



FINAL SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

Prepared by and for:
**FT. GORDON ENVIRONMENTAL OFFICE
FORT GORDON, GEORGIA**

April 2014



Table of Contents

| | |
|--|-----|
| Acronyms | iii |
| Professional Engineer Certification – 40 CFR 112.3(d)..... | iv |
| 1.0 General Applicability - 40 CFR 112.1 | 5 |
| 2.0 Exceptions to the General Applicability – 40 CFR 112.1(d)..... | 6 |
| 3.0 Plan Development and Implementation – 40 CFR 112.3(a)..... | 7 |
| 4.0 EPA and State Notification – 40 CFR 112.4..... | 9 |
| 5.0 SPCC Plan Review/Update Log – 40 CFR 112.5(b) | 11 |
| 6.0 Management Approval | 13 |
| 7.0 Facility Information | 14 |
| 8.0 Technical Requirements..... | 16 |
| 8.1 Predictions - 40 CFR 112.7(b) | 21 |
| 8.2 Containment and Diversionary Structures – 40 CFR 112.7(c) | 23 |
| 8.3 Alternatives - 40 CFR 112.7(d) | 24 |
| 8.4 Inspections, Tests, and Records - 40 CFR 112.7(e) | 25 |
| 8.5 Personnel Training and Discharge Prevention Procedures – 40 CFR 112.7(f) | 27 |
| 8.6 Security – 40 CFR 112.7(g) | 28 |
| 8.7 Facility Tank Car and Truck Loading/Unloading Spill Prevention and Control – 40 CFR 112.7(h) | 29 |
| 8.8 Brittle Fracture Failures – 40 CFR 112.7(i) | 30 |
| 8.9 State Rules, Additional Regulations and Guidelines – 40 CFR 112.7(j)..... | 30 |
| 9.0 Additional Fort Gordon Specific Discharge Prevention and Containment Procedural Requirements..... | 31 |
| 9.1 Facility Drainage – 40 CFR 112.8(b)..... | 31 |
| 9.2 Bulk Storage Containers – 40 CFR 112.8(c)..... | 33 |
| 9.3 Facility Transfer Operations, Pumping, & Facility Process – 40 CFR 112.8(d).... | 39 |
| 10.0 Recommendations | 41 |
| 11.0 Tables of Oil Storage Sites..... | 44 |



Appendix A Installation Spill Contingency Plan
Appendix B Vicinity Map, Post Map, Facility Diagram
Appendix C Storage Site Diagrams and Photographs
Appendix D Georgia Power SPCC Plan
Appendix E Inspection Forms
Appendix F STMP Database/Required Testing and Upgrades
Appendix G SPCCP/Spill Training Presentation



Acronyms

| | |
|--------|---|
| AR | Army Regulation |
| AST | Aboveground Storage Tank |
| ATG | Automatic Tank Gauge |
| BFCUST | Bulk Field Constructed Underground Storage Tank |
| CFR | Code of Federal Regulations |
| DPW | Directorate of Public Works |
| DW | Double Walled |
| DW AST | Double Walled Aboveground Storage Tank |
| DW UST | Double Walled Underground Storage Tank |
| ENRMO | Environmental and Natural Resources Management Office |
| FRP | Facility Response Plan |
| HLA | High-Level Alarm |
| ISCP | Installation Spill Contingency Plan |
| LDS | Leak Detection System |
| NSA | National Security Agency |
| OSHA | Occupational Safety and Health Administration |
| OWS | Oil Water Separator |
| PCBs | Polychlorinated biphenyls |
| P.E. | Professional Engineer |
| PODS | Portable On Demand Storage |
| POL | Petroleum, Oil and Lubricants |
| RCRA | Resource Conservation and Recovery Act |
| USEPA | United States Environmental Protection Agency |
| UST | Underground Storage Tank |
| SOP | Standard Operating Procedure |
| SPCC | Spill Prevention, Control, and Countermeasures |
| SPCCP | Spill Prevention, Control, and Countermeasures Plan |
| STMP | Storage Tank Management Plan |



Professional Engineer Certification – 40 CFR 112.3(d)

It is recognized that Fort Gordon is subject to the Oil Pollution Prevention Regulation and a Professional Engineer's review and certification of the SPCC Plan is required under 40 CFR 112.3(d). By means of this certification, the Professional Engineer attests that:

- (i) They are familiar with the requirements of the SPCC rule;
- (ii) They and/ or their agent have visited and examined the facility;
- (iii) The SPCC Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of the SPCC rule;
- (iv) Procedures for required inspections and testing have been established; and,
- (v) The SPCC Plan is adequate for the facility

I certify that I am familiar with the requirements of 40 CFR Part 112 SPCC Rule and subsequent Amendments, that I (and/or my representative) have visited and examined relevant installations at Fort Gordon, and that the provisions of this SPCC Plan, have been prepared in accordance with good engineering practices. I attest that the information provided by the facility and contained herein is, to the best of my knowledge and belief, true, accurate, and complete.

This certification shall in no way relieve Fort Gordon of its duty to prepare, revise, and fully implement the SPCC Plan in accordance with 40 CFR Part 112 and all other applicable requirements of the State of Georgia.



Olivia R. West

Olivia R. West, Ph.D., P.E.

April 17, 2014
Date of Plan Certification

TN 00111168
P.E. LICENSE NUMBER



1.0 General Applicability - 40 CFR 112.1

The United States Environmental Protection Agency's (USEPA's) Spill Prevention, Control & Countermeasures (SPCC) regulations apply to non-transportation-related onshore or offshore facilities engaged in drilling, producing gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products. U.S. Army Garrison Fort Gordon in Augusta, Georgia (Fort Gordon) is a non-transportation-related facility that stores and uses oil and oil products, and has a total aboveground oil storage capacity greater than the 1,320 gallon threshold referenced in 40 CFR 112.1(d)(2)(ii).

Furthermore, facilities are regulated if, due to their location, the facility could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines. Fort Gordon is located within portions of Richmond, Jefferson, McDuffie, and Columbia counties and is hydraulically connected to the Savannah River via a number of smaller watersheds.

As such, the following Subparts of 40 Code of Federal Regulations (CFR) 112 apply to the development of this SPCC Plan:

- 40 CFR 112.7 General Requirements for SPCC Plans
- 40 CFR 112.8 SPCC Plan Requirements for On-Shore Facilities

In addition, Fort Gordon stores greater than the 1-million gallon regulatory threshold for petroleum products on site and meets the substantial harm criteria as defined under 40 CFR 112.20. The Certification of the Applicability of the Substantial Harm Criteria is included in the Fort Gordon Facility Response Plan (October 2013).



2.0 Exceptions to the General Applicability – 40 CFR 112.1(d)

Fort Gordon utilizes various containers of oil with a storage capacity of less than 55 gallons. As per 40 CFR 112.1(d)(5) these containers are not specifically addressed in this SPCC Plan.

In addition, Fort Gordon may own /operate oil-water separators for addressing potential issues associated with tank farm storm water drainage. As per 40 CFR 112.1(d)(6), oil separation process equipment associated with treatment operations are not required to be covered in the facility SPCC Plan. Although these units have integral oil storage capacity, they have not been included herein as under normal operation they will contain oil or fuel material in quantities substantially less than the 55 gallons threshold.

Transformers and oil circuit breakers located on Fort Gordon which are regulated by 40 CFR 112 are not included in this plan because they are addressed separately by Georgia Power Company's SPCCP dated 10/28/2011 (Appendix D).

There are underground storage tanks (USTs) at Fort Gordon which are subject to the technical requirements of 40 CFR 280 and Georgia State UST Regulation 391-3-15 (also referred to as GA 40 CFR 281); these tanks are exempt from the requirements of 40 CFR 112 however their locations are marked on the facility diagram (Appendix B) as required by 40 CFR 112.7(a)(3).



3.0 Plan Development and Implementation – 40 CFR 112.3(a)

INTRODUCTION

In December 1973, USEPA promulgated regulations that established procedures, methods and equipment to prevent the discharge of oil from non-transportation-related facilities into or upon the navigable waters of the United States. These regulations, which are codified in 40 CFR 112 (Oil Pollution Prevention), were issued pursuant to Section 311(j)(1)(c) of the Federal Water Pollution Control Act (as amended) and apply to facilities which store oil and oil products in excess of 1,320 gallons above ground and/or facilities that store more than 42,000 gallons of petroleum materials underground not regulated by 40 CFR 280 or an equivalent state-run program.

Approved for construction in July 1941, the facility was originally called Camp Gordon. On March 21, 1956, the post was renamed Fort Gordon. The United States Army Signal Command and Fort Gordon is required to prepare an SPCC Plan in accordance with federal, state, and local regulations including 40 CFR 112, Department of the Army Regulation 200-1 (AR 200-1) and Fort Gordon Regulation 200-2.

PURPOSE

An SPCC Plan must be prepared in writing. An SPCC Plan for the facility has existed in some form since around 1991, when the SPCC proposed rule was first put forth by USEPA. Updates to the SPCC Plan have been authorized as material changes and regulatory advances have dictated. The facility utilizes environmental contractors to prepare and update the SPCC Plan. Day-to-day implementation of the SPCC program, as a whole, is the responsibility of base environmental personnel.

The purpose of a SPCC Plan is to identify and implement preventive measures to minimize the potential spills of oil and other hazardous substances. Oil is defined in 40 CFR 112 as oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil (JP-8, gasoline, and diesel), sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. Chapter 3 of AR 200-1 requires Army installations to include other hazardous substances, including polychlorinated biphenyls (PCBs), hazardous materials, and hazardous wastes, in planning related to preparation of the SPCC Plan.



SCOPE

This document provides information and guidance for spill prevention and proper handling of spills of oil and other hazardous materials that have the potential for entering and/or contaminating waterways and adjacent shorelines. Information presented herein is primarily intended to provide guidance in cases where the spill originates from fixed facilities. The plan is designed to provide a basis for an efficient, coordinated, and effective program for preventing spills, terminating spills, containing spilled material, reporting spills, and recovering spilled material. The plan complements the following documents:

- The Fort Gordon Facility Response Plan (October 2013) which establishes large spill analysis and response procedures for oil-based product and includes the Applicability of Substantial Harm Criteria form,
- The Installation Spill Contingency Plan (ISCP), located in Appendix A, which establishes response procedures for any hazardous material at the facility, and
- The Storage Tank Management Plan), which discusses the management of storage tanks to achieve compliance with 40 CFR 112, State of Georgia UST rules, and 40 CFR 280.

The SPCC Plan is not required to be filed with the U.S. EPA, but a copy must be available for on-site review by the Regional Administrator during normal working hours. The physical copy of the SPCC Plan is located at Department of Public (DPW)-Environmental Compliance office at Building 14600. An electronic copy can be requested by contacting the SPCC Plan coordinator at DPW-Environmental, 706.791.6074.



4.0 EPA and State Notification – 40 CFR 112.4

A report must be submitted to U.S. EPA Region IV and to the Georgia Environmental Protection Department in charge of oil pollution control activities within 60 days of the discharge whenever Fort Gordon has:

1. Discharged more than 1,000 gallons of oil in a single discharge, as described in 40 CFR 112.1(b), or
2. Discharged more than 42 gallons of oil, as described in 40 CFR 112.1(b), in each of two discharges, within any 12 month period.

The report contents are specified in 40 CFR 112.4(a) and are as follows:

1. Name of the facility;
2. Name of individual submitting the information;
3. Location of the facility;
4. Maximum storage or handling capacity of the facility and normal daily throughput;
5. The corrective actions and/or countermeasures taken, including adequate description of equipment repairs and/or replacements;
6. An adequate description of the facility, including maps, flow diagrams, and topographical maps as necessary;
7. The cause(s) of such a discharge as described in 40 CFR 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;
8. Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and,
9. Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

Upon receipt of the information, the State may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges. The Regional Administrator may require amendments to the Plan if it does not meet the requirements or that amendment is necessary to prevent and contain discharges. Within thirty days from receipt of such notice, Fort Gordon must amend the Plan unless the Regional Administrator specifies another effective date. The amendment must be implemented as soon as possible, but no later than six months after the Plan is amended. As specified in 40 CFR 112.4(f), Fort Gordon may appeal a decision made by the Regional Administrator in writing within thirty days of the notice.

Owners and operators failing or refusing to comply with this federal regulation are liable



to a civil administrative penalty or judicial civil penalties.



5.0 SPCC Plan Review/Update Log – 40 CFR 112.5(b)

The SPCC Plan must be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b). The amendment must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment. According to 40 CFR § 112.5(a):

Examples of changes that may require amendment of the Plan include, but are not limited to: 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, owners and operators must complete a review and evaluation of the SPCC Plan at least once every 5 years. As a result of the review, the owners and operators must append the plan within 6 months after the review to include more effective prevention and control technology where applicable. Any amendments must be implemented as soon as possible, but not later than six months following preparation of any amendment.

Technical improvements or corrections to this SPCC Plan must be certified by a Professional Engineer in accordance with 40 CFR 112.

Table 5.1 lists the most recent record of changes for the Fort Gordon SPCC Plan.



Table 5.1 Record of Changes

| Reviewer (Signature) | Reviewer (Printed Name) | Date | Comments | P.E. Recertification Yes/No |
|-----------------------------------|------------------------------------|------------------|---------------------------------|--|
| Ft.Gordon Environmental personnel | Ft.Gordon Environmental personnel | April, 30 2008 | 2008 updated Final SPCC plan | Yes-Christopher Caputi |
| Ft.Gordon Environmental personnel | Ft.Gordon Environmental personnel | November 5, 2010 | Amended/Updated Final SPCC Plan | Yes-Jessica Bellas |
| See Hard Copy | John Wellborn | January 23, 2013 | Will Amend Plan | No |
| Ft.Gordon Environmental personnel | Ft.Gordon Environmental personnel | April 2014 | Amended/Updated Final SPCC Plan | Yes-Olivia West |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



6.0 Management Approval

The plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan.

Acknowledgement of Plan Approval

This Spill Prevention, Control, and Countermeasures (SPCC) Plan has been developed for Fort Gordon to address the issue of spill prevention, response actions, and containment. The plan has been prepared in compliance with applicable Federal regulatory requirements under 40 CFR Part 112. It serves as a statement of command policy and intent, as well as a working document for those concerned with the prevention and control of spills.

This SPCC Plan has been approved and implemented as described herein at United States Army Garrison Ft. Gordon located in Columbia, McDuffie, Jefferson, and Richmond counties, Georgia.

APPROVED:

Signature: _____

Printed Name: _____

Title: Garrison Commander



7.0 Facility Information

Facility Location

The Fort Gordon Military Reservation is located in east central Georgia approximately 9 miles southwest of the City of Augusta, occupying approximately 56,000 acres in Columbia, Jefferson, McDuffie, and Richmond counties, where most of the property is in Richmond County. The local area is referred to as “CSRA”, which stands for the Central Savannah River Area, a group of 13 Georgia and South Carolina counties along the Savannah River that forms the state border. The Fort Gordon Military Reservation is bordered to the west by GA Highway 42, to the southwest by County Road 29/Old Warrenton Road, to the southeast by Deans Bridge Road, to the northeast by The J. Strom Thurmond/Butler/Fort Gordon Reservoir, and to the north by Gordon Highway (Vicinity map in Appendix B). A majority of the structures and developed areas at Fort Gordon are located on the northeastern end of the reservation south of Gordon Highway (see Post Map in Appendix B) and consists of various office buildings and training facilities, military barracks and housing, dining and entertainment facilities, a hospital complex, an elementary school, site and vehicle maintenance workshops, open equipment storage areas, the Gibson Avenue Landfill, the Gordon Lakes Golf Courses.

It should be noted that a separate SPCC plan has been prepared for the Fort Gordon Marina/Pointes West Army Resort (PWAR), which is located 21 miles north-northwest of the Fort Gordon Military Reservation. This outlying facility is used as a recreational area for military personnel, dependents, retirees and DoD civilians.

Site Information

Fort Gordon has approximately 100 Petroleum, Oil and Lubricants (POL) and used cooking oil storage sites located throughout the facility. Tables listing the tank construction, contents, capacity and other information regarding these storage sites are presented in Section 11.0. Storage sites include active aboveground storage tanks (ASTs, Table 11.1), active SPCC-regulated USTs (Table 11.2a), active USTs that are regulated under 40 CFR 280 (Table 11.2b), active integral generator ASTs (Table 11.3), active mobile refuelers (Table 11.4), used cooking oil containers (Table 11.5), and POL drum storage areas (Table 11.6). Table 11.7 contains a list of ASTs and USTs which are inactive. It is recommended that these tanks be permanently closed in accordance with 40 CFR 112.2 which defines “permanently closed” as follows:



“(1) All liquid and sludge has been removed from each container and connecting line; and (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.”

An overall diagram of the entire facility identifying all the POL and used cooking oil storage site locations is included in Appendix B, while drawings and photos for all site locations are included in Appendix C.

In addition, an active Geographic Information System database is available on the shared drive of Fort Gordon. The information presented in this format is designed to let the user view information on the computer for the entire base.

Surface Water Drainage

The major drainage features on Fort Gordon Military Reservation include Butler, Spirit, South Prong, Sandy Run, Boggy Gut, and Brier Creeks (these drainage features are shown on the Vicinity Map in Appendix B). The streams are small and bordered by heavy swamps. There are multiple lakes, ponds and reservoirs on the installation (Maxwell and Scout lakes are no longer impounded).

The streams that receive storm water runoff from the developed area of the Fort Gordon Military Reservation are Butler Creek and its tributaries, as well as Spirit Creek and its tributaries including McCoys Creek. Butler Creek originates north of the installation boundary and drains to the southeast into the Savannah River. The portion of the Butler Creek Watershed that lies north of Fort Gordon covers approximately 13 square miles in Richmond and Columbia Counties. Fort Gordon owns approximately 5 to 10 percent of this portion of the watershed with the remainder owned by state and local governments and private landowners.



8.0 Technical Requirements

Requirement 40 CFR 112.7(a)(1)

Include a discussion of your facility's conformance with the requirements listed in this part.

Fort Gordon is in general conformance with SPCC regulations. However, specific deficiencies with regard to certain sections of the regulations need to be corrected. These deficiencies, once corrected, will bring the facility into full compliance with requirements and the intent of the law. Recommendations stated in this document need to be implemented in a timely manner. The required upgrades needed to bring the storage sites into full compliance with 40 CFR 112 are presented in the Tables in Section 11.0 and discussed in this Section and Section 9.0.

Requirement 40 CFR 112.7(a)(2)

Comply with all applicable requirements listed in this part. Your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in 112.4(d) and (e).



In complying with the applicable requirements of the SPCC Plan Regulation, no deviations were employed or claimed in this plan. For some storage site, upgrades are required to achieve full compliance with the SPCC requirements; these required upgrades are listed in the Tables in Section 11.0.

Requirement 40 CFR 112.7(a)(3)

Describe in your plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes.

The physical layout of the facility is shown on a facility diagram (in Appendix B) that identifies the location of ASTs, SPCC-regulated USTs, integral generator ASTs, mobile refuelers, used cooking oil containers, drum storage areas and inactive storage sites. In addition, 40 CFR 280-regulated USTs, which are exempt from 40 CFR 112, are also included in the facility map as required for compliance with this section. Also, site diagrams are included in Appendix C that shows detailed information for each site. The information includes but is not limited to drain inlets, flow directions, pipe location if known and other pertinent site specific information.

Requirement 40 CFR 112.7(a)(3)(i)

You must also address in your plan the type of oil in each container and its storage capacity.

All SPCC-regulated POL storage tanks (ASTs & USTs), drums, integral generator ASTs, used cooking oil storage containers, mobile refuelers, and inactive storage sites are presented in the Tables Section (11.0). The Tables contain the contents and storage capacity of all Fort Gordon oil storage containers.

With the exception of one Oil-Water Separator (OWS-SAN-003, 1000 gallon capacity, location shown on facility map in Appendix B) which is used for spill containment, all OWSs at Fort Gordon are used for wastewater treatment. Because all the other OWS are used exclusively for wastewater treatment they are not regulated by 40 CFR 112.



Also, transformers located on Fort Gordon which are regulated by 40 CFR 112 are not included in this plan because they are addressed separately by Georgia Power Company. Georgia Power Company located in Atlanta Georgia, completed an SPCC plan dated October 28, 2011 that includes the transformers at Fort Gordon. Georgia Power Company's SPCC plan addresses specific issues with regard to transformers and other oil filled electrical equipment. In addition, POL tanks and drum storage containers are included in their plan. The SPCC plan prepared by Georgia Power is located in Appendix D.

Requirement 40 CFR 112.7(a)(3)(ii)

Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.).

Discharge prevention measures and standard operating procedures (SOPs) for routine handling of products (loading, unloading and facility transfer) have been developed for all fuel transfer operations. These procedures are readily available for review by Fort Gordon employees and contractors. It is assumed that fuel contractors at the facility have SOPs that are required to be adhered to during fuel loading and unloading operations. A copy of these SOPs should be reviewed by management and facility personnel to ensure adherence to the specific procedures identified. Also, specific relevant training should be implemented to ensure that the procedures identified can be followed. These training exercises are required to be documented.

Requirement 40 CFR 112.7(a)(3)(iii)

Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

A primary discharge control method for ASTs at Fort Gordon is secondary containment at each tank location. With the exception of one AST (685A, diesel, 750 gallons) located at the Gibson Road sanitary landfill and one integral generator AST (37200A, diesel, 100 gallons) which are recommended for replacement, all POL ASTs at Fort Gordon are either double walled or single walled with some form of secondary containment. The type of secondary containment for each storage container is presented in the Tables in Section 11.0.



For aboveground single-wall fuel piping located outside of secondary containment areas, upgrades such as replacement with double-wall piping is recommended (see Table 11.1). However, while funding for the piping upgrades is being pursued, a multifaceted approach as a temporary form of environmental equivalence is being implemented in order to adequately address this requirement. First, an active inspections program is being implemented to identify and correct problems identified with the piping system in an expeditious manner. An active inspections program currently includes monthly inspections of piping and related appurtenances. The second approach includes a strong contingency plan, the FRP (October 2013), with a commitment of resources necessary to respond to a spill in lieu of providing secondary containment. In addition, the ISCP identifies the procedures and response actions required by personnel on the facility to be able to report, respond, and cleanup potential spills quickly and effectively. The ISCP is included in Appendix A.

The status of some of the SPCC-regulated USTs at Fort Gordon relative to secondary containment is unknown. Based on the age of these USTs (more than 25 years old) and the uncertain status of corrosion protection for the tanks as well as the associated underground piping (see Table 11.2a), it is recommended that these USTs be permanently closed in accordance with 40 CFR 112.2. Additional discussions regarding SPCC-regulated USTs can be found in Section 9 under Buried Metal Storage Tanks – 40 CFR 112.8(c)(4).

Requirement 40 CFR 112.7(a)(3)(iv)

Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor).

The ISCP identifies the procedures and response actions required by personnel on the facility to be able to report, respond, and cleanup potential spills quickly and effectively. The ISCP is included in Appendix A. The FRP (October 2013) identifies the procedures and response actions in the event of larger discharges. Two outside oil spill response parties are listed in the FRP, in the event that this service is ever needed.

Requirement 40 CFR 112.7(a)(3)(v)

Provide Methods of disposal of recovered materials in accordance with applicable legal requirements



All waste materials used and/or recovered whether by base personnel or contractors hired by the government in the response and cleanup operations shall be properly disposed in accordance with all local, state and federal regulations. The ISCP identifies the required disposal requirements of contaminated petroleum laden wastes.

Requirement 40 CFR 112.7(a)(3)(vi)

Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in 112.1(b).

A contact list which includes phone numbers is provided in FRP (October 2013). The contact list includes all agencies that are required to be contacted in the event an emergency response is required.

Requirement 40 CFR 112.7(a)(4)

Unless you have submitted a response plan under 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in 112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who also have been contacted.

The response plan procedure in the event of a discharge is identified in the FRP (October 2013) and ISCP (Appendix A). In addition to identifying specific agency contact numbers, the FRP also has a Spill Response Notification Form. The ISCP provides detailed actions required in the event of an incident.



Requirement 40 CFR 112.7(a)(5)

Unless you have submitted a response plan under 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

The FRP (October 2013) and ISCP (Appendix A) describe the procedures that must be followed in the event of a discharge.

8.1 Predictions - 40 CFR 112.7(b)

Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

Table 8.1 outlines the predictions of potential releases at Fort Gordon. Possible spill directions are listed in the Tables in Section 11.0 and shown on the individual site maps (Appendix C). The likelihood of a spill from each storage site reaching a surface water body is listed in the Tables in Section 11.0; the Tables also list the surface water body when the likelihood of reaching a surface water body is high. Any spills that have been reported to the Fort Gordon Environmental and Natural Resources Management Office (ENRMO) during the past three years are kept electronically along with copies of the spill reports. Fort Gordon's spill scenarios (small, medium, large, and worst-case) and response procedures are discussed in the FRP (October 2013) and ISCP (Appendix A).



TABLE 8.1: POTENTIAL EQUIPMENT FAILURES

| Potential Failure | Possible Spill Directions (Site Maps-Appendix D) | Potential Volume (gallons) | Spill Rate (gallons/minute) |
|---|--|--|--|
| Complete failure of a full tank (Rupture) | See Tables in Section 11 and site maps for each storage site (Appendix C). | 30,000 (max. capacity of largest AST at Fort Gordon) | Instantaneous |
| Partial Failure of a full exterior AST | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 12,000 | Gradual to instantaneous |
| Tank Overfill | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 2,000 | Up to 50 |
| Pipe Failure | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 12,000 | Up to 50 |
| Tank Truck Leak or Failure | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 600 (each tank) | Gradual |
| Hose Leak During Transfer | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 2,000 | Gradual to Instantaneous |
| Pump Rupture or Failure | See Tables in Section 11 and site maps for each storage site (Appendix C). | Up to 50 | Up to 50 |
| Oil/ water separator malfunction | To storm drain. | Up to 10,000 | Up to 50 |
| Drum Spill | See Tables in Section 11 and site maps for each storage site (Appendix C). | 1 to 55 | Instantaneous |
| Drum Leak | See Tables in Section 11 and site maps for each storage site (Appendix C). | 1 to 55 | Up to 1 |
| Equipment Failure | See Tables in Section 11 and site maps for each storage site (Appendix C). | 1- 300 | Gradual to instantaneous |



8.2 Containment and Diversionary Structures – 40 CFR 112.7(c)

Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in 112.1(b). The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities

- **Dikes, berms, or retaining walls sufficiently impervious to contain oil;**
- **Curbing;**
- **Culverts, gutters, or other drainage systems;**
- **Weirs, booms, or other barriers;**
- **Spill diversion ponds;**
- **Retention ponds; or**
- **Sorbent materials.**

(2) For offshore facilities:

- **Curbing or drip pans; or**
- **Sumps and collection systems**

With the exception of one AST located at the Gibson Road sanitary landfill (685A, diesel, 750 gallons) and one integral generator AST (37200A, diesel, 100 gallons) which are recommended for replacement, all regulated ASTs (Table 11.1) and integral generator ASTs (Table 11.2) at Fort Gordon are either double walled or are single walled and have a form of secondary containment. Single-wall aboveground piping without secondary containment is recommended for replacement with double-wall piping (see Table 11.1). While pipe replacement is pending, piping and associated appurtenances located outside of secondary containment will be inspected on a regular basis. Strong contingency plans (FRP and ISCP) have been implemented with a commitment from the facility to provide the necessary resources to respond to a spill. The active inspections program, along with the strong contingency plans, together act as an environmental equivalence for piping outside of secondary containment.



Mobile refuelers (Table 11.4) and used cooking oil containers without (or with inadequate) secondary containment (Table 11.5) will be upgraded to prevent discharge. All drums are kept within containment dikes, curbs or other approved secondary containment structures; secondary containment structures for the drum storage areas are listed in Table 11.6.

There are no offshore facilities at Fort Gordon; therefore part (2) of the requirement does not apply.

8.3 Alternatives - 40 CFR 112.7(d)

If you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c) to prevent a discharge as described in 112.1 (b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under 112.20, provide in your Plan the following:

- **An oil spill contingency plan following the provisions of part 109 of this chapter; and**
- **A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.**

The Fort Gordon spill response procedure is discussed in the FRP (October 2013). In addition, the ISCP main purpose is to provide Fort Gordon personnel with sufficient information and direction to be able to respond to potential spills quickly and effectively. The ISCP is located in Appendix A.



8.4 Inspections, Tests, and Records - 40 CFR 112.7(e)

Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying Engineer develops for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

In general, Fort Gordon has implemented an inspection program to minimize the potential of spills and discharges. Records are required to be kept of such inspections for a minimum period of three years. Records will be located at DPW-Environmental, Building 14600 and/or at individual sites. The following sections detail the inspection, testing and record keeping requirements for the systems at Fort Gordon.

ASTs

All ASTs (including integral generator ASTs, used cooking oil containers, mobile refuelers and drums) undergo regular monthly and annual visual inspections utilizing the forms in Appendix F. Records of monthly and annual visual inspections are kept on file at the DPW-Environmental office-Building 14600 and/or at individual sites for a minimum of 3 years. The monthly and annual visual inspections of ASTs, integral generator ASTs and drum storage areas are being conducted in accordance with the Steel Tank Institute (STI) *Standard for the Inspection of Aboveground Storage Tanks, 5th Edition, September 2011* (SP001-05). The visual inspections are performed by Fort Gordon personnel who are knowledgeable about Fort Gordon facilities, the storage tanks' contents and characteristics. The monthly and annual visual inspection forms in Appendix E were developed based on the forms provided in SP001-05.

With the exception of AST 685A (diesel, 750 gallons) and integral generator AST 37200A (diesel, 100 gallons), all ASTs are Category 1 (ASTs with spill control and with Continuous Release Detection Method). In accordance with SP001-05, the inspection schedules of the ASTs are as follows:

- Category 1, 0-5000 gallons: Periodic inspections
- Category 1, 5001–30,000 gallons: Periodic inspections, formal external inspection by a certified inspector every 20 years.



AST 685A (diesel, 750 gallons) and integral generator AST 37200 A (diesel, 100 gallons) are considered Category 3 ASTs because these tanks do not have spill control/secondary containment. According to SP001-05, ASTs with no spill control need to undergo a formal external inspection by a certified STI inspector and a leak test every 10 years. Given that these ASTs do not have secondary containment and therefore do not comply with 112.8(c)(2), installation of sized secondary containment or replacement of these ASTs is recommended so that the upgraded tanks can be re-classified as Category 1.

Tables 11.1 (Active ASTs), 11.3 (Active Integral Generator ASTs), 11.4 (Active Mobile Refuelers), and 11.5 (Active POL Drum Storage Areas) identify the aboveground storage containers that undergo periodic inspections (monthly and annual) and formal external inspections every 20 years (tanks with capacity greater than 5000 gallon but less than or equal to 30,000 gallons). It should be noted that consultation with an STI certified inspector is recommended regarding the structural integrity of AST 25910F (3000 gallons, Engine Oil, in Table 11.1). The top of this tank is warped and corroded where water accumulates (low spots). This tank is a Category 1 AST and, under normal circumstances, would only require periodic inspections; however, its current condition warrants consultation with a certified STI inspector on whether tank repairs beyond painting the corroded areas are needed.

SPCC-regulated USTs

All applicable SPCC-regulated USTs undergo monthly inspections using the form included in Appendix E and other tests as detailed in Table 11.2a and in the STMP Database file (see Appendix F also). These other tests include monthly leak testing using the Automatic Tank Gauging system (to be conducted and documented as part of the monthly inspections) and cathodic protection test/survey every 3 years (in accordance with GA DNR Underground Storage Tank Management Program, *Guidelines for Evaluation of Underground Storage Tank Cathodic Protection Systems*, September 2003). It should be noted that, with the exception of USTs 25910I through 25910M which are double-wall USTs of corrosion-resistant material and cathodic protection that were installed in 2003, most of the SPCC-regulated USTs listed in Table 11.2a are recommended for permanently closure in accordance with 40 CFR 112.2 and replacement based on their age (more than 25 years old), single-wall construction, and uncertainty/lack of cathodic protection. In the interim, it is recommended that the USTs in Table 11.2a be subjected to a tightness test to ensure that these are not leaking.



8.5 Personnel Training and Discharge Prevention Procedures – 40 CFR 112.7(f)

At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

Facility personnel have been instructed in the operation and maintenance of oil pollution prevention equipment and pollution control laws and regulations. A copy of the SPCCP/Spill Training presentation material is located in Appendix G. Personnel who work in areas affected by this plan are instructed in:

1. The contents of this plan and the procedures for its implementation.
2. The existence, location, and operation of equipment, storage, and transfer facilities that are available to prevent harmful discharges.
3. Procedures to be used to preclude spills.
4. Inspection requirements and procedures.
5. Recordkeeping requirements.
6. Application of pertinent pollution control laws, rules, and regulations.

Fort Gordon personnel receive applicable training commensurate with their specific job requirements. Records of training are maintained by individual units or activities and are available for review upon request. Training may include:

1. Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response, 29 CFR 1910.120.
2. OSHA Hazard Communication Standard, 29 CFR 1910.1200.
3. OSHA Process Safety Standard, 29 CFR 1910.119.
4. Resource Conservation and Recovery Act (RCRA) Personnel Training, 40 CFR § 265.16.
5. RCRA Waste Handling / Emergency Procedures, 40 CFR 262.34(d).
6. Department of Transportation Hazardous Materials Training, 49 CFR 172, Subpart H.

Spill prevention briefings are scheduled for oil handling personnel at least once a year



to assure adequate understanding of the Fort Gordon SPCC Plan.

In accordance with 40 CFR 112.7(f) Personnel, training and discharge prevention procedures include:

- At a minimum, oil-handling personnel in the operation and maintenance of equipment to prevent discharges must be trained in discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.
- A person is designated at each facility who is accountable for discharge prevention and who reports to facility management.
- Discharge prevention briefings are scheduled and conducted for oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

8.6 Security – 40 CFR 112.7(g)

Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

Fort Gordon is an open post. However, guards are present at the access points to the installation. Facilities where hazardous materials are used or stored are generally fenced and are restricted access.

These facilities are either occupied or are locked during non-working hours. Specific storage locations are secured when not being actively used to obtain or return materials. The master flow and drain valves to diked areas are locked in the closed position when in non-operating or non-standby status. The electrical starter controls for pumps are locked off when not in use. The controls for the fuel transfer point are within a control building where the pumps are located. Other storage locations where fuel is dispensed to vehicles have the pumps locked when in a non-operational status. The fuel transfer point connections are secured when deliveries are not occurring.

Lighting at the facility is commensurate with the mission and location of the facility.



Military Police patrol the property on a continuous basis, and would detect any problems in the exterior of the facility. The power generation plants are continuously manned, and any problems would be detected by site workers, or would be indicated by a problem on the control panel for the power plants. Due to the nature of security at this facility, the possibility of vandalism is very remote.

8.7 Facility Tank Car and Truck Loading/Unloading Spill Prevention and Control – 40 CFR 112.7(h)

Requirement 40 CFR 112.7(h)(1)

Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

Fort Gordon does not have any tank truck loading/unloading racks located at the facility.

Requirement 40 CFR 112.7(h)(2)

Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

All trucks transferring SPCC regulated material to or from Fort Gordon are required to use wheel chocks to secure the trucks during transfer and prevent premature departure causing a spill.



Requirement 40 CFR 112.7(h)(3)

Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

All tank cars are closely inspected for discharges prior to filling and departure. Delivery personnel are required to fully inspect tankers after delivery of product.

8.8 Brittle Fracture Failures – 40 CFR 112.7(i)

If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

No field-constructed aboveground container is located at Fort Gordon.

8.9 State Rules, Additional Regulations and Guidelines – 40 CFR 112.7(j)

In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

Fort Gordon is subject to the State of Georgia rules, regulations, and guidelines relative to above ground storage tanks. Fort Gordon also is subject to the Department of the Army regulations. Specifically, AR-200-1 requires that spill prevention planning include



hazardous materials, PCBs and hazardous wastes which is addressed in the FRP (October 2013).

9.0 Additional Fort Gordon Specific Discharge Prevention and Containment Procedural Requirements

9.1 Facility Drainage – 40 CFR 112.8(b)

Requirement 40 CFR 112.8(b)(1)

Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

All diked storage areas containing liquid shall be inspected prior to discharge and documented. Records shall be maintained and kept at individual sites. Control of discharge from all diked areas is through manually controlled valves. A checklist must be followed as a procedure prior to discharge of a diked storage area, and a copy of this inspection form must be maintained for documentation (see forms in Appendix E).

Requirement 40 CFR 112.8(b)(2)

Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained storm water, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.



All diked storage areas will be inspected prior to discharge. A checklist must be followed as a procedure prior to discharge of diked storage area and a copy of this inspection must be maintained for documentation. Control of discharge of all the diked areas are through manually controlled valves. Flapper type valves are not used at Fort Gordon.

Requirement 40 CFR 112.8(b)(3)

Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

As a form of environmental equivalence to the above requirement, Fort Gordon will use a multifaceted approach to prevent discharges to the environment for piping located outside of containment walls. Specifically, an aggressive inspections program, including monthly inspections of the piping will be performed. Spill kits shall be at all locations where fuel transfer activities occur. ASTs located near buildings with spill kits are shown in Table 11.1. Also, strong contingency plans (ISCP and FRP) shall be implemented with a commitment of resources necessary to respond to a spill in an expeditious and safe manner

At truck loading/unloading locations where secondary containment is not addressed, the location and/or the delivery truck shall have spill kits immediately available. These spill kits shall be of sufficient quantity to address the specific nature of the spill.

Requirement 40 CFR 112.8(b)(4)

If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

All locations with reasonable potential for discharge are either contained or will be contained in order to reduce the potential of a discharge to the environment.



Requirement 40 CFR 112.8(b)(5)

Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in 112.8(b)(1) in case there is an equipment failure or human error at the facility.

This requirement does not apply to Fort Gordon since no treatment of drained waters is performed.

9.2 Bulk Storage Containers – 40 CFR 112.8(c)

Physical Construction – 40 CFR 112.8(c)(I)

Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

ASTs are specifically designed for the intended use of oil storage. Fort Gordon personnel shall ensure that the storage of all oil is in drums or containers specifically designed for the storage of the individual materials.

Secondary Containment – 40 CFR 112.8(c)(2)

Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

With the exception of one POL AST located at the Gibson Road sanitary landfill (685A, diesel, 750 gallons) which is recommended for replacement, all regulated POL ASTs at



Fort Gordon are either double walled or are single walled and have an adequate form of secondary containment (see Table 11.1).

Only one of the integral generator ASTs (37200A, diesel, 100 gallons) does not have secondary containment satisfying the requirements of 112.8(c)(2); installation of secondary containment or replacement is an corrective measure/upgrade for this UST identified in Table 11.3.

Most of the Used Cooking Oil ASTs in Table 11.5 are single-wall tanks and not have a form of sized secondary containment. Installation of secondary containment for Used Oil USTs is listed as a required corrective measure in Table 11.5.

Containment Discharge – 40 CFR 112.8(c)(3)

Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

- **Normally keep the bypass valve sealed and closed;**
- **Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in 112.1(b);**
- **Open the bypass valve and reseal it following drainage under responsible supervision; and**
- **Keep adequate records of such events, for example, any records required under permits issued in accordance with 122.41(j)(2) and 122.41(m)(3) of this chapter.**

Draining of containment areas by a normally sealed closed valve shall only be performed by trained personnel, which will ensure only uncontaminated water is released as defined in 40 CFR 112. Records of all containment discharge shall be kept and maintained at the corresponding site/building. In addition, a copy shall be provided to the environmental department for review and documentation.



Buried Metal Storage Tanks – 40 CFR 112.8(c)(4)

Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

Of the SPCC-regulated USTs in Table 11.2a, USTs 25910I through M (Table 11.2a) are protected from corrosion (STI-P3 with dielectric coatings; sacrificial anode). UST 310C is made from concrete. Construction and/or corrosion protection of the remaining SPCC-regulated USTs in Table 11.2a are not known.

Replacement of UST 310C and 310D is in the funding stage. No corrective measures are required for UST 25910I through M. For the remaining SPCC-regulated USTs, the corrosion protection status for these USTs must be identified to comply with 112.8(c)(4). Given the age of these USTs, permanent closure and replacement is recommended.

Leak testing of USTs 25910I through M is conducted monthly using the ATGs following 40 CFR 280.43. Note that this leak detection method is considered appropriate for SPCC-regulated USTs (EPA, 2013, Chapter 7.2.5, *SPCC Guidance for Regional Inspectors*).

Partially Buried or Bunkered Metal Storage Tanks – 40 CFR 112.8(c)(5)

Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

There are no partially buried and/or bunkered tanks at Fort Gordon.

Integrity Evaluations – 40 CFR 112.8(c)(6)

Test or inspect each aboveground container for integrity on a regular schedule, and whenever you make material repairs. You must determine, in



accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you also must inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

The inspections of Fort Gordon ASTs are conducted in accordance with the Steel Tank Institute (STI) *Standard for the Inspection of Aboveground Storage Tanks, 5th Edition, September 2011* (SP001-05). All Fort Gordon ASTs are inspected on a monthly and annual schedule. Appendix E contains the monthly and annual inspections forms which were developed based on the inspection forms provided in SP001-05.

With the exception of AST 685A (diesel, 750 gallons) and integral generator AST 37200A (diesel, 100 gallons), all ASTs at Ft. Gordon are Category 1 as defined in SP001-05. In accordance with this industry standard, the Category 1 tanks with capacity greater than 5000 gallons must undergo a formal external inspection by a certified STI inspector every 20 years in addition to the periodic monthly and annual inspections. The ASTs that require formal external inspections are identified in Table 11.1. None of the integral ASTs (Table 11.3) have capacities greater than 5000 gallons.

AST 685A (diesel, 750 gallons) and integral generator AST 37200 A (diesel, 100 gallons) are considered Category 3 ASTs because these tanks do not have spill control/secondary containment. According to SP001-05, these ASTs need to undergo a formal external inspection by a certified STI inspector and a leak test every 10 years. Given that these ASTs do not have secondary containment and therefore do not comply with 40 CFR 112.8(c)(2), installation of sized secondary containment or replacement of these ASTs is recommended rather than performing the SP001-005 required inspections and testing.

If material repairs are performed on the ASTs, a leak test following SP001-05 (Section 9) will be conducted after repairs are completed.



Records of the inspections shall be maintained at each tank facility location, as required. In addition, a copy shall be provided to DPW-Environmental Compliance (Building 14600) for review and documentation.

Internal Heating Coils – 40 CFR 112.8(c)(7)

Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

This does not apply to Fort Gordon since no tanks have internal heating coils.

Overfill Prevention – 40 CFR 112.8(c)(8)

Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

- **High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice;**
- **High liquid level pump cutoff devices set to stop flow at a predetermined container content level;**
- **Direct audible or code signal communication between the container gauge and the pumping station; or**
- **A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.**

You must regularly test liquid level sensing devices to ensure proper operation.

Many storage tanks are equipped with direct-reading level gauges (constantly attended operation or surveillance station) or high level alarm type devices designed to prevent overfills (see Tables in Section 11.0 for information regarding overfill control devices at each tank). In accordance with SOPs, filling of tanks equipped with direct-reading level gauges and without high-level alarms are constantly monitored by facility personnel or fuel subcontractors who are in control of a shutoff device during the filling process. All



level gauges are inspected for readability and checked for damage, and alarms for high level alarms are tested monthly (see monthly inspection forms in Appendix F). On an annual basis, level gauges are verified by comparison with an independent level-measuring method (e.g., manual tank gauging for smaller tanks or other means recommended by level gauge manufacturer for larger capacity tanks) and high level alarms are tested in accordance with manufacturer recommendations (see annual inspection form in Appendix E).

With the exception of USTs 25910I through 25910M and 310D, all the 40 CFR 112-regulated USTs do not have any overfill protection devices (see Table 12.2a); as noted previously, these USTs are recommended for permanent closure and replacement based on their age (more than 25 years) and uncertainty in corrosion protection status.

Monitoring effluent treatment facilities– 40 CFR 112.8(c)(9)

Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in 112.1(b).

There are no treatment facilities on the base.

Correction of Discharges and Removal of Oil in Diked Areas– 40 CFR 112.8(c)(10)

Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

Discharges of any quantity of oil from its container, seams, gaskets, piping, valves or bolts shall be promptly removed from any containment area. Waste material generated shall be disposed of in accordance with all local, state and federal regulations. The procedure to be followed with regard to any discharge of any quantity can be found in the ISCP (Appendix A). This document goes into great depth with regard to appropriate actions and procedures that will be required in the event of a spill.



Mobile or Portable Oil Storage Containers– 40 CFR 112.8(c)(11)

Position or locate mobile or portable oil storage containers to prevent a discharge as described in 112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

Mobile refuelers (Table 11.4) and drum storage areas (Table 11.6) are staged at various locations throughout Fort Gordon (see locations on facility map in Appendix B). All portable containers are provided with secondary containment structures consisting of containment pallets or pans (see Table 11.6). The capacities of the secondary containment for the drum storage areas are of sufficient quantity to store the largest tank contents plus freeboard. Most of the mobile refuelers are equipped with secondary containment as noted in Table 11.4. Secondary containment for mobile refuelers will be installed where needed when resources are available.

9.3 Facility Transfer Operations, Pumping, & Facility Process – 40 CFR 112.8(d)

- (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.**
- (2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.**
- (3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.**
- (4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity**



and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

Table 11.1 shows underground piping is associated with some ASTs at Fort Gordon. The existence of corrosion protection or double-wall construction with interstitial leak detection system for underground piping installed after August 16, 2002 will be verified. Double-walled piping equipped with an interstitial leak detection system (LDS) will be considered environmentally equivalent to the corrosion protection requirement in 112.8(d)(1). If underground piping is found to be unprotected or not of double wall construction, the pipeline will be replaced with underground double walled piping with an interstitial LDS.

Table 11.2a shows underground piping is associated with all the 40 CFR 112-regulated USTs at Fort Gordon. The only USTs with underground piping installed after August 16, 2002 are USTs 25910I through 25910M (installed in 2003). As shown in Table 11.2a, the underground piping associated with these tanks consist of double-walled fiber-reinforced plastic (corrosion-resistant). Underground piping is associated with 40 CFR 112-regulated USTs that were installed prior to August 16, 2002; as noted previously, these USTs are recommended for permanent closure based on their age (greater than 25 years) and uncertainty in cathodic protection.

Fort Gordon personnel inspect piping and related equipment as part of the monthly inspection program (see inspection form in Appendix E). In general, aboveground pipes associated with existing ASTs at Fort Gordon are either located in areas where damage due from vehicular traffic is unlikely, or collision barriers have been installed to protect the ASTs and associated equipment. If during future inspections, the likelihood of vehicles coming in close proximity to aboveground piping and ASTs without collision barriers is observed, then collision barriers will be installed or warning signs will be posted as appropriate.



10.0 Recommendations

Recommended upgrades for oil-based product use and storage at Fort Gordon are shown in the Tables in Section 11.0. Upgrades required in order to be compliant with 40 CFR 112 are summarized below (marked as by “*” in Section 11.0 Tables):

- Single-walled AST 685A (750 gallons, diesel, at Gibson Road Sanitary Landfill) and integral generator AST 37200A (100 gallons, diesel, AAFES Commissary) require secondary containment to be in compliance with 40 CFR 112.8(c)(2). Replacement with double-walled ASTs is recommended.
- Corrosion protection for underground piping installed after August 16, 2002 must be verified. If the underground piping is confirmed to be double-walled with interstitial LDS, this will be considered environmentally equivalent to corrosion protection. If corrosion protection is not present or the underground piping installed after August 16, 2002 is not double-walled with interstitial LDS, upgrades are needed to be in compliance with 40 CFR 112.8(d)(1). This applies to underground piping at the following storage containers include (Table 11.1):
 - AST 21610C
 - AST 250D
 - AST 300A
 - AST 32100
 - AST 33500C
- It may not be feasible or cost-effective to upgrade SPCC-regulated USTs that are older than 25 years with uncertain cathodic protection to be compliant with 40 CFR 112.8(c)(4). These SPCC-regulated USTs are recommended for permanent closure as defined in 40 CFR 112.2 (i.e., tanks must be emptied, pipes disconnected, signage put up, etc.):
 - UST 14600C (installed 1976)
 - UST 25501A (installed 1986)
 - UST 310C-BFCUST and 310D (installed 1975) – funding for replacement of these USTs is forthcoming.
 - 322A (installed 1979)
 - 36700A and 36700B (installed 1972)
- It is recommended that inactive tanks (Table 11.7) be permanently closed per 40 CFR 112.2.



- Secondary containment structures are required for all used cooking oil containers (Table 11.5) to be in compliance with 40 CFR 112.8(c)(2).

With respect to inspections and testing, the following are required for ASTs:

- Monthly and annual visual inspections of all ASTs, integral generator ASTs, mobile refuelers, and drum storage areas. The monthly and annual inspections using the forms in Appendix F are in accordance with SP001-05 and will include testing of level gauges and alarms as well as visual inspection of aboveground piping. Inspection records are kept for a minimum of 3 years. These inspections will satisfy 40 CFR 112.7(e), 112.8(c)(6), 112.8(c)(8), and 112.8(d)(4).
- To satisfy 40 CFR 112.7(e) and 112.8(c)(6), formal external inspections by an STI inspector every 20 years in accordance with SP005-05 are required for ASTs with capacities greater than 5000 gallons; these include:
 - AST 300A (installed in 2012, due in 2032)
 - AST 310A and 310B (installed in 1998, due in 2018)
 - AST 32100 (installed in 2008, due in 2028)
 - AST 33500C (installed in 2008, due in 2028)
 - ASTs 49300A, B, C and D (installed in 1993, was due in 2013)
 - ASTs 61500A to I (installed in 2009, due in 2029)Note that the formal external STI inspection of the ASTs 49300A, B, C and D is past due and must be done as soon as possible.
- If underground piping associated with ASTs is replaced, these shall be leak tested (to satisfy 40 CFR 112.8(d)(4)).

With respect to inspections and testing, the following is required for SPCC-regulated USTs:

- Monthly leak testing using the ATG method; this will satisfy 40 CFR 112.8(c)(4).
- If underground piping associated with ASTs is replaced, these shall be leak tested to satisfy 40 CFR 112.8(d)(4).

The following recommended upgrades/measures are not required to be in compliance with 40 CFR 112 but would be protective of the environment:

- Although not required by 40 CFR 112.8(d)(1), it is recommended that corrosion/cathodic protection for underground piping installed before August 16,



2002 be verified and installed, if not present. These include underground piping at the following storage sites:

- AST 14600A
 - AST 14603A
 - AST 49300A-D
- Although mobile refuelers are exempted from 40 CFR 112.8(c)(2), secondary containment and/or diversionary structures or equipment to prevent a discharge from all mobile fuel tanker storage areas is recommended. These upgrades are recommended from mobile refuelers at the following staging areas (Table 11.4):
 - 106, National Guard storage lot
 - 81208B, Signal Brigade
 - Leak testing of underground piping every 3 years is recommended even though leak testing is only required at the time of installation, modification, construction, relocation or replacement by 40 CFR 112.8(d)(4).
 - Consultation with an STI inspector is recommended regarding the structural integrity of AST 25910F (3000 gallons, engine oil) to determine whether additional repairs are needed beyond painting of the corroded areas on the top of the tank (which is warped). Rust removal/painting is recommended for a number of tanks in Table 11.1.
 - All storage tanks must be properly labeled and maintained.
 - Fuel supplier use of spill buckets/drip pans for tanks lacking these appurtenances must be confirmed.



11.0 Tables of Oil Storage Sites