# SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN (SPCCP)

# FORT CAVAZOS, TEXAS

Prepared for:

**United States Army**
**Fort Cavazos, Texas**

By:

Environmental Business Partners, LLC

**Texas Certificate of Authorization – F-17149**
**www.ebpartners.us**

**June 2023**

**This page intentionally left blank**

# TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS ..... v
1 INTRODUCTION ..... 1-1
2 PLAN CERTIFICATION, AVAILABILITY, AMENDMENT, AND DEVIATIONS ..... 2-1
2.1 Command Certification ..... 2-1
2.2 Licensed Professional Engineer Certification ..... 2-2
2.3 Availability of SPCCP ..... 2-3
2.4 Plan Amendment and Review ..... 2-3
2.4.1 Administrative Updates ..... 2-3
2.4.2 Technical Amendments by a Certified PE ..... 2-3
2.5 Regulatory Deviations ..... 2-5
3 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN AND 40 CFR 112 CROSS-REFERENCE ..... 3-6
4 GENERAL DESCRIPTION OF INSTALLATION ..... 4-1
5 LAYOUT OF OIL OPERATIONS ..... 5-1
5.1 General ..... 5-1
5.2 Defense Fuel Supply Point ..... 5-1
5.3 Other Installation Oil Storage and Transfer Areas ..... 5-2
5.4 Containers Not Covered by this SPCCP ..... 5-2
5.4.1 Exclusions ..... 5-2
5.4.2 Contractors ..... 5-3
5.4.3 Underground Storage Tanks ..... 5-3
5.4.4 Permanently Closed Containers ..... 5-3
5.4.5 Motive Power Containers ..... 5-3
5.4.6 Oil/Water Separators Used Exclusively for Treating Wastewater ..... 5-3
5.4.7 Oil Storage Containers Less than 55 Gallons ..... 5-4
5.4.8 Grease Bins ..... 5-4
5.5 Regulated Containers ..... 5-4
6 INSTALLATION DRAINAGE AND DRAINAGE CONTROLS ..... 6-1
6.1 General ..... 6-1
6.2 Dike Drainage Control ..... 6-3
6.2.1 General ..... 6-3
6.2.2 Defense Fuel Support Point, Bulk Fuel Storage Facility ..... 6-3
6.2.3 Defense Fuel Support Point, Robert Gray Army Airfield Alert Tank Farm ..... 6-3
6.2.4 Defense Fuel Support Point, Yoakum-Defrenn Army Heliport (YDAHP) Rapid Refuel Facility ..... 6-4
6.3 Drainage from Undiked Areas ..... 6-4
6.4 Observation of Effluent Treatment Facilities ..... 6-4
7 BULK STORAGE CONTAINERS ..... 7-1

7.1 General ..... 7-1
7.2 Shop-fabricated Containers ..... 7-1
7.2.1 Construction ..... 7-1
7.2.2 Aboveground Storage Tank Overfill Protection ..... 7-2
7.2.3 Specific Secondary Containment for Storage Containers ..... 7-2
7.2.4 Specific Secondary Containment for Mobile and Portable Storage Containers (Excludes Mobile Fuelers) ..... 7-2
7.3 Mobile Refuelers and Other Tank Trucks ..... 7-3
7.3.1 Military MFTs ..... 7-3
7.3.2 Contractor MFTs ..... 7-3
7.3.3 Installation MFTs ..... 7-4
7.3.4 Commercial MFTs ..... 7-4
7.3.5 FARP ..... 7-4
7.4 Field-Constructed Aboveground Storage Tanks ..... 7-4
7.4.1 Construction ..... 7-4
7.4.2 Aboveground Storage Tank Overfill Protection ..... 7-5
7.4.3 Specific Secondary Containment for Aboveground Storage Tanks ..... 7-5
7.5 Completely Buried Tanks Regulated by 40 CFR 112 ..... 7-6
7.5.1 Construction ..... 7-6
7.5.2 Underground Storage Tank Overfill Protection ..... 7-6
7.6 Oil Filled Operational Equipment Regulated by 40 CFR 112 ..... 7-6
7.6.1 Elevator Hydraulic Systems ..... 7-6
7.6.2 Transformers ..... 7-6
8 TRANSFER EQUIPMENT AND OPERATIONS ..... 8-1
8.1 General ..... 8-1
8.2 Fuel Transfer by Pipeline ..... 8-1
8.2.1 Bulk Fuel Pipelines ..... 8-1
8.2.2 Buried Piping Installation Protection and Examination ..... 8-2
8.2.3 Not-in-service and Standby Service Terminal Connections ..... 8-2
8.2.4 Pipe Supports ..... 8-2
8.2.5 Aboveground Piping Protection ..... 8-2
8.2.6 General Secondary Containment ..... 8-3
8.3 Tank Car and Truck Loading/Unloading Racks and Transfer Areas ..... 8-4
8.3.1 Tank Truck Transfer Areas ..... 8-4
8.4 Premature Truck Departure Prevention and Inspection of Drainage Outlets ..... 8-6
9 SECURITY ..... 9-1
9.1 Access Control ..... 9-1
9.2 Flow and Drain Valves Secured ..... 9-2
9.3 Starter Controls Secured ..... 9-2
9.4 Pipeline Loading/Unloading Connections Secured ..... 9-2

10 POTENTIAL TYPES OF MAJOR FAILURES AND SPILLS ..... 10-1
10.1 General ..... 10-1
10.2 Bulk Fuel Storage Facility ..... 10-1
10.3 Robert Gray Army Airfield Alert Tank Farm and South Ramp ..... 10-1
10.4 Yoakum-Defrenn Army Heliport Rapid Refuel Facility ..... 10-1
10.5 Hydrants ..... 10-2
10.6 Energy Transfer Pipeline ..... 10-2
11 EQUIPMENT INSPECTIONS, TESTS, AND RECORDS ..... 11-1
11.1 General ..... 11-1
11.2 Correction of Visible Discharges during Inspections ..... 11-1
11.3 Inspection and Test Records ..... 11-2
11.4 Inspection and Tests, Shop-Fabricated Containers ..... 11-2
11.5 Inspections and Tests, Bulk Fuel Equipment Including Field Constructed Tanks ..... 11-3
11.5.1 Industry Standards ..... 11-3
11.5.2 Defense Fuel Support Point Bulk Fuel Storage Tanks and Transfer Equipment ..... 11-4
11.5.3 Brittle Fracture ..... 11-7
11.5.4 Inspection of Secondary Containment Drainage ..... 11-8
12 OIL HANDLING PERSONNEL TRAINING ..... 12-1
12.1 Fort Cavazos Training Procedures ..... 12-1
12.2 Facility Response Training and Drill/Exercise Plan ..... 12-2
12.2.1 Spill Response Training Requirements ..... 12-2
12.3 Defense Fuel Support Point ..... 12-2
12.3.1 DFSP Contract Personnel ..... 12-3
12.3.2 Fort Cavazos Unit Personnel ..... 12-3
13 FORT CAVAZOS FACILITY RESPONSE PLAN ..... 1
13.1 Fort Cavazos Facility Response Plan ..... 1
13.2 Disposal of Recovered Materials ..... 1
13.3 Facility Response Plan Locations ..... 1

## LIST OF TABLES

Table 1: Regulatory Cross-reference ..... 3-6
Table 2: Appendix B Container Tables ..... 5-4
Table 3: Mobile Refueler Types at Fort Cavazos ..... 7-4
Table 4: Truck Loading/Unloading Racks and Transfer Areas ..... 8-5
Table 5: API 653 Bottom Plate Thickness Criteria ..... 11-4
Table 6: Defense Fuel Support Point Fort Cavazos Inspections and Tests ..... 11-5

## LIST OF APPENDICES

Appencix A: Fort Cavazos Area Drainage Maps
Appendix B Tank Inventories
Appendix C Inspection Procedures
Appendix D Record of Changes
Appendix E Secondary Containment Calculations
Appendix F Spill Resonse Poster

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AAF | Army Airfield |
| AAFES | Army Air Force Exchange Service |
| API | American Petroleum Institute |
| AR | Army Regulation |
| AST | Aboveground Storage Tank |
| ATG | Automatic Tank Gauge |
| BFSF | Bulk Fuel Storage Facility |
| Bldg(s) | Building(s) |
| BLORA | Belton Lake Outdoor Recreation Area |
| CAC | Common Access Card |
| CFR | Code of Federal Regulations |
| CRDM | Continuous Release Detection Method |
| CU | Classification Unit |
| DA PAM | Department of the Army Pamphlet |
| DFSP | Defense Fuel Supply Point |
| DoD | Department of Defense |
| DPW | Directorate of Public Works |
| DLADS | Defense Logistics Agency Disposition Services |
| ECA | Environmental Compliance Assistant |
| ECO | Environmental Compliance Officer |
| EPA | United States Environmental Protection Agency |
| FC | Fort Cavazos |
| FRP | Fiberglass Reinforced Plastic |
| GLO | General Land Office |
| YDAHP | Yoakum-Defrenn Army Heliport |
| HAZMAT | Hazardous Material |
| HEMTT | Heavy Expanded Mobility Tank Truck |
| HSMS | Hazardous Substance Management System |
| HQ | Headquarters |
| IAW | In Accordance With |
| IM | Interstitial Monitoring |
| IMC | Installation Management Command |
| FRP | Facility Response Plan |
| F-24 | Jet Fuel |
| KMS | Key Management Services |
| LLG | Liquid Level Gauge |
| LRC | Logistics Readiness Center |
| MFT | Mobile Fuel Tanker |
| MOGAS | Type of Fuel |
| NA | Not Applicable |
| NACE | National Association of Corrosion Engineers |
| NFC | North Fort Cavazos |
| NFPA | National Fire Protection Association |

| | |
|---|---|
| NHWAP | Non-Hazardous Waste Accumulation Point |
| OFOE | Oil-filled Operational Equipment |
| OSHA | Occupational Safety and Health Administration |
| OWS | Oil/Water Separator |
| PCB | Polychlorinated Biphenyl |
| P.E. | Professional Engineer |
| POL | Petroleum, Oils, and Lubricants |
| PREP | Preparedness for Response Exercise Program |
| PST | Petroleum Storage Tank |
| PSTR | Petroleum Storage Tank Remediation |
| PWS | Public Work Service |
| RA | Regional Administrator |
| RCRA | Resource Conservation and Recovery Act |
| RGAAF | Robert Gray Army Airfield |
| RFP | Reinforced Fiberglass Plastic |
| RRC | Railroad Commission of Texas |
| RRF | Rapid Refuel Facility |
| SSA | Supply Support Activity |
| SCU | Secondary Containment Unit |
| SOP | Standard Operating Procedure |
| SPCCP | Spill Prevention Control and Countermeasure Plan |
| STI | Steel Tank Institute |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRO | Southwest Regional Office |
| TAC | Texas Administrative Code |
| TCEQ | Texas Commission on Environmental Quality |
| TNRCC | Texas National Resource Conservation Commission |
| TPDES | Texas Pollution Discharge Elimination System |
| UFC | Unified Facilities Criteria |
| UL | Underwriters Laboratory |
| UPRP | Used Product Reclamation Point |
| USACE | U.S. Army Corps of Engineers |
| UST | Underground Storage Tank |
| WFC | West Fort Cavazos |

# 1 INTRODUCTION

This SPCCP addresses the storage and management of oil products found within the operational areas of Fort Cavazos, Texas. The SPCCP describes practices, procedures, structures, and equipment used to prevent spills and eliminate or reduce harmful effects to human health and the environment.

This SPCCP fulfills the requirements for an SPCCP as mandated by 40 Code of Federal Regulations (CFR) §112, Oil Pollution Prevention, Army Regulation 200-1, and Texas Administrative Code (TAC) 30 Chapters 327 and 334.

The State of Texas has adopted USEPA regulations specific to SPCCPs and regulations governing USTs equivalent to federal regulations. As such, this plan has been developed in a manner that is compliant with the regulatory requirements of the State of Texas.

The purpose of the Fort Cavazos SPCCP is to identify and implement measures to prevent oil and other hazardous substances spills. 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, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil."

In the event of a spill, the Fort Cavazos Facility Response Plan (FRP) establishes countermeasures to respond to, cleanup, and dispose of the spill. Fort Cavazos maintains the FRP to conform to the facility response plan requirements of 40 CFR 112.20 and the spill countermeasure requirements of the SPCC regulations. The facility response planning in the FRP incorporates the spill risk and various spill prevention information in the SPCCP. Consequently, the SPCCP and the FRP are companion documents that are integral parts of the overall program designed to prevent environmental pollution, eliminate and mitigate hazards, and effectively manage the storage and use of oil and hazardous materials at Fort Cavazos.

**This page intentionally left blank**

# 2 PLAN CERTIFICATION, AVAILABILITY, AMENDMENT, AND DEVIATIONS

## 2.1 Command Certification

The responsibility for oil release control within the boundaries of Fort Cavazos has been assigned as identified below.

Fort Cavazos is committed to providing the manpower, equipment, facilities, and materials required to establish precautionary measures and to expeditiously control and remove any harmful quantity of oil or hazardous substances discharged from the operational area identified within the five (5) cantonment areas and associated trailing lands located within the boundaries of Fort Cavazos.

By signature, I certify that I have reviewed and approved this SPCCP and agree to implement the necessary changes outlined in the Facility Upgrade Schedule.

APPROVED:

COL Lakicia Stokes
Commanding
Fort Cavazos

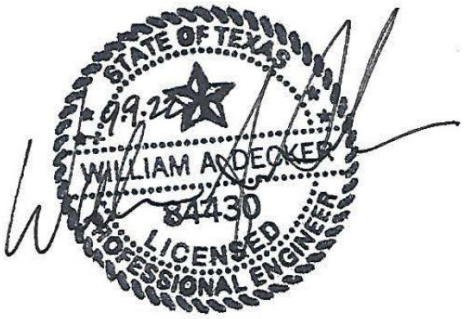
23 JAN 24
Date

## 2.2 Licensed Professional Engineer Certification

I hereby certify that during the week of January 3, 2022, I visited and examined petroleum storage and handling facilities at Fort Cavazos and being familiar with the provisions of 40 Code of Federal Regulations (CFR) 112, I attest that the Spill Prevention, Control and Countermeasure Plan aspects of this SPCCP conform to the requirements of 40 CFR 112 and have been prepared IAW good engineering practice, including consideration of applicable industry standards. Procedures for required inspections and testing have been established and the plan is adequate for the facility.

*William A. Decker*
Licensed Professional Engineer
State of Texas 84430
Certificate of Authorization F-17149

Date



## 2.3 Availability of SPCCP

The SPCC is published in KMS and available electronically to any CAC Card holder. The DFSP Fire Department, and DPW Environmental Office maintain hardcopies.

## 2.4 Plan Amendment and Review

This plan shall be revised as specified in this section. There are two types of revisions: Administrative Updates and Technical Amendments by a Certified Professional Engineer (PE).

### 2.4.1 Administrative Updates

*Administrative updates* are non-structural- and non-process-related changes to the plan. Administrative updates to the plan do not require a PE signature but must be made immediately upon knowledge of the change.

Examples of *administrative updates* include:

a. Changes in the assignment or phone numbers of key personnel

b. Changes in phone numbers of local emergency response agencies

c. Reflections of Department of Defense or Army policy changes

To record administrative updates to this plan, use the form located in Appendix D of this plan.

### 2.4.2 Technical Amendments by a Certified PE

The SPCCP must be *amended* per 40 CFR §112.5(a-c) when there is a change in facility design, construction, operation, or maintenance that materially affects the facility's potential for the discharge of oil as described in 40 CFR §112.1(b)[1]. The SPCCP must also be reviewed at least once every five years. If no technical amendments are required upon such a review, it is not necessary to have the plan recertified by a PE. You must document your completion of the review and evaluation and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCCP for (name of facility) on (date) and will (will not) amend the Plan as a result." All technical amendments to the plan must be implemented as soon as possible, but not later than six months after the change occurs. All technical amendments must be certified by a PE.

a. The plan must be amended and certified by a PE within six months after the 5-year review to include more effective prevention and control technology if:

- such technology will significantly reduce the likelihood of a spill event from the facility; and
- Such technology has been field-proven at the time of the review.

[1] 40 CFR §112.1(b) – "discharge oil in quantities that may be harmful…into or upon the navigable waters of the U.S. or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the U.S."

b. Examples of the types of changes requiring an *amendment* to the plan include the following:

- Commissioning or decommissioning of ASTs or USTs
- Replacement, reconstruction, or movement of ASTs or USTs
- Reconstruction, replacement, or installation of piping systems
- Construction or demolition that might alter secondary containment structures
- Revision of standard operation or maintenance procedures
- Addition of new hazardous material (Hazardous Material) or POL storage buildings
- Fueling activity changes (addition of fixed on-site fueling systems, or cessation of fixed on-site fueling systems. Does not include mobile/portable fueling operations)
- Installation of new storage tanks
- Significant changes to federal or State of Texas regulations affecting the applicability and effectiveness of this SPCCP or those regarding *reportable spill* quantities
- When the SPCCP fails or proves to be ineffective in preventing or responding to a spill
- At the request of the EPA or TCEQ
- After pertinent national, regional, or state contingency plans are modified
- After any changes in adjacent land or water use that would affect spill prevention and response.

c. In the event of certain discharges, specific facility and discharge information must be submitted to the EPA Region 6 Administrator and the state agency in charge of controlling oil pollution. Fort Cavazos is subject to this reporting requirement specified in 40 CFR 112.4 if either of the following occurs:

- The facility discharges more than 1,000 gallons of oil in a single discharge, as described in Part 112.1(b), or;
- The facility has discharged more than 42 gallons of oil, as described in Part 112.1(b), in each of two discharges, within any 12-month period.

d. Fort Cavazos must submit the required information to the EPA Region 6 Administrator and the state agency within 60 days of the occurrence of the spill event subjecting Fort Cavazos to the requirement. Part 112.4 requires submission of the following information:

- Name of the facility
- Name of the individual submitting the information

- Location of the facility
- Maximum storage or handling capacity of the facility and normal daily throughput
- The corrective actions and/or countermeasures taken, including adequate description of equipment repair and/or replacement
- An adequate description of the facility, including maps, flow diagrams, and topographical maps
- The cause(s) of such a discharge as described in Part 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred
- Additional preventive measures that have been taken or contemplated to minimize the possibility of recurrence; and,
- Other information as the Regional Administrator (RA) may reasonably require pertinent to the Plan or discharge.

e. The EPA may require amendments to this plan after reviewing submitted information or an on-site review of the plan. If the plan requires modifications, Fort Cavazos must do so within 30 days after receiving notice from EPA. Also, Fort Cavazos must implement any required plan amendment no later than six months after revising the plan.

## 2.5 Regulatory Deviations

Because of the significant size and scale of Fort Cavazos Installation, deviations specific to the content and layout of site diagrams that are maintained in Appendix A of this SPCCP have been approved by the Certifying Professional Engineer. As an Environmental Equivalent the Phantom Warrior WebMap, managed by the DPW, provides an extensive archive of diagrams that provide details that meet the requirements of §112.7(a)(3) and that are available for review by DPW Environmental Staff as needed. Additional details regarding overhead piping systems common to Maintenance Facilities for the transfer of used oils and antifreeze to aboveground storage tanks located at the Maintenance Facility are maintained by the DPW and are available to the DPW Environmental Staff for review as required.

# 3 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN AND 40 CFR 112 CROSS-REFERENCE

This SPCCP does not follow the sequence of the regulatory requirements as specified in 40 CFR 112.7. Consequently, as required, this plan provides a cross-reference of the applicable provisions in this SPCCP that conform to the general plan requirements in Part 112.7 and the plan requirements for onshore facilities in Part 112.8. Plan requirements for onshore oil production facilities in Part 112.9, for onshore oil drilling and workover facilities in Part 112.10, for offshore oil drilling, production, or workover facilities in Part 112.11, and for non-petroleum oil facilities in Part 112.12 are not applicable for this SPCCP.

Given that this SPCCP and the FRP are companion documents some requirements of applicable to SPCCP are addressed in the FRP.

**Table 1: Regulatory Cross-reference**

| 40 CFR 112 | Topic | SPCCP Section |
|---|---|---|
| 112.3(d) | Licensed Professional Engineer SPCCP Certification | 2.2 |
| 112.3(e)(1) and (2) | SPCCP Maintained at Facility and Available for EPA RA's Review | 2.3 |
| 112.4(a) | Submittal of Information to EPA RA for Specified Spills | 2.4.2 |
| 112.4(c) | Submittal of Information to Appropriate State Agency for Specified Spills | 2.4.2 |
| 112.5(a) | Required SPCCP Amendments Dues to Facility Design, Construction, Operation, or Maintenance | 2.4.2 |
| 112.5(d) | 5-Year SPCCP Plan Review, Evaluation, and Amendment | 2.4.2 |
| 112.5(c) | Licensed Professional Engineer Certification of Technical Amendments | 2.4.2 |
| 112.7 | Management Approval and Regulatory Cross Reference | 2.1 & 3 |
| 112.7(a)(1) | SPCCP Conformance to Regulatory Requirements | Cross Reference Cited Plan Sections |
| 112.7(a)(2) | SPCCP Deviations and Equivalent Environmental Protection of Alternate Measures | 2.5 |
| 112.7(a)(3) | Description of Facility Physical Layout and Diagram of the Containers, Storage Areas, Transfer Stations, and Connecting Pipes | 4, 5, 6. 7.1, & Appendix A |
| 112.7(a)(3)(i) | Contents and Capacities of Containers | Appendices A & B |
| 112.7(a)(3)(ii) | Discharge Prevention Measures and Routine Oil Handling Procedures | 6, 7, 8, & Appendices A, D |
| 112.7(a)(3)(iii) | Discharge or Drainage Controls | 6, 7.3, 7.4, 8.2.6, & 8.3 |
| 112.7(a)(3)(iv) | Discharge Discovery, Response, and Cleanup | Section 5.1 of FRP |
| 112.7(a)(3)(v) | Methods of Disposal of Recovered Materials | Sections 5.3.3 & 6.0 of FRP |
| 112.7(a)(3)(vi) | Discharge Emergency Response Contact List and Telephone Numbers | Section 1.2.3 of FRP |
| 112.7(a)(4) | Discharge Reporting | Sections 1.2 & 1.3 of FRP |
| 112.7(a)(5) | Emergency Response Procedures | Section 5.0 of FRP |

**Table 1: Regulatory Cross-reference**

| 40 CFR 112 | Topic | SPCCP Section |
|---|---|---|
| 112.7(b) | Prediction of Potential Spill Direction, Flow Rate, and Total Volume for Each Type of Major Equipment Failure With a Reasonable Potential of Occurrence | 10, Appendix A, & Section 4.0 of FRP |
| 112.7(c) | Appropriate Containment and/or Diversionary Structures or Equipment | 6, 7, 8, & Appendix B |
| 112.7(d) | Requirements for Determination of Impracticability of Specified Containment Structures and Equipment. | 2.5 |
| 112.7(e) | Inspection and Test Procedures and Records | 11, Appendix C |
| 112.7(f)(1) | Oil-Handling Personnel Spill Prevention Equipment Operation and Maintenance Training | 12 |
| 112.7(f)(2) | Designated Person Accountable for Spill Prevention | Section 1,1 of FRP |
| 112.7(f)(3) | At Least Annual Oil-Handling Personnel Spill Prevention Briefings | 12 |
| 112.7(g) | Security and Access Control of Oil Handling, Processing, and Storage Areas | 9 & Appendix A |
| 112.7(h)(1) | Tank Truck and Car Loading/Unloading Rack Containment | 8.3 & Appendix A |
| 112.7(h)(2) | Warning or Equipment to Prevent Premature Departure of Vehicles From the Loading and/or Unloading Rack Area | 8.4 |
| 112.7(h)(3) | Inspection of Tank Truck or Tank Car Lowermost Drains and Outlets Before Filling and Departure | 8.4 |
| 112.7(i) | Evaluation and Mitigation of Field-Constructed Aboveground Tank Discharge Risk Due to Brittle Fracture or Other Catastrophe | 11.5.3 |
| 112.7(j) | Discussion of Conformance to Other Applicable Parts and More Stringent State Rules, Regulations, and Guidelines | 1 & 3 |
| 112.7(k) | Alternative to General Secondary Containment for Qualified Oil-filled Operational Equipment | 7.6 |
| 112.8(b)(1) | Control of Drainage From Diked Storage Areas | 6.2 |
| 112.8(b)(2) | Diked Area Drainage Valve Type and Inspection Requirement for Draining Diked Area | 6.2, 11.6, & Appendix C |
| 112.8(b)(3) | Facility Drainage Systems from Undiked Areas With Potential for a Discharge | 6.3 |
| 112.8(b)(4) | Diversion System for Final Drainage Discharges From All Facility Ditches If Facility Drainage Systems Are Not Engineered According to 112.8(b)(3) | 6.3 |
| 112.8(b)(5) | Requirements for Treating Drainage Water With More Than One Continuous Treatment Unit Using Pumps For Transfers | 6.4 |
| 112.8(c)(1) | Container Material and Construction Compatibility With Stored Material and Storage Conditions | 7.3, 7.4 & Appendix B |
| 112.8(c)(2) | Sized and Sufficiently Impermeable Containment for Bulk Storage Tanks | 7.1, 7.3, 7.4, & Appendix B |
| 112.8(c)(3) | Requirements for the Drainage of Uncontaminated Rainwater From Diked Area | 6.2, 11.6, & Appendix C |
| 112.8(c)(4) | Corrosion Protection and Regular Leak Test of Completely Buried Metallic Storage Tanks Installed On or After January 10, 1974 | 11 |
| 112.8(c)(5) | Corrosion Protection of Partially Buried or Bunkered Metallic Tanks | 7.2 |
| 112.8(c)(6) | Aboveground Container Inspection and Integrity Testing on a Regular Schedule, Dike Area Inspections, Personnel Qualifications, and Records | 11 & Appendix C |
| 112.8(c)(7) | Control of Leakage through Container Internal Heating Coils | 7.2 |
| 112.8(c)(8) | Good Engineering Practice for Container Including at least One Listed | 7.3.2, 7.4.2, 7.5.2, |

**Table 1: Regulatory Cross-reference**

| 40 CFR 112 | Topic | SPCCP Section |
|---|---|---|
| | Measure for Preventing Overfills and Regular Testing of Liquid Level Sensing Devices | 11 & Appendix B |
| 112.8(c)(9) | Observation of Effluent Treatment Facilities to Prevent Oil Discharges | 6.4 |
| 112.8(c)(10) | Prompt Correction of Visible Discharges From Containers and Removal of Oil Accumulations in Diked Areas | 6.2 & 11.2 |
| 112.8(c)(11) | Positioning Mobile or Portable Oil Storage Containers to Prevent Discharges and Providing Sized and Sufficiently Impermeable Containment for These Containers | 7.4 |
| 112.8(d)(1) | Wrapping and Coating, with Cathodic Protection of Buried Piping Installed or Replaced On or After August 16, 2002 and Inspection of Exposed Piping | 8.2.2 |
| 112.8(d)(2) | Requirements for Not-In-Service and Standby Service Piping Terminal Connections | 8.2.3 |
| 112.8(d)(3) | Pipe Supports Design | 8.2.4 |
| 112.8(d)(4) | Regular Inspection of Aboveground Valves, Piping, and Appurtenances and Leak and Integrity Tests of Buried piping | 11 |
| 112.8(d)(5) | Warning Vehicles of Aboveground Piping and Transfer Operations | 8.2.5 |
| Appendix C | Substantial Harm Criteria Certification | Page iv of FRP |

# 4 GENERAL DESCRIPTION OF INSTALLATION

Fort Cavazos is the Army's premier installation for training and deploying heavy forces. Fort Cavazos is home to the HQ Command III Corps, 1st Cavalry Division, 1st Army Division West, 3rd Armored Calvary Regiment, 3rd Air Support Operations Group, 13th Sustainment Command (Expeditionary), six brigade combat teams, and five other brigade-size formations. The installation's primary mission is to train its assigned units, as a mobilization station for Army Reserve and National Guard units and as a strategic power projection platform. The installation also supports other assigned and tenant organizations including the Army Reserve, the National Guard, the Reserve Officer Training Corps, and reservists from other military services.

Encompassing 218,823 acres or 342 square miles of Bell and Coryell Counties, Fort Cavazos is the largest, most capable armored military training installation in the country. Over 35,000 military and 5,000 civilian employees are assigned to Fort Cavazos. The installation supports a diverse community of over 382,300 soldiers, civilians, contractors, family members, and retirees. The installation includes approximately 136,094 acres of maneuver training area, 64,000 acres as a live fire impact area, and 22,026 acres for the installation's cantonment areas, which includes 50 live fire ranges, more than 2,500 tanks and other tracked vehicles, 193 helicopters, and 10,126 vehicles, and over 100 motor pools to service the vehicles and tanks. Fort Cavazos maintains about 5,900 installation buildings and 5,912 sets of privatized family quarters encompassing approximately 37 million square feet.

Currently, the only significant source of water for the installation is the Belton Lake reservoir, which is fed by the Leon River and Cowhouse Creek. The main aquifer system underlying Fort Cavazos is the Travis Peak formation, which occurs at approximately 1,000 feet below ground surface. This aquifer was used previously as a source of water supply for the installation. However, its use has ceased due to excessive drawdown. Other shallow formations, such as the Glen Rose, Paluxy, and Edwards aquifers, constitute alternative groundwater sources.

The Bell County Water Control and Improvement District Number 1 treats sewage collected from the main cantonment and West Fort Cavazos (WFC) cantonment areas. City of Gatesville treats sewage collected at North Fort Cavazos (NFC). A privatized utility contractor, American Water, treats Belton Lake Outdoor Recreational Area (BLORA) sewage.

Topographic features on the installation include valleys, buttes, and mesas. The terrain consists of partly dissected plains that rise from remnants of old plateaus. Geologic formations are rock layers consisting of thin- to medium-bedded, hard, continuous limestone strata. The soil cover in the area is generally shallow to moderately deep, clay-rich, and underlain by limestone bedrock. Elevations range from 590 feet to 1,200 feet with most below 850 feet. Most slopes are in the 2 to 5 percent range, although some slopes exceeding 45 percent occur as bluffs along the side of mesas and hills. The average annual precipitation is approximately 30 inches. The mean annual temperature is 67.1 degrees Fahrenheit, with an average range of 38 to 94 degrees Fahrenheit.

# 5 LAYOUT OF OIL OPERATIONS

## 5.1 General

Fort Cavazos conducts bulk fuel storage and transfer operations for operating military aircraft, ground vehicles, power generators, and other military end-use fuel-driven equipment. Military motor pools, aircraft and various other equipment maintenance facilities also store and use petroleum, oils, and lubricants (POL) for vehicle and equipment maintenance operations and collect and store used POL, including reclaimed fuels. Military dining facilities store used cooking oil and kitchen grease. Other sites that store and transfer POL and non-petroleum oil and grease are the automobile service stations and restaurants operated by the Army Air Force Exchange Service (AAFES) for authorized customers at Fort Cavazos.

## 5.2 Defense Fuel Supply Point

The Defense Fuel Supply Point (DFSP) at Fort Cavazos is a government-owned contractor-operated facility that stores and supplies bulk fuel to military units at Fort Cavazos. Oil storage capacity at the DFSP includes approximately 3,156,000 gallons in field-constructed aboveground storage tanks (ASTs) and 33,000 gallons in tank trucks. There are no oil storage underground storage tanks (USTs) at the DFSP facilities, only spill containment USTs. The DFSP consists of four separate fuel storage and transfer sites within the confines of the military installation: Bulk Fuel Storage Facility (BFSF); Robert Gray Army Airfield (RGAAF), which includes the Alert Tank Farm and the South Ramp Hydrant at the RGAAF; and Yoakum-Defrenn Army Heliport (YDAHP) RRF

### 5.2.1 Bulk Fuel Storage Facilities

These storage and transfer sites primarily supply jet fuel (F-24) and gasoline (MOGAS) for the operating units stationed at or training at Fort Cavazos. The DFSP facility contractor operates under a Defense Logistics Agency Energy (DLA Energy) contract. Under the contract, the DFSP contractor is responsible for the operations, routine inspections, and maintenance of the DFSP.

a. The BFSF is the main bulk fuel storage and distribution facility for F-24, MOGAS, E-85 MOGAS, and diesel/biodiesel fuels at Fort Cavazos. Commercial tank trucks deliver fuels to this facility at the facility's load racks and load areas. The BFSF distributes fuel in bulk to other installation fuel use sites and users by tank trucks or military refuelers, and Mobile Fuel Tankers (MFTs) using unloading areas. The BFSF also supplies fuel by pipelines to the DFSP retail fuel dispensing facility servicing military vehicles, which is on the same site.

b. The Alert Tank Farm stores and supplies F-24 to a hydrant for refueling aircraft at the South Ramp at the RGAAF. The hydrant refuels fixed wing aircrafts and loads Army MFTs. This site also includes a parking area for parking the DFSP tank trucks and hydrant hose trucks. Commercial and DFSP tank trucks deliver F-24 to the Alert Tank Farm at the facility's load areas. The Alert Tank Farm distributes fuel in bulk to other installation fuel use sites and users by MFTs using unloading areas.

c. The YDAHP RRF also consists of a bulk F-24 tank farm that supplies F-24 to a hydrant at the YDAHP. The hydrant refuels rotary wing aircrafts and loads MFTs.

Commercial and DFSP tank trucks deliver F-24 to the tank farm at the facility's unload area.

## 5.3 Other Installation Oil Storage and Transfer Areas

Other fuel transfer operations at Fort Cavazos entail using commercial tank trucks, MFTs, and military fuel pods to deliver fuel to the end-users' storage containers and retail fuel dispensing operations. Tank trucks or MFTs also deliver fuel to North Fort Cavazos, which includes the contractor operated fuel point and the military operated hot refuel point; DPW Maintenance fuel point; BLORA, which has a recreational boat refueling dock; certain motor pools; Rail Operations Center, which has a diesel train engine refuel site; and automobile retail service stations. Military units store their MFTs and fuel pods in their motor pools. Most containers that store reclaimed fuel, used oil, cooking grease, or hazardous material have only fill-ports and no connected pipelines, so personnel manually transfer oil into these containers for storage and disposal.

Fort Cavazos also uses completely buried tanks for collecting spills from containment systems or structures or as collection tanks for oily water or recovered oil from oil/water separation equipment. Fort Cavazos uses oil/water separators (OWS) as components of secondary containment systems at the main bulk fuel farm and at the South Ramp Hydrant fueling location at the RGAAF.

## 5.4 Containers Not Covered by this SPCCP

This SPCCP does not address the oil storage and use at the Texas Army National Guard Mobilization and Training Equipment Site, a tenant unit located in NFC. It also does not address oil storage containers owned by American Water, the drinking water privatization contractor on post, or the electrical transformers now owned by Dominion Electric, the utilities privatization contractor, who own all equipment and storage containers at their facilities. The Texas Army National Guard, American Water, and Dominion Electric are responsible for developing and maintaining a SPCCP and response plan for their facility as required by 40 CFR 112, Fort Cavazos (FC) Regulation 200-1, and this SPCCP. Additionally, grease bins that serve military dining facilities and restaurants operated by the Army Air Force Exchange Service (AAFES) at Fort Cavazos are owned and operated by contractors. Given the nature of this contract DPW Environmental does not have operational control of the grease bins. As such, they have been excluded from this plan.

### 5.4.1 Exclusions

This plan also does not cover the following:

a. Containers owned and operated by contractors temporarily working at the installation

b. USTs subject to the technical requirements of 40 CFR 280 or to a state program approved under 40 CFR 281

c. Permanently closed containers

d. Motive power containers

e. Oil/water separators (OWS) used exclusively for the purpose of treating wastewater where there are no external oil storage containers associated with the OWS System

f. Oil storage containers that are less than 55 gallons

### 5.4.2 Contractors

Oil storage containers owned and operated by contractors temporarily working on Fort Cavazos property are not covered by this plan and may include fuel tanker trucks, temporary ASTs, and 55-gallon drums. Each contractor is responsible for determining SPCC applicability and developing a site-specific SPCCP, if required. The contractor must provide a copy of their SPCCP to the Water Program Manager. The Water Program Manager will notify the contracting organization of the requirements. The Contracting Officer Representative (COR) would in-turn notify the contractor of the requirements. The environmental specifications that go into all DPW and Corps of Engineers contracts state that temporary construction containers must be equipped with secondary containment.

### 5.4.3 Underground Storage Tanks

Underground storage tanks subject to the technical requirements of 40 CFR 280 or to a state program approved under 40 CFR 281 are exempt from SPCC requirements and do not count toward the overall storage capacity of the installation; however, they must be shown on the installation diagram. This installation has 14 USTs subject to a state program approved under 40 CFR 281 (TAC Chapter 334). Table B-1, Appendix B, lists these USTs; the locations of the USTs are illustrated on the Site Diagrams provided in Appendix A and on the Phantom Warrior Webmap.

### 5.4.4 Permanently Closed Containers

In accordance with the SPCC requirements, permanently closed tanks and any connecting piping are to be empty of liquid and sludge with all associated piping disconnected and the tank clearly labeled as permanently closed.

### 5.4.5 Motive Power Containers

40 CFR 112.1(d)(2)(ii) excludes motive power containers from regulation under the SPCC Rule and the capacities of the containers do not count toward the overall oil storage capacity for Fort Cavazos. Motive power containers are onboard bulk storage containers used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment (e.g., vehicle or equipment gas tanks).

### 5.4.6 Oil/Water Separators Used Exclusively for Treating Wastewater

40 CFR 112.1(d)(6) exempts any facility or part thereof if used exclusively for wastewater treatment and not used to meet any other requirement of 40 CFR 112. However, note that the OWS that serves as secondary containment system at the main bulk fuel farm for the transfer areas are not exempt from regulation under 40 CFR 112.

### 5.4.7 Oil Storage Containers Less than 55 Gallons

Installation personnel store fuel and/or oil in 5-gallon fuel cans, equipment/machinery, and other oil storage containers with a storage capacity of less than 55 gallons. Oil storage containers with a capacity of less than 55 gallons are not subject to the requirements contained in the SPCC Rule and are therefore not discussed in the plan.

### 5.4.8 Grease Bins

Grease bins that serve military dining facilities and restaurants operated by the Army Air Force Exchange Service (AAFES) at Fort Cavazos are owned and maintained by a 3rd party contractor. Due to the nature of this contract DPW Environmental lacks the authority to manage or control these storage containers. Given that the grease bins are less than 250-gallons and that they operate at geographically separate locations that are not considered the same facility, they have been excluded from the Fort Cavazos SPCC Plan.

## 5.5 Regulated Containers

The SPCC rule regulates oil containers having a capacity of 55-gallons or more. Aggregate oil storage capacity includes approximately 3.8 million gallons in ASTs and 187,000 gallons in USTs. Fort Cavazos also maintains variable amounts of MFTs and associated fuel pods; and variable amounts of 55-gallon drums. SPCCP Tables B-1 to B-9, Appendix B, identify each regulated container, along with its available spill control and prevention measures. Container information in Appendix B includes the location, container type and capacity, substance stored, secondary containment, and the year the tank was installed or upgraded, where available.

**Table 2: Appendix B Container Tables**

| Oil Storage Container List | Container |
|---|---|
| SPCCP Table B-1, Fort Cavazos USTs | Underground Storage Tanks (including those exempt from the SPCC Rule) |
| SPCCP Table B-2, Fort Cavazos Generator & Pumps | Belly & Day Fuel Tanks |
| SPCCP Table B-3, Fort Cavazos ASTs | Aboveground Storage Tanks – Shop Fabricated Tanks |
| SPCCP Table B-4, Fort Cavazos Drums and Portable Containers. POL Storage areas | 55-Gallon Drums and Other Portable Containers |
| SPCCP Table B-5, Non-Haz Waste Storage | 55-Gallon Drums and Other Portable Containers |
| SPCCP Table B-6, Capitalized Fuels | Aboveground Storage Tanks – Field Erected |
| SPCCP Table B-7, American Water | Generator Belly Tanks |
| SPCCP Table B-8, Texas Army National Guard MATES | Aboveground Storage Tanks and 55-gallon Drums |
| SPCC Table B-9, Fort Cavazos Elevator Hydraulic Systems | Hydraulic Reservoirs |

# 6 INSTALLATION DRAINAGE AND DRAINAGE CONTROLS

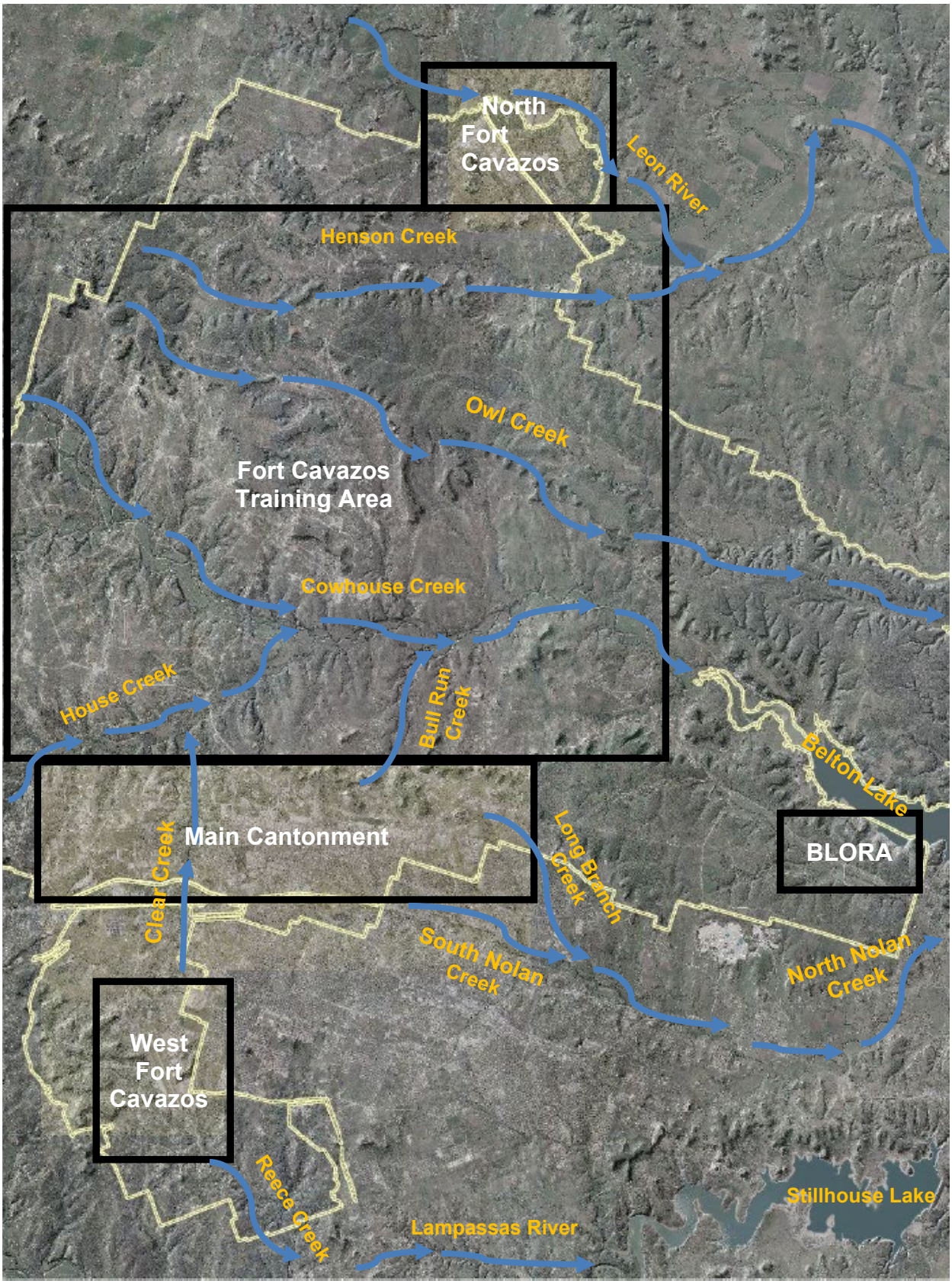
## 6.1 General

Moving surface water, that flows through or are in proximity to the installation, include: Leon River, Clear Creek, Owl Creek, Cowhouse Creek, and Reese Creek. All water courses flow into Belton Lake, except Lampasas River and Reese Creek. Reese Creek discharges into the Lampasas River. In turn, the Lampasas River flows into Stillhouse Hollow Lake. Belton Lake is along the southeastern border of Fort Cavazos and is operated by the U.S. Army Corps of Engineers (USACE) for flood control, resource conservation, water storage, and recreation. A major part of Fort Cavazos is in the Cowhouse Creek and Owl Creek watersheds draining into Belton Lake. Both Belton and Stillhouse Hollow Lakes are federal reservoirs. A portion of the cantonment area is in the Nolan Creek sub-watershed that drains into the Leon River below Belton Lake. NFC drains into the Leon River above Belton Lake and a portion of WFC drains into the tributaries of the Lampasas River. Fort Cavazos encompasses 250 acres of lakes and ponds, 35 springs, 55 miles of rivers and permanent streams, intermittent waterways, and 161 small impoundments, manmade water bodies that provide flood control, sedimentation detention, wildlife and livestock water, and fish habitat.

The major oil storage facilities at Fort Cavazos are generally widely separated. Fort Cavazos is divided into five general geographic areas as illustrated in Figure 1, located on page 6-2. These are: the Main Cantonment, WFC, BLORA, NFC and the Fort Cavazos Training Area. Most of the storm water at the installation drains to existing storm drainage ditches and/or intermittent waterways, which ultimately drain to Belton Lake. Storm water in the RGAAF Alert Tank Farm drains to water courses that are tributaries to Stillhouse Hollow Lake. Storm water in the the YDAHP RRF ultimately drains to the Leon River to the south of Belton Lake and then into the Little River, which is a part of the Brazos River Basin.

Appendix A contains a site survey and figure for each of the sites identified as a potential oil and hazardous material spill source. These site survey figures show potential pathways on-site for spills that are not contained.

**Figure 1: Fort Cavazos Stormwater drainage Diagram**



## 6.2 Dike Drainage Control

### 6.2.1 General

Where Fort Cavazos equips oil storage containment dikes with drain valves, the valves are installed outside the dikes and are manual open-and-closed type valves (Parts 112.8[b][1] and [2]). Flapper-type drain valves are not permitted for use for secondary containment dikes or structures at Fort Cavazos. Standard procedure is to keep the dike valves closed except when draining uncontaminated storm water from the dikes. Sections 6.2.2 to 6.2.4 review the specific dike drainage controls at the DFSP. Many aboveground tanks have a concrete berm with a drain valve around them. However, most of these tanks are double-walled, which meets the requirements for secondary containment, and do not need the concrete berm and therefore are not required to maintain the drainage valve closed.

Where applicable, responsible personnel inspect dikes and other secondary containment structures for liquid accumulations (usually rainwater) after every significant rain event or a series of minor rainfall events.

a. If observable oil sheen or product in the accumulated liquid is present, inspecting personnel cannot open the dike drain valve or take any other action to drain the dike, but must promptly notify Directorate of Public Works (DPW) Environmental Division Water Quality Program for further investigation. Absorbent material must be used to remove the sheen or oil product from the water prior to releasing. After clearance from DPW Environmental Division Water Quality Program, personnel must promptly remove all liquids from the containment area for disposal.

b. If no observable sheen or product is present, inspecting personnel can open the drain valve to discharge the uncontaminated storm water to the storm sewer system or natural drainage water courses. Personnel must monitor the release of uncontaminated storm water from the dike during the entire drain event.

### 6.2.2 Defense Fuel Support Point, Bulk Fuel Storage Facility

Drainage from the bulk storage tank dikes at this facility is controlled by a series of plug and gate valves, which control drainage from each dike and by a final manual post indicator gate valve that controls the drainage from all dikes. These valves are outside the dikes. DFSP personnel keep all dike drainage valves closed with the final gate drainage valve locked in the closed position. Personnel drain uncontaminated storm water collected in the dikes to the facility's 10,000 Gallon OWS, BFSF OWS, which discharges to the storm water sewer. The OWS has a liquid level sensor that activates a visual and audible alarm to alert personnel that the OWS is full. The OWS is located inside a concrete pit that does not have any drains.

### 6.2.3 Defense Fuel Support Point, Robert Gray Army Airfield Alert Tank Farm

An outside plug valve controls drainage from each of the two bulk storage tank dikes. Personnel keep these valves locked in the closed position. DFSP personnel drain uncontaminated storm water from the dikes to the storm drainage system. The loading and unloading areas as well as the aboveground piping utilize a series of concrete containment structures for secondary containment. These containment areas have

valves that are kept closed and allow facility personnel to discharge uncontaminated storm water after a visual inspection to ensure there is no sheen.

### 6.2.4 Defense Fuel Support Point, Yoakum-Defrenn Army Heliport (YDAHP) Rapid Refuel Facility

An outside manual post indicator gate valve controls the drainage from the bulk storage tank dike. DFSP personnel keep this dike drain valve locked in the closed position. Personnel drain uncontaminated storm water from the dike to a 3,000-gallon OWS (Cavazos-OWS), which discharges to the storm sewer.

## 6.3 Drainage from Undiked Areas

Per Section 3.3.1 in EPA's Guidance to Regional Inspectors, 28 August 2013, the requirements of Part 112.8(b)(3) apply to facilities that choose to use its drainage systems to conform to secondary containment requirements, such as sized secondary containment for storage containers and general secondary containment, to prevent a reportable discharge of oil as specified in Part 112.1(b). Fort Cavazos's spill prevention strategy is to conform to the general and sized secondary containment regulatory requirements in Parts 112.7(c) and 112.8(c)(2) and (c)(11), respectively.

## 6.4 Observation of Effluent Treatment Facilities

Fort Cavazos monitors storm water discharge outfalls following the schedule and procedures in the installation's Stormwater Pollution Prevention Plan (SWPPP) and the requirements for the Texas Pollution Discharge Elimination System (TPDES) General Permit TXR050000 for the discharge of storm water associated with industrial activity.

Fort Cavazos operates a pre-treatment system at the DPW Solvent Recycling Facility. This system collects and treats water separated from used products, wastewater from OWSs, and storm water runoff at the facility. The pre-treatment system does not discharge the treated effluent to either the storm water sewer or the sanitary sewer. The facility discharges the treated effluent into a Tactical Vehicle Wash Facility that recirculates wastewater through a closed-loop system of settling ponds and grit traps. Subsequently, the Part 112.8(c)(9) requirement to observe effluent treatment facilities to prevent oil discharges by detecting potential system upsets is not applicable to this facility.

# 7 BULK STORAGE CONTAINERS

## 7.1 General

Appendix B contains the lists of Fort Cavazos's oil storage containers, including container construction and secondary containment information. Site surveys provided in Appendix A. additional specific information, including information to determine conformance with certain requirements of the SPCC rule.

As identified in Appendices A and B, the bulk storage ASTs at the DFSP facilities are field-constructed atmospheric steel tanks built to either API 12-C or API 650 standards. The remaining oil storage ASTs at Fort Cavazos are shop-fabricated tanks. Remaining containers storing oil, e.g., small single-walled ASTs, 55-gallon drums, and fuel pods, are steel containers. Storage containers at Fort Cavazos are compatible with the products they contain and the conditions of storage.

At the DFSP, completely buried tanks collect potential discharges from fueling and storage sites. Constructed of steel, reinforced fiberglass plastic (RFP), or concrete, these USTs are part of the secondary containment for tank truck loading and unloading areas and racks, hydrants, filter separators, and fuel storage tank sump separators. For instance, such a UST will collect a fuel release resulting from an equipment failure or personnel error involving a filter separator or tank sump separator. Texas has an approved underground storage tank regulatory program under 40 CFR 281, and the Texas Administrative Code regulates USTs under Chapter 334 of Title 30, Environmental Quality. Chapter 334.4 excludes underground sumps with capacities of less than 110 gallons and emergency spill or overflow containment tanks from the state's UST regulation. These tanks are excluded from the regulation provided that the owner or operator routinely removes any released regulated substances from these tanks within 48 hours of the discovery of the release. However, completely buried oil containers, including sumps and tanks, which are exempt from all the technical standards in either 40 CFR 280 or an approved state UST regulation under 40 CFR 281 are subject to the requirements of 40 CFR 112. All other completely buried tanks at Fort Cavazos are exempt from the requirements of 40 CFR 112 as the Texas UST regulation applies to the tanks.

## 7.2 Shop-fabricated Containers

### 7.2.1 Construction

Most of the shop-fabricated ASTs are steel Underwriters Laboratory (UL) 142/2085 double-walled tanks or primary steel wall, high density Polyethylene-lined, encased in concrete-protected tanks. These shop-fabricated ASTs range in shell capacities from 250 to 20,000 gallons, the most common capacity is 500 gallons. Small storage capacity containers, with capacities of 220 to 280 gallons, for storing used cooking grease and oil and used antifreeze are double-walled steel containers. Steel 55-gal drums store POL and hazardous materials.

Fuel compartment walls of the MFTs, DFSP tank trucks, and fuel pods are stainless steel. Fort Cavazos keeps most of the MFTs and fuel pods in motor pools. Table 3 below summarizes the mobile refuelers and the storage capacities of the fuel compartments.

### 7.2.2 Aboveground Storage Tank Overfill Protection

Part 112.8(c)(8) requires at least one listed measure to prevent overfilling containers. Most ASTs have at least a liquid level gauge, whereas some have Automatic Tank Gauge (ATG) equipment with high level alarm and automatic shutoff. Except for the bulk and retail DFSP oil transfer operations, transfer operations at all other installation sites consist of using tank trucks, MFTs, and fuel pods to transport and deliver fuel and hand transfers from larger containers to smaller work containers. Personnel delivering or transferring oil into containers are required to determine and ensure sufficient container ullage before beginning transfer operations. In addition, personnel must monitor the transfer operation, including overfill protection devices or level gauges. Where a liquid level gauge is not functional/awaiting repair, fuel transfer operations are attended by two or more trained personnel with one stationed at the tank and the other stationed at the pump to prevent overfilling the container.

### 7.2.3 Specific Secondary Containment for Storage Containers

Part 112.8(c)(2) requires sufficiently impervious and adequately sized secondary containment for all aboveground oil storage containers, excluding mobile refuelers. Secondary containment that can collect rain must not only have sufficient capacity to contain the entire capacity of the largest single container within containment, but also have sufficient freeboard to contain rain. This requirement applies to single-wall tanks. However, most of the ASTs at Fort Cavazos are double walled, including the ones inside concrete containment berms. Double-walled tanks meet the secondary containment requirements.

All aboveground storage tanks at Fort Cavazos that are within the scope of this SPCC Plan and are managed by DPW Environmental are either double-walled or are located within a containment berm that can contain 110% of the total capacity of the container. Calculations provided in Appendix E, verify the available capacity of containers located within berms. All double-walled tanks have interstitial monitoring (IM), or the ability to be monitored, and fill port sumps.

As defined by the SPCC regulation, oil-filled operational equipment are not bulk storage containers. Consequently, the specific secondary containment requirements of Part 112.8(c)(2) do not apply to the oil-filled operational equipment identified in Appendix B. General containment is provided with active measures and sorbent materials.

### 7.2.4 Specific Secondary Containment for Mobile and Portable Storage Containers (Excludes Mobile Fuelers)

As required by Part 112.8(c)(11), mobile and portable oil storage containers such as fuel pods, 55-gallon drums and portable emergency power generators with belly fuel tanks, must be positioned in areas not subject to flooding to prevent reportable oil discharges in the event of a spill. In addition, these types of containers also require sufficiently impervious and adequately sized secondary containment to contain the entire capacity of the largest single container within containment. Further, if the secondary containment can collect rain, the containment must also have sufficient freeboard. Secondary containment can be provided by a several means including, but not limited to, spill pallets, bermed storage areas, or being stored in a building or enclosures with no nearby floor drain or

other direct pathway to navigable waters. Appendix B provides secondary containment information for the mobile and portable containers at Fort Cavazos.

Sites that utilize 55-gallon drums of POL are typically Unit Motor Pools, the DPW Maintenance sites, LRC Warehouses and Maintenance Buildings, and SSA Warehouses, however these containers can be utilized at many locations throughout Fort Cavazos. Table B-4, Appendix B lists sites that typically store 55-gallon drums of POL. However, areas such as Motor Pools and DPW Maintenance Sites are allowed to temporarily utilize 55 Gallon drums of POL in areas that are not identified in the inventory, provided they utilize localized containment systems, such as spill pallets. Secondary containment can also be provided by storing 55 Gallon drums inside a building that is able to contain a release due to the size of the container and the condition of the concrete floor. Floor drains that may be proximate to the drums should be covered or otherwise protected to prevent a potential spill from entering the floor drain.

## 7.3 Mobile Refuelers and Other Tank Trucks

Part 112.2 defines a mobile refueler as “a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.” Mobile Refuelers are exempt from sized secondary containment requirements found in Parts 112.8(c)(2) and (11); however, they are subject to general requirements as prescribed in Part 112.7(c)(1) to prevent reportable spills. To satisfy this requirement all mobile refuelers carry sorbent materials capable of controlling a most probable spill.

### 7.3.1 Military MFTs

The Army Units stationed at Ft Cavazos, as well as other Military Units that train here, utilize mobile fuel tankers (MFTs) to transport fuel and refuel military equipment as part of Field Training Exercises (FTX). Field Training Exercises are essential to realistic training to ensure that soldiers are properly prepared to utilize their equipment during military missions.

a. Due to the unique nature and relatively short duration of each FTX event, it is not possible to list the specific locations and MFT vehicles utilized for each event in this plan. Table 3 (below) lists the types of MFT vehicles used at Ft. Cavazos.

b. When not being used for training events, units store MFT vehicles in their assigned motor pools. The MFT vehicles may be parked in the motor pools between missions with fuel and may be attached to a cab or not. As mentioned above, 112.8 (c)(2) and (11) exempts mobile fuelers from the sized secondary containment requirements but must still have general secondary containment, which is provided for on Fort Cavazos with sorbent materials. The mobile fuelers will only require secondary containment for the entire capacity of the mobile fueler tank if it is set up as a fixture for a permanent or semi-permanent fuel point such as a Forward Arming and Refueling Point (FARP).

### 7.3.2 Contractor MFTs

The contractors that operate the DFSP use 8,000 Gallon tank trailer MFT vehicles to transport fuel from the DFSP Fuel points to end user fuel points located though-out Ft. Cavazos. The MFTs are required to have general secondary containment, and use a

combination of impervious surfaces with curbing, or active measures and absorbent materials depending on where they are operating. The DFSP MFTs are operated all over the installation but are typically parked at the West Fort Cavazos DFSP location near the RGAAF Alert Fuel Farm on a concrete pad with curbing that provides secondary containment when not actively transporting fuel.

### 7.3.3 Installation MFTs

Fort Cavazos has one 2,500 Gallon fuel tank truck that operates only on post to deliver fuel to backup generator storage tanks or other maintenance fleet vehicles. When not in use it is parked at the DPW Maintenance motor pool at building 40001 on an impervious concrete surface and sorbent materials are supplied.

### 7.3.4 Commercial MFTs

Commercial MFT vehicles deliver oil and fuel to various organizations at Fort Cavazos and many different locations. Commercial MFT vehicles are transportation related MFTs, are not Fort Cavazos property, are not stored on post, and are therefore not regulated by 40 CFR 112 and not discussed in this plan.

**Table 3: Mobile Refueler Types at Fort Cavazos**

| Refueler | Fuel Capacity (gal) |
|---|---|
| M967A1 Semitrailer Tank | 5,000 |
| M969 Semitrailer Tank | 5,000 |
| M978 Heavy Expanded Mobility Tank Truck (HEMTT) | 2,500 |
| M107 & M108 Modular Fuel System - Tank Rack Module (MFS-TRM) | 2,500 |
| Fuel Pods | 600 and 500 |
| DFSP Tank Trucks | 8,000 |

### 7.3.5 FARP

In support of field operations, Fort Cavazos supports the temporary set-up and operation of Forward Arming and Refueling Points (FARP) to refuel equipment and vehicles during training exercises. Procedures for the set-up and operation of FARPs is done in accordance with TM 10-67-1 which provides detailed instructions related to all aspects of operation. All fuel storage systems utilized at FARPs are compatible with the fuels stored and are provided with localized secondary containment systems capable of containing the contents of the largest container, plus an allowance for precipitation.

## 7.4 Field-Constructed Aboveground Storage Tanks

### 7.4.1 Construction

All bulk oil ASTs at the DFSP are constructed of steel compatible with the stored fuel. The field-constructed tanks at the BFSF and RGAAF Alert Tank Farm are constructed to API 12C standards and those at the YDAHP RRF are constructed to API 650 standards.

### 7.4.2 Aboveground Storage Tank Overfill Protection

All ASTs at the BFSF facilities have low level, high level, and high-high level alarms with automatic high-level shutoff along with ATG systems. Personnel are present at the DFSP RGAAF Alert Fuel Farm during all fueling operations. DFSP does not man the YDAHP RRFs during all aircraft refueling operations. Trained Fort Cavazos personnel from units refueling at the airfields are responsible for attending and monitoring aircraft and MFT loading operations. DFSP personnel attend to and monitor all tank truck loading operations and unloading operations from the bulk storage tanks at all DFSP bulk fuel storage sites as outlined in the DFSP Fort Cavazos Operation, Maintenance, Environmental, and Safety Plan.

Protection against tank overfill is best achieved by knowing the available tank capacity and inventory before loading oil into the tank and careful monitoring, either manually or automatically through devices, and control of product movement. In addition to liquid level sensing devices and high-level liquid alarms, DFSP personnel rely on manual gauging and verbal communication during transfer operations.

DFSP personnel monitor tank operating levels, high level alarms, and use an extensive computerized inventory reconciliation system controlled and managed by the DLA Energy, the Fuel Accounting System. This system enables the DFSP to track and manage fuel storage and transfer inventory and assists DFSP personnel to detect spills in addition to preventing storage tank overfills.

DFSP personnel must be cognizant of the following overfill protection guidelines outlined in Section 2.2.2 of API 2350:

a. If an electrical or mechanical failure occurs that affects the level detectors, product receipt shall stop and not recommence until (1) the detectors are functioning properly or (2) manual operations and procedures are implemented (as outlined in the DFSP Fort Cavazos Operation, Maintenance, Environmental, and Safety Plan).

b. When only one detector is used, this high-high level detector shall be located at or above the safe fill levels and shall alarm/signal to provide sufficient time to shut off or divert product flow before the overfill is reached.

c. When used for overfill protection, the high-high level detector shall be independent of the automatic tank gauge system to provide greater reliability and to comply with the requirements of NFPA 30, (Section 2-10).

d. If a tank is to be filled above its normal fill level (normal capacity) up to its safe fill level (tank rated capacity), a trained and qualified person shall be assigned by the operator to be present at the tank. Note that API does not recommend routinely filling a tank above the safe fill level due to the increase in overfill risk.

e. Any shutdown or diversion procedures should be compatible with the fuel transporter's operations and equipment to prevent consequential damage such as hydraulic shock or over pressuring piping.

### 7.4.3 Specific Secondary Containment for Aboveground Storage Tanks

All DFSP field-constructed ASTs have concrete dikes with concrete floors and adequate capacities to contain the largest single container within containment with sufficient

freeboard. Fuel resistant sealant applied to dike and floor joints maintains sufficiently impermeable secondary containment for the tanks. The capacity of all secondary containment systems has been verified and a copy of those calculations is provided in Appendix E of this plan.

## 7.5 Completely Buried Tanks Regulated by 40 CFR 112

### 7.5.1 Construction

SPCCP Table B-1 in Appendix B identifies the USTs regulated by 40 CFR 112. The only 40 CFR 112-regulated USTs are OWSs on Fort Cavazos are used for emergency spill tanks at the RGAAF South Ramp site. These tanks are constructed of steel, with secondary containment consisting of a plastic jacket for corrosion control.

### 7.5.2 Underground Storage Tank Overfill Protection

Standard procedure at the DFSP is to remove any liquid collected in the emergency spill UCTs within 48 hours of the discovery of the spill as required by the Texas UST regulation. DFSP personnel inspect UCTs for liquid accumulations weekly and after every significant rain event or a series of minor rainfall events.

## 7.6 Oil Filled Operational Equipment Regulated by 40 CFR 112

Oil Filled Operational Equipment in operation at Fort Cavazos that are subject to the requirements of 40 CFR 112 include Transformers and Elevators hydraulic systems. Oil Filled Operational Equipment is subject to the General Secondary Containment provision provided in Part 112.7(c).

### 7.6.1 Elevator Hydraulic Systems

SPCC Table B-9 Appendix B provides an inventory of elevator hydraulic systems in operation at Fort Cavazos that have capacities of 55 gallon or greater. Elevators located in the Carl R. Darnall Army Medical Center are maintained by the Hospital Maintenance Department; while elevators in all other buildings located at Fort Cavazos are maintained by the DPW Service Branch.

Elevators are inspected on an annual basis in accordance with State regulations; during these inspections evidence of hydraulic leaks are documented, and corrective action is initiated to ensure their safe operation.

The General Containment requirements for elevator hydraulic systems is satisfied by the fact that spills that are most likely to be associated with elevator hydraulic systems can be contained within the building/room that the hydraulic reservoir is located.

### 7.6.2 Transformers

As part of the Utilities Privatization contract, all electrical transformers changed ownership to the contractor, Dominion Electric, on July 1, 2017. The locations of oil-filled electrical equipment (transformers) owned and maintained by Dominion Energy at Fort Cavazos are identified on the maps provided in Appendix A and on the Phantom Warrior Webmap. Dominion Energy is responsible for maintaining the inventory and conducting inspections of the Transformer Units to identify aging equipment and potential leak to ensure their effective operation and reliability.

The Table 4 identifies the approximate volume of dielectric fluid contained in each transformer based upon the KVA rating for the unit.

**Table 4: Volume of Dielectric Fluid Based on KVA Rating**

| Transformer KVA Diagram Description | Fuel Capacity (gal) |
|---|---|
| **167** KVA - 1 Phase - Pad Mounted | 58 Gallons |
| **150** KVA - 3 Phase - Pad Mounted | 161 Gallons |
| **300** KVA - 3 Phase - Pad Mounted | 320 Gallons |
| **333** KVA - 3 Phase Units, are actually 1,000 KVA | 345 Gallons |
| **500** KVA - 3 Phase - Pad Mounted | 217 Gallons |
| **667** KVA 3 Phase Units, are actually 2,000 KVA Units | 440 Gallons |
| **750** KVA - 3 Phase - Pad Mounted | 431 Gallons |
| **1000** KVA - 3 Phase - Pad Mounted | 345 Gallons |
| **3333** KVA 3 Phase Units, are actually 10 MVA Units | 1,445 Gallons |
| **4000** KVA 3 Phase Units, are actually 12 MVA Units | 1,970 Gallons |
| | |

The volume of dielectric fluid associated with all pole-mounted transformers located at Fort Cavazos is less than 55-gallons.

# 8 TRANSFER EQUIPMENT AND OPERATIONS

## 8.1 General

Transfer operations at Fort Cavazos consist of military and commercial bulk fuel tank truck unloading/loading and aircraft hydrant fueling operations, the military and AAFES retail fueling operations and end-use fuel supply operations.

## 8.2 Fuel Transfer by Pipeline

### 8.2.1 Bulk Fuel Pipelines

a. Bulk Fuel Storage Facility (BFSF)

The piping at this facility is both above- and underground. The short lengths of aboveground piping are primarily within the bulk fuel storage tank dikes and the curbed loading areas and racks and unloading areas. Piping connecting the bulk fuel storage tanks to the tank truck loading areas and racks and unloading areas and the retail fuel dispensers are buried. This facility also has a 4-inch (in) diameter buried steel pipeline with galvanic cathodic protection that delivers F-24 fuel and MOGAS to an AST operated and maintained by the Fort Cavazos Logistics Readiness Center (LRC).

AST T-311 supplies diesel/biodiesel to tank trucks at a truck unload area, AST T-310 supplies diesel/biodiesel to two dispensers at the military vehicle retail fuel dispensing facility. AST T-310 supplies the dispensers through buried 2-in diameter double-walled FRP piping equipped with IM sensors with audible and visual leak detection alarms. Dispenser sumps also have leak detection probes that alarm both audibly and visually at the leak monitoring panel at the dispenser island.

The retail fuel dispensing facility also issues E-85 MOGAS to two dispensers from AST T-312 adjacent to the dispensers. Installed in 2009, AST T-312 supplies the dispensers through about 60 feet of 2-in diameter single-walled aboveground steel piping from the tank to about 24 feet of buried 2-in diameter double-walled FRP piping connected to the dispensers. The double walled FRP piping has IM sensors, whereas the dispenser sumps have leak detection probes. Leak detection equipment alarms both audibly and visually at the leak monitoring panel adjacent to the tank and truck unload pump skid.

b. Robert Gray Army Airfield (RGAAF) Alert Tank Farm and South Ramp Hydrant

Most of the piping at the RGAAF Alert Tank Farm is aboveground. The South Ramp Hydrant was replaced during 2004 and 2005. The replaced buried hydrant supply and return pipelines and lateral lines are stainless steel. The hydrant system has a leak detection system. The hydrant piping, including the hydrant, shock arrestors, and valve pits, are contained in a trench lined with a fuel resistant 20 MIL Hypalon liner. A perforated polyvinyl chloride (PVC) line along the trench contains a leak detection cable that detects fuel collected in the lined trench.

c. Yoakum-Defrenn Army Heliport Rapid Refuel Facility (YDAHP RRF)

The piping at the bulk fuel storage and pump site is aboveground. The hydrant's supply and return pipelines are buried and all buried portions of the piping have galvanic cathodic protection.

d. Energy Transfer has an easement for a 10-inch, bi-directional oil pipeline crossing Fort Hood (about 16.6 miles), including about 7.1 miles across the impact area. The pipeline is buried at a depth of between three to five feet.

### 8.2.2 Buried Piping Installation Protection and Examination

Part 112.8(d)(1) specifies requirements for protecting and inspecting buried piping. Buried piping installed or replaced on or after August 16, 2002 must be wrapped, coated and cathodically protected or otherwise satisfy the corrosion protection standards for piping in 40 CFR 280 or an approved state UST regulation. Buried piping installed prior to August 16, 2002, is grand-fathered and is not required to comply with this requirement. All buried fuel transfer piping at the BFSF, the RGAAF Alert Tank Farm and South Ramp, and the YDAHP RRF have galvanized cathodic protection or are Fiberglass Reinforced Plastic (FRP) piping.

The following industry standards are applicable to corrosion protection of new buried piping installations: (a) National Association of Corrosion Engineers (NACE) Recommended Practice 0169-2002, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems” and, (b) Steel Tank Institute (STI) Recommended Practice 892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems”.

If a portion of the buried piping is exposed for any reason, the SPCC rule requires the examination of the exposed piping for deterioration. The DFSP must undertake further examination and corrective action as indicated by the magnitude of the damage.

All buried piping at other installation sites, primarily at the AAFES service stations, are double-walled FRP piping or double-walled FRP flex piping.

### 8.2.3 Not-in-service and Standby Service Terminal Connections

As required by Part 112.8(d)(2), each terminal connection at a transfer location that is not-in-service has a blank flange and mark as to the respective pipe’s origin.

DFSP personnel cap terminal connections at the truck transfer areas and racks and the bulk fuel storage sites when not in use. Fuel origin is marked on all not-in-service and standby service terminal connections. Pipelines that are out of service are evacuated and blank flanged or a blind/spectacle flange is used.

### 8.2.4 Pipe Supports

As required by Part 112.8(d)(3), supports for aboveground piping are designed and constructed in accordance with good engineering practice to minimize the potential for abrasion and corrosion and to allow for expansion, contraction, and sagging.

### 8.2.5 Aboveground Piping Protection

Part 112.8(d)(5) requires the facility to warn vehicle drivers to prevent vehicles from damaging aboveground piping or other transfer operations. All aboveground pipes at the DFSP fuel storage and transfer sites are within fence-controlled access areas, away from the general vehicle traffic. Within the DFSP sites, the aboveground pipes are generally located away from vehicle roadways and protected by curbing. All sites have posted speed limit warning signs.

For the few locations that aboveground piping is in proximity to vehicle traffic, concrete bollards are used as protection.

### 8.2.6 General Secondary Containment

Except where the SPCC rule requires specific secondary containment, the rule requires the facility, at a minimum, to provide general secondary containment conforming to Part 112.7(c) to prevent reportable oil discharges. As outlined in Part 112.7(c), conforming general secondary containment includes:

a. Sufficiently impervious dikes, berms, or retaining walls
b. Curbing, drip pans, or drainage systems
c. Weirs, boom, or other barriers
d. Diversion or retention ponds
e. Sorbent materials.

General secondary containment methods can be passive or active. The use of a dike is a passive containment method. On the other hand, the use of sorbent to contain a small spill or leak is an active containment method.

DFSP provides general secondary containment for piping and transfer connection-related releases at the three hydrant systems at Fort Cavazos: RGAAF South Ramp Hydrant, and YDAHP RRF. General secondary containment methods consist of the hydrant pits, sorbent materials kept at each of the areas, spill response activities, and the Fort Cavazos FRP. For releases during aircraft refueling on the tarmac, the installation relies on active general secondary containment using response kits. The Phantom Warrior WebMap, interactive mapping layers show schematics of the three hydrants.

The RGAAF South Ramp Hydrant system has two completely buried emergency spill tanks to collect releases from the hydrant piping and appurtenances (Sump Pit UCT-1 and UCT-2). There are eight 400-gallon fiberglass hydrant fueling pits, one for each of the seven aircraft (H-1 to H-7) and one at the tank truck hydrant transfer area (H8). There are also eight 400-gallon fiberglass valve pits, one valve pit for each hydrant fueling location. Two isolation valve pits contain valves to isolate the hydrant fueling pits H1 and H2 group and the hydrant fueling pits H3 to H8 group. Two surge suppression pits contain surge tanks for the H1 and H2 hydrant line section and the H3 to H8 line section. Sump Pit UCT-1 and UCT-2 (600 gallons and 1,000 gallons respectively) receive the discharges from the hydrant fueling, shock arrestor, and valve pits. The sumps are equipped with hydrocarbon detectors that alert personnel to the presence of a leak or spill into the pits and liquid level sensors that alert to high liquid levels. A high liquid level will activate an aboveground high intensity flashing light at the tank location alerting the airfield control tower.

The YDAHP RRF hydrant system has two completely buried emergency oil spill tanks. There are eight 400-gallon hydrant fueling pits, A–H. A 600-gallon UCT (Cavazos-UCT-1) receives the discharges from the hydrant fueling pits A–F. This UCT is also equipped with a fuel sensor that activates a flashing light at Building 7074 to alert the air traffic control tower and fuel managers to the presence of a leak or spill into the system. Hydrant pits G and H drain to a 1,000-gallon UCT (Cavazos-UCT-2). This UCT is also equipped

with a fuel sensor which activates a flashing light at Building 7070 to alert the air traffic control tower.

## 8.3 Tank Car and Truck Loading/Unloading Racks and Transfer Areas

Part 112.7(h) prescribes specific secondary containment and transfer procedure requirements for tank truck and tank car loading/unloading racks. Loading/unloading racks usually consist of a combination of equipment such as permanent structures, piping assemblies, valves, loading/unloading arms, pumps, shut-off devices and overfill sensors. 40 CFR 112.7(h) does not apply to tank truck loading or unloading areas or stands that use a single hose and connection or standpipe to load or unload fuel into or from containers. There are three fuel loading racks at the DFSP main bulk fuel farm, each with two loading arms. Tank trucks are used for all bulk fuel and end-use fuel storage tank transfers at Fort Cavazos.

Required specific secondary containment for a tank truck rack in Part 112.7(h)(1) consists of a drainage system where oil discharges at the rack flow into a catchment basin or treatment facility designed to handle discharges. When a rack does not use such a drainage system, a quick drainage system must be used. Specific secondary containment capacity must hold at least the maximum capacity of any single compartment of the tank truck loaded or unloaded at the rack. The loading rack areas at the main bulk fuel farm mentioned in the previous paragraph all have containment berms and a drainage system that goes to a 10,000 Gallon OWS.

General secondary containment requirements as prescribed in Part 112.7(c) and reviewed in Section 8.2.6 apply to tank truck transfer areas.

### 8.3.1 Tank Truck Transfer Areas

Tank Truck Transfer areas are as follows:

d. The Motor Pool OWS' on the main cantonment area drain to one of two locations. Some drain via storm drainage ditches to one of three settling ponds whose discharges are TPDES-permitted, while the others are connected to sanitary sewer. Drainage area diagrams are provided in Appendix A of this Plan.

e. Fort Cavazos uses spill cleanup materials to meet the general containment requirement. Each transfer area shall have a spill kit or spill materials to contain and cleanup the average most probable spill and instruct their employees to monitor the transfer operations the entire time.

The following table and sections summarize the DFSP tank truck loading/unloading racks and transfer areas.

**Table 5: Truck Loading/Unloading Racks and Transfer Areas**

| Location | Potential Spill/Containment (Gallons) | Containment Adequate | Secondary Containment Description |
|---|---|---|---|
| BFSF F-24, MOGAS, and Diesel/Biodiesel Load Racks and Load/Unload Transfer Areas | 8,000[1]/10,000 | Yes | Each rack and transfer area has a quick drain containment system. The system consists of a concrete pad with concrete curb and rollover berms. Fuel discharges flow to the 10,000-gal spill collection AST. |
| BFSF E-85 MOGAS Unload Area, Military Retail Fuel Dispensing Facility | 250[2]/1,788 | Yes | Unload stand has a concrete pad with concrete curb and rollover berm. Unload stand curbed pad drains to two concrete spill containment basins. |
| RGAAF Alert Tank Farm Load/Unload Transfer Areas (North Side) | 8,000 | Yes | Transfer area has trench drains along the outboard sides of and within the load area. Fuel discharges flow into a a containment dike, with a containment capacity of 8,000 gallons. |
| RGAAF Alert Tank Farm New Unload Transfer Area (South Side) | 8,000 | Yes | New transfer area has trench drains along the outboard sides of and within the load area. Fuel discharges will flow to a 8,000 gallon containment dike. |
| RGAAF Alert Tank Farm | 2,000 | Yes | Impervious areas around the site that do not drain into an 8,000 Gallon containment dikes drain into a third containment dike that has a 2,000 Gallon capacity. |
| YDAHP RRF Unload Transfer Area | 250[2]/8,000 | Yes | Each of the two, tank truck unload stands at the tank farm has a concrete paved and curbed containment pad with rollover berms; each containment area has sufficient capacity to contain at least 8,000 gallons. |
| AAFES Retail Vehicle Fueling Station | 250[2]/Spill Kit | Yes | General containment provided through use of active spill response measures (e.g., spill kits). |
| North Fort Cavazos Fuel Point and Hot Refuel Point | 250[2]/Spill Kit | Yes | General containment provided through use of active spill response measures (e.g., spill kits). |
| DPW Maintenance Fuel Point | 150[2]/Spill Kit | Yes | General containment provided through use of active response measures (e.g., spill kits). |

***Notes:***

1 For racks, the potential spill volume is based on maximum capacity of any single compartment in the tank truck in accordance with 40 CFR 112.7(h)(1). Commercial transport trucks with 9,000-gallon legal weight MOGAS and F-24 capacity and 3,000-gallon maximum compartments and DFSP refuelers/tank trucks with 8,000-gallon compartment provide F-24 and MOGAS to the fueling systems. The largest MFTs potentially loaded are the Army's M967 or M969 tanker with a capacity of 5,000 gallons.

2 For truck transfer areas other than truck racks, secondary containment type, design, and capacity are determined by the typical failure mode and the most likely quantity of oil potentially discharged.

## 8.4 Premature Truck Departure Prevention and Inspection of Drainage Outlets

Part 112.7(h)(2) requires physical measures to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

Trained personnel attend all tank truck and MFT fuel loading and unloading operations. Tank truck and MFT drivers position vehicles to prevent inadvertent rolling and use wheel chocks, as allowed by the SPCC rule, prior to connecting the fuel transfer lines to the quick-connect coupling and disconnect fuel transfer lines prior to removing wheel chocks.

Part 112.7(h)(3) also requires personnel to verify that all lines have been properly disconnected, and all valves, including the lowermost truck tank compartment drain valves, are properly closed before the vehicle departs. Before vehicle departure, the tank truck or MFT operator performs a walk-around inspection of the tanker to examine and verify that all transfer lines have been disconnected and properly stowed and drains and valves are closed. Drivers or operators inspect the lowermost drain valves and all outlets of vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

# 9 SECURITY

Part 112.7(g) requires that a facility owner/operator secure and control access to 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. The following subsections address how these requirements are met at Fort Cavazos.

## 9.1 Access Control

Fort Cavazos is a secure installation of the US Army, which allows entry only to authorized personnel, including visitors. Military police routinely patrol the installation. Chain-link fencing with anti-climb arms and barbed wire, prevent unauthorized access to most sites with aboveground oil storage containers and transfer equipment, including the military motor pools. Single gate or other point of entry where check-in is required further controls access to all large fuel storage and transfer areas. Guards are present at airfields and attendants are on-duty at vehicle-service centers. Gates are locked during non-operational hours. Sufficient security lighting illuminates oil storage and transfer sites at night, which assist installation police to prevent unauthorized access and detect criminal activities.

All DFSP sites are within the secure perimeter fencing of the Fort Cavazos Military Reservation. Further, security fencing also controls access to the BFSF, RGAAF Alert Tank Farm and South Ramp, and YDAHP RRFs.

a. Bulk Fuel Storage Facility (BFSF)

DFSP personnel man the site daily from 0730 to 1700 and whenever fueling operations or maintenance activities occur outside the normal daily hours of operation. An 8-foot-high security fence controls access to the site, and personnel lock the entrance gate when the site is not manned. The self-serve BFSF military retail fuel service station is open 24-hours every day. However, it is also fenced, and entrance gates can be locked.

b. Robert Gray Army Airfield (RGAAF) Alert Tank Farm

The facility is unmanned except during fuel transfer operations. A security fence around the tank farm controls access to the site, and personnel lock the entrance gate when the site is not manned.

c. Yoakum-Defrenn Army Heliport Rapid Refuel Facility (YDAHP RRF)

The facility is unmanned and is operated remotely from the hydrant refueling stations approximately 800 yards to the west. RRF is within the security area that includes the Fort Cavazos airfield.

## 9.2 Flow and Drain Valves Secured

The master flow and drain valves (i.e., tank valves, rather than secondary containment and drain plugs) are maintained in a closed position, except when fuel or water stripping operations are conducted. Drain valves are locked. Master flow valves are in closed position and pumping systems are electrically secured to prevent operation. DFSP personnel have keys to open flow valves for the fuel systems. Only DFSP personnel may open the flow and drain valves.

## 9.3 Starter Controls Secured

The starter controls for oil pumps on the bulk fuel storage tanks are maintained in the off position when pumps are in a non-operating or non-standby status. All bulk fuel transfer pumps and starter controls are in locked buildings or within secured fenced areas with controlled access. Sites with oil transfer pumps either lock pump starter controls in the off position whenever transfer equipment are in non-operating or non-standby service; or control access to starter controls using physical security measures such as locking the entrances to pump stations or fenced areas with pumping equipment.

## 9.4 Pipeline Loading/Unloading Connections Secured

Part 112.7(g) requires securing loading/unloading oil pipeline and facility piping connections. DFSP personnel operate the only loading and unloading fuel pipelines at Fort Cavazos. DFSP personnel cap or blank flange all oil loading/unloading connections when presently not in service or extended standby service. DFSP has blank flanged the pipeline connections. Two abandoned hydrant pipelines transferring F-24 to the South Ramp, replaced by the new hydrant pipelines installed in 2003, are cleaned and blank flanged. DFSP personnel also observe fuel loading/unloading activities and verify that these connections are properly capped following each fuel loading/unloading event.

Personnel operating other sites at Fort Cavazos with facility transfer piping secure the piping connections in the same manner. Lighting Adequate to Detect and Deter Discharges

All bulk oil storage and transfer areas have adequate lighting of the quantity and quality to assist in the discovery of discharges/leaks during hours of darkness and to prevent discharges which might result from vandalism.

Military police patrol Fort Cavazos areas 24 hours per day, 7 days per week and together with the access control measures in place at most storage and transfer sites, the likelihood of spills occurring through acts of vandalism is greatly reduced.

# 10 POTENTIAL TYPES OF MAJOR FAILURES AND SPILLS

## 10.1 General

Appendix B identifies the storage containers at Fort Cavazos: ASTs, USTs, mobile and portable containers, and oil filled operational equipment.

## 10.2 Bulk Fuel Storage Facility

A break in any of the bulk fuel pipelines at this facility could potentially cause a major release. The pump stations used to pump fuel from the ASTs to the MOGAS and F-24 loading racks, the retail dispensers, and a LRC two-compartment AST are not equipped with excess flow sensors. However, it is unlikely that a catastrophic pipeline rupture outside secondary containment structures involving either the loading rack or unloading area bulk fuel pipelines or the pipeline supplying the LRC AST could result in a full release of an AST. DFSP mans all bulk F-24 and MOGAS receipt and issue operations following the procedures in the Operation, Maintenance, Environmental, and Safety Plan, including ensuring proper valve alignments before beginning fuel transfer operations. All F-24 and MOGAS tank valves are normally in the closed position when no fuel transfer operations occur. However, the retail dispensing operation is automated, and available to Fort Cavazos customers at all times. Both the F-24 and MOGAS supply pipelines to the retail dispensers have shutoff valves. These valves are contained in a pit inside the fenced area of the BFSF. A catastrophic rupture of either pipeline between the shutoff valve and the bulk supply tank when the BFSF is unattended presents a potential to release the entire contents of the supply tank, up to 636,488 gallons from F-24 AST T-111 or up to 376,386 gallons from MOGAS AST T-211. The worst-case scenario involving a bulk tank failure is a hypothetical release of 636,488 gallons from a catastrophic failure of AST T-111 along with the failure of the secondary containment dike at the BFSF. Automatic shut off controls and excess flow sensors installation is a good engineering practice.

## 10.3 Robert Gray Army Airfield Alert Tank Farm and South Ramp

A break in the hydrant pipelines could potentially cause a major release. The pump house used to pump fuel from the ASTs to the hydrant fueling points is not equipped with excess flow sensors. However, it is unlikely that a catastrophic pipeline rupture outside the secondary containment areas of the ASTs could result in a full release of an AST. DFSP mans all F-24 fuel receipt and issue operations, including aircraft fueling operations, following the procedures in the Operation, Maintenance, Environmental, and Safety Plan. Tank valves are normally in the closed position when no fuel transfer operations occur. The hydrant system has a leak detection system to detect spills from its fuel supply and return pipelines, lateral lines, and the hydrant, shock arrestor, and valve pits. The worst-case scenario is a hypothetical release of 634,721 gallons from a catastrophic failure of East AST-2 along with the failure of the secondary containment dike at the RGAAF Alert Tank Farm. Automatic shut off controls and excess flow sensors installation is a good engineering practice.

## 10.4 Yoakum-Defrenn Army Heliport Rapid Refuel Facility

DFSP personnel maintain all F-24 fuel receipt operations at this facility whereas trained and qualified Fort Cavazos military personnel operate the facility to refuel aircraft. DFSP maintains the tank valves in the closed position when no fuel transfer operations occur.

A break in any of the hydrant pipelines outside secondary containment at this facility could potentially cause a major release, but it would not likely result in a release of the entire contents of an AST. The pump house used to pump fuel from the ASTs to the hydrant fueling points is not equipped with excess flow sensors. The worst-case scenario is a hypothetical release of 66,192 gallons from a catastrophic failure of Cavazos AST-1 along with the failure of the secondary containment dike.

## 10.5 Hydrants

A break in any of the three hydrant pipelines could potentially cause a major release. Although, the pump houses used to pump fuel from the ASTs to the hydrant fueling points are not equipped with excess flow sensors, all hydrant fueling operations are manned following the operational and safety procedures in the DFSP Operational, Maintenance, Environmental and Safety Plan. It is not likely that a pipeline rupture would result in a full release of an AST at any of the airfield hydrant terminals. A catastrophic break in the pipeline would initially release approximately 350–400 gallons per minute.

## 10.6 Energy Transfer Pipeline

Energy Transfer has an easement for a 10-inch, bi-directional oil pipeline crossing Fort Hood (about 16.6 miles), including about 7.1 miles across the impact area. The pipeline is buried at a depth of between three to five feet; however, there are two small sections along Owl Creek, where the pipeline is exposed. These sections are identified in Diagram D-11, located at Appendix A. Energy Transfer uses Supervisory Control and Data Acquisition (SCADA) system to detect leaks and alert the control desk. The reaction time for shut after the leak is detected is approximately 12.9 minutes. Energy Transfer is responsible has many OSROs on contract giving them the ability to bring in required equipment for containment and cleanup. Aerial inspection of lines are conducted monthly. Energy Transfer's integrity and operations groups cleans the lines as needed. A catastrophic break in the pipeline could potentially release up to 12,000 Gallons of oil before shut-off procedures are complete.

# 11 EQUIPMENT INSPECTIONS, TESTS, AND RECORDS

## 11.1 General

Parts 112.7(e) and 112.8(c)(6) require procedures for regular inspection and testing of each aboveground container's integrity. Inspection and testing take into consideration the container size and design. Inspection and tests of the container are also required whenever the container undergoes material repairs. SPCC regulation requires a combination of visual inspections with non-destructive testing and maintenance of comparison records. Visual inspections must include inspections of the container supports, the foundation, the external container surfaces, the area around the container, and the presence of oil in diked areas.

### 11.1.1 Daily Visual Inspections

The inspections and testing of oil containers, transfer equipment, and appurtenances at Fort Cavazos are those associated with the shop-fabricated containers used throughout the installation and the DFSP bulk storage and transfer equipment. As part of daily operations at sites with oil and/or hazardous substances storage and transfer equipment, site personnel conduct informal daily visual inspections. As a best management practice, site personnel are instructed to conduct daily visual walkthrough inspections and to notify DPW Environmental or their Environmental Compliance Assessment Team member if they notice any leakage, spills, or other issues with the tanks. Documentation of visual walkthrough inspections are not required.

### 11.1.2 Installation or Movement of ASTs/USTs

Fort Cavazos requires the notification of the DPW Environmental Management Branch prior to any installation or movement of an AST or UST. The Environmental Compliance Officer (ECO) for the organization moving or installing ASTs or both ECOs of the transferring and receiving organizations must coordinate with DPW Environmental. The ECO may be the same person for the transferring and receiving organizations. Installations of new ASTs or USTs or relocations of tanks will require DPW Environmental Branch to revise this SPCCP, including the affected site surveys, according to the plan amendment provisions in Section 2.4.

## 11.2 Correction of Visible Discharges during Inspections

As required by Part 112.8(c)(6), personnel inspecting oil storage and transfer equipment promptly correct visible discharges from the equipment. Personnel record the event on the appropriate inspection checklist and notify the site supervisor and the DPW Environmental Division.

## 11.3 Inspection and Test Records

DPW Environmental Division maintains records of inspections and tests associated with tank storage systems managed directly by the DPW Environmental Division for a period of at least three years.

### 11.3.1 Inspection Frequency

Unless otherwise specified below, the DPW Environmental Division conducts and documents periodic (monthly) inspections on all aboveground storage tank systems in operation at Fort Cavazos that have a capacity of greater than 4,000-gallons. The DPW Environmental Division will conduct and document periodic (bi-monthly) inspections on all aboveground storage tank systems that have a capacity of 4,000-gallons or less. ECOs are responsible for conducting daily visual inspections of all aboveground storage tanks systems in operation within their area of operational responsibility. Daily visual inspections conducted by ECOs are not documented; however, the ECO will notify the DPW Environmental Division if they identify leaks or system malfunctions that could potentially cause a spill or other type of release to the environment.

### 11.3.2 AAFES Gas Station Inspections

All AAFES gas stations are operated and by AAFES personnel, to include conducting visual daily walkthrough inspections and maintaining records associated with Automatic Tank Gauge (ATG) system. DPW Environmental Division personnel perform required monthly inspections of ASTs and associated equipment.

### 11.3.3 DFSP Inspections

The inspection and testing of DFSP Storage Tank Systems are supported directly by DLA Energy since they are managed under contract by the Maytag Aircraft Corporation. Record of all inspection and test are maintained by the Maytag Aircraft Corporation for a minimum of 3-years.

DPW Environmental conducts periodic inspections of Maytag and AAFES facilities to ensure they are operating, inspecting, and keeping records of Storage Tank Systems as required.

## 11.4 Inspection and Tests, Shop-Fabricated Containers

Shop-fabricated ASTs at Fort Cavazos are either UL 142, steel aboveground tanks for flammable and combustible liquids, listed tanks or UL 142/UL 2085, protected aboveground tanks for flammable and combustible liquids, listed tanks. Most of the shop-fabricated ASTs are UL 142/UL 2085 listed tanks. The inspection and testing procedures for Fort Cavazos's shop-fabricated ASTs and portable containers are based on STI SP001, Standard for the Inspection of Aboveground Storage Tanks, 6$^{th}$ Edition.

### 11.4.1 Regulatory Inspections

STI SP001 recommends a documented, visual inspection to assess an AST's general condition monthly. However, that is an industry recommendation, and the actual inspection schedule may vary if it is environmentally equivalent to the intent. DPW Environmental Division personnel conduct detailed, documented bi-monthly inspections and all users/operators are instructed to conduct a daily visual and monthly documented assessment using the inspection procedures provided in Appendix C and documented on the DPW Share Drive. The Water Team inspections consist of minor maintenance such as replacing gauges, labels, vents, removing water from the interstitial space as well as submitting work orders to the installation Engineering branch to repair or replace larger maintenance or compliance issues. The user assessments include checking for any visible signs of leakage or other conditions that should be addressed to continue safe operation of the AST and to report abnormal conditions for corrective action. The frequency of the operator inspections, combined with a documented bi-monthly inspection, provide environmentally equivalent protection to the monthly documented inspections specified by SP001. ASTs and remote, unmanned containers, such as generator tanks, are inspected monthly per the standard by the Environmental Water Team.

### 11.4.2 Portable Containers

Portable containers are present at many locations on Fort Cavazos, those locations are identified in Table B-4, Appendix B. Most portable containers are 55 Gallon drums. These drums are only stored for short periods of time prior to use, typically less than 30 days. Due to the short storage time for these containers, they are visually inspected daily when in use and whenever they are moved from one location to another by trained personnel for leaks, spills, and to assess container condition. These inspections are not documented, however any deficiencies noted during these inspections are immediately corrected or reported to the Environmental Division. This provides an environmentally equivalent level of protection as inspecting all locations that have 55 Gallon drums monthly, because most containers are not in one location for more than 2 months.

## 11.5 Inspections and Tests, Bulk Fuel Equipment Including Field Constructed Tanks

### 11.5.1 Industry Standards

The DFSP's bulk fuel ASTs are either constructed to API 12C or API 650 standards. The inspection and testing procedures for the DFSP field-constructed ASTs follow the inspection standards and guidelines in API 653, Tank Inspection, Repair, Alteration, and Reconstruction. API 653 prescribes minimum requirements for maintaining the integrity of welded and riveted, non-refrigerated, atmospheric ASTs. Types of inspections and evaluations in the standard are external inspections (in-service), internal inspections (out-of-service), inspection during and after a repair, inspection after a major event such as

earthquake or hurricane, and inspection before a change in service such as from light oil to heavy oil.

API 653 specifies monthly visual inspections and external inspections by an authorized inspector at least every 5 years or on a schedule based on shell thickness/corrosion rate measurements outlined in Section 6.3.2 and 6.3.3 of the Standard.

API 653 requires internal tank inspections, (1) to ensure that tank bottoms are not severely corroded or leaking, (2) to determine whether bottom and shell thickness meet the minimum requirements, and (3) to identify and evaluate whether tank bottoms are settling. Formal inspections by a qualified inspector using ultrasonic inspections are necessary to determine the thickness, corrosion rate, and integrity of tank bottoms. This information with the methods specified in API 653 establishes the internal inspection interval. The inspection interval ensures that the bottom plate minimum thickness at the next inspection is not less than the criteria listed as follows.

**Table 6: API 653 Bottom Plate Thickness Criteria**

| Minimum Bottom Plate Thickness (inch) | Foundation Design |
|---|---|
| 0.10 | Foundation design with no means for detection and containment of a bottom leak. |
| 0.05 | Foundation design with means to provide detection and containment of a bottom leak. |
| 0.05 | Applied tank bottom reinforced lining, >0.05 inch thick, in accordance with API RP 652. |

In cases where external access to the tank bottom is allowed, external inspections in lieu of internal, are used to meet the data requirements above. If corrosion rates and tank bottom thickness are not known, these must be determined within 10 years of tank operation. All records, reports, and non-destructive examinations must be maintained/performed as outlined in Section 6.8 through 6.10 of API 653.

### 11.5.2 Defense Fuel Support Point Bulk Fuel Storage Tanks and Transfer Equipment

The field-constructed tanks at the BFSF and RGAAF Alert Tank Farm were constructed to API 12C standards and those at the YDAHP RRF were constructed to API 650 standards. DLA Energy manages and implements a centralized recurring inspection program for DoD bulk petroleum facilities. Types of inspections include API 653, 570, and 510 inspections and annual pipe hydrostatic tests, cathodic protection surveys, and tank gauging equipment inspections. DLA Energy programs and contracts for periodic API 653 and 570 inspections for the bulk fuel tank and piping systems and engineering inspections and evaluations of other supporting systems and equipment as specified in DFSP's Performance Work Statement for the Operation and Maintenance of Fuel Facilities at Fort

Cavazos. For instance, the new hydrant system at the RGAAF South Ramp has been integrity and leak tested during installation, as required by Part 112.8(d)(4).

a. DLA Energy's centralized recurring inspection program includes annual calibration and inspection of tank gauging equipment. All gauging equipment, detector instrumentation, and related systems must be inspected and tested annually as outlined in NFPA 30, Section 2.6.1.3, and in accordance with the manufacturer's instructions. The high liquid level sensing devices and alarms for the DFSP-operated bulk fuel tanks are regularly tested to ensure proper operation. The program also includes annual cathodic protection system inspections by certified cathodic protection specialists.

b. All DFSP-operated bulk fuel storage tanks received API 653 formal external inspections by qualified API 653 inspectors in May 2016. DLA Energy has final authority to approve actions recommended for, all required repairs identified during the API 653 inspections of the DFSP bulk fuel storage tanks.

c. DFSP personnel conduct visual inspection of ASTs and transfer equipment while operating the DFSP sites or at least once per day. Personnel record these operational visual tank inspections on the Bulk Storage Tank Routine In-Service Inspection Checklist for the field-constructed tanks and on the Fort Cavazos Aboveground Storage Tank Inspection Checklist for the shop-fabricated ASTs.

d. Table 9 outlines the periodic inspections and tests for the DFSP bulk fuel storage and transfer equipment. The DFSP Fort Cavazos Operation, Maintenance, Environmental, and Safety Plans describe further the in-service operational preventive maintenance inspection, maintenance, and test schedules and procedures. The DFSP Terminal Manager has overall responsibility for the inspections and tests. DFSP personnel use various forms to record required fuel equipment inspections, maintenance, and repairs. These forms, depending on the type of inspection and equipment maintained or repaired are provided in the DFSP Fort Cavazos Operation, Maintenance, Environmental, and Safety Plan. DFSP uses a computer program, Express Maintenance, to track equipment and schedule and record inspections, maintenance, and repairs.

**Table 7: Defense Fuel Support Point Fort Cavazos Inspections and Tests**

| Routine Inspections | | | | |
|---|---|---|---|---|
| **Type of Inspection** | **Required Frequency** | **Responsible Person** | **Inspection Form** | **Record Retention** |
| ***Bulk Field-Constructed ASTs*** | | | | |
| External Visual (routine in-service) | Inspection interval must not exceed one month | Fuels Management Contractor | Provided in UFC 3-460-03 | 3 years |
| ***Cathodic Protection Systems*** | | | | |
| Operational Check (routine) | Every Two Months[1] | Fuels Management Contractor | Provided in UFC 3-460-03 | 3 years |
| ***Bulk Product Piping*** | | | | |
| External Visual (routine) | Daily | Fuels Management Contractor | Provided in UFC 3-460-03 | 3 years |

**Table 7: Defense Fuel Support Point Fort Cavazos Inspections and Tests**

| Routine Inspections | | | | |
|---|---|---|---|---|
| **Type of Inspection** | **Required Frequency** | **Responsible Person** | **Inspection Form** | **Record Retention** |
| Operational (routine) | During fuel transfer | Fuels Management Contractor | Provided in UFC 3-460-03 | 3 years |
| ***Tank Truck Fuel Loading/Unloading Racks and Stations/Transfer Hoses*** | | | | |
| External Visual (routine) | Weekly | Fuels Management Contractor | Provided in UFC 3-460-03 | 3 years |
| ***Emergency Spill UCTs*** | | | | |
| Inspection for Spills and Leaks/Removal of Collected Content | Within 48 Hours of Collecting Spill and after Rain Event and at least once/month | Fuels Management Contractor | | 3 years |
| **Non-Routine Inspections and Tests** | | | | |
| ***Bulk Field-Constructed ASTs*** | | | | |
| External Visual (non-routine) | IAW API 653 6.3.2.1 | API 653 Authorized Inspector | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| External Ultrasonic[2] (non-routine) | IAW API 653 6.3.3.2 | API 653 Authorized Inspector | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| Internal (non-routine) | IAW API 653 6.4.2 or 6.4.3 | API 653 Authorized Inspector | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| ***Automatic Tank Gauging Systems*** | | | | |
| Test/Calibration | Annual | Qualified Tester | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| ***Cathodic Protection Systems[3]*** | | | | |
| External (non-routine) | IAW API RP 651 | IAW API RP 651 | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| Cathodic Protection Surveys (non-routine) | within 6 months of installation/repair and annually thereafter | Corrosion Professional or Cathodic Protection Tester | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| ***Bulk Product Piping*** | | | | |
| Pressure Testing | Annually IAW UFC 3-460-03 | Fuels Management Contractor | IAW UFC 3-460-03 | Indefinite or Lifetime of Equipment |
| Hydrostatic Testing (non-routine) | Every 5 years or IAW API 570 8.2.6 (as applicable) | Certified Hydrostatic Tester | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| Visual Inspection of Aboveground and Buried Pipelines | Every 5 years minimum IAW API 570 | API 570 Authorized Inspector | Inspector Certified SSE | Indefinite or Lifetime of Equipment |
| Aboveground Pipe Wall Thickness Measurement Survey | At least triennially or at no more than one-half of the remaining life as determined from calculated corrosion Rates IAW API | API 570 Authorized Inspector | Inspector Certified SSE | Indefinite or Lifetime of Equipment |

**Table 7: Defense Fuel Support Point Fort Cavazos Inspections and Tests**

| Routine Inspections | | | | |
|---|---|---|---|---|
| **Type of Inspection** | **Required Frequency** | **Responsible Person** | **Inspection Form** | **Record Retention** |
| | 570 | | | |
| ***Emergency Spill UCTs*** | | | | |
| Leak/Tightness Testing | Annually | Qualified Tester | Inspector Certified SSE | Indefinite or Lifetime of Equipment |

***Notes:***

**1** Applies to impressed current systems.

**2** Internal (non-routine) inspection may substitute for external ultrasonic inspection if API 653 6.3.3.3 is met.

**3** Inspector must be knowledgeable about cathodic protection system and impressed current principles and operation.

Non-routine Inspection is performed by qualified/certified personnel in accordance with regulatory requirements and/or industry accepted standards

IAW In accordance with

SSE Suitability for Service Evaluation (a technical document certifying suitability for service, presenting recommendations and required corrective actions, and presenting re-inspection frequency)

UFC Unified Facilities Criteria

### 11.5.3 Brittle Fracture

A brittle fracture evaluation is performed during the tank installation and repeat tests are expected every ten years and if there is a change in service that might affect discharge or failure due to brittle fracture or other catastrophe.

DFSP Fort Cavazos and DLA Energy implement an inspection and maintenance program consistent with the standards and protocols established with API 653 – Tank Inspection, Repair, Alteration, and Reconstruction for its field-fabricated tanks. The program addresses all aspects associated with maintenance, inspections, repair, alteration, relocation, and reconstruction of tanks, as applicable. The program assesses and confirms suitability for continued service in instances where tank inspections indicate a change of service from original physical condition has occurred. The inspection program incorporates procedures for the assessment of tanks for suitability for continued operation or change of service regarding brittle fracture. Brittle fracture assessment considerations employ decision tree logic as outlined within API 653 (Figure 5-1, Brittle Fracture Considerations).

DLA Energy's centralized recurring inspection program for DoD bulk petroleum facilities employ the services of authorized API inspectors to establish an inspection frequency schedule for each tank that includes non-routine in service external inspections and also addresses non-destructive testing options and protocols as outlined in API 653 (i.e., non-routine out of service internal inspections). Authorized API inspectors establish Inspection frequencies based on historical inspection records and known or projected tank bottom corrosion rates. After each tank subject to API 653 has been evaluated, the authorized API inspectors identify suitability for service actions and determine when the next API inspection is required for the respective tank. Anticipated inspection frequencies can vary

between 5 and 10 years, and possibly 20 years. The API 653 inspection reports are available at the DFSP and DLA Energy, Fort Belvoir, Virginia.

DFSP Fort Cavazos and DLA Energy maintain construction, inspection, repair/alteration history records and reports consistent with API 653 for the life of the tank system. Only authorized API certified inspectors will support these non-routine inspection and maintenance actions.

### 11.5.4 Inspection of Secondary Containment Drainage

Stormwater that accumulates within secondary containment areas is visually examined prior to discharge. In the event that an oily sheen is observed, sorbent materials will be used to remove the oily sheen prior to discharge. If the sheen cannot be removed DPW Environmental will be contacted to ensure that the contaminated water is managed in accordance with the requirements of the NPDES Storm Water Permit.

# 12 OIL HANDLING PERSONNEL TRAINING

Personnel handling oil at Fort Cavazos are instructed in the operation and maintenance of oil pollution prevention equipment and pollution control laws and regulations. Personnel working in areas affected by this plan receive instructions on:

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

## 12.1 Fort Cavazos Training Procedures

Fort Cavazos 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.

### 12.1.1 Training Resources

Personnel training is determined based on the tasks associated with a duty description and are conducted in accordance with the following regulatory guidance:

a. Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response, 29 CFR § 1910.120

b. OSHA Hazard Communication Standard, 29 CFR § 1910.1200

c. OSHA Process Safety Standard, 29 CFR § 1910.119

d. RCRA Personnel Training, 40 CFR § 265.16

e. RCRA Waste Handling / Emergency Procedures, 40 CFR § 262.34(d)

f. Department of Transportation Hazardous Materials Training, 49 CFR § 172, Subpart H

### 12.1.2 Military Unit and Civilian Organization Shop Level Training

The Environmental Compliance Officers (ECOs), appointed by Commanders and Supervisors, are trained to help unit commanders, supervisors, and managers meet their environmental responsibilities. ECOs and Environmental Compliance Assistants (ECAs) receive primary compliance information from briefings, local regulations, and other guidance provided by the DPW Environmental Division monthly and Troop School/DTMS. The Fort Cavazos Environmental Compliance Office Courses include: the Environmental Compliance Office Course, the Environmental Compliance Office Assistant Course, and the Environmental Compliance Officer Refresher Course. These training courses ensure that personnel are kept aware of current environmental requirements. The ECOs, in turn, train personnel, as needed, at their respective activities and units. Training of units is outlined in FC Regulation 200-1. Fort Cavazos requires units to conduct spill training

quarterly. The training can be accomplished by the unit or Environmental personnel. The DPW Environmental Division provides spill prevention and cleanup training to any organization upon request. Fort Cavazos also requires military unit tanker truck operators to attend a fuel handler's course.

## 12.2 Facility Response Training and Drill/Exercise Plan

The facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. A program that follows the National Preparedness for Response Exercise Program (PREP) will be deemed satisfactory for this section. This training is outlined in Section 2.2 of the FRP.

### 12.2.1 Spill Response Training Requirements

As required by Part 112.7(f), personnel receiving discharge prevention training and training areas include:

a. At a minimum, oil-handling personnel operating and maintaining equipment to prevent discharges must be trained in discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the basic contents of the SPCCP.

b. The person designated at each facility who is accountable for discharge prevention and who reports to facility management.

c. Discharge prevention briefings which are scheduled and conducted for oil-handling personnel at least once a year to ensure adequate and current understanding of the SPCCP and the spill prevention measures in effect at the sites. Such briefings must highlight and describe known discharges as described in Part 112.1(b) and the failures or malfunctioning of equipment or personnel errors that result in the discharge. Discharge prevention briefings also include, e.g., any recently installed equipment or new spill prevention measures.

d. A Spill Response Poster is provided at Appendix F to be used as a training aid or to hand in areas of maintenance bays where spills are likely to occur.

### 12.2.2 Facility Response Drill/Exercise

The U.S. Army Garrison, in cooperation with the Defense Logistics Agency and LRC, directs an annual training exercise to test and maintain the effectiveness of Facility Response Training Plan. This drill is designed to stimulate the response required for a major oil spill. An actual spill response, with after action critique, may substitute for the annual drill.

## 12.3 Defense Fuel Support Point

DFSP contractor's Training Plan, SP0600-06-D5606, establishes the training program for the contractor personnel operating and maintaining the DFSP oil storage and transfer sites. Training methods consist of instructor-led, computer-based, and on-the-job training and job qualification and certification testing. The appointed Contractor Training Monitor is responsible for ensuring the training program meets training requirements and performance standards. Training requirements under the plan include fuel handling and

operations, compliance with environmental laws and regulations, and spill response under Fort Cavazos FRP.

### 12.3.1 DFSP Contract Personnel

The DFSP contractor provides prevention, awareness, and response discharge training to all new employees of the contractor involved with oil equipment operation, maintenance, or oversight. Quarterly refresher training is completed as well. Contractor personnel are also required to receive the Fort Cavazos Fuel Handlers Course.

The DFSP contractor also schedules and conducts discharge prevention briefings as part of its annual SPCCP training. The purpose of the briefings is to discuss: (1) recent discharge events, (2) causes of the discharge, and (3) corrective action to prevent recurrence of similar discharges. Additionally, the Terminal Manager reviews the completed inspection checklists in this SPCCP annually or more frequently if warranted. The manager's reviews ensure that any recurring incidents are addressed with the proper corrective action by responsible individuals, and that he is apprised of DFSP-wide inspection results. Case-specific discharge prevention briefings are conducted and documented with appropriate personnel if recurring deficiencies are noted in the inspection logs.

### 12.3.2 Fort Cavazos Unit Personnel

Soldiers assigned to units operating the hydrant systems and trucks undergo periodic training, conducted by Fort Cavazos, on their equipment and systems and in response procedures. Specific individuals, who are designated as SPCCP inspection personnel receive training on the inspection procedures, the frequency of inspections, record-keeping requirements, and procedures for reporting and correcting detected problems.

Fort Cavazos Unit Tanker Truck Operators attend the Fort Cavazos Master Driver's and Fuel Handlers training courses. These two courses also specifically address spill prevention measures, transfer inspection procedures, and spill response actions for loading MFTs at the DFSP tank truck racks and areas.

# 13 FORT CAVAZOS FACILITY RESPONSE PLAN

## 13.1 Fort Cavazos Facility Response Plan

Fort Cavazos maintains an FRP conforming to 40 CFR 112.20. This rule requires owners or operators of regulated facilities that pose a threat of substantial harm to the environment by discharging oil into or on navigable waters or adjoining shoreline to prepare facility-specific response plans.

The Fort Cavazos FRP prescribes the facility's emergency notifications, discharge reporting, planning, and preparedness for responding to oil releases at the installation, including the use of spill containment equipment and procedures. As part of the oil discharge secondary containment measures in this SPCCP, Fort Cavazos uses active general secondary containment measures conforming to 40 CFR 112.7(c) to contain and control spills, e.g., at the hydrants, end-use container during oil transfers, and piping outside diked areas. For instance, spill response with sorbent materials will be used as the primary means of containment for small releases from the hydrant fueling systems outside of containment structures.

## 13.2 Disposal of Recovered Materials

Turn in all contaminated soils and materials through the DPW Classification Unit. The unit/organization will need to make an appointed for turn-in and submit the completed 3161 provided by Classification Unit Personnel On the day of appointment, the unit/organization should have 2 printed copies of the 3161 on hand.

## 13.3 Facility Response Plan Locations

The FRP is published in KMS and available electronically to any CAC Card holder. The DFSP, FCFES, and DPW Environmental Office maintain hardcopies.