cleanup operations. The PSS determines reportability of any spill with assistance from Regulatory Compliance as needed.

PGDP operates 24 hours a day, 7 days a week, with emergency response organization (ERO) personnel on duty during this time. The Fire Services and Protective Force personnel are on duty, and each organization will perform its appropriate duties during an emergency situation. While members of the Emergency Operations Center are not on duty 24 hours a day, 7 days a week, they are on call during off-shift hours and carry cell phones for emergencies. Initial oil response equipment at PGDP includes an oil skimmer, containment booms, and other miscellaneous equipment to help support an oil spill emergency. An agreement has been established with an oil spill response organization (OSRO) for emergency oil spill response. The PSS has the authority to contact the OSRO as required.

Response to oil spills is controlled by CP3-EP-1007, *Oil and Hazardous Materials Spills and Releases,* this SPCC Plan, and by PGDP Facility Response Plan (FRP). Upon the reporting of a spill/discharge, the PSS serves as or appoints the on-scene IC. The IC will direct the emergency containment of any spill/discharge that may egress a building or immediate area or have the possibility of entering a plant drainage ditch. The PSS has the authority to call for assistance from the OSRO or other Mutual Aid Agencies as required. PGDP FRP describes the response actions for small and medium discharges as well as the worst-case scenario discharge. Emergency response personnel, spill cleanup equipment, communication systems, and external agency coordination are maintained and available on-site to respond to minor spills/releases. Minor spills are cleaned up quickly by operating personnel.

Upon discovery of any spill that may egress the building or immediate area or have the possibility of entering the environment, the following immediate actions shall take place.

- Person discovering spill shall notify the PSS.
- PSS will notify the ERO to report to the spill area.
- PSS will notify the OSRO to respond, if required.
- All unnecessary personnel will be evacuated from the area.
- Efforts to shut off the source of the spill or to contain the spill within the area where the spill initiated will be attempted.
- PSS will dispatch ERO personnel to the outfall that will be affected by the spill, if appropriate.
- Oil booms will be placed across the outfall to contain the spill, if appropriate.
- Outfalls may be plugged with devices, if necessary, to prevent any flow of spilled material through the oil containment dams.
- Depending on the size of the spill, sources of surface and process water to the particular outfall will either be slowed or stopped.
- OSRO, if notified, will arrive on-site and begin mobilization of equipment for cleanup efforts.
- Notifications to regulatory and company authorities, as necessary, will be made by the PSS or designee as part of the initial immediate response actions.

Following containment, the cleanup of spill/discharge materials may be accomplished by using portable pumps, containers, and other equipment and materials. All cleanup wastes generated will be managed properly and disposed of in accordance with applicable regulations and PGDP procedures. The IC will follow this SPCC Plan and supporting procedures. The PSS tracks spills because the reportable quantity (RQ) is based on a 24-hour period. Spill emergency response includes collection and containment of spilled material, whereas emergency response under OSHA is limited to the containment of spilled material. Because the PGDP emergency management organization is based on OSHA requirements, containment of a spill to the environment would be conducted by designated ERO personnel. Collection of the spilled material and residues may be conducted by other plant organizations, as required. Minor spills within indoor containment areas will be contained by the project. The PSS directs containment, treatment, and initial cleanup activities, with the assistance of other plant groups, until properly relieved of his duty. Should OSRO assistance be required to address oil spill response and cleanup, the OSRO would be under the technical direction of the PSS and IC. PGDP has a number of agreements with local and regional entities to provide and/or share support during emergency situations. The IC requests outside assistance in accordance with CP3-EP-1012, *Offsite Emergency Response Assistance.*

An emergency response vehicle is maintained at C-200 that contains absorbent pads, pillows, booms, sewer plugs, and sewer grating covers that may be used to contain and cleanup spilled chemicals or oil from the ground, drainage ditches, or surface waters. Additionally, a dedicated, enclosed, emergency response trailer containing extra spill containment and cleanup equipment is maintained at the Paducah Site. Floating plastic booms may be used to divert or contain the flow of oil or oil products on surface waters to facilitate cleanup. Self-contained breathing apparatus cylinders in the emergency response vehicle supply the inflating gas. Various operating groups in the Paducah Site also stock spill cleanup supplies for smaller, localized response to spill containment. Cleanup materials are kept at locations throughout PGDP near tanks and equipment listed in Appendix B.

Storage capacity for spilled material is available in the empty C-601-A 420,000-gal tank. In addition, PGDP maintains poly tanks for spill control operations and other containers that could be used in an emergency.

2.4.5 Disposal of Recovered Materials—40 *CFR* § 112.7(a)(3)(v)

Management of waste materials associated with an oil spill is conducted per CP3-WM-1037, *Generation and Temporary Storage of Waste Materials*, and ISSC-ESH-PR-005, *Storage and Disposition of Spent Materials.* Materials generated from a spill response may include wastes such as unusable product, personal protective equipment (PPE); wastewater from decontamination; RCRA hazardous, PCB, radioactive, or mixed wastes. Wastes transferred or moved within the facility boundary to respond to the release will not require permits but must be transported in accordance with procedure CP3-WM-2110, *Waste Container Handling, Overpacking, and Transportation*. Wastes being shipped for off-site treatment and disposal will be transported in accordance with applicable state and federal U.S. Department of Transportation and environmental regulations.

Decontamination of equipment will be conducted near the spill site. A temporary decontamination facility will be constructed by placing an impermeable membrane on the ground (e.g., Hypalon), diking the perimeter of the membrane, and, if necessary, constructing curtains to contain water spray. Depending on the product, several techniques for decontaminating equipment will be employed. These techniques may include hand washing with water and detergents or power washing with water and detergents.

After spill containment, product will be salvaged, if possible, and returned to bulk storage for reuse. If salvage is not possible or if the product has been mixed with other liquids such as fire suppressants or water, liquids will be pumped into containers and characterized to determine disposal alternatives. Waste

liquids will be characterized pursuant to RCRA requirements and, if necessary, be analyzed for RCRA constituents, PCBs, and radionuclides. Material classified as hazardous waste will be disposed of pursuant to RCRA requirements. Because of the potential for radionuclide contamination, additional characterization would be needed for off-site disposal.

Liquid wastes that are not hazardous (e.g., water used for decontamination) will be containerized. Disposal options may include, but will not be limited to, carbon filtration, treatment at PGDP's wastewater treatment plant, or treatment off-site.

All PPE and adsorbents will be containerized and characterized pursuant to RCRA requirements. If necessary, these materials will be analyzed for RCRA constituents, PCBs, and radionuclides. Disposal options may include, but will not be limited to, on-site treatment for discharge, disposal as solid waste in the on-site C-746-U Contained Landfill, on-site hazardous waste treatments, or off-site treatment/disposal.

Contaminated soils generated from the response activities will be characterized pursuant to RCRA. If necessary, soil will be analyzed for RCRA constituents, PCBs, and radionuclides. Disposal options for soil may include, but will not be limited to, bioremediation, thermal treatment, incineration, or disposal as solid waste in a contained landfill.

2.4.6 Contacts—40 *CFR* § 112.7(a)(3)(vi)

Upon discovering a spill or release of petroleum or petroleum products, PGDP personnel are required by plant policy to contact the PSS via one of the following methods.

- Emergency Phone System—Bell phones are located throughout PGDP. An emergency situation can be reported to the PSS by dialing 333 on the normal phone system. Emergency calls are answered by or at the C-300 Central Control Facility. Emergency Situations can also be reported to the PSS Office by dialing 6211 and stating: "This is an emergency."

- Radios—Two-way radios are used by the PSS, Fire Services, Protective Force, and other response personnel to aid in emergency communication. Any radio at PGDP can be used to summon emergency assistance by using the dedicated emergency channel (Channel 16). The C-300 Central Control Facility monitors radio communications on all radio channels used at PGDP.

- Public Address (PA) System—The PA system is used to communicate emergency instructions to all personnel. The PSS is in charge of all announcements made on the PA system.

- Cellular Telephones—Most managers, technical workers, and supervisors carry cellular phones and are trained to call emergency numbers as needed.

- Messenger—A messenger may be sent to the C-300 Central Control Facility to notify the PSS of an emergency, if this presents a faster means of notification.

The ERO is a structured organization with overall responsibility for initial and ongoing emergency response and mitigation. The ERO consists of experienced and trained personnel with overall responsibility for initial and ongoing emergency response and mitigation. These personnel are specially trained to respond to different types of emergencies including oil and hazardous substances discharges. The ERO establishes effective control at the scene of an event/incident and integrates ERO activities with those of local agencies and organizations that provide on-site response services. An adequate number of experienced and trained personnel, including designated alternates, are available on demand for timely

and effective performance of ERO functions. The ERO members are required to participate in formal training (initial and refresher), drills, and exercises. Site-level ERO elements and resources participate in a minimum of one exercise annually.

During an actual emergency involving the discharge of oil that migrates from the facility and violates the requirements of Section 311 of the Clean Water Act (CWA), the PSS or designee will make the required notifications and complete the Oil Spill Response Notification Form as required by CP3-ES-0003, *Environmental Incident Reporting* or ISSC-ESH-PR-008, *Accident Incident Reporting*, and ISSC-ESH-IN-006, *Environmental Compliance Instructions*. Required notifications will include the organizations identified in Table 1.

Organizations that might be notified in the event of an oil or hazardous substance release are identified in Table 2.

Table 1. Emergency Notification Phone List—Required Notifications

Facility Name:	**PGDP**
Owner Name:	**U.S. Department of Energy**
Facility Identification Number:	**110060257671**
Organization	**Phone Number**
U.S. Department of Energy, PGDP	(270) 441-6800
After Hours Phone	On File with PSS
National Response Center (NRC)	(800) 424-8802
Kentucky Environmental Response Team	(502) 564-2380
Alternate	(800) 928-2380
Kentucky Emergency Response Commission	(800) 255-2587
Kentucky Department of Environmental Protection (KDEP)	(270) 898-8468
Local Emergency Planning Committee: McCracken County Office of Emergency Management Ballard County Office of Emergency Management After Hours	 (270) 448-1530 (270) 665-9928 911
Date of Last Update: January 2020	

Table 2. Emergency Notification Phone List—Potential Notifications

Facility Name:	**PGDP**
Owner Name:	**U.S. Department of Energy**
Facility Identification Number:	**110060257671**
Organization	**Phone Number**
U.S. Department of Energy (DOE), Headquarters Emergency Operations Center	(202) 586-8100
Oil Spill Response Organization Enhanced Environmental and Emergency Services (E3) E3 (Emergency after Hours)	(270) 559-6336 (844) 333-0939
U.S. Environmental Protection Agency (EPA) Region 4 Air, Pesticides and Toxic Management Branch Leave voice mail, if necessary	(404) 562-9077
Kentucky State Fire Marshall	(502) 573-0382
Kentucky State Police (Post 1) Emergency	(270) 856-3721 (800) 222-5555
McCracken County Sheriff's Department	(270) 444-4719
National Weather Service (NOAA Weather Radio) Alternate	(270) 744-6440 (800) 533-7189
Massac County Illinois Emergency Management Agency (Day) After Hours (Massac County Illinois Sheriff's Department)	(618) 524-2002 (618) 524-2912
Illinois Emergency Management Agency Response	(800) 782-7860
Emergency Alert System Activation National Weather Service (emergency use only) National Weather Service (alternate)	 (270) 744-8029 (270) 744-6331
U.S. Coast Guard (Paducah Branch) Emergency number Illinois-American Waterworks (Cairo, Illinois) Olmsted Locks and Dam Electric Energy Incorporated (Joppa, Illinois)	(270) 442-1621 (270) 217-0959 (800) 422-2782 (618) 478-6401 (618) 543-7531
Date of Last Update: January 2020	

2.5 DISCHARGE REPORTING—40 *CFR* § 112.4 and 40 *CFR* § 112.7(a)(4)

After a discharge of more than 1,000 gal of oil in a single discharge, as described in 40 *CFR* § 112.1(b), or a discharge of more than 42 gal of oil in each of two discharges, as described in 40 *CFR* § 112.1(b) that occur within any 12 month period, the following information shall be submitted to the Regional Administrator within 60 days.

1. Name of the facility

2. Name(s) of the owner or operator of the facility

3. Location of the facility

4. Date and year of initial facility operation

5. Maximum storage or handling capacity of the facility and normal daily throughput

6. A complete copy of the SPCC Plan with any amendments

7. Corrective action and countermeasures taken, including a description of equipment repairs and/or replacements

8. An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary

9. The cause of such discharge as described in 40 *CFR* § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred

10. Additional preventive measures taken or contemplated to minimize the possibility of recurrence

11. Other information the Regional Administrator may reasonably require pertinent to the Plan or discharge

In addition, a complete copy of all information provided also shall be provided to KDEP.

The reporting requirements in 40 *CFR* § 112.7(a)(4) are not applicable because PGDP submitted an FRP in accordance with 40 *CFR* § 112.20.

2.6 PLAN ORGANIZATION—40 *CFR* § 112.7(a)(5)

This requirement is not applicable because PGDP submitted an FRP in accordance with 40 *CFR* § 112.20.

2.7 POTENTIAL EQUIPMENT FAILURE—40 *CFR* § 112.7(b)

Table B.1, included in Appendix B, contains listings of major equipment where there is a potential for failure that would result in a release of oil or hazardous materials. The table includes equipment description, location, capacity, secondary containment capacity for equipment (if applicable), anticipated flow rates, and plant outfalls most likely to be impacted. Figure B.1, included in Appendix B, depicts the anticipated direction of flow of a spill and the direction of flow for the plant drainage systems and outfalls.

The largest oil inventories at PGDP are associated with the C-601-B fuel oil tank and the switchyards. The C-601-B tank is located within secondary containment with a capacity of 675,000 gal, and the unused C-601-A tank is available to offload the inventory in the event of equipment failure. The switchyard tanks do not have secondary containment and are qualified, oil-filled operational equipment as defined in 40 *CFR* § 112.2.

Oil check inverted pipe dams have been installed in ditches leading to outfalls 001, 002, 008, 009, 010, and 015 to reduce the potential for discharges of the oil or oil products discussed above to enter Bayou Creek or Little Bayou Creek via outfall drainage ditches. Outfall 019 includes sufficient holdup capacities to allow removal of visible oil sheens prior to discharge. Table B.1, included in Appendix B, indicates the most likely outfall that such discharges would enter. Flow rates of a discharge would vary according to the size and location of the discharge and the weather conditions at the time, with flow estimates included in Table B.1. Outfalls, except Outfall 019 and Outfall 020,[3] are inspected for evidence of oil and maintained in accordance with CP4-UT-0405, *Utilities Routine Duties, Checks, and Inspections.*

[3] Outfall 020 receives only treated leachate from the C-764-U Landfill operations.

Outfall 019 is checked per CP4-WM-0620, *Management of the C-746-U Sedimentation Pond*, prior to discharge.

2.8 SECONDARY CONTAINMENT—40 *CFR* § 112.7(c)

Oil storage tanks at PGDP are provided with secondary containment dikes that are constructed to be impervious to the materials stored or have dual-wall construction to provide secondary containment. Typically, the dikes are concrete and painted or otherwise sealed. Descriptions of the secondary containment for the tanks are provided in Section 2.4.1 and in Appendix B, Table B.1. Secondary containment areas located outside are designed to hold at least 110% of the largest tank in the containment area. This will allow enough containment capacity for both expected rainfall and the entire contents of the tank. Secondary containment areas located inside buildings are designed to hold 100% of the largest tank in the containment area.

For equipment or other containers without engineered secondary containment, such as areas where tanks are filled by vendor tanker trucks, best practices are used to limit the potential for release. Spill prevention techniques will be employed during all filling activities to include continuous visual attention to fill efforts, use of drip pad or pans under valves and connections, and final checks for leaks prior to the tanker exiting the site. Similarly, drip pad or pans, buckets, or other sorbent materials are staged at accessible locations to support oil transfers and other activities with potential to release oil.

The two 1,000-gal tanks at C-333 and C-337 are of double-wall construction with leak detection monitors for the interstitial space.

The 1,000-gal and 500-gal tanks located outside at C-746-U are manufactured by ConVault® and are UL® listed. Each system consists of a primary steel tank and secondary containment that consists of a 30-mil (0.78-millimeters)-thick polyethylene membrane that encloses the steel tank and insulation material. The primary steel tank and the secondary containment are encased in 6 inches of reinforced concrete, but no steel or insulating material comes in contact with the concrete. The C-746-U area, including where the diesel and gasoline tanks are located, drains to a man-made containment lagoon. Runoff of precipitation is accumulated in the sediment basin and manually discharged directly to Outfall 019 when it gets near full and KPDES permit conditions can be met. The accumulated water will be examined before discharge to Outfall 019 to ensure that no oil will be discharged.

The two 4,000-gal steel tanks at C-752-B are UL®-listed, double wall, and staged on a bermed concrete pad. These two tanks are split internally into 1,000 and 3,000 gal sections. The second wall of the tanks is sufficiently impervious to contain oil per 40 *CFR* § 112.7(c)(1)(i) requirement for secondary containment. Additional containment is provided by the bermed concrete pad [40 *CFR* § 112.7 (c)(1)(iii)] and absorbent materials [40 *CFR* § 112.7(c)(1)(viii)] are available as a backup/defense in depth. Appropriate and nonexpended absorbent devices will be used as needed to ensure that only clean water is discharged. A spill collection pad along with spill collection devices (pans, pads, etc.) also may be used at the dispensing pumps to help ensure that oily products do not impact the environment if a spill occurs. Operational electrical transformers, circuit breakers, and other electrical devices located in the switchyards at PGDP are listed in Appendix B and are qualified, oil-filled operational equipment as defined in 40 *CFR* § 112.2. This equipment is located outdoors and does not have secondary containment due to electrical hazards associated with accumulated water in switchyards. Additional discussion is included in Section 2.16.

Areas such as tanker truck loading/unloading areas and piping associated with switchyard equipment also do not have secondary containment dikes. These tanker truck loading/unloading areas do, however, flow into facility drainage systems that are equipped with engineered, oil diversion/retention structures.

Underflow dams designed to permit the passage of water but contain floating materials, such as oil, have been constructed in several PGDP drainage ditches. The dams are designed to provide effective oil containment and were installed on ditches to Outfalls 001, 002, 008, 009, 010, and 015 to contain the oil on facility property and prevent it from reaching Bayou or Little Bayou Creeks.

Hazardous Waste Management Facility Permit KY8-890-008-982 applies storage capacity restrictions to the three permitted waste storage facilities at C-733, C-746-Q, and C-752-A. All three facilities have secondary containment and are permitted to store waste oils (Appendix B, Table B.1 and Figure B.1). The C-733 facility is a partially enclosed facility that has a maximum container storage capacity of 38,500 gal, a secondary containment capacity of 27,900 gal and can store all hazardous waste as listed in the permit. The C-746-Q facility maximum waste storage capacity is 306,240 gal, with a secondary containment capacity of 58,396 gal; C-746-Q can store all wastes listed in the permit, except for Hazardous Waste Code D001. No ignitable wastes can be stored at C-746-Q. The C-752-A facility has a maximum container storage capacity of 496,000 gal and a secondary containment capacity of 408,800 gal. All waste streams can be stored at C-752-A, except for flammable wastes with a flash point < 100ºF. Ignitable wastes may be stored at C-752-A with a flashpoint between 100ºF and 140ºF. The permitted storage facilities' capacities are not counted as capacity because oil-filled containers stored in the permitted storage facilities are included separately in the inventory.

All of the process building lube oil drain tanks are diked. The lube oil systems are located within the process buildings and have been drained and air-gapped. The process buildings no longer are operational with no path to future operations available due to the deactivation that has taken place to date.

Heavy equipment may be staged between projects at C-745-C in the center of PGDP. This storage yard drains to Outfall 001, which is protected with an underflow dam. Equipment staged for long periods will be drained of oil/oil products to the extent practical prior to placing in storage.

Heavy equipment may be stored in the C-740 yard that drains to Outfall 008. Heavy equipment also may be staged at C-750 and C-755. The C-755 storage area is located on the east side of the plant and drains to Outfalls 002 and 010. The C-750 storage area is located in the center of the plant and drains to Outfall 008. Outfalls 002, 008, and 010 are equipped with oil containment dams. Spilled materials from these areas will be contained and collected upstream from the oil containment dams.

Other tanks and equipment on-site that typically contain 55 gal (or greater) of oil products include mobile equipment/vehicles and temporarily located equipment (e.g., generators). In addition, fuel tanker trucks periodically come on-site to refill tanks and equipment. These mobile and temporary items range over a wide on-site area or are not at one location for a substantial period of time. When practical, temporary secondary containment is put into place to support temporary storage of equipment. Transfer of fuel and fueling of mobile vehicles/equipment is performed over drip pads/pans to the extent practical.

2.9 IMPRACTICABILITY OF SECONDARY CONTAINMENT—40 *CFR* § 112.7(d)

Electrical transformers, circuit breakers, and other electrical devices located in the operational switchyards at PGDP are listed in Appendix B, Table B.1, and Figure B.1 with the specific capacity of each of these equipment types. This equipment is located outdoors and does not have engineered secondary containment due to electrical hazards associated with accumulated water in switchyards.

Sorbent materials are available at the tank locations to address spills. Inspections in accordance with CP4-UT-0105, *Routine Station Checks and Maintenance C-531, C-533, C-535, C-537*, are conducted routinely. Leaks, drips, or other releases are noted, reported, and appropriately addressed. Repairs are conducted as required. The equipment is qualified, oil-filled operational equipment, as defined in 40 *CFR* § 112.2; additional discussion is included in Section 2.16.

Secondary containment for mobile and temporary equipment, such as trackhoes and generators, usually is not practical or considered necessary. These items are designed and maintained to minimize discharges and inspected regularly. Where appropriate and practical, portable containment pans will be placed below the filling point each time the equipment is filled or emptied. For example, large trucks are refueled in accordance with applicable procedures that require the use of portable containment pans.

2.10 INSPECTIONS, TESTS, AND RECORDS—40 *CFR* § 112.7(e)

All equipment, containers, tanks, piping, and secondary containment with a capacity of 55 gal or more of oil or oil products are inspected/tested on a regular basis in accordance with this SPCC Plan and applicable procedures. The methods and frequency of inspections/testing are appropriate for the item as discussed below. Each inspection report will be signed by the qualified employee performing the inspection. Each PGDP contractor maintains procedures and work controls that provide for content, type, and recording of inspection/testing activities. Inspection reports, maintenance records, and other pertinent records are maintained in accordance with the Deactivation and Remediation Contractor Records Management Program for a minimum of at least three years.

2.10.1 Stationary Tanks and Containers

ASTs and portable containers are inspected and tested in accordance with applicable API 653 and/or Steel Tank Institute (STI) SP001 Standards as indicated in Table 3. Those tanks and containers that have been drained and removed from service are considered to be at a significantly reduced risk of discharge. This includes the Process Building Lube Oil Tanks and some of the diesel fuel tanks. Refer to Appendix B for a detailed list of those items that have been drained.

Table 3. Inspection of Stationary Tanks and Containers

Tanks	Capacity (gal)	Inspections and Frequencies per API 653 and STI SP001
AST with Secondary Containment C-601-A/C-60 1-B Fuel Oil and Emergency Storage	420,000	Monthly and Annual Visual; 5-year external visual inspection; 20-year internal visual inspection
AST with Secondary Containment C-540/C-541 Transformer and OCB Oil	7,500 to 15,000	Monthly and Annual Visual; 20-year visual/external ultrasonic inspection
C-333-A/C-337-A/C-360 Hydraulic Oil	125 to 200	Monthly and Annual Visual
Dual-wall/Located within Secondary Containment Gasoline/Diesel/Kerosene	150 to 3,000	Monthly and Annual Visual
Drums/Totes	≥ 55	Monthly Visual

The following requirements apply to the inspection of nonmobile tanks, as applicable.

- Visual inspection of tank and tank site, signage, fire extinguisher and bollards; rusted areas will be cleaned and painted.

- Visual inspection of secondary containment, tank pad, and foundation for erosion, corrosion, cracking, and settling.

- Visual inspection of grout exterior (top, sides) for abrasion, cracking, holes, and excess wear.

- Visual inspection of venting systems, vent caps, level indicators, gauges, pumping systems, including hose and nozzle, and fill spouts.

- Insert dip stick into leak detection tube and record presence of liquids and hydrocarbon odor.

- Record inspections on an inspection form and file in the office of the tank owner or designee.

- Any findings related to safety and as-designed operations will be repaired promptly using the designated work release program, as necessary.

- Repair records will be filed as part of work control documents or project file.

2.10.2 Portable Tanks and 55-Gal Drums

Portable tanks, such as transfer or refueling tanks secured in the beds of trucks, are inspected each time they are used. Vehicles containing tanks used for storage and transfers of fuel are inspected and labeled in accordance with CP2-FP-2002, *Control of Flammable Combustible Liquids*, and ISSC-ESH-PR-002, *Hazard Communication*. Heavy equipment associated with the C-746-U Landfill is inspected in accordance with CP4-WM-0619, *C-746-U Landfill Industrial Equipment Inspection and Maintenance.*

Mobile or portable bulk storage containers (e.g., 55-gal drums and totes) are inspected per STI SP001.

2.10.3 Mobile or Temporary Equipment

Mobile or temporary equipment, such as trackhoes or generators, is inspected prior to use and each time they are refueled for leaks/drips in accordance with site procedures (e.g., CP3-SM-0054, *Mobile Construction Equipment*). Heavy duty equipment, such as loaders and cranes, is inspected for leaks during use. Equipment staged for long periods will be drained of oil/oil products to the extent practical prior to placing in storage. Equipment will be maintained properly in accordance with applicable site procedures or manufacturing specifications to limit potential for release of oil or oil products.

2.10.4 Qualified Oil-Filled Operational Equipment

Inspections related to qualified, oil-filled operational equipment are discussed in Section 2.16.

2.11 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION—40 *CFR* § 112.7(f)(1)-(3)

All PGDP personnel receive annual Consolidated Annual Training, which includes an overview of the SPCC, including spill prevention and reporting. PGDP personnel handling oil and oil products or who assist in the transfer of such products to or from bulk storage containers will be trained appropriately. In addition, a responsible person will be designated for each tank, container, and equipment item containing oil or oil products and having capacities of 55 gal or greater. These persons have additional training

consistent with their role. At a minimum, training consists of proper operation and maintenance of equipment to prevent discharges, discharge procedure protocols, applicable regulations and procedures, descriptions of recent known discharges, and the contents of this SPCC Plan. Oil handling personnel receive refresher briefings at least once per calendar year by completing an annual on-line Oil Discharge Prevention Briefing.

Personnel assigned to the ERO are required to complete an initial training program satisfactorily prior to assignment. The initial ERO training program is composed of a collection of functional modules that emergency personnel receive based on their emergency assignment. This training program includes classroom-type training (lectures, seminars), practical applications (tabletop drills, functional drills, and exercises), and self-study programs, has been developed for the ERO and support personnel. The training program ensures the continued emergency management response competency of all persons who may respond/participate during an emergency (CP3-EP-1016, *Emergency Management Training*). Annual refresher training is performed typically in conjunction with an annual drill or exercise. Additionally, any emergency response personnel will be trained according to PGDP procedures. This training will incorporate proper spill prevention and reporting training to ensure that personnel have adequate knowledge of this SPCC Plan.

The PGDP ERO receives training commensurate with assigned positions. These training requirements ensure the continued emergency management training of all persons who may respond/participate during a plant emergency. Specialized emergency management training is provided and includes, but is not limited to, the following categories of topics.

- **On-Scene Response Activities.** Topics covered include incident command, firefighting, HAZMAT response, including monitoring and emergency medical technician training.

- **Emergency Management Orientation.** Topics covered include concept of operations, emergency organizations, responsibilities and authorities, requirements, facilities and equipment overview, and off-site interface summary including public information.

- **Incident Classification and Notification.** Topics covered include classification systems, notification requirements, procedures, and emergency actions levels.

- **Hazard/Consequence Assessments and Protective Actions.** Topics covered include the spectrum of hazards and possible emergencies (man-made, natural, and security), reference material, site profile information, and site dispersion models. On- and off-site protective actions, protective action decision-making philosophy, and recovery decision making will be covered.

- **Ongoing Incident Assessment.** Topics covered include on-site incident monitoring, off-site field monitoring, personnel protection, and reporting.

Specific emergency training requirements for each position are described within the *Paducah Site Emergency Management Plan*, CP2-EP-1000, and Emergency Plan Implementing Procedures included in Appendix B of the *Paducah Site Emergency Management Plan*, which includes frequency of retraining and the number of hours of initial and retraining that are provided to the ERO.

Emergency responders to oil or hazardous material spills performing mitigation tasks will be trained to the Hazardous Materials Technician level in accordance with the requirements of 29 *CFR* § 1910.120(q). Refresher training is provided annually to maintain qualifications.

The Regulatory Compliance Manager has the primary responsibility to prevent discharges of oil and oil products. The Regulatory Compliance group reviews work control documents and procedures to identify the potential for discharge and appropriate control measures.

The potential for spills/discharges is identified and analyzed during work planning with spill prevention hazard controls identified to prevent discharges to the environment. The resulting work planning documents are used by project managers and frontline supervisors to cover hazards and control measures each morning for the work to be accomplished that day.

Training and exercise records are maintained in accordance with FRNP-TRANS-0013, *Records Management Plan at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, for a minimum of at least three years.

2.12 FACILITY SECURITY—40 *CFR* § 112.7(g)

The mission of PGDP necessitates stringent safeguards and security requirements. The fact that the facility is a secured area assures that responsible personnel are always physically present at the site in the event of any incident. Protective Force personnel make regular rounds and would observe unusual incidents such as releases of oil or chemicals and would be aware of any explosions or fires that might have on- or off-site environmental impacts. Regular rounds also are made inside and outside buildings by operators.

Because the plant is a security area, the site is fenced and the public is excluded. This exclusion reduces the possibility of accidental or malicious incidents due to public interactions with the environmentally significant materials present on the plant site. Tanks, containers, and equipment containing oil and oil products and having capacities of 55 gal or greater will be located within the Paducah Site security fence or in fully fenced or locked areas with controlled access. Also, associated valves and pumps will be secured and locked in closed or off positions when they are not operational or on standby status. Vehicles/equipment may be locked to secure unauthorized access. In addition, adequate lighting will be provided for stationary equipment to allow for the discovery of discharges during hours of darkness and for the prevention of discharges occurring through acts of vandalism. Transfer/loading areas are locked to prevent access by unauthorized personnel. Delivery/vendor personnel, if involved, will be escorted by facility personnel during loading/unloading operations. Administrative controls and procedures/protocols dictate equipment operation to minimize the potential for inadvertent releases.

PGDP is a controlled access facility with fencing, gates, and numerous other features that contribute to the safety and security of the facility. Security at PGDP is maintained 24 hours a day by a staff of trained Protective Force personnel. All Protective Force personnel are equipped with two-way radios and have direct communications with PGDP protection personnel. Protective Force personnel control the entry of vehicles and equipment into the Paducah Site. Visitors and contractors entering PGDP must process through the security offices before being allowed entry into the site.

The majority of the plant site is surrounded by a fence; all access gates to the Paducah Site are locked or manned by Protective Force personnel. All gates and locks are checked routinely around the clock by Protective Force personnel. These and other measures minimize the likelihood of entry of unauthorized personnel.

2.13 LOADING/UNLOADING RACKS—40 *CFR* § 112.7(h)

Major bulk storage tanks on-site generally are filled via a 6,000-gal tanker truck from a local vendor, including the C-601-B 420,000-gal fuel tank, and the gasoline ASTs at C-333 and C-337. The loading areas for these tanks are not diked. Site procedures control loading activities, including safety precautions such as the following:

- Use of drip pans or buckets;
- Use of chocks on the tanker truck during loading;
- Continuous site personnel monitoring of the loading operations;
- Valve guides;
- Traffic control during loading operations; and
- Leak inspections of valves, connections, and ground surface during and after loading.

Operational tasks associated with unloading fuel oil from tanker trucks and supplying oil to the C-600 boilers are documented in CP4-UT-0501, *No. 2 Fuel Oil Handling and Storage.*

2.14 BRITTLE FRACTURE EVALUATION—40 *CFR* § 112.7(i)

The C-601-A and C-601-B fuel oil storage tanks are the only field constructed ASTs on-site. Should the fuel oil storage tanks undergo a repair, modification, or change in service that might affect the risk of discharge or failure, a brittle fracture evaluation will be performed according to appropriate standards.

2.15 CONFORMANCE WITH OTHER REQUIREMENTS—40 *CFR* § 112.7(j)

Section 311 of the Federal Water Pollution Control Act of 1973, as amended by the CWA, expressly prohibits the discharge (i.e., spill or release) of oils or hazardous substances that may affect the natural resources of the United States. It then charges the EPA to promulgate regulations that (1) determine the quantity of oils or of any hazardous substance that, if discharged, may be harmful to the public health and welfare; and (2) determine the conditions or circumstances under which oils or hazardous substances may be discharged. EPA, in response to this section, issued 40 *CFR*, Parts 110, 112, 116, and 117. Kentucky's requirements are contained in 401 *KAR* 05 and *KRS* 224.01-400.

40 *CFR* Part 110 prohibits the discharge of oil in harmful quantities, which are those that violate applicable water quality standards; cause a film or sheen on the surface of the water; or cause a sludge or emulsion to be deposited beneath the water surface or on the shoreline. Any releases of oil under 40 *CFR* Part 110 are reported to the Natural Response Center and KDEP. 40 *CFR* Part 112 requires that an SPCC Plan be generated for any facility that has discharged or could reasonably be expected to discharge oil in harmful quantities. This SPCC Plan meets the requirements of 40 *CFR* Part 112 and analogous Kentucky requirements.

The FRP for PGDP is written to comply with federal regulations outlined in the CWA, Section 311 (j)(5), as amended by the Oil Pollution Act, Section 4202 (a)(6). The regulation requires that owners/operators of certain non-transportation-related facilities, currently subject to the SPCC requirements of 40 *CFR* Part 112, develop an FRP. Facilities that, because of their location and petroleum storage capacity, could cause "substantial harm" to the environment by discharging oil into or on the navigable water or adjoining shorelines must submit a FRP. The FRP shall be reviewed and evaluated at least once every five years or as deemed necessary. Updates and revisions shall be made with the change of facility

information, emergency response action plan, and release vulnerability. PGDP FRP was updated in 2020 to be consistent with this SPCC.

Notification requirements are implemented through procedures and KPDES permit requirements. 40 *CFR* Part 125 and 401 *KAR* 05 require that persons who hold National Pollutant Discharge Elimination System/KPDES permits incorporate Best Management Practices (BMPs) into their operations. BMPs, including spill control, are outlined in PAD-REG-1006, *Best Management Practices Plan*. BMPs are used to protect against the discharge of toxic and hazardous pollutants.

CERCLA Section 101(14) calls for a list of those materials already designated as hazardous or extremely hazardous under any one of five statutes. These hazardous or extremely hazardous substances and their RQ are designated in 40 *CFR* § 302.4, Table 302.4; 40 *CFR* Parts 117; 302; and 355. Additional substances can be added to the list by the EPA administrator under Section 102 of CERCLA. Releases of these substances in quantities exceeding their RQ must be reported to the National Response Center and KDEP if the RQ is exceeded. If the release also has the potential to go off-site, the release must be reported to the McCracken County and Ballard County Disaster Emergency Services. Kentucky Statute, *KRS* 224.01-400, in addition to releases of materials if the abovementioned RQs are exceeded, also sets RQs for petroleum products (gasoline, oil) that are specifically excluded from the CERCLA lists.

In addition to the plans mentioned above, Deactivation and Remediation Contractor procedure CP3-ES-0003, *Environmental Incident Reporting*, ISSC-ESH-PR-008, *Accident-Incident Reporting*, and ISSC-ESH-IN-006, *Environmental Compliance Instructions*, provides site direction for reporting spills or discharges. The PSS in concert with Regulatory Compliance makes event notifications to appropriate agencies/parties including EPA, DOE/DOE Contractors, Kentucky, etc., as required by regulation/policy in accordance with this procedure.

2.16 QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT—40 *CFR* § 112.7(k)

Electrical transformers and circuit breakers located in the operational switchyards at PGDP meet the 40 *CFR* § 112.2 definition of qualified oil-filled operational equipment. This equipment is located outdoors and does not have secondary containment due to electrical hazards associated with accumulated water in switchyards. This switchyard equipment is inspected for leaks, spills, and other operational issues. Inspections are conducted in accordance with CP4-UT-0105, *Routine Station Checks and Maintenance C-531, C-533, C-535, C-537*. Transfer of oil from oil storage tanks to equipment is controlled by CP4-SM-0072, *Oil House C-540-A and C-541-A Oil Filter Press*. Daily inspections of Outfall 010 (C-531 and C-538[4]) are performed. Monitoring for oil presence at the outfall is performed daily (once per day) at Ogden Landing Road.

[4] The C-538 substation will be managed under a separate TVA SPCC Plan during construction. Once the substation is operational (anticipated mid-2020), the facility will be operating under this SPCC Plan.

3. ON-SHORE NONPRODUCTION FACILITIES—40 *CFR* § 112.8(A)

3.1 FACILITY DRAINAGE—40 *CFR* § 112.8(b)

PGDP is located approximately 3.5 miles south of the Ohio River in a generally rural area of McCracken County, Kentucky. The WKWMA completely surrounds the facility. There are two tributaries of the Ohio River running through WKWMA, Bayou Creek on the west and Little Bayou Creek on the east. These two streams join north of the site and discharge to the Ohio River. These creeks exhibit widely fluctuating discharge characteristics that are tied closely to local precipitation. Natural runoff makes up a small portion of the flow in Bayou and Little Bayou Creeks during the dry periods and was supplemented largely by continuous water discharge from the Paducah facility. Surface runoff from the facility drains through 11 permitted outfalls directly to one of the tributaries. Because the facilities discharge flow directly into WKWMA, the distance to a fish and wildlife and sensitive environment essentially is zero from the facility outfalls.

These creeks are not used as drinking water supplies, but are accessible to wildlife and recreationists. Both creeks are classified by the Commonwealth of Kentucky as being for "all uses" and, therefore, are subject to warm water aquatic habitat criteria standards in the creeks and drinking water standards at the nearest drinking water withdrawal location (Cairo, IL).

In general, plant drainage is divided into east and west systems with some overlap. A site drainage diagram is provided in Appendix D. Liquid discharges (including potentially released oil and oil products) would be expected to flow to the major drainage ditches and potentially to Bayou Creek or Little Bayou Creek. The flow rate would vary according to the size and location of the discharge and the weather conditions at the time. Flow rate estimates are provided in Appendix B.

3.1.1 Drainage from Diked Storage Areas—40 *CFR* § 112.8(b)(1) & (2)

Outdoor dikes are designed to contain 110% of the largest tank or container contents and also will contain the maximum expected rainfall in addition to the container or tank contents. Except for the drain valve at C-752-B, which is locked in the open position,[5] all dikes are equipped with manual drain valves that remain closed unless rainwater is being discharged following the determination that no material has been spilled within the containment area in accordance with plant procedures.

The facility manager of any area with secondary containment is responsible for inspecting and maintaining dikes in accordance with procedures. Appendix C contains an example of checklists that personnel use to inspect diked areas located at C-600 and at C-200. These examples document methods used for secondary containment inspections.

3.1.2 Drainage from Undiked Storage Areas—40 *CFR* § 112.8(b)(3)

Areas such as tanker truck loading/unloading areas, oil-filled equipment, and piping associated with storage tanks or oil filled equipment also do not have secondary containment dikes. These areas do however flow into facility drainage systems that are equipped with engineered, oil diversion/retention structures. Underflow dams designed to permit the passage of water, but contain floating materials such as oil, have been constructed in PGDP drainage ditches with the potential to receive a medium or worst case oil discharge. Outfalls 001, 002, 008, 009, 010, and 015 have functional oil containment underflow

[5] Each of the tanks in this area is a double-wall tank.

dams to prevent the flow of oil to the flume and contain the oil on-site prior to reaching Bayou or Little Bayou Creeks.

At Outfall 008, an oil sheen would be skimmed above the inverted pipe dam. The skimmer at the Outfall 008 dam consists of a dam, quiet zone, and weir. Adjacent to the dam is an oil containment pond. The dam creates a quiet zone with a three-hour retention time to allow oil and other buoyant materials to separate from the water. A skirted oil boom diverts floating materials to a slightly submerged float-controlled weir. Most of the ditch flow will underflow the floating boom and then overflow the dam. Diverted materials will flow to the containment pond and remain there for remediation. An underflow dam maintains the water level in the containment area.

Should an oil or chemical spill reach a drainage ditch, inflatable pipe stoppers are available to fit any of the culverts in these ditches. Spill containment can be provided within the perimeter fence, if necessary. Booms and absorbent pads can be used in the event a spill reached the creeks.

3.1.3 Drainage Diversion Systems—40 *CFR* § 112.8(b)(4)

The facility drainage system is equipped such that, in the event of an uncontrolled discharge, oil will be retained on facility property. Underflow dams designed to permit the passage of water, but that contain floating materials such as oil, have been constructed in the plant drainage ditches with the potential to receive a medium or worst case oil discharge. The dams are designed to provide effective oil containment and were installed as a preemptive response action for potential future spills to contain the oil prior to reaching Bayou Creek or Little Bayou Creek. Oil dams are located within the ditches leading to Outfalls 001, 002, 008, 009, 010, and 015.

3.1.4 Facility Drainage Water Treatment—40 *CFR* § 112.8(b)(5)

Facility drainage waters are not treated continuously at the site prior to discharge.

3.2 BULK STORAGE CONTAINERS—40 *CFR* § 112.8(c)

Per 40 *CFR* § 112.2, bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container. Bulk storage containers are identified in Table B.1. Bulk storage containers will meet 40 *CFR* § 112.7 requirements outlined in Section 2.0 of this SPCC Plan and the following additional requirements.

3.2.1 Container Compatibility—40 *CFR* § 112.8(c)(1)

Bulk storage containers utilized at the site are constructed of steel, plastic, or another suitable material and are compatible with the materials being stored and storage conditions. Quality Control is responsible for inspecting the integrity of all the corrosive liquid storage tanks located on the plant site in accordance with plant procedures. Corrosive liquid storage tanks are any tanks that contain substances that can cause destruction of living tissue by chemical action. This includes oil storage tanks. A list of oil storage tanks and respective inspection criteria/scheduling is maintained by the Work Planning and Scheduling Group. Prior to any new containers being used or constructed on-site for bulk oil/oil product storage in excess of 55 gal, the responsible project coordinates with Engineering and Regulatory Compliance to evaluate container compatibility and to ensure inclusion on the oil inventory and identification of inspection/testing requirements.

3.2.2 Secondary Containment for Bulk Storage Containers—40 *CFR* § 112.8(c)(2)

Oil storage tanks at the site are provided with secondary containment. Secondary containment dikes are constructed to be impervious to the materials stored. Typically, the dikes are concrete and painted or otherwise sealed. In some cases, secondary containment is provided by dual-wall construction, which may be augmented by containment dikes. The in-service fuel oil storage tank at C-600 has an earthen dike lined with a synthetic material impervious to oil. Secondary containment areas located outside of buildings or facilities will hold at least 110% of the largest tank in the containment area. This will allow enough containment capacity for both expected rainfall and the entire contents of the tank. Secondary containment areas located inside the buildings will hold 100% of the largest tank in the containment area.

3.2.3 Valve Closure and Drainage—40 *CFR* § 112.8(c)(3)

Except for the drain valve at C-752-B, which is locked in the open position,[6] all dikes are equipped with manual drain valves that remain closed unless rainwater is being discharged. Prior to discharge, a determination that no material has been spilled within the containment area is required in accordance with site procedures. Valve closure status is an element of periodic inspections identified in site procedures and is captured on inspection logs. Personnel conduct visual inspections of diked areas before draining as described in CP4-UT-0405, *Utilities Routine Duties Checks and Inspections*. Appendix C contains an example of the checklist personnel use to inspect the diked area located at C-200 and C-601. These examples document methods used for secondary containment inspections. Records of these inspections are maintained in accordance with the Records Management Program (FRNP-TRANS-0013) for a minimum of at least three years.

3.2.4 Corrosion Protection of Buried/Partially Buried Storage Metallic Tanks—40 *CFR* § 112.8(c)(4) & (5)

PGDP currently does not have any buried or partially buried metallic oil storage tanks in service.

3.2.5 Integrity Testing of Aboveground Containers—40 *CFR* § 112.8(c)(6)

Aboveground containers undergo inspection on a regular schedule and whenever material repairs are made. All aboveground tanks, with the exception of the C-601-A and C-601-B Fuel Oil Storage tanks, meet the following standards:

- Elevated or double-wall, such that the bottom of the primary tank is not in contact with the ground and can be visually inspected.
- Secondary containment or double-wall tank provides release prevention barrier of material sufficiently impervious to stored material.
- Leaks can be detected visually by operators.

All in-service tanks included in Appendix B are inspected periodically by operations personnel in accordance with site procedures. These inspections are documented on roundsheets or checklists, examples of which are included in Appendix C. For a list of AST inspection and testing criteria, refer to Table 3.

[6] Each of the tanks in this area is a double-wall tank.

Integrity testing of the C-601-A and C-601-B Fuel Oil Storage Tanks is performed by a qualified contractor in accordance with requirements outlined in API-653. External and internal ultrasonic inspection is conducted by API/STI certified inspectors.

3.2.6 Internal Heating Coils—40 *CFR* § 112.8(c)(7)

The site has no bulk storage containers with internal heating coils.

3.2.7 Liquid Level Sensing—40 *CFR* § 112.8(c)(8)

The fuel storage locations at the C-600 facility are equipped with spill detection alarms and automatic shut-off devices. Originally, the oil supply line from the fuel oil storage tank to the C-600 boiler system was equipped with a flow alarm that would detect abnormal flow in the event of a leak. A remote shutoff valve was installed in the supply line. With replacement of the old boilers with the package boilers, the configuration of the tank has been changed. Now the C-601-B tank is used to charge a 500-gal tank that connects to the two package boilers that can use fuel oil. Filling of the 500-gal tank from the C-601-B tank is conducted in accordance with site procedures and is monitored continuously by site personnel during the process.

The fuel dispensing station at C-752-B has spill detection alarms and automatic shut-off devices.

The ASTs at C-333 and C-337 are of double-wall construction with leak detection monitors for the interstitial space.

Other smaller containers are monitored directly by personnel during transfer operations using gauges, sight glasses, or other visual measurements. Liquid levels are included in periodic inspections and documented on inspection logs, which are maintained in accordance with the Records Management Program (FRNP-TRANS-0013).

Discovery of alarms or a spill will be reported immediately to the PSS. The PSS will respond to the scene and determine if a spill actually has occurred, and, if so, the required level of response needed. Alarm response and spill response are addressed in site procedures.

3.2.8 Effluent Treatment Facilities—40 *CFR* § 112.8(c)(9)

PGDP has no effluent treatment facilities dedicated solely to treating drainage from storage areas.

3.2.9 Leakage Response—40 *CFR* § 112.8(c)(10)

Facility managers are responsible to inspect and drain dikes. If any visible discharge or leak has occurred, the material must be reported, removed, and properly dispositioned in accordance with site procedures. If necessary, repairs to storage container or associated equipment will be initiated immediately.

3.2.10 Mobile or Portable Storage Containers—40 *CFR* § 112.8(c)(11)

Product containers such as drums are stored in areas with secondary containment, typically, a portable system such as a drum pan.

3.3 FACILITY TRANSFER OPERATIONS—40 *CFR* § 112.8(d)

3.3.1 Buried Piping at Transfer Operations—40 *CFR* § 112.8(d)(1)

PGDP does not operate any buried piping associated with oil transfer operations.

3.3.2 Terminal Connections at Transfer Operations—40 *CFR* § 112.8(d)(2)

The primary oil transfer operations are associated with filling the C-601-B fuel oil storage tank and operation of electrical switchyard equipment. The terminal connections for piping systems associated with these systems are capped or plugged with appropriate fittings to prevent leakage in the event a valve fails or is not sealed properly.

3.3.3 Pipe Supports at Transfer Operations—40 *CFR* § 112.8(d)(3)

Support structures for aboveground oil transfer piping are engineered in accordance with established specifications to prevent abrasion and corrosion. Typically, these supports consist of painted metal structures anchored to concrete footings. The piping is attached to the supports using "U"-type bolts or piping hangers that will allow for proper expansion and contraction of the piping. Supports are inspected during periodic tank and pipe inspections and documented on inspection logs.

3.3.4 Inspections for Transfer Operations—40 *CFR* § 112.8(d)(4)

The piping systems associated with the facility transfer operations primarily related to switchyard equipment maintenance are inspected for leaks during use in accordance with site procedures.

3.3.5 Posting for Aboveground Piping—40 *CFR* § 112.8(d)(5)

Aboveground piping is used primarily for oil transfers in the electrical switchyards areas. The majority of this system is located so that vehicle traffic is not an issue. Access to the areas where it does cross roadways typically is restricted to authorized individuals only. Delivery and/or vendor vehicles, if allowed in the area, would be escorted by facility personnel.

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APPENDIX A

REGULATORY CITATION CROSS REFERENCE

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Regulatory Citation Cross Reference

Requirement	Regulatory Citation	Location in SPCC Plan
SPCC Regulation 40 *CFR* Part 112 Requirements		
Oil storage facilities meeting criteria in 40 *CFR* § 112.1 must have a written SPCC Plan.	40 *CFR* § 112.3(a)	Section 1.0; Section 2.2
A Professional Engineer must certify the SPCC Plan.	40 *CFR* § 112.3(d)	Certification Page
Maintain complete copy of the plan onsite if attended at least 4 hours per day.	40 *CFR* § 112.3(e)	Section 2.2
Prepare written report to EPA (and state) within 60 days of oil spill greater than 1,000 gallons, or two reportable spills greater than 42 gallon within a 12-month period.	40 *CFR* § 112.4(a), (c)	Management Approval, Section 1.3: Section 2.5
Amend SPCC Plan to reflect facility changes that materially affect potential of discharge.	40 *CFR* § 112.5(a)	Section 1.3
Review and update SPCC Plan at least every five years.	40 *CFR* § 112.5(b)	SPCC Plan Management Review Record ("Review Record"); Section 1.3; Section 2.2
Document completion of review by a signed statement in a log within plan.	40 *CFR* § 112.5(b)	Review Record; Section 1.3; Section 2.2
A Professional Engineer must certify any technical amendment to the SPCC Plan.	40 *CFR* § 112.5(c)	Section 1.3
SPCC Plan shall have full approval of management at a level with authority to commit necessary resources.	40 *CFR* § 112.7	Certification Page; Section 2.1
Must include in plan a section index cross-reference to regulatory citation.	40 *CFR* § 112.7	Appendix A
If plan calls for additional facilities, procedures, methods or equipment not yet fully operational, details of their installation and start-up are discussed.	40 *CFR* § 112.7	Section 1.1; Section 2.4.1; Section 2.16; Appendix C
Include a discussion of the facility's conformance with requirements in the regulation.	40 *CFR* § 112.7(a)(1)	Section 2.2
Include a discussion of the facility's deviation from the requirements in the regulation.	40 *CFR* § 112.7(a)(2)	Section 2.3
Describe in the plan the physical layout of the facility.	40 *CFR* § 112.7(a)(3)	Section 2.4
Include a facility diagram marking location and content of each container including transfer stations & interconnecting pipes.	40 *CFR* § 112.7(a)(3)	Section 2.4
Address in plan the type of oil in each container & its capacity.	40 *CFR* § 112.7(a)(3)(i)	Section 2.4.1
Address in plan the discharge prevention measures including procedures for routine handling of products (loading/unloading).	40 *CFR* § 112.7(a)(3)(ii)	Section 2.4.2
Address in plan the measures and procedures for containment drainage and discharge control.	40 *CFR* § 112.7(a)(3)(iii)	Section 2.4.3
Address in plan the countermeasures for discharge discovery, response and clean up.	40 *CFR* § 112.7(a)(3)(iv)	Section 2.4.4
Address in plan methods of disposal of recovered spill materials.	40 *CFR* § 112.7(a)(3)(v)	Section 2.4.5
Contact lists & phone numbers of facility response coordinator, NRC, cleanup contractors, & agencies.	40 *CFR* § 112.7(a)(3)(vi)	Section 2.4.6
Provide information and procedures in plan to enable proper reporting of a discharge.	40 *CFR* § 112.7(a)(4)	Section 2.5

Requirement	Regulatory Citation	Location in SPCC Plan
SPCC Regulation 40 *CFR* Part 112 Requirements		
Organize plan to describe procedures to be used when discharge occurs.	40 *CFR* § 112.7(a)(5)	Section 2.6
SPCC Plan should include flow prediction and total quantity where equipment/tank failure may lead to discharge.	40 *CFR* § 112.7(b)	Section 2.7
Provide appropriate containment and/or diversionary structures to prevent discharged oil from reaching navigable watercourse.	40 *CFR* § 112.7(c)	Section 2.8
Provide information related to impracticability of secondary containment.	40 *CFR* § 112.7(d)	Section 2.9
Inspection tests & records: Provide for written procedures.	40 *CFR* § 112.7(e)	Section 2.10
Training – provide at minimum to oil handling personnel, training in discharge prevention, laws, rules and content of plan.	40 *CFR* § 112.7(f)(1)	Section 2.11
Designate a person at each facility who is accountable for discharge prevention.	40 *CFR* § 112.7(f)(2)	Section 2.11
Schedule and conduct discharge prevention briefings for oil handling personnel at least annually.	40 *CFR* § 112.7(f)(3)	Section 2.11
Provide information related to facility security.	40 *CFR* § 112.7(g)	Section 2.12
Tank car and tank truck loading/unloading rack present at facility.	40 *CFR* § 112.7(h)	Section 2.13
Tank car/truck loading/unloading: drain into catchment basin or treatment or use quick drainage system.	40 *CFR* § 112.7(h)(1)	Section 2.13
Provide an interlocked warning light or physical barrier, wheel chocks, etc. to prevent vehicle departing before disconnection.	40 *CFR* § 112.7(h)(2)	Section 2.13
Prior to filling & departing of tank trucks closely inspect for discharge.	40 *CFR* § 112.7(h)(3)	Section 2.13
Provide information on Brittle Fracture evaluation of Field Erected tanks.	40 *CFR* § 112.7(i)	Section 2.14
Include in plan a complete discussion of conformance with applicable requirements & other discharge prevention procedures.	40 *CFR* § 112.7(j)	Section 2.15
Include in plan a description of qualified oil-filled operational equipment.	40 *CFR* § 112.7(k)	Section 2.16
Storage Facility Drainage: restrain drainage from diked areas using manually operated valves or pumps.	40 *CFR* § 112.8(b)(1)	Section 3.1.1
Drainage of rainfall in secondary containment must be inspected and evaluated prior to release directly to a surface watercourse.	40 *CFR* § 112.8(b)(2)	Section 3.1.1
Design facility drainage outside diked area (such as piping) to flow into ponds, lagoons or catchments.	40 *CFR* § 112.8(b)(3)	Section 3.1.2
Bulk storage containers materials of construction must be compatible with contents.	40 *CFR* § 112.8(c)(1)	Section 3.2.1
Aboveground tanks must have secondary containment for specified minimum capacity of largest tank, plus freeboard for precipitation.	40 *CFR* § 112.8(c)(2)	Section 3.2.2
Facility does not allow drainage from diked areas unless inspected and records are kept on drainage of secondary containment if directly to surface watercourse.	40 *CFR* § 112.8(c)(3)	Section 3.2.3
Protect any completely buried storage tank (after 1/10/74) from corrosion with coating or cathodic protection & regular leak test.	40 *CFR* § 112.8(c)(4)	Section 3.2.4
Facility does not use partially buried or bunkered tanks.	40 *CFR* § 112.8(c)(5)	Section 3.2.4
Test each aboveground container for integrity.	40 *CFR* § 112.8(c)(6)	Section 3.2.5
Address leaking through defective internal heating coils.	40 *CFR* § 112.8(c)(7)	Section 3.2.6
Engineer or update each container with good engineering overfill protection.	40 *CFR* § 112.8(c)(8)	Section 3.2.7

Requirement	Regulatory Citation	Location in SPCC Plan
SPCC Regulation 40 *CFR* Part 112 Requirements		
Facility does not have effluent treatment facilities dedicated to treating drainage from storage areas.	40 *CFR* § 112.8(c)(9)	Section 3.2.8
Promptly correct visible leaks.	40 *CFR* § 112.8(c)(10)	Section 3.2.9
Mobile or portable Tanks: locate to prevent discharge and provide secondary containment.	40 *CFR* § 112.8(c)(11)	Section 3.2.10
Describe in plan facility transfer operations.	40 *CFR* § 112.8(d)	Section 3.3
Buried pipes installed after 08/16/02 must be installed with protective wrapping and coating and be cathodically protected.	40 *CFR* § 112.8(d)(1)	Section 3.3.1
When a pipeline is not in service or in standby, the terminal end should be capped or blank flanged.	40 *CFR* § 112.8(d)(2)	Section 3.3.2
Properly design pipe supports to minimize abrasion and corrosion.	40 *CFR* § 112.8(d)(3)	Section 3.3.3
Regularly inspection all valves, pipelines, etc.	40 *CFR* § 112.8(d)(4)	Section 3.3.4
Warn all vehicles entering the facility to be sure not to endanger above pipe or transfer operations.	40 *CFR* § 112.8(d)(5)	Section 3.3.5
Certification of the applicability of the substantial harm criteria.	40 *CFR* § 112.20(e)	Section 2.15

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APPENDIX B

TANK EVALUATION

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TABLE

FIGURES

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Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
001	1	Aboveground Storage Tanks Gasoline, Kerosene, E-85, or Diesel	A2	C-337	1	1,000	1,000	Gasoline	1,100[4]	100	Double-wall tank, spill wholly contained.
	2		A5	C-746-A	1	250	250	Gasoline	1,120	Empty	Double-wall tank, spill wholly contained.
	3		A6	C-746-A	1	250	250	Diesel	1,120	Empty	N/A
	4	Aboveground Storage Tanks - Diesel	A17[5]	C-335	1	250	250	Diesel	1,200	Empty	N/A
	5		A18[5]	C-335	1	250	250	Diesel	1,200	Empty	N/A
	6		A19[5]	C-337	1	250	250	Diesel	660	Empty	Stored in Secondary Containment
	7		A22	C-337	1	250	250	Diesel	1,080	Empty	Stored in Secondary Containment
	8	Aboveground Storage Tanks - Oil	A37	C-541 (SE)	1	15,000	15,000	Transformer oil	38,000	Empty	N/A
	9		A38	C-541 (SW)	1	15,000	15,000	Transformer oil	38,000	Empty	N/A
	10		A39	C-541 (NE)	1	7,500	7,500	OCB oil	11,400	Empty	N/A
	11		A40	C-541 (NW)	1	7,500	7,500	OCB oil	11,400	Empty	N/A
	12	Aboveground Storage Tanks - Lube Oil[6,7]	A72-75	C-335	4	13,600	54,400	Lube oil (drain)	25,248	Empty	N/A
	13		A76-79	C-335	4	7,200	28,800	Lube oil (supply)	N/A	Empty	N/A
	14		Lube Oil Tote	C-337	6	250	1,500	Lube oil	Stored in Secondary Containment	150	Spill wholly contained within building.
	15		A84-91	C-337	8	10,100	80,800	Lube oil (drain)	30,298	Empty	Located in drainage area to Outfalls 001 and 002.
	16		A92-97	C-337	6	13,000	78,000	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 001 and 002.
	17	Miscellaneous Oil Containing Equipment and Containers	Lube Oil Skid	C-335	1	300	300	Oil	In Building	30	Spill wholly contained within building.
	18		55-gal oil drums	C-335	2	55	110	Turbine Lubricating Oil	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	19		55-gal oil drums	C-335	2	55	110	Used Oil		< 55	Spill wholly contained within building.
	20		55-gal oil drums	C-335	1	55	55	Fuch's Renolin VP 200		< 55	Spill wholly contained within building.
	21		55-gal oil drums	C-335	3	55	165	Chevron GST Lubricant		< 55	Spill wholly contained within building.
	22		55-gal oil drums	C-335	1	55	55	Vacuum Pump Fluid		< 55	Spill wholly contained within building.
	23		55-gal oil drums	C-335	1	55	55	Pacemaker HV-68 Vacuum Pump Fluid		< 55	Spill wholly contained within building.
	24		Lube Oil Skid	C-337	1	300	300	Oil	In Building	30	Spill wholly contained within building. Located in drainage area to Outfalls 001 and 002.
	25		31A Oil Totes	C-337	68	350	23,800	Oil	N/A	Empty	Located in drainage area to Outfalls 001 and 002.
	26		Hydraulic Oil Tank	C-337-A	1	125	125	Oil	In Building	15	Spill wholly contained within building.
	27		Caterpillar Generator Model XQ-60	C-535-1	1	157	157	Diesel	Double-wall tank	16	Double-wall tank, spill wholly contained.

Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment (Continued)

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
002	28	Aboveground Storage Tanks - Diesel	A20[5]	C-337	1	250	250	Diesel	660	Empty	Stored in Secondary Containment
	29		A21[5]	C-337	1	250	250	Diesel	660	Empty	Stored in Secondary Containment
	30	Aboveground Storage Tanks - Lube Oil[6,7]	A84-91	C-337	8	10,100	80,800*	Lube oil (drain)	30,298	Empty	Located in drainage area to Outfalls 001 and 002.
	31		A92-97	C-337	6	13,000	78,000*	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 001 and 002.
	32	Miscellaneous Oil Containing Equipment and Containers	Used Oil	C-755-Y	1	150	150	Oil	N/A	15	East to 002
	33		Lube Oil Skid	C-337	1	300	300*	Oil	In Building	30	Spill wholly contained within building. Located in drainage area to Outfalls 001 and 002.
	34		31A Oil Totes	C-337	68	350	23,800*	Oil	N/A	Empty	Located in drainage area to Outfalls 001 and 002.
	35	Diesel Truck	2009 Chevy Silverado (E303628) (VIN# 1GCEK14009Z256969)	C-755	1	100	100	Diesel	N/A	10	Mobile equipment.
	36		2011 Chevy Silverado (G62-3951K) (VIN# 3GCUKUEJ4BG116658)	C-755	1	100	100	Diesel	N/A	10	
	37		2014 Ford F150 (G62-4310P) (VIN# 1FTMF1EM2EKF29821)	C-755	1	100	100	Diesel	N/A	10	
	38		2010 Ford F350 (G63-2604K) (VIN# 1FT8W3B63BEA86897)	C-755	1	100	100	Diesel	N/A	10	
	39		2012 Ford F250 (G63-2733M) (VIN# 1FD7W2B60CEC39383)	C-755	1	100	100	Diesel	N/A	10	
006	40	Aboveground Storage Tanks - Diesel	A24	C-611	1	1,500	1,500	Diesel	2,090	150	Spill wholly contained within secondary containment.
	41	Miscellaneous Oil Containing Equipment and Containers	#7 Pump	C-611	1	450	450	Oil	N/A	45	Spill wholly contained within secondary containment.
	42		Tank for C-611-U Generator	C-611-U	1	450	450	Diesel	N/A	45	North to 006

Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment (Continued)

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
008	43	Aboveground Storage Tanks Gasoline, Kerosene, E-85, or Diesel	A4	C-724	1	250	250	Gasoline	2,180	Empty	N/A
	44		A7	C-750	1	5,500	5,500	Gasoline	11,150	Empty	N/A
	45	Aboveground Storage Tanks - Diesel	A23	C-607	1	550	550	Diesel	750	Empty	N/A
	46		A27	C-724	1	500	500	Diesel	2,180	Empty	N/A
	47		N/A	C-600	1	500	500	Diesel	Double-wall tank	50	Double-wall tank, spill wholly contained.
	48		N/A	C-600	1	1,000	1,000	Diesel	In Building	100	Spill wholly contained within building.
	49		N/A	C-631-1	1	550	550	Diesel	989	55	Spill wholly contained within building.
	50		A26	C-631-3	1	300	300	Diesel	In Building	Empty	Spill wholly contained within building.
	51	Aboveground Storage Tanks - Oil	A29	C-601-A	1	420,000	420,000	Emergency Storage	675,000	Empty	Spill wholly contained within building.
	52		A28	C-601-B	1	420,000	420,000	Fuel oil	675,000	42,000	Spill wholly contained within building.
	53	Aboveground Storage Tanks - Lube Oil[6,7]	A41	C-310-A[8]	1	265	265	Lube oil (supply)	In Building	Empty	Spill wholly contained within building.
	54		A42	C-310	1	14,700	14,700	Lube oil (drain)	16,159	Empty	Spill wholly contained within building.
	55		A43	C-310	1	9,320	9,320	Lube oil (supply)	In Building	Empty	Spill wholly contained within building.
	56		A46-49	C-331	4	13,600	54,400	Lube oil (drain)	25,248	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	57		A50-53	C-331	4	7,200	28,800	Lube oil (supply)	In Building	Empty	Spill wholly contained within building.
	58		N/A	C-409	1	150	150	Lube oil	In Building	15	Spill wholly contained within building.
	59	Mobile Refueling Tank	N/A	C-741	3	1,000	3,000	Diesel	Mobile Equipment	100	Mobile equipment.
	60	Miscellaneous Oil Containing Equipment and Containers	Caterpillar Generator Model XQ-175	C-310	1	264	264	Diesel	Double-wall tank	27	Double-wall tank, spill wholly contained.
	61		MQ Power Generator Model DCA-150SSJU	C-360	1	69	69	Diesel		10	Double-wall tank, spill wholly contained.
	62		Caterpillar Generator Model XQ-100	C-400	1	167	167	Diesel		10	Double-wall tank, spill wholly contained.
	63		MQ Power Generator Model DCA-150SSJU	C-720	1	69	69	Diesel	Double-wall tank	10	Double-wall tank, spill wholly contained.
	64		Caterpillar Generator Model XQ-300	C-720	1	400	400	Diesel	Double-wall tank	40	Double-wall tank, spill wholly contained.
	65		55-gal oil drums	C-740-B	21	55	1,155	Oil	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	66		55-gal oil drums	C-750	2	55	110	Excess fuel (waste)	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	67		Used Oil	C-750	1	330	330	Oil	In Building	35	Spill wholly contained within building.

Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment (Continued)

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
009	68	Aboveground Storage Tanks Gasoline, Kerosene, E-85, or Diesel	A1	C-333	1	1,000	1,000	Gasoline	1,100[4]	100	Double-wall tank, spill wholly contained.
	69		N/A	C-752-B	1	3,000	3,000	Gasoline	7,400	300	Double-wall tank, spill wholly contained.
	70		N/A	C-752-B	1	1,000	1,000	E-85	7,400	100	Double-wall tank, spill wholly contained.
	71		N/A	C-752-B	1	3,000	3,000	Biodiesel	7,400	300	Double-wall tank, spill wholly contained.
	72		N/A	C-752-B	1	1,000	1,000	Diesel	7,400	100	Double-wall tank, spill wholly contained.
	73	Aboveground Storage Tanks - Diesel	A9	C-200	1	550	550	Diesel	1,050	55	Spill wholly contained within secondary containment.
	74		A10[5]	C-310	1	250	250	Diesel	540	Empty	N/A
	75		A11[5]	C-331	1	250	250	Diesel	530	Empty	N/A
	76		A12[5]	C-331	1	250	250	Diesel	530	Empty	N/A
	77		A13[5]	C-333	1	250	250	Diesel	660	Empty	N/A
	78		A14[5]	C-333	1	250	250	Diesel	660	Empty	N/A
	79		A15[5]	C-333	1	250	250	Diesel	660	Empty	N/A
	80		A16	C-333	1	250	250	Diesel	900	Empty	N/A
	81	Aboveground Storage Tanks - Lube Oil[6,7]	A46-49	C-331	4	13,600	54,400*	Lube oil (drain)	25,248	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	82		A50-53	C-331	4	7,200	28,800*	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	83		A54-65	C-333	12	10,100	121,200	Lube oil (drain)	30,298	Empty	Located in drainage area to Outfalls 009, 011, and 012.
	84		A66-71	C-333	6	13,000	78,000	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 009, 011, and 012.
	85	Miscellaneous Oil Containing Equipment and Containers	Hydraulic Oil Tank	C-333-A	1	125	125	Oil	In Building	15	Spill wholly contained within building. Drains to Outfalls 009, 011, and 012.
	86		Cummins Generator Model DGFAS# F030517186 and DSGABS# K080220383	C-100	2	308	616	Oil	Double-wall tank	31	Double-wall tank, spill wholly contained.
	87		55-gal oil drums	C-740-B	21	55	1,155*	Oil	Stored in Secondary Containment	< 55	Spill wholly contained within secondary containment. Drains to Outfalls 008 and 009.
	88		Cummins Generator Model DGGD S# G030521342	C-802	1	200	200	Oil	N/A	20	West to 009
	89		Caterpillar Generator Model XQ-175	C-310	1	264	264*	Diesel	Double-wall tank	27	Double-wall tank, spill wholly contained. Located in drainage area to Outfalls 008 and 009.

Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment (Continued)

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
010	90	Aboveground Storage Tanks - Lube Oil[6,7]	A46-49	C-331	4	13,600	54,400*	Lube oil (drain)	25,248	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	91		A50-53	C-331	4	7,200	28,800*	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	92	Qualified Oil-Filled Electrical Equipment Located in the Switchyards[9]	Potential transformer	C-531	6	345	2,070	Oil	N/A	35	Northeast to Lift Station and Treatment Unit then to 010.
	93		Power transformer	C-531	8	N/A	103,034	Oil	N/A	1,500	Northeast to Lift Station and Treatment Unit then to 010.
	94		Grounding transformer	C-531	5	400	2,000	Oil	N/A	40	Northeast to Lift Station and Treatment Unit then to 010.
	95		OCBs	C-531	14	N/A	55,440	Oil	N/A	130	Northeast to Lift Station and Treatment Unit then to 010.
	96		Reactors	C-531	2	N/A	28,223	Oil	N/A	1,430	Northeast to Lift Station and Treatment Unit then to 010.
	97		Neutral reactor	C-531	5	300	1,500	Oil	N/A	30	Northeast to Lift Station and Treatment Unit then to 010.
	98		161/13kV XFMR Units	C-538	2	5,054	10,108	Mineral oil	19,530	505	Southeast to 010
	99		Metering XFMR Units	C-538	6	121	726	Mineral oil	Qualified Operational Equipment	12	Southeast to 010
	100	Miscellaneous Oil Containing Equipment and Containers	55-gal oil drums	C-310	5	55	275	Oil	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	101		55-gal oil drums	C-315	5	55	275	Oil		< 55	Spill wholly contained within building.
	102		Caterpillar Generator Model XQ-600	C-746-D	1	428	428	Diesel	Double-wall tank	43	Double-wall tank, spill wholly contained.
011[10]	103	Aboveground Storage Tanks Gasoline, Kerosene, E-85, or Diesel	A8[5]	C-540	1	250	250	Kerosene	600	Empty	Spill wholly contained within building.
	104	Aboveground Storage Tanks - Oil	A33	C-540-B (NW)	1	15,000	15,000	Transformer oil	38,000	1,500	Spill wholly contained within building.
	105		A34	C-540-C (SW)	1	15,000	15,000	Transformer oil	38,000	1,500	Spill wholly contained within building.
	106	Aboveground Storage Tanks - Lube Oil[6,7]	A44	C-315	1	380	380	Lube oil (drain)	636	Empty	Spill wholly contained within building.
	107		A45	C-315	1	330	330	Lube oil (supply)	449	Empty	Spill wholly contained within building.
	108		A46-49	C-331	4	13,600	54,400*	Lube oil (drain)	25,248	Empty	Located in drainage area to Outfalls 008, 009, 010, and 011.
	109		A50-53	C-331	4	7,200	28,800*	Lube oil (supply)	In Building	Empty	Spill wholly contained within building.
	110		A54-65	C-333	12	10,100	121,200*	Lube oil (drain)	30,298	Empty	Spill wholly contained within building.
	111		A66-71	C-333	6	13,000	78,000*	Lube oil (supply)	In Building	Empty	Spill wholly contained within building.
	112	Miscellaneous Oil Containing Equipment and Containers	Hydraulic Oil Tank	C-333-A	1	125	125*	Oil	In Building	15	Spill wholly contained within building. Drains to Outfalls 009, 011, and 012.
	113		55-gal oil drums	C-620	2	55	110	Lubricating Oil	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	114		55-gal oil drums	C-620	2	55	110	Waste oil		< 55	Spill wholly contained within building.
	115		55-gal oil drums	C-620	2	55	110	A1000 Synthetic Lube Oil		< 55	Spill wholly contained within building.
	116		55-gal oil drums	C-620	2	55	110	Schaeffer #112 Micron Machine Oil		< 55	Spill wholly contained within building.

Table B.1. Aboveground Storage Tanks and Oil-Filled Equipment

Outfall No.	SPCC ID No.	Function	Tank No.[1]/Equipment Type	Location	No. of Containers	Capacity per Container (gal)	Total Capacity[2] (gal)	Substance Stored	Secondary Containment Capacity (gal)	Anticipated Maximum Flow Rate[3] (gal/hr)	Direction and Destination of Flow (Outfall), if applicable
012	117	Aboveground Storage Tanks - Oil	A35	C-540-D (NE)	1	7,500	7,500	OCB oil	11,400	750	East to 012
	118		A36	C-540-E (SE)	1	7,500	7,500	OCB oil	11,400	750	East to 012
	119	Aboveground Storage Tanks - Lube Oil[6,7]	A54-65	C-333	12	10,100	121,200*	Lube oil (drain)	30,298	Empty	Located in drainage area to Outfalls 009, 011, and 012.
	120		A66-71	C-333	6	13,000	78,000*	Lube oil (supply)	N/A	Empty	Located in drainage area to Outfalls 009, 011, and 012.
	121	Miscellaneous Oil Containing Equipment and Containers	Hydraulic Oil Tank	C-333-A	1	125	125*	Oil	In Building	15	Spill wholly contained within building. Drains to Outfalls 009, 011, and 012.
	122		55-gal oil drums	C-333	1	55	55	Lube Oil	Stored in Secondary Containment	< 55	Spill wholly contained within building.
	123		55-gal oil drums	C-333	3	55	165	Vacuum Pump Fluid		17	Spill wholly contained within building.
	124		55-gal oil drums	C-333	1	55	55	Elco Oil		< 55	Spill wholly contained within building.
	125		55-gal oil drums	C-333	1	55	55	Used oil		< 55	Spill wholly contained within building.
	126		55-gal oil drums	C-333	1	55	55	Used oil		< 55	Spill wholly contained within building.
	127		55-gal oil drums	C-333	2	55	110	Used oil		11	Spill wholly contained within building.
013	-	-	-	-	-	-	-	-	-	-	-
015	-	-	-	-	-	-	-	-	-	-	-
016	-	-	-	-	-	-	-	-	-	-	-
019	128	Aboveground Storage Tanks Gasoline, Kerosene, E-85, or Diesel	N/A	C-746-U	1	1,000	1,000	Diesel	1,100[4]	100	Double-wall tank, spill wholly contained.
	129		N/A	C-746-U	1	500	500	Gasoline	Double-wall tank	Empty	Double-wall tank, spill wholly contained.
Mobile Equipment	130	Diesel Truck	2016 Ford F250 (G63-0869S) (VIN# 1DF7W2B65GEC75611)	C-724	1	100	100	Diesel	N/A	10	Mobile equipment.
	131		2011 Ford F250 (G63-0314L) (VIN# 1FD7X2B61BEC97823)	C-724	1	100	100	Diesel	N/A	10	
	132		2016 Ford F350 (G63-0870S) (VIN# 1FD8W3H65GEC87890)	C-743-T16	1	100	100	Diesel	N/A	10	
	133		2016 Dodge Ram 1500 (G62-2060S) (VIN# 1C6RR7KG4GS362533)	C-746-U	1	100	100	Diesel	N/A	10	
	134		2016 Chevy K2500HD (G63-1524S) (VIN# 1GC1KUEG6GF195010)	C-746-U	1	100	100	Diesel	N/A	10	
	135		2016 Dodge Ram 1500 (G42-1274S) (VIN# 1C6RR6KG8GS347303)	C-755-T04	1	100	100	Diesel	N/A	10	

*: This tank/equipment drains to multiple outfalls. Total capacities denoted with an asterisk should not be summed to avoid duplication of values.

1. All tanks are diked and are carbon steel.
2. Total capacity is container capacity multiplied by the number of containers.
3. Tanks noted as "empty" have been drained, but may contain a residual amount of substance stored.
4. This tank is double-wall with interstitial leak detection.
5. Planned to be permanently closed in FY 2020
6. Lube oil tanks were installed in 1952 but have been drained and removed from service.
7. All drain tanks are diked with level alarms. All supply tanks are diked by the building.
8. C-310-A lube oil tank was drained; flowable fill was added to tank and piping trench.
9. C-538 will be subject to this SPCC upon operational status. Prior to operation, this switchyard will be managed under a separate TVA SPCC.
10. Outfall 011 only receives flow during bypass conditions.

Locations of tanks listed in Table B.1 are shown on Figure B.1. Figure B.2 includes the drainage infrastructure for PGDP.

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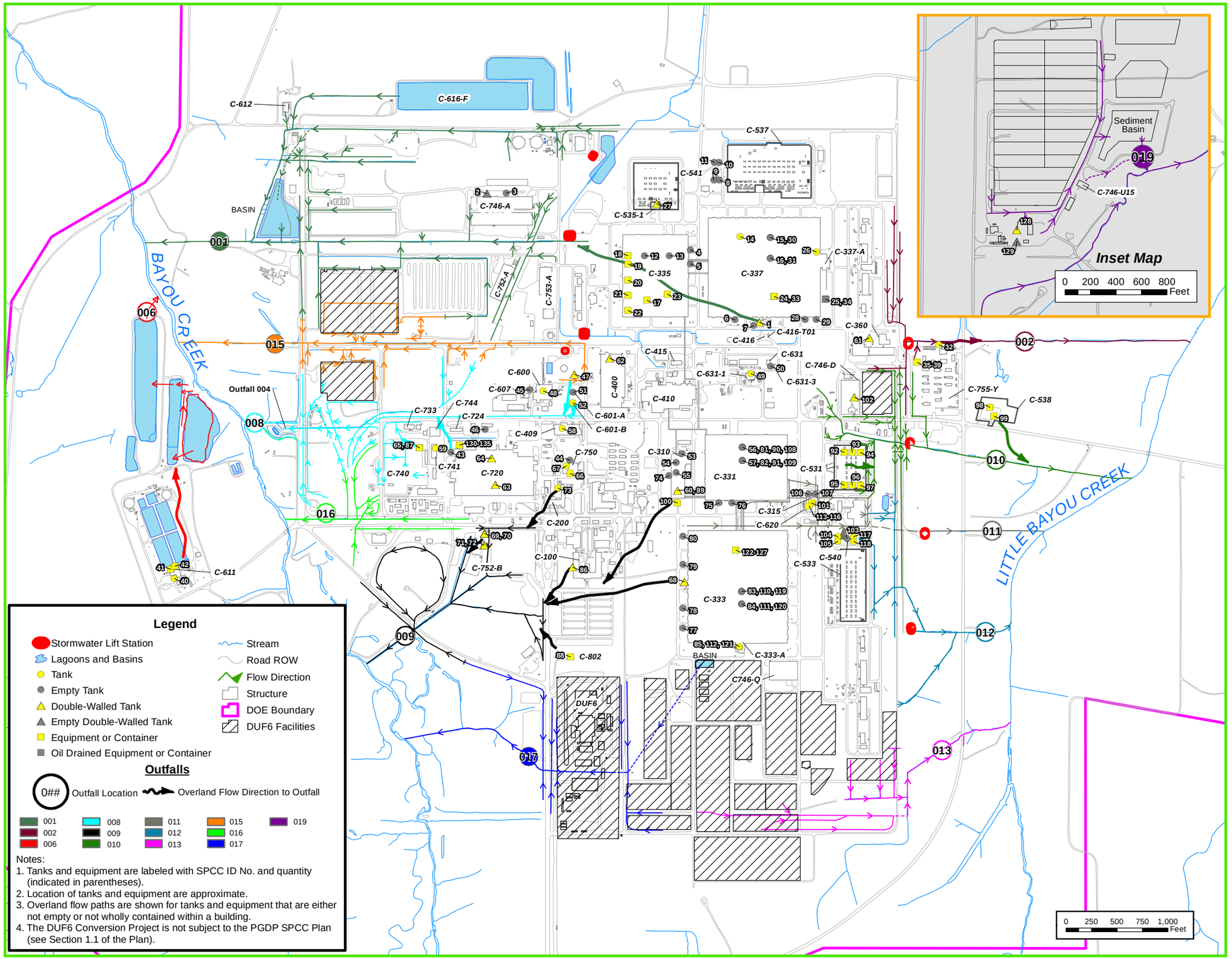


Legend

- Stormwater Lift Station
- Lagoons and Basins
- Tank
- Empty Tank
- Double-Walled Tank
- Empty Double-Walled Tank
- Equipment or Container
- Oil Drained Equipment or Container
- Stream
- Road ROW
- Flow Direction
- Structure
- DOE Boundary
- DUF6 Facilities

Outfalls

0## Outfall Location — Overland Flow Direction to Outfall

001 002 006 008 009 010 011 012 013 015 016 017 019

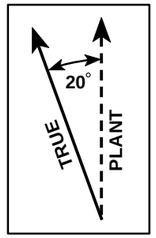
Notes:
1. Tanks and equipment are labeled with SPCC ID No. and quantity (indicated in parentheses).
2. Location of tanks and equipment are approximate.
3. Overland flow paths are shown for tanks and equipment that are either not empty or not wholly contained within a building.
4. The DUF6 Conversion Project is not subject to the PGDP SPCC Plan (see Section 1.1 of the Plan).

Figure B.1. Aboveground Storage Tanks and Oil-Filled Equipment

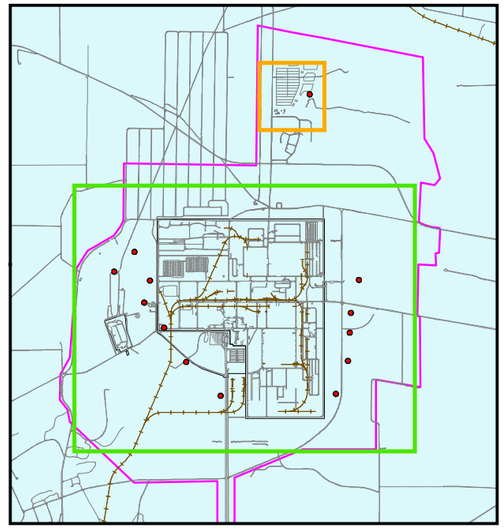
Kentucky Pollutant Discharge Elimination System (KPDES)

KY0004049

001, 002, 006, 008
009, 010, 011, 012
013, 015, 016, 017
019, 020*



* Note: KPDES 019 & 020 are in the same location.



U.S. DEPARTMENT OF ENERGY

DOE PORTSMOUTH/PADUCAH PROJECT OFFICE
PADUCAH GASEOUS DIFFUSION PLANT

FOUR RIVERS NUCLEAR PARTNERSHIP, LLC

This figure shows storm-water flow. Some of the depicted structures shown may have been demolished as part of the mission of the site, but would not have impacted the surface water storm flow path.

Figure No. Master Tank Figure_draft_R9_noDUF6_11x17_B1_alt_r1.mxd
Date: 2/7/2020

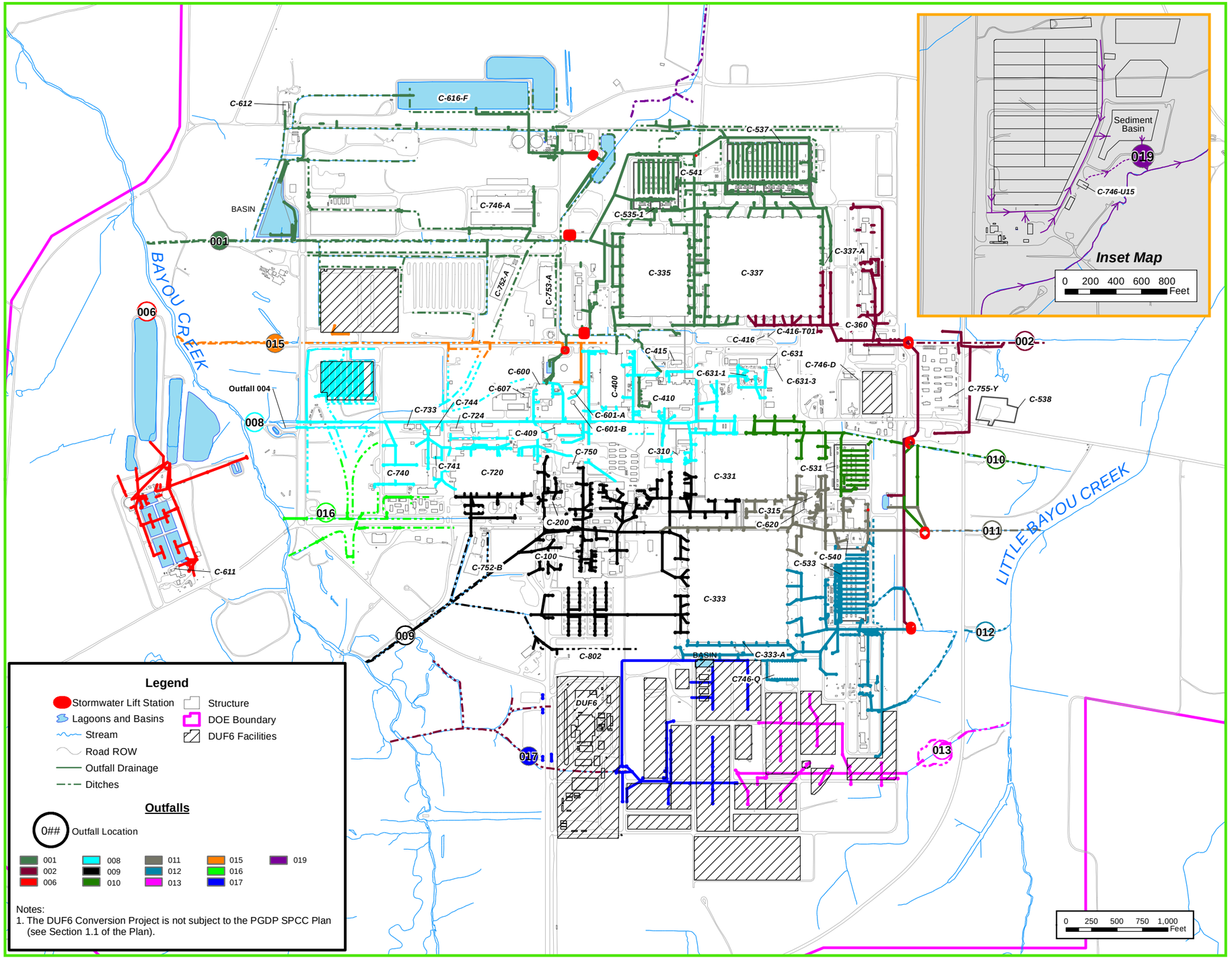
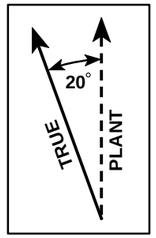


Figure B.2. Drainage Infrastructure

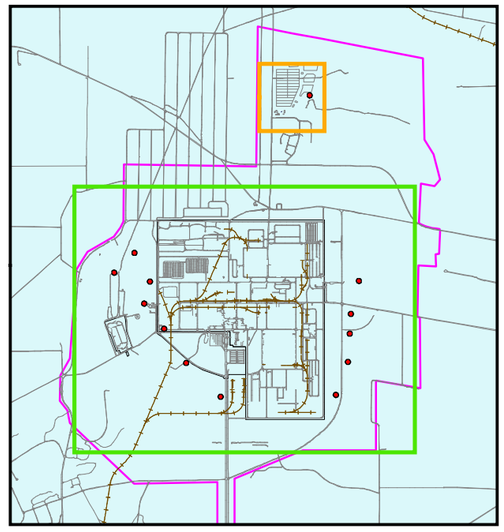
Kentucky Pollutant Discharge Elimination System (KPDES)

KY0004049

001, 002, 006, 008
009, 010, 011, 012
013, 015, 016, 017
019, 020*



* Note: KPDES 019 & 020 are in the same location.



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FOUR RIVERS NUCLEAR PARTNERSHIP, LLC

This figure shows storm water flow. Some of the depicted structures shown may have been demolished as part of the mission of the site, but would not have impacted the surface water storm flow path.

Figure No. Master Tank Figure_draft_R9_noDUF6_11x17_B2_alt.mxd
Date: 1/17/2020

APPENDIX C

EXAMPLES OF INSPECTION CHECKLISTS

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CP3-EP-1004-F11 C-410-L Monthly Mobile Emergency Equipment Inspection

Month:_____ Year:_____

SUPPLIES	MINIMUM REQUIRED	MINIMUM AVAILABLE	
		YES	NO
Sandbags	50 each		
Absorbent Media	50 bags, 40 lbs. each, or equivalent		
Absorbent Rolls	2 rolls, approximately 38" X 100 ft. each, or equivalent		
Absorbent Pillows	24 each, approximately 15" x 15"		
Absorbent Pads	200 each, approximately 16" x 20"		
Oil Booms – 8" by 10'	20 each		
Oil Booms – 5" by 10'	12 each		
Face Shields	8 each		
Splash Suits	4 each		
Tyvek Coveralls	20 each		
Gloves	20 pair		
Booties	20 pair		
EQUIPMENT	**MINIMUM REQUIRED (IN WORKING CONDITION)**	**MINIMUM AVAILABLE**	
		YES	NO
Oil Skimmer	1		
2" Pump	1		
4" Pump	1		

Comments:_____

_____

_____

_____

_____

_____

_____

_____

Inspected by:_____Badge Number:_____Date: _____

Supervisor Review:_____Badge Number:_____Date: _____

CP3-EP-1004-F11 FR0

CP-23411 WEEKLY CHECKLIST

DATE: _____

Inspect/drain C-601 fuel oil storage tanks containment dike according to CP4-UT-0405	√	
C-200 Fuel Oil Tank Checked	√	

Eyewash Stations and Lights					
A. C-607 Battery	√		D. South East Door	√	
B. Low Bay	√		E. C-600 Transformer Room	√	
C. Chemical Pump Area	√				

Coal Sump Pumps (oil)	√	
Sanitary Sump Pumps (grease)	√	
Check Fire Alarm Pull box lights	√	
Molybdate concentration Chilled Water well	√	
Safety Showers	√	

C-600-1 COOLING TOWER	
CL_2 > .20	
pH	
Conductivity	
Trasar	
REMARKS:	

OPERATOR: _____

FLM: _____