SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

Arrow S Energy Operating LLC
(ASEO)

SPCC Document
(2023-06)

Alamo Central Facility

Atascosa County
Texas

Prepared by

Sunpro Services LLC

FIVE (5) YEAR MANAGEMENT REVIEW

The function of this log is to document five (5) year review of the SPCC Plan by Management as required under 40 CFR 112.5. All revisions that occur as a result of this review will be documented on the "Revision Record" that follows this page.

Acknowledgment of Five (5) Year SPCC Plan Review Completion

- As required by 40 CFR Part 112.5(b), Management will review this SPCC Plan at least every five (5) years and document the review on the form below.
- This review includes an evaluation of more effective prevention and control technology that would significantly reduce the likelihood of a spill event from the Facilities.
- By signature below, management confirms that a review and evaluation of this SPCC Plan has been completed.
- As a result of this review and evaluation, technical changes in Facilities design, construction, operation or maintenance that would materially affect the Facilities potential for discharge into navigable waters of the United States or adjoining shorelines will be recertified by a registered Professional Engineer. Documentation of such revisions will be recorded in the "Revision Record" that follows.
- If no amendment is required, date, sign, and indicate the Plan "will not" be amended using the appropriate column.

Review Date	Signature	Title	Amend Plan (will/will not)
		Initial Plan	NA

REVISION RECORD

The function of this log is to document all revisions to this plan whether they are technical or non-technical. Technical and non-technical amendments are described below.

TECHNICAL AMENDMENTS

- Technical amendments are to be certified by a Professional Engineer. If PE Certification is needed, the PE Certification page will be signed and placed in the appropriate Facilities section in Appendix A.
- Examples of technical amendments (material changes) include, but are not limited to, commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacements, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at the facilities.
- An amendment made under this section must be prepared within six (6) months, and implemented as soon as possible, but not later than six (6) months following preparation of the amendment.
- An amendment made as a result of the five (5) year review must be made within six (6) months of the review, and must be implemented within six (6) months of the amendment (112.5(b)).
- An amendment made following a discharge of more than 1,000 gallons of oil in a single discharge or more than 42 gallons in each of two (2) discharges (described in 112.1(b)) will be prepared within 30 days of being notified by the Regional Administrator of the required amendments, and must be implemented as soon as possible but no later than six (6) months following preparation of amendment (112.4(e)).

NON-TECHNICAL AMENDMENTS

- Non-technical amendments are not certified by a Professional Engineer.
- Examples of non-technical amendments include, but are not limited to, phone numbers, name changes, or any non-technical text change(s).

Review/ Amend Date	Signature	Amend Plan (will/will not)	Description of Review Amendment	Affected Page(s)	P.E. Certification (Y/N)
6/19/2023		N/A	Initial Plan	All	Y

List of Acronyms and Abbreviations

API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
BOP	Blowout Preventer
CFR	Code of Federal Regulations
ASEO/Company	Arrow S Energy Operating LLC
EPA	U.S. Environmental Protection Agency
Facility or Facilities	Natural Gas or Crude Oil Development Operation(s)
ICS	Incident Command System
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
PE	Professional Engineer
RMS	Response Management System
SPCC	Spill Prevention, Control, and Countermeasure
STI	Steel Tank Institute
USCG	U.S. Coast Guard
UST	Underground Storage Tank

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Foreword

Section 1.0 General SPCC Plan Content

Certifications

Section 2.0 Facility Information

Figures

Appendices

General SPCC Plan Content

Section 1

1.1 Introduction and Plan Content

The purpose of this Spill Prevention Control and Countermeasure (SPCC) Plan is to describe measures implemented by Arrow S Energy Operating LLC (ASEO) to prevent oil discharges from occurring, and to prepare ASEO to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge from the Alamo Central Production facility. This SPCC Plan has been prepared and implemented in accordance with the SPCC requirements contained in 40 CFR part 112.

In addition to fulfilling requirements of 40 CFR part 112, this SPCC Plan is used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with ASEO employees and contractors, as a guide on facility inspections, and as a resource during emergency response.

1.2 Plan Purpose/Objectives

The specific objective of this Plan is to define the typical spill prevention, control, and countermeasure practices and procedures as well as providing spill response procedures for the company. The objectives will include or address:

- Designated person accountable for spill and discharge prevention;
- Subcontractor SPCC Plans;
- Training and Inspection Programs;
- Facilities Drainage;
- Bulk Storage Containers;
- Provide Bulk Storage of Oil with Secondary Containment;
- Transfer Operations; and
- Spill Response and Cleanup.

1.3 Facilities Conformance and Regulatory Compliance

Federal Regulations

This SPCC Plan has been prepared in accordance with U.S. EPA Final Rule for Oil Pollution Prevention; Non-Transport Related On-Shore and Offshore Facilities (40 CFR Part 112 – as published on July 17, 2002 and amended on Dec 26, 2006). This Plan meets the requirements of 40 CFR parts 112.3, 112.5, 112.7, and 112.9 as required under 40 CFR 112.1. This Facility is not subject to 40 CFR 112.4 as it is a new facility and has not discharged oil as described in 112.4(a). Due to the type of Facilities and the Facilities configuration, they are not subject to 40 CFR 112.11, or 40 CFR subpart C.

State Regulations

The Texas Commission on Environmental Quality (TCEQ) specifically exempts tanks used in exploration and production activities from petroleum aboveground storage tank regulation at TAC 334.123(7).

Overall, the SPCC regulation at 40 CFR Part 112 is more stringent than requirements from the state of Texas for this type of facility. This SPCC Plan was written to conform to 40 CFR part 112 requirements as well as the Texas RRC regulations.

General Applicability

Coverage under the U.S. EPA's Final Rule for Oil Pollution Prevention; Non-Transport Related Onshore and Offshore Facilities (40 CFR Part 112) applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and that meet each of the following criteria:

- Due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines; **and**
- Has an aboveground storage capacity in excess of 1,320 gallons, excluding any containers less than 55 gallons; **or**
- Has completely buried storage capacity in excess of 42,000 gallons, and not covered by the technical requirements of 40 CFR Part 280 or 281 [UST regulations].

1.4 Plan Distribution Procedures

In accordance with 40 CFR 112.3(e), and because the facility is normally unmanned, a complete copy of this SPCC is maintained at the Campbellton field office which is approximately within a mile of the Alamo Facility. An electronic copy of the plan is posted on ASEO website. Additional copies are available at the ASEO Corporate office, located at 1001 Louisiana ST., Sute 7000, Houston, TX 77002.

1.5 Subcontractor SPCC Plans

All subcontractors whose operations require the storage of oil in quantities necessary to require a SPCC or Spill Response Plan will prepare, implement and maintain the appropriate plans for *their equipment to be used at* the Facilities. Subcontractors will supply the Company with copies of their current SPCC and Spill Response Plans.

Primary SPCC plan for Alamo Facility is included here to provide at a minimum, the policies and protection required under the EPA's 40 CFR 112. Subcontractors prepare, implement, and maintain their own SPCC plans that are applicable only to their individual operations within the Facility. These Plans together encompass entire Facility and provide discharge prevention and Spill Response requirements applicable to the Facility. The Company and subcontractors SPCC plans provide complementary and/or redundant requirements and protections.

1.6 Plan Review and Update Procedures

The "Designated Person Accountable for Spill Prevention" and/or the Field Supervisor/Foreman will coordinate the maintenance of the plans. Plan amendments are divided into the following two (2) categories:

Technical Amendments

- **Technical amendments** are certified by a Professional Engineer and documented in this section page 1-A. Amendments will be detailed with a stand-alone certified technical PE certification page behind the initial "Professional Engineer Certification".

- This Plan will be revised when there are changes in the Facility design, construction, operation, or maintenance that materially affects the Facility potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. An amendment made under this section must be prepared within six (6) months. Such amendments should be implemented as soon as possible, but not later than six (6) months following preparation of the amendment.

Changes requiring revision may include, but are not limited to:

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

Changes not requiring revision include, but are not limited to:

- The relocation of portable/mobile tanks within the Facilities Site Berms.
- The addition and/or removal of portable/mobile tanks within the Facilities Site Berms as long as portable tank quantities remain within operational designs outlined in Appendix A.

Non-Technical Amendments

- **Non-technical amendments** are not certified by a Professional Engineer and are documented in the "Revision Record" located in the Foreword. Changes requiring revision may include, but are not limited to:

  - Phone numbers.
  - Personnel changes.
  - Non-technical text changes.
  - Addition/modification of subcontractor records.

In addition to updating this Plan with technical and non-technical amendments, the Plan should be reviewed by Management no less than once every five (5) years.

Five-Year Review

- At least once each five (5) years the Facilities will complete a review and evaluation of the Plan and, based upon the results, make any amendments within six (6) months of the review and implement amendments, as soon as possible, but not later than six (6) months following preparation of any amendment.

- This will include, at a minimum, a review of more effective prevention and control technology, which may significantly reduce the likelihood of a discharge event from any of the Facilities if such technology has been field-proven at the time of the review.

Inclusion of Amendments into the Plan

- The Field Supervisor/Production Foreman will address distribution efforts of completing the revisions and maintaining the Plan.

- The **Plan Holder**, immediately upon receipt of any revisions, shall review and implement the updated plan. Obsolete plans need to be removed from the facility. This action should then be recorded on the "Log of Plan Review and Amendments" page.

Inclusion of Subcontractor Records into the Plans

- The Field Supervisor/Foreman and/or HES Representative will address the addition or modification of subcontractor records to this Plan as subcontractors supply SPCC plans or updates.

- The **Plan Holder**, immediately upon receipt of any additions or modifications, shall review the plan. This Action should then be recorded on the "Revision Record".

1.7 Facilities Description

This is a central production facility designed to handle flows from multiple wells. The following are the general operating and design characteristics of the facility.

- Onshore oil and natural gas production operations with typical production equipment (wellheads, pumping units, flow lines) separation and treating equipment (flowline heaters, gun barrels, high and low-pressure separators, dehydration) and storage equipment (oil and water tanks); and

- Gas sales equipment including compressors and related support equipment.

A list of the quantities and location of bulk fluid storage containers associated with Production are located Section 2.3.

1.8 Training

The Facility provides the following minimum training to oil handling personnel prior to assignment of job responsibilities:

- Operation and maintenance of equipment to prevent oil discharges.
- Discharge procedure protocols.
- Applicable spill prevention (State & Federal) laws, rules, and regulations.
- General individual facility operations; and,
- The contents of the individual facility Plan and applicable pollution control laws, rules, and regulations.

The training program is further described as follows: new operations personnel are trained in operations and maintenance of equipment during an initial training period. Employees are informed of applicable pollution control laws, rules and regulations. This information is discussed in weekly safety meetings and in Production supervisory staff meetings, monthly employee safety meetings, and environmental and safety training.

Training records are maintained at the Campbellton field office for a minimum period of three (3) years.

Subcontractors

Subcontractors maintaining SPCC Plans applicable to an individual Facility are responsible for subcontractor personnel training. Records will be maintained by the subcontractor as part of their SPCC plans.

Briefings (annual)

- The Facility conducts prevention briefings for oil handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that Facility; and
- These briefings include discussion of potential discharges or component failures and precautionary measures.

Briefing records are kept on file in the Campbellton field office. All records are maintained for a minimum period of three (3) years. The records are maintained on file at the office and/or maintained electronically.

Briefings will cover, at a minimum, the following topics:

- Operation and maintenance of equipment to prevent oil discharges.
- General facility operations.
    - Changes in the facility design or operation
    - Historical discharge incidents
    - Potential discharges and component failures response and prevention
- Applicable spill prevention (Local, State & Federal) laws, rules, and regulations.

  - Federal
  - State
  - Local

- The contents of the facilities SPCC Plan;

  - SPCC plan components
  - Access to the SPCC plan

- Spill or discharge procedure protocols; and

  - Spill notification hierarchy (internal and external)
  - Spill reporting requirements and guidelines (local, state and federal)
  - Initial Response Actions
  - Internal Incident reporting documentation
  - Spill response safety
  - Discharge cleanup procedures

- Facilities Inspections.

  - Inspection frequency
  - Inspection reports
  - Components of facility inspection

1.9 Inspections and Records

Company

Facility inspection and recordkeeping requirements are detailed throughout the pertinent sections of this Plan. The following programs have been implemented by the Company. Sample forms of these inspections and records are provided in Appendix B.

- Facility personnel make regular observations of the Facilities during normal working hours.

- Personnel are trained to recognize discharges and report such releases to management.

- Inspections or observations include:

  - Equipment
  - Piping and valves
  - Tanks (water, fuel, oil, etc.)
  - Tank Alarm Systems or visual gauges
  - Secondary Containment (Berms/dikes, liners, spill pallets, etc.)

- Qualified personnel conduct formal written documentation of individual facility inspections, including secondary containment utilizing Inspection forms in Appendix B.

Records of inspections are maintained on file on the company servers for a minimum period of three (3) years.

Qualified personnel conducting Facility inspections are knowledgeable of 40 CFR 112, the Facility SPCC plan, and the Facility operations.

Subcontractors

Subcontractors maintaining SPCC Plans are responsible for conducting inspections associated with subcontractor Plans. Records will be maintained by the subcontractor as part of their SPCC plans.

1.10 General Discharge Prevention

The Facility has prevention measures in place to minimize the chances of an accidental discharge. These Facilities discharge prevention measures, including procedures for routine handling of products (loading, unloading, etc.), are described as follows:

- The Company's training and briefing program ensures oil handling personnel are familiar with the Plan and are capable of reporting a discharge; and

- The facility design and maintenance standards/specifications have been designed to prevent discharges as described in this Plan.

Facility Safety

The Facility has safety warning signs installed at the entrances and throughout the Facility to alert personnel to potential dangers. All visitors and new personnel to each of the Facilities must sign in and receive Facility specific safety training prior to conducting work at that Facility.

Good Housekeeping

Good housekeeping practices are implemented to keep clean and orderly to reduce the possibility of accidental spills, facilitate the discovery of spills and improve response time in responding to spills. Appropriate solid waste disposal containers will be located on site to facilitate the proper disposal of litter. The area around bulk storage tanks and secondary containment structures will be kept clean of garbage and debris.

Visible discharges from the Facility storage tanks will be promptly cleaned up and properly disposed of according to sound environmental practices and the Waste Management and Disposal Plan in Appendix C. Discharges will be promptly cleaned up and removed from secondary containment structures.

Tank Truck Loading/Unloading

All tank truck loading/unloading procedures are designed to meet the minimum requirements and regulations established by the Department of Transportation. The driver must physically connect and disconnect the truck tank with the storage tanks when delivering a product. Chock blocks are required to be set under the wheels of all delivery trucks for safety concerns, but also to provide a further check to prevent drivers from prematurely driving away before disconnecting and closing tank valves.

Prior to the departure of any tank truck, all drains and outlets will be inspected and tightened, adjusted or replaced as needed to prevent discharge while in transit.

Operational practices will be used to monitor the loading lines, such as personnel being present at all times during the transfer of liquids.

Impracticability of Secondary Containment

The containment and/or diversionary structures or equipment to prevent a discharge are practical.

Facility wide secondary containment berm is implemented to contain leaks or spills from above ground piping at the facility. Flowlines from wells to the Facility is below ground making secondary containment impracticable.

Drainage From Secondary Containment Areas

Accumulated stormwater from the Facility secondary containment structure is disposed of in a manner that assures no contaminated stormwater is discharged. There are two processes for drainage of stormwater or other liquids accumulated within any of the Facilities secondary containment structures and they are controlled as follows:

- The preferred method of removal of accumulated stormwater is by natural dissipation providing that the accumulation does not damage the equipment or structures or inhibit operations conducted within the containment area.

- If necessary, stormwater that does accumulate within a secondary containment area, and does not dissipate naturally, is removed using a vacuum truck.

- Stormwater that does accumulate within a secondary containment area is inspected prior to drainage.

- Flapper type drain valves will not be used to drain the secondary containment areas.

- The secondary containment areas are not equipped with drain valves or automatic pumps; and

- Any hydrocarbon discharges will be removed by vacuum truck or by other appropriate means and properly disposed.

A secondary containment drainage inspection form must be created each time precipitation is drained from secondary containment in order to provide documentation that the precipitation is not contaminated. A copy of the inspection form is included in Appendix B.

Drainage From Areas Outside Secondary Containment

There are no areas outside secondary containment that could be reasonably expected to receive spills or discharges from fluids stored at the Facilities. As an additional precaution, drainage ditches and road ditches are monitored visually each day in the course of each Facility's operations for evidence of discharges. Documented inspections are conducted annually on the External Equipment Inspection Form located in Appendix B.

Certifications

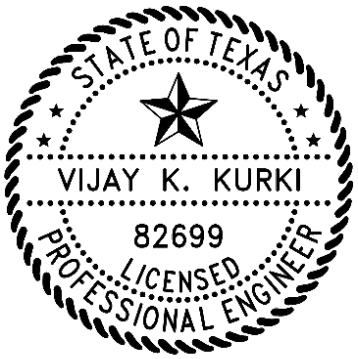
- Professional Engineer Certification
- Implementation Requirements
- Management Approval
- EPA Applicability of Substantial Harm Criteria

PROFESSIONAL ENGINEER CERTIFICATION

By means of this Professional Engineer Certification, I hereby attest, to the best of my knowledge and belief, to the following:

- I am familiar with the requirements of 40 CFR Part 112 and have verified that this Plan has been prepared in accordance with the requirements of this Part.
- I or my agent have examined the proposed facility design.
- I have verified that this Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards.
- I have verified that the required inspection and testing procedures have been established as described in the Plan.
- I have verified that the Plan is adequate for the Facility.
- My certification of this Plan in no way relieves the owner/operator of the Facilities of their duty to prepare and fully implement the Plan in accordance with the requirements of 40 CFR Part 112.

(Seal)



SUNPRO SERVICES LLC
F-23636

Registered Professional Engineer

Vijay Kurki

Principal Engineer/Sunpro Services LLC

Certified as of Date of Facilities Visit/Exam: 6/19/2023

Implementation Requirements for Arrow S Energy Operating LLC Spill Prevention, Control, and Countermeasure Plan

If further examination of the Facility covered by this SPCC plan identifies the need for corrective action to bring the Facility into compliance with the Spill Prevention, Control and Countermeasures Planning requirements detailed in 40 CFR Part 112 (SPCC Planning regulation) the action items will be listed below.

This Plan is approved and certified by the Professional Engineer based upon satisfactory completion and documentation of the corrective action item(s) listed below. It is recommended that you complete the corrective action(s) and provide adequate documentation of completion as soon as possible.

Implementation Action Items	Completion	
	Scheduled Date	Date Completed
_____	_____	_____
_____	_____	_____
_____	_____	_____

* Date should be initialed by Management when completed.

MANAGEMENT APPROVAL OF THE IMPLEMENTATION ITEMS

Date: _____

Management Signature: _____

Name and Title: _____

MANAGEMENT APPROVAL

Owner/Operator responsible for Facilities: Arrow S Energy Operating LLC

- By Signature below, the Manager approves this Plan as part of the Facility SPCC plan, has the authority to commit the necessary resources to implement this Plan, and acknowledges that the elements identified within this Plan will be implemented.
- This page may be used for the initial Management Approval or for subsequent change of management and/or change of designated person accountable.

Signature:		Designated person accountable for spill prevention:	
Name:	Don Webb	Name:	Richard Heerwald
Date:		Title:	Production Foreman
Title:	Chief Operating Officer	Name:	Jamin Richard
		Title:	Production Foreman

Signature:		Designated person accountable for spill prevention:	
Name:		Name:	
Date:		Title:	
Title:			

Signature:		Designated person accountable for spill prevention:	
Name:		Name:	
Date:		Title:	
Title:			

Signature:		Designated person accountable for spill prevention:	
Name:		Name:	
Date:		Title:	
Title:			

EPA APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

1. Does the facility transfer oil over water to or from vessels ***and*** does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

   YES _____ NO ✓

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   YES _____ NO ✓

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** is the facility located at a distance[1] such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

   YES _____ NO ✓

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** is the facility located at a distance[1] such that a discharge from the facility would shut down a public drinking water intake[2]?

   YES _____ NO ✓

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

   YES _____ NO ✓

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Substantial Harm Determination document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.

Signature: _____

Name: Don Webb

Title: Chief Operating Officer (COO)

Date: _____

1 As calculated using the appropriate formula in Attachment C-III to 40 CFR Part 112 or a comparable formula). If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

2 For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

Facility Information

Section 2

2.1 Facility Layout Diagram

Appendix A, at the end of this Plan, shows a general site plan of the facility. The site plan shows the site topography and the location of the facility relative to waterways, roads, and inhabited areas (if any). Appendix A also includes a detailed facility diagram of all oil storage containers greater than 55 gallons in capacity.

2.2 Facility Location and Operations

ASEO owns and operates the Alamo Central facility, which is located approximately 3.3 miles northwest of Campbellton, Atascosa County, Texas (see Figure A-1 in Appendix A). The site is accessed through a dirt/gravel road off FM 140.

As illustrated in Figure A-2 in Appendix A, the facility is comprised of typical production equipment at a central tank battery. The storage tank details at the facility are shown in Appendix A.

The production facility is generally unmanned. ASEO's Campbellton field office is located within 0.25 mile from the site. Field operations personnel from ASEO, or operators acting as contractors to ASEO visit the facility daily to record production rates and ensure the proper functioning of equipment and storage tanks, flowlines, and separation vessels. This includes performing equipment inspections and maintenance as needed.

2.3 Oil Storage and Handling

Production Equipment

Storage tanks at the facility are all aboveground consisting of ten (10) 750-bbl oil storage tanks, six (6) 750-bbl produced water tanks, two (2) 1000-bbl gunbarrel, two (2) 750 bbl skim tanks and associated piping, as summarized in Table 2-1. The total storage capacity at this facility is 15,810 bbl (664,020 gallons) including hydrocarbon containing chemical tanks.

All oil storage tanks are shop-built and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage. Tanks storing crude oil and produced water are constructed of welded steel following API-12F Shop Welded Tanks for Storage of Production Liquids specifications. Steel tanks are coated to minimize corrosion.

Table 2-1 - List of Oil Storage Tanks					
ID	**Type**	**Construction**	**Primary Content**	**Capacity (barrels)**	**Capacity (gallons)**
TK-001	AST	Steel	Crude Oil	750	31,500
TK-002	AST	Steel	Crude Oil	750	31,500
TK-003	AST	Steel	Crude Oil	750	31,500
TK-004	AST	Steel	Crude Oil	750	31,500
TK-005	AST	Steel	Crude Oil	750	31,500
TK-006	AST	Steel	Crude Oil	750	31,500
TK-007	AST	Steel	Crude Oil	750	31,500
TK-008	AST	Steel	Crude Oil	750	31,500
TK-009	AST	Steel	Crude Oil	750	31,500
TK-010	AST	Steel	Crude Oil	750	31,500
TK-101	Gun Barrel	Steel	PW and Oil Mix	1000	42,000
TK-102	Gun Barrel	Steel	PW and Oil Mix	1000	42,000
TK-111	AST	Steel	PW and Oil Mix	750	31,500
TK-112	AST	Steel	PW and Oil Mix	750	31,500
TK-113	AST	Steel	PW and Oil Mix	750	31,500
TK-114	AST	Steel	PW and Oil Mix	750	31,500
TK-115	AST	Steel	PW and Oil Mix	750	31,500
TK-116	AST	Steel	PW and Oil Mix	750	31,500
TK-121	AST	Steel	PW and Oil Mix	750	31,500
TK-122	AST	Steel	PW and Oil Mix	750	31,500
TK-501	AST	Steel	Spent Chemical	210	8,820
TK-502	AST	Poly	Fresh Chemical	100	4,200

PW = Produced Water

Transfer Activities

Crude oil is transported from the facility by the pipeline or tanker truck during pipeline downtime. The largest tanker truck visiting the facility has a total capacity of 210 bbl (8,820 gallons). Tanker trucks come to the facility only to transfer crude oil and do not remain at the facility. All transfer operations are attended by the trucker or by field operations personnel and meet the minimum requirements of the U.S. Department of Transportation Hazardous Materials Regulations..

Produced water is pumped via transfer pumps from the produced water storage tanks to the saltwater disposal well. Tanker trucks will be used during pipeline downtime.

2.4 Proximity to Navigable Waters

The facility is located within the Atascosa River watershed, approximately 0.6 mile to the east of Metate Creek. The facility is situated on relatively level ground that slopes in a general southwestern direction. The topographic map in Figure A-1 in Appendix A shows the location of the facility relative to nearby waterways. The facility diagram included in Figure A-2 in Appendix A indicates the general direction of drainage. In the event of an uncontrolled discharge from the facility, oil would follow the natural topography of the site and flow into Metate Creek. Metate Creek meets with the Atascosa River approximately 8 miles to the south just before the town of Whitsett.

2.5 Spill Countermeasures

Facility has following general operating and design characteristics:

- Onshore oil and natural gas production operations with typical production equipment (flow lines) separation and treating equipment (flowline heaters, heater treaters, high and low-pressure separators, dehydration) and storage equipment (oil and water tanks);
- Work over equipment is positioned inside secondary containment to prevent a discharge; and
- Gas sales equipment including compressors and related support equipment.

Facility discharge discovery, response and cleanup capabilities are described as follows:

- Company personnel and/or contractors observe Facility conditions during their operational duties.

- Personnel are trained to recognize oil discharges and report such releases to management (see Figure 2.1).

- If the discharge is within the capabilities of the personnel to safely stop the release, they will do so (see Sec. 2.4).

- The Company maintains an Emergency Response Plan which provides detail of the Company's response capability including notification procedures, response actions, clean-up capabilities (including contractor capabilities), response equipment, response team organization and identification of environmental sensitivities. A copy of the Company Emergency Response Plan is located at Arrow S Energy HSE website (www.hse.arrowsenergy.com) for use as an "all hazards" plan of action during foreseeable emergencies. ASEO's Emergency Response Procedures has additional forms applicable for reporting any damages, injuries, evacuations, or other release mitigation measures.

Submission of Spill Documentation:

- The Facility shall submit the documentation required by 40 CFR Part 112.4 to the EPA Regional Administrator within sixty (60) days whenever the Facility has a discharge event(s) which meets one of the following conditions:
    - Discharge more than 1,000 gallons of oil (or oil products) into or upon the navigable waters of the United States or adjoining shorelines in a single discharge event; or
    - Discharges more than 42 gallons of oil in each of two (2) discharge events within any 12-month period into or upon the navigable waters of the United States.

Documentation to be included with this submission includes the following:

- Name of the Facility: ***Alamo Central Facility***
- Name(s) of the owner or operator of the facility: ***Arrow S Energy Operating LLC (ASEO)***
- Location of the Facility: ***On FM140, 3.3 miles NW from Campbellton, Atascosa County, Texas.***
- Maximum storage or handling capacity of the facility and normal daily throughput
- The corrective action and countermeasures taken, including a description of equipment repairs and replacements.
- An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary.
- The cause of such discharge, including a failure analysis of system or subsystem in which the failure occurred.
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence.
- Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

A copy of this report is also to be sent to the appropriate state agency in charge of oil pollution control activities.

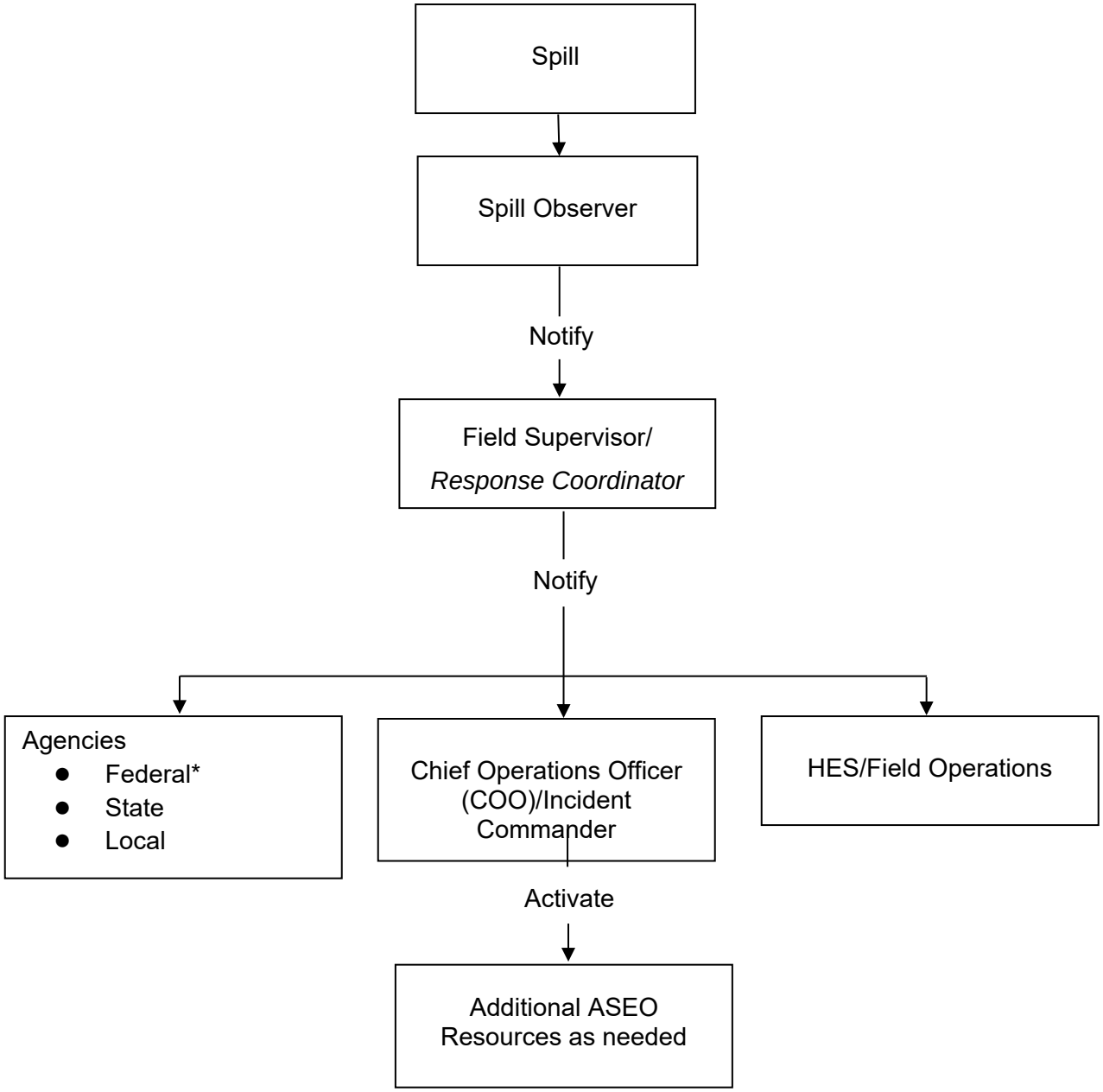
2.6 Internal Notification

- First Company Person Notified/On-Scene should immediately notify personnel involved in any transfer(s) and each Facilities Management.
- Based on site conditions, the Company-designated liaison will then make the necessary notifications (telephone reference is provided in Figure 2.1).
- Additional mobilization and notification procedures are discussed in the ASEO Company Emergency Response Plan.
- Incidents will be entered, tracked, and recorded in the company incident tracking system.

2.7 External Notification

The external notifications should be made in accordance with federal, state, and local regulations for all reportable discharges (telephone reference is provided in Figure 2.2). The Spill and Release Report (Figure 2.3) should be used to facilitate documentation and data retrieval for these notifications.

FIGURE 2.1
NOTIFICATION FLOWCHART



* National Response Center must be notified immediately when spill reaches “waters of the US” or appears certain to reach “waters of the US”.

Note: Refer to ASEO Emergency Response Plan for specific response

FIGURE 2.2

NOTIFICATION REFERENCES			
TITLE	**NAME**	**PHONE**	**FAX NUMBER**
1. Operator/Lead Operator	Dace Atkinson	Mobile (830) 299-5875	
	Kyle Kremling	Mobile (361) 412-7589	
2. Production Foreman/Field Supervisor	Jamin Richard	Mobile (337) 552-4510	
	Richard Heerwald	Mobile (817) 964-5652	
4. Chief Operating Officer (COO)	Don Webb	Mobile 405) 219-1076	
AGENCY	**LOCATION**	**PRIMARY**	**ALTERNATE**
National Response Center (NRC*)†	United States Coast Guard Washington, D.C.	800-424-8802 (24 hr hotline)	
Environmental Protection Agency – Region 6	U.S. Environmental Protection Agency 1445 Ross Avenue, Suite 1200 Dallas, TX 75202	800-424-8802	
United States Army Corp of Engineers	12565 West Center Road Omaha, NE 68144	503-808-3710	503-808-3901 Emergency Response
OSHA San Antonio District Office	Washington Square Blvd, Suite 203 800 Dolorosa Street San Antonio, TX 78207-4559	210-472-5040	1-800-222-1222 Poison Control
Railroad Commission of Texas Region 1	RRC – Region 1 115 East Travis St San Antonio, TX 78205	(210) 227-1313	
State Emergency Response Commission (SERC)	Texas Spill Reporting Hotline	800-832-8224 (24 hr hotline)	

* National Response Center must be notified immediately when spill reaches "waters of the US" or appears certain to reach "waters of the US".
† Notifying NRC does not constitute notice to the state.

South Texas Plains District of Texas Parks and Wildlife	San Antonio Field Office	210-348-7375	
Atascosa Local Emergency Planning Committee (LEPC)	Mr.Devon Wilborn Emergency Management Office 711 Broadway Jourdanton, TX 78026	830-769-2029	830-767-2600
U.S. Fish and Wildlife Service	PO Box 1306 Albuquerque, NM 87103 80228	505-248-6911	

CONTRACTOR	PRIMARY	ALTERNATE
CAM Safety, Pleasanton	830-569-5055	

FIGURE 2.3

SPILL REPORTING GUIDELINES

Never include information which has **not been verified.**

Never speculate as to the cause of an incident or make any acknowledgment of liability.

DOCUMENT:

Agency notified
Time agency notified
Person notified
Content of message given

DO NOT DELAY reporting due to incomplete information.

2.8 Response Procedures

Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

It is important to note that **these actions are intended only as guidelines**. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed. Note that, **without exception, personnel and public safety is priority**.

The first Company person on scene will function as the person-in-charge until relieved by an authorized supervisor. Transfer of command will take place as more senior management respond to the incident.

INITIAL RESPONSE ACTIONS – SUMMARY
● Personnel and Public Safety is first priority. ● Eliminate sources of ignition ● Isolate the source of the discharge, minimize further flow. ● Make internal notifications. ● Make external notifications. ● Activate Company resources as necessary. ● Activate response contractors and other external resources as necessary. ● Monitor and control the containment and clean-up effort

2.9 Prevention

In addition to being prepared to respond to an oil spill, each Facility also has prevention measures in place to minimize the chances of an accidental discharge. The Facilities discharge prevention measures, including procedures for routine handling of products (loading, unloading, and facility transfers, etc.), are described as follows:

- The Company's training and briefing program ensures oil-handling personnel are familiar with the Plan and is capable of reporting a discharge (see Section 1.8).

- This facility has been designed, and is maintained, in order to prevent discharges as described in this Plan.

- All transfers, into and from individual facility storage tanks to transport vehicles, are continuously monitored by qualified personnel to ensure proper procedures and rapid response in the event of a discharge.

- All tank truck loading/unloading procedures are designed to meet the minimum requirements and regulations established by the Department of Transportation. The driver must physically connect and disconnect the truck tank with the storage tanks when loading the product. Drivers remain present during loading/unloading operations. Chock blocks are required to be set under the wheels of all delivery trucks for safety concerns, but they also provide a further check to prevent drivers from prematurely driving away before disconnecting and closing tank valves.

2.10 Secondary Containment Systems

Secondary containment systems for individual facility bulk oil and oil product storage containers and other potential spill sources are designed as follows:

Diked and Undiked Storage Areas

- Bulk storage containers are situated such that secondary containment is provided, either by retention devices or by means of drainage patterns that direct oil releases to a location where it can be contained for recovery.

- The bulk storage containers are constructed so that a secondary means of containment is provided. Implementation items are listed in Appendix C for each Facility if applicable. Additional details and capacities are also provided in Appendix C;

- Based on the soils data available for each Facility, containment areas may have some vertical permeability. However, containment areas are capable of maintaining a discharge within the boundaries of each Facility subsequent to timely detection.

- To ensure the capacity of earthen containment, the dike walls should be maintained at the appropriate height and in good condition. At no time should the dike walls be allowed to drop below the height necessary to contain the entire contents of the largest container within a secondary containment area, while leaving sufficient freeboard for precipitation.

- Workover equipment will be situated at each Facility such that secondary containment is provided by the collection system and/or containment berm. The collection systems and containment berm have sufficient retention capacity to contain any discharge which could result from these operations.

2.11 Container Design and Construction

Each Facilities bulk oil and oil products storage containers have been designed in accordance with industry standards. Generally, the containers have the following design characteristics:

- Containers are constructed of a material that is compatible with the oil and oil products, stored and the conditions of storage.
- Most bulk storage containers are constructed of welded steel to API standards.
- Some of the bulk storage containers have overflow equalizing lines.
- The containers have adequate capacity to ensure that a container will not overflow should operating personnel be delayed in making their rounds.
- Containers are provided with adequate pressure/vacuum relief.
- All containers are operated within “Safe Fill” levels positioned below the capacity limits of the container.
- Containers are connected with check valves that would prevent backflow.
- Some containers are equipped with tank high level alarms to prevent overfill.
- All alarms are monitored 24 hours/day by a system which alerts the operator of any potential problems.
- Separators are equipped with both high and low-pressure alarms to alert operators to abnormal operating conditions; and
- Bulk storage containers applicable to 112.8(c)(8) have direct view gauges installed and are continuously monitored during loading.

Refer to Appendix A for site specific information.

2.12 Container Inspection Program

All containers, separators and other process equipment containing oil and oil products are inspected in the following manner. Inspection of tanks considers API RP12R1. Inspection and sample inspection forms for Production Facilities are located in Appendix D.

- Routinely observe each bulk container of oil for corrosion, deterioration, leaks and maintenance needs during regular Facility operations and make necessary repairs as follows:

  - Check tank surfaces for signs of leakage, corrosion, pitting and rusting.
  - Check bolts, rivets and seams for signs of damage.
  - Inspect the foundation and support of each container to ensure that it is intact.
  - Ensure that vents are not obstructed.
  - Inspect valves, flanges and gaskets to ensure they are free from leaks.
  - Inspect containment walls and floors to ensure they are intact.
  - Inspect tank hatches.
  - Inspect and test liquid sensing devices to ensure proper operation.

- Conduct a documented external condition inspection (Form on Appendix D-3) of tanks and containment systems annually:

  - Inspect tank foundation for support and structural soundness.
  - Inspect tank bottom for leakage and adequate drainage away from tank.
  - Ensure that there are no active leaks or signs of past leakage from tank shell.
  - Check structural integrity of tank shell.
  - Ensure coating condition is satisfactory.
  - Inspect the tank for severe corrosion and/or pits.
  - Inspect thief hatch and vent valve seals.
  - Inspect stairway/walkways.
  - Inspect and verify that storage tank labels are present and accurate.

- Conduct a documented internal condition inspection (Form on Appendix D-5) when:

  - A tank is cleaned.
  - A tank is relocated.
  - The service of a tank is changed.
  - The tank is entered for any type of maintenance or modification.

- The internal condition inspection should include:

  - Tank bottom and shell thickness assessment.
  - Tank bottom settlement.

- Conduct a documented external condition inspection (Form on Appendix D-3) of separators and other processing equipment annually.

  - Inspect equipment mounts for support and structural soundness.
  - Ensure there are no active leaks or signs of past leakage from equipment shell, piping connections, valves, vents, etc.
  - Ensure coating condition is satisfactory.
  - Inspect equipment shell for severe corrosion and/or severe pits.

Brittle Fracture Evaluations

Any field-constructed aboveground containers are identified in the Bulk Storage Container Identification and Inventory Table in Appendix C for Production Facilities. The following requirements apply to these tanks:

- If a field-constructed aboveground container (tank) undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture, the container will be evaluated (see form on Appendix D-7), and as necessary, appropriate action taken.

- API 653 states in paragraph 5.3.4 of the standard, “If a tank shell thickness is no greater than 0.5 inches, the risk of failure due to brittle fracture is minimal.”

- API RP12R1 states the thickest plate for API 12 series tanks is less than 0.5 inches, which is the necessary thickness to induce brittle fracture.

2.13 Aboveground Valves and Piping Examination

All aboveground valves, piping, and associated facilities are examined by operating personnel in the following manner:

- Informal observations are conducted during operating personnel rounds.

- Aboveground valves and piping are inspected annually (Form in Appendix D-3) for the general condition of items such as:

  - Flange joints
  - Valve glands and bodies
  - Drip pans
  - Pipe supports.
  - Pumping well polish rod stuffing boxes
  - Bleeder and gauge valves

- Unloading headers are provided for occasional truck loading operations. When such operations are performed, they are continuously monitored.

2.14 Flowline Maintenance

The Facilities flowlines are inspected and maintained as follows:

- Oil, gas and water flowing rights-of-way are maintained to provide access to lines for inspection and repair and periodically (not routinely) observed by operating personnel.
- Buried lines are cathodically protected as needed and/or externally plastic coated and wrapped.
- Check valves installed on header manifolds isolate individual flowlines and wellheads.
- High/low pressure switches, anti-corrosion chemicals and corrosion coupons are used as needed.
- Flowline maintenance includes repair or replacement of lines based on leak frequency. Repaired and replaced lines are pressure tested with fresh water prior to being placed back into service where appropriate.
- If performed, flowline pressure tests are documented, and records kept at the Campbellton Field Office; and
- The flowline maintenance program includes periodic examinations, corrosion protection, as appropriate, flowline replacement, and adequate records for the Facility.

Wellheads are equipped with emergency shutdown valves that will shut the wells-in if pressures rise above or below predetermined set points to prevent over pressurization and prevent continued flow in the event of a line failure.

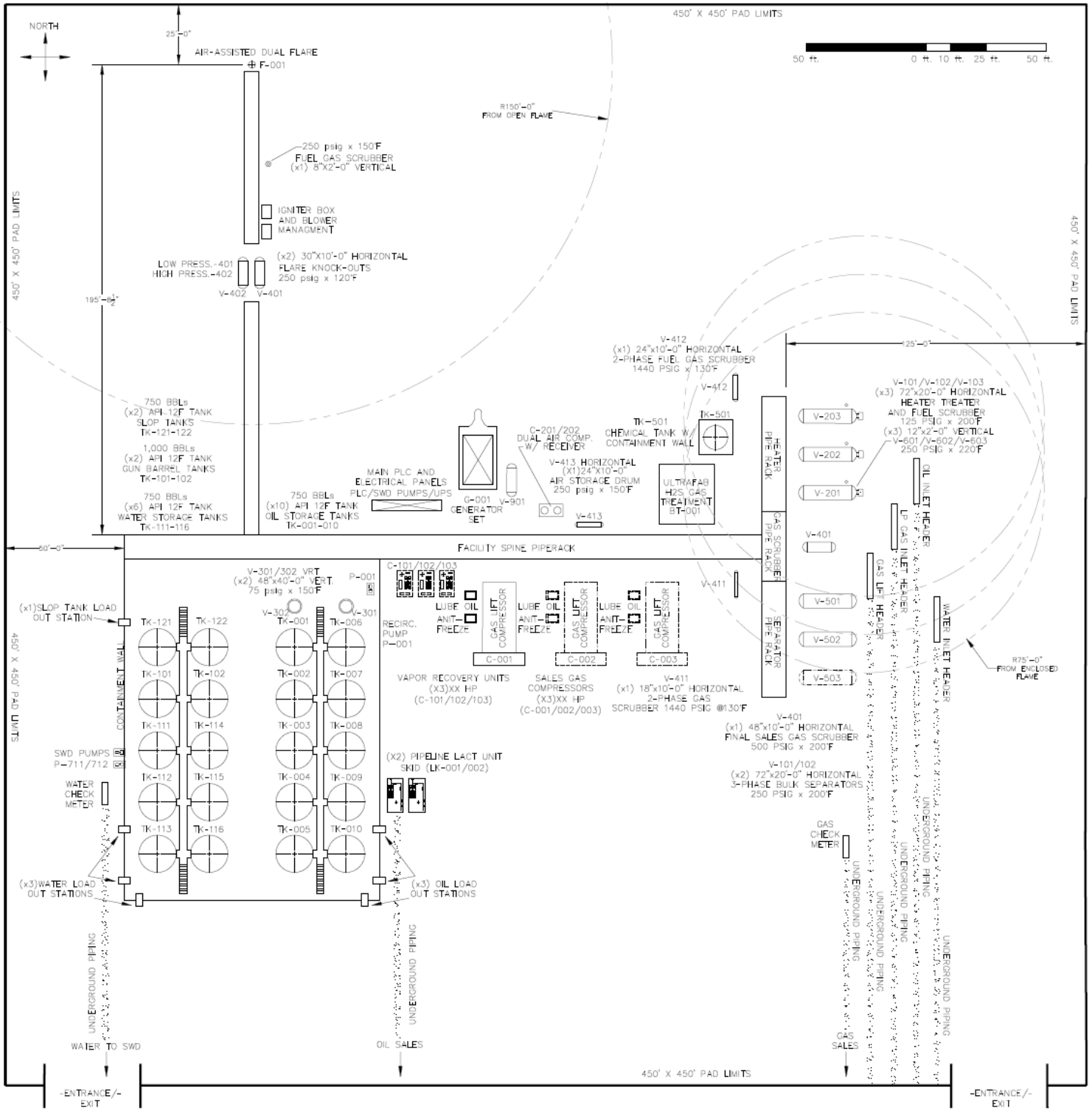
Appendix A

Facility Plat Plan and Berm Capacity Calculations

Figure A-1: Arrow S Energy Operating LLC – Alamo Central Facility

USGS Topo Map Extract – McCoy Quadrangle
Texas – Atascosa County
7.5 Minute Series

Figure A-2


NORTH
450' X 450' PAD LIMITS
25'-0"
AIR-ASSISTED DUAL FLARE
F-001
R150'-0" FROM OPEN FLAME
250 psig x 150°F
FUEL GAS SCRUBBER
(x1) 8"X2'-0" VERTICAL
IGNITER BOX AND BLOWER MANAGMENT
LOW PRESS.-401
HIGH PRESS.-402
(x2) 30"X10'-0" HORIZONTAL
FLARE KNOCK-OUTS
250 psig x 120°F
V-402
V-401
195'-8½"
750 BBLs
(x2) API 12F TANK
SLOP TANKS
TK-121-122
1,000 BBLs
(x2) API 12F TANK
GUN BARREL TANKS
TK-101-102
750 BBLs
(x6) API 12F TANK
WATER STORAGE TANKS
TK-111-116
750 BBLs
(x10) API 12F TANK
OIL STORAGE TANKS
TK-001-010
MAIN PLC AND ELECTRICAL PANELS
PLC/SWD PUMPS/UPS
G-001
GENERATOR SET
V-901
C-201/202
DUAL AIR COMP. W/ RECEIVER
V-413 HORIZONTAL
(X1)24"X10'-0"
AIR STORAGE DRUM
250 psig x 150°F
V-413
TK-501
CHEMICAL TANK W/ CONTAINMENT WALL
ULTRAFAB
H2S GAS
TREATMENT
BT-001
V-412
(x1) 24"x10'-0" HORIZONTAL
2-PHASE FUEL GAS SCRUBBER
1440 PSIG x 130°F
V-412
V-101/V-102/V-103
(x3) 72"x20'-0" HORIZONTAL
HEATER TREATER
AND FUEL SCRUBBER
125 PSIG x 200°F
(x3) 12"x2'-0" VERTICAL
V-601/V-602/V-603
250 PSIG x 220°F
OIL INLET HEATER
LP GAS INLET HEATER
GAS LIFT HEATER
WATER INLET HEATER
R75'-0" FROM ENCLOSED FLAME
HEATER PIPE RACK
GAS SCRUBBER PIPE RACK
SEPARATOR PIPE RACK
V-203
V-202
V-201
V-401
V-501
V-502
V-503
V-411
25'-0"
60'-0"
FACILITY SPINE PIPERACK
V-301/302 VRT
(x2) 48"x40'-0" VERT.
75 psig x 150°F
V-302
V-301
P-001
C-101/102/103
RECIRC. PUMP P-001
LUBE OIL ANTI-FREEZE
GAS LIFT COMPRESSOR
C-001
C-002
C-003
VAPOR RECOVERY UNITS
(X3)XX HP
(C-101/102/103)
SALES GAS COMPRESSORS
(X3)XX HP
(C-001/002/003)
V-411
(x1) 18"x10'-0" HORIZONTAL
2-PHASE GAS
SCRUBBER 1440 PSIG @130°F
V-401
(x1) 48"x10'-0" HORIZONTAL
FINAL SALES GAS SCRUBBER
500 PSIG x 200°F
V-101/102
(x2) 72"x20'-0" HORIZONTAL
3-PHASE BULK SEPARATORS
250 PSIG x 200°F
(x1)SLOP TANK LOAD OUT STATION
TK-121
TK-122
TK-101
TK-102
TK-111
TK-114
TK-112
TK-115
TK-113
TK-116
TK-001
TK-006
TK-002
TK-007
TK-003
TK-008
TK-004
TK-009
TK-005
TK-010
CONTAINMENT WALL
SWD PUMPS P-711/712
WATER CHECK METER
(X2) PIPELINE LACT UNIT SKID (LK-001/002)
(x3)WATER LOAD OUT STATIONS
(x3) OIL LOAD OUT STATIONS
GAS CHECK METER
UNDERGROUND PIPING
WATER TO SWD
OIL SALES
GAS SALES
-ENTRANCE/-EXIT
50 ft.
0 ft. 10 ft. 25 ft. 50 ft.


Metate Creek
Alamo Central Facility
Flow
140
Lake Number 3
Google Earth
N
1000 ft

Secondary Containment Size Calculations

Facility Name: **Alamo Central Facility**
Dike Location: **Oil and Water Storage area**
County: **Atascosa**

Secondary Containment Status
Dike Dimensions are OK

On Site Tank Inventory

Tank Designation	Oil	Gunbarrel	Water	Skim Tank	Spent Chem	Fresh Chem			
Number of tanks/vessels	10	2	6	2	1	1			
Volume bbl	750	1,000	750	750	210	100			
Diameter (ft)	15.5	15.5	15.5	15.5	10.0	9.5			
Height (ft)	24	32	24	24	15	8			

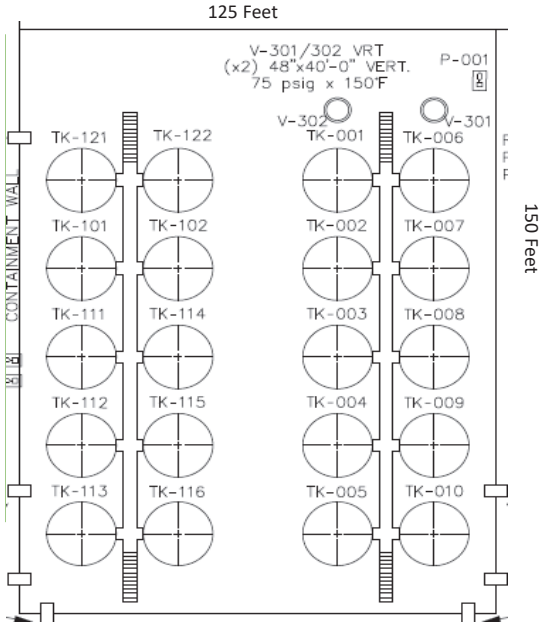
Equipment Footprint Worksheet (Tanks Other Than Single Largest Tank)

	1	2	3	4	Footprint Area (ft^2)
Diameter	15.50	10.00	9.50		3,585
Number of Tanks	19	0	0		
Surface Area	3585.15	0.00	0.00	0.00	

Maximum Number of Manifolded Tanks	
Oil Tanks	**6**
Water Tanks	**4**

Total storage volume: 15,810 bbl
664,020 gal

Berm Measurement Justification



Actual Berm Measurements:

Date:			5/2/2023	
Berm Height (ft):			3	
Area 1	Length (ft)	150	Width (ft)	125
Area 2	Length (ft)		Width (ft)	
Area 3	Length (ft)		Width (ft)	
Area 4	Length (ft)		Width (ft)	
Area 5	Length (ft)		Width (ft)	
Berm Area (ft^2):			18,750	

Facility Site Berm Capacity

Berm Height	2.50	ft
25 Year, 24 Hour Storm Event	0.66	ft
Required Excess Freeboard	0.00	ft
Berm Area	18,750	ft^2
Facility Equipment Footprint[1]	3,585	ft^2
Storm Event Footprint plus Freeboard	12,422	ft^3
Available Berm Volume (Minus largest tank area and 25 yr, 24 hr storm and required excess)	4,540	bbls

Available Berm Volume is used to determine the number of manifolded tanks that is allowed. For example 5100 bbls of Available Berm Volume allows 5 - 1000 bbls tanks to be manifolded.

Secondary Containment Capacity	283,583	gallons

Facility Site Berm Modifications

Available Freeboard	0.01	ft
Required Height, Same Area	N/A	ft
Required Area, Same Height	N/A	ft^2
Increase Area by	0	ft^2

[1] *The facility equipment footprint is an estimate of the area within the Facility Site Berm which is unusable as Secondary Containment due to equipment, storage tanks, vehicles, etc.*

Color Reference:

*Yellow field denotes required information
*Orange field denotes optional information

Corrective Action Implementation Log

If further examination of the Facility covered by this Spill Prevention, Control and Countermeasures (SPCC) plan identifies the need for corrective action to bring the Facility into compliance with the SPCC Planning requirements detailed in 40 CFR Part 112 (SPCC Planning regulation) the action items will be assigned documented here.

EXAMPLE SECONDARY CONTAINMENT CALCULATIONS
PRODUCTION SITE BERMS

Tank Battery Secondary Containment Capacity

Containment Height	1.75 ft
Secondary Containment Area	5.00 ft x 6.00 ft = 30.00 ft^2
Tank Footprint [1](Minus the Largest Tank)	0.00 ft^2
Net Volume	1.75 ft x (30.00 ft^2– 0.00 ft^2) = 52.50 ft^3 x 7.48 gal/ft^3 = 392.70 gal

Freeboard for Precipitation

25 Year, 24 Hour Storm Event Precipitation (NOAA) [2]	0.69 ft
Volume of the Largest Facility Tank (300 gal)	π x (1.25 ft)^2 x 5.00 ft = 24.54 ft^3
Net Area (Minus Facility Equipment Footprint)	30.00 ft^2 – 0.00 ft^2 = 30.00 ft^2
Minimum Facility Site Berm Height to Contain the Largest Tank	24.54 ft^3/ 30.00 ft^2= 0.82 ft
Freeboard	1.75 ft – 0.82 ft = 0.93 ft
25 Year, 24 Hour Storm Event Volume	30.00 ft^2 x 0.69 ft = 20.70 ft^3
Freeboard use by a 25 Year, 24 Hour Storm Event	20.70 ft^3 / 30.00 ft^2 = 0.69 ft
Available Freeboard (Minus 25 Year, 24 Hour Storm Event)	0.93 ft - 0.69 ft = 0.24 ft

[1] The Equipment Footprint is an estimate of the area within the Facility Berm which is unusable as secondary containment due to equipment, storage tanks, vehicles, etc.

[2] Technical Paper No. 40 Rainfall Frequency Atlas of the United for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years; Washington, D.C.; 5/1/1961-Repaginated and Reprinted January 1963

Appendix B

Forms, Checklists and Records

Forms:

- Training Sign-up Form
- Submittal of Information Form
- External Tank Inspection Form
- Initial/Annual External Inspection Form
- Flowline Right-of-Way Inspection Form
- Internal Inspection Form
- Produced Water Disposal Inspection Form
- Brittle Fracture Evaluation Form
- Record of Secondary Containment Drainage

Records

- Training Records
- Inspection Records

Training Sign-up Sheet

Course Title: Monthly Safety Meeting

Instructor Name:

Course Code:

Training Provider Company:

Class Date: 6\28\23

Class Start Time: 8:00 am

End Time: 9:00 am

Employee ID#	Name (PRINT)	Signature	Company Name (if Contractor)
			Arrow S Energy

*Complete a separate Sign-up Sheet for each class held

Submittal of Information to Regional Administrator for Qualified Discharge(s)

In the event of a reportable discharge or discharges, this page can be utilized to provide official notification to the Regional Administrator. If the Facility has had a discharge or discharges, which meet one (1) of the following two (2) criteria, then this report must be submitted to the Regional Administrator within 60 days. (Check as appropriate)

☐ This Facility has experienced a reportable spill as referenced in 40 CFR Part 112.1(b) of 1,000 gallons or more.

☐ This Facility has experienced two (2) reportable spills (as referenced in 40 CFR Part 112.1(b) of greater than 42 gallons each within a 12-month period.

Facility Name and Location: _____

Facility Contact Person (Name, address/phone number): _____

Facility maximum storage or handling capacity: _____

Facility normal daily throughput: _____

Describe the corrective action and countermeasures taken (include description of equipment repairs and replacements): _____

Describe the Facility (maps, flow diagrams and topographical maps attached as necessary):

Describe the cause of discharge (as referenced in 40 CFR Part 112.1(b)) including failure analysis of the system: _____

Describe the preventative measures taken, or contemplated to be taken, to minimize the possibility of recurrence: _____

Other pertinent information: _____

- A copy of this report is also to be sent to the appropriate state agency in charge of oil pollution control activities.

EXTERNAL TANK INSPECTION FORM
(All tanks and containers 55-gallons or greater)

Tank/Container ID: _____ **Facility:** _____

Inspector: _____ **Date:** _____ Circle

- Tank/Container foundation — Yes/No
  - ■ Adequate support and structurally sound

  Observations:

  _____
  _____
  _____

- Tank/Container Bottom — Yes/No
  - ■ Tank/Container bottom free from leakage and adequate drainage away from the base of the tank

  Observations:

  _____
  _____
  _____

- Tank/Container Shell — Yes/No
  - ■ Shell free from signs of leaks
  - ■ Structural integrity sound
  - ■ Corrosion or pitting acceptable for continued service

  Observations:

  _____
  _____
  _____

- Appurtenances — Yes/No
  - ■ Thief hatch and vent valve seals adequate
  - ■ Stairway/walkways adequate
  - ■ Piping associated with tank/container adequate

  Observations:

  _____
  _____
  _____

Signature: _____ **Date:** _____

INITIAL/ANNUAL
EXTERNAL EQUIPMENT INSPECTION FORM

Date of Inspection: _____ **Facility:** _____

Inspector: _____ Circle

- Separators and Other Processing Equipment — Yes/No
  - Equipment Adequately Supported
  - No evidence of active or past leaks
  - Coating condition is satisfactory
  - Corrosion is acceptable

  Observations:

  _____
  _____
  _____

- Other Facility Equipment is checked for leaks/condition — Yes/No
  - Wellheads
  - Gathering Systems
  - Well Test Stations
  - Traps
  - Drain Pits
  - Above ground piping and supports
  - Above ground flanges and valves
  - Containment Systems

  Observations:

  _____
  _____
  _____

- Drainage areas are checked for leaks/condition — Yes/No
  - Drainage ditches and roads outside of the facility
  - Drainage areas inside the facility
  - Other drainage devices such as catch basins, containment, sumps, etc.

  Observations:

  _____
  _____
  _____

Signature: _____ **Date:** _____

Flowline Right-Of-Way Inspection Form

For flowlines that are not at a Test Facility, Standalone Facility, or Central Tank Battery Facility, please document the visual inspections for the presence of any oil or produced water seen in the right-of-ways on this document.

Inspector Name _____ Inspector Signature _____

Date Inspection Conducted _____

Flowline Start Location (i.e. NAME Wellhead)	Flowline End Location (ie. Battery)	Presence of Oil or Liquids seen? (Yes or No)	Comments/Actions Taken

INTERNAL TANK INSPECTION FORM

Tank ID: _____

Date of Inspection: _____

Inspector: _____ Circle

- Tank Bottom — Yes/No
  - Floor Adequately Supported
    - Limited voids under floor plate
    - Sloped for adequate drainage
      (Note: If low spots exist, number and location.)

  Observations:

  _____
  _____
  _____

- Plate Buckling/Deflection Acceptable — Yes/No
  - Plate & Weld condition
  - Shell/Bottom Seam
  - Internal Coating
    (Note: If holes, disbonding or deterioration present, number and location.)
  - Pitting (e.g., depth, sharp edged, lake type, dense, scattered)

  Observations:

  _____
  _____
  _____

Note: Attach any other nondestructive integrity tests performed during this inspection.

Signature: _____ **Date:** _____

BRITTLE FRACTURE EVALUATION FORM (sample)

If a field-constructed aboveground container (tank) undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to heat-affected zone brittle fracture, the container will be evaluated, and as necessary, appropriate action taken.

Tank / Container ID: _____

❑ Field-constructed aboveground container.

❑ Repair: _____ or,

❑ Alteration: _____ or,

❑ Reconstruction: _____.

❑ Alterations, repairs or reconstruction meets API 653 (Tank Inspection, Repair, Alteration and Reconstruction).

- ❑ Continue Use: _____

❑ Change of service that might affect the risk of a discharge: _____

1. ❑ Tank (container) meets API 650 (Welded Steel Tanks for Oil Storage – 7th Edition or later) and the tank continues to operate in ❑ same service or ❑ equivalent or less severe service.

- ❑ Continue Use: _____

OR

2. ❑ Tank (container) does not meet API 650 or other equivalent standard:

- ❑ Prior hydro demonstrates fitness for continued service.
  - ❑ Continue Use: _____
- ❑ No prior hydrostatic test. **(Go to Step 3.)**
  - ❑ Further evaluation or appropriate action: _____

OR

3. ❑ Alteration, repairs or reconstruction does not meet API 653.

- ❑ Tank thickness ≤ 0.5 inch: _____
  - ❑ Continue Use: _____
  - ❑ Further evaluation or appropriate action: _____

OR IF NOT,

- ❑ Tank operates at metal temperature above 60°F:_____
  - ❑ Continue Use: _____
  - ❑ Further evaluation or appropriate action: _____

OR IF NOT,

- ❑ Membrane stress below 7 ksi:_____
  - ❑ Continue Use: _____
  - ❑ Further evaluation or appropriate action: _____

_____ _____

Inspector/Supervisor Date

Secondary Containment Drainage Inspection (sample)

Prior to draining precipitation from secondary containment structures, inspect secondary containment contents for the presence of oil and complete the following form.

Date	Facility & Secondary Containment Area	Presence of Oil	Time Started	Time Finished	Inspector Signature, and Corrective Action Taken (if any)

Training Records

Training Form Locations

NOTE: Records for training can be found through the HSE Representative or at ASEO's Campbellton Field Office.

Inspection Records

Inspection Form Locations

NOTE: Records for inspections can be found at ASEO's Campbellton Field Office.

Appendix C

Waste Management and Disposal Plan

OVERVIEW

A major oil spill response would generate significant quantities of waste materials ranging from oily debris and sorbent materials to sanitation water and used batteries. All these wastes need to be classified and separated (i.e., oily, liquid, etc.), transported from the site, and treated and/or disposed of at approved disposal sites. Each of these activities demands that certain health and safety precautions be taken, which are strictly controlled by federal and state laws and regulations. This section provides an overview of the applicable state regulations governing waste disposal, and a discussion of various waste classification, handling, transfer, storage, and disposal techniques.

WASTE CLASSIFICATION

Oily - Liquid Wastes

Oily liquid wastes (i.e., oily water and emulsions) that would be handled, stored, and disposed of during response operations are very similar to those handled during routine storage and transfer operations. The largest volume of oily liquid wastes would be produced by recovery operations (e.g., through the use of vacuum devices or skimmers). In addition, oily water and emulsions would be generated by vehicle operations (e.g., spent motor oils, lubricants, etc.), and equipment cleaning operations.

Non-Oily - Liquid Wastes

Response operations would also produce considerable quantities of non-oily liquid wastes. Water and other non-oily liquid wastes would be generated by the storage area and stormwater collection systems, vessel and equipment cleaning (i.e., water contaminated with cleaning agents), and office and field operations (i.e., sewage, construction activities).

Oily - Solid/Semi-Solid Wastes

Oily solid/semi-solid wastes that would be generated by containment and recovery operations include damaged or worn-out booms, disposable/soiled equipment, used sorbent materials, saturated soils, contaminated beach sediments, driftwood, and other debris.

Non-Oily - Solid/Semi-Solid Wastes

Non-oily solid/semi-solid wastes would be generated by emergency construction operations (e.g., scrap, wood, pipe, and wiring) and office and field operations (i.e., refuse). Vessel, vehicle, and aircraft operations also produce solid waste.

WASTE HANDLING

A primary concern in the handling of recovered oil and oily debris is contaminating unaffected areas or recontaminating already cleaned areas. Oily wastes generated during the response operations would need to be separated by type and transferred to temporary storage areas and/or transported to approved disposal sites. Proper handling of oil and oily wastes is imperative to ensure personnel health and safety and protection of the environment.

Safety Considerations

Care would be taken to avoid or minimize direct contact with oily wastes. All personnel handling or coming into contact with oily wastes would wear protective clothing. Safety goggles would be worn by personnel involved in waste handling activities where splashing might occur. Any portion of the skin exposed to oily waste would be washed with soap and water as soon as possible. Decontamination zones would be set up during response operations to ensure personnel are treated for oil exposure.

Waste Transfer

During response operations, it may be necessary to transfer recovered oil and oily debris from one point to another several times before the oil and oily debris are ultimately recycled, incinerated, or disposed of at an appropriate disposal site.

There are four (4) general classes of transfer systems that may be employed to affect oily waste transfer operations:

- **Pumps:** Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but they may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates. The resultant emulsion would also be more difficult to separate into oil and water fractions. Lobe or "positive displacement" pumps work well on heavy, viscous oils, and do not emulsify the oil/water mixture. Double-acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

- **Vacuum Systems**: A vacuum truck may be used to transfer viscous oils but they usually pick up a very high water/oil ratio.

- **Belt/Screw Conveyors:** Conveyors may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris laden oil either horizontally or vertically for short distances (i.e., 10 feet) but are bulky and difficult to set up and operate.

- **Wheeled Vehicles:** Wheeled vehicles may be used to transfer liquid wastes or oily debris to storage or disposal sites. These vehicles have a limited transfer volume (i.e., 100 barrels) and require good site access.

WASTE STORAGE

Interim storage of recovered oil, oily and non-oily waste would be considered to be available means of holding the wastes until a final management method is selected. In addition, the segregation of wastes according to type would facilitate the appropriate method of disposal. The storage method used would depend upon:

- The type and volume of material to be stored.
- The duration of storage.
- Access.

Temporary storage sites should use the best achievable technology to protect the environment and human health. They should be set up to prevent leakage, contact, and subsequent absorption of oil by the soil. The sites should be bermed (1 to 1.5 meters high) and double lined with plastic or visqueen sheets 6-10 millimeters or greater in thickness, without joints, prior to receiving loose and bagged debris. The edges of the sheet should be weighted with stones or earth to prevent damage by wind, and the sheet should be placed on a sand layer or an underfelt thick enough to prevent piercing. A reinforced access area for vehicles at the edge of the site should be provided. In addition, the oily debris should be covered by secured visqueen or tarps and an adequate stormwater runoff collection system for the size and location of the site would be utilized. Additionally, the sites should be at least 3 meters above mean sea level.

Oily debris can be hauled to an approved temporary storage sites in visqueen lined trucks or other vehicles. Burnable, non-burnable, treatable and re-usable materials can be placed in well-defined separate areas at temporary storage sites.

When the last of the oily debris leaves a temporary storage site, the ground protection would be removed and disposed of with the rest of the oily debris. Any surrounding soil which has become contaminated with oil would also be removed for disposal or treatment. If the soils were removed for treatment, they may be replaced if testing proves acceptable levels have been achieved. Treatment and remediation is encouraged when feasible. The temporary storage should be returned to its original condition.

WASTE DISPOSAL

Techniques for Disposal of Recovered Oil

Recovery, reuse, and recycling are the best choices for remediation of a spill, thereby reducing the amount of oily debris to be bermed onsite or disposed of at a solid waste landfill. Treatment is the next best alternative, including incineration and burning for energy recovery. There are some limitations and considerations in incinerating for disposal. Environmental quality of incineration varies with the type and age of the facility. Therefore, when incineration becomes an option during an event, local air quality authorities would be contacted for advice about efficiency and emissions of facilities within their authority. Approval of the local air authorities is a requirement for any incineration option. Landfilling is the last option. Final disposal at a solid waste landfill is the least environmentally sound method of dealing with a waste problem such as oily debris.

WASTE DISPOSAL (Cont'd)

Techniques for Disposal of Recovered Oil (Cont'd)

During an oil spill incident, the Company would consult with the federal and state On Scene Coordinator (OSC) to identify the acceptable disposal methods and sites appropriately authorized to receive such wastes. The identification of suitable waste treatment and disposal sites would be prepared by the HES Representative in the form of an Incident Disposal Plan which must be authorized by the EPA. An Incident Disposal Plan would include predesignated interim storage sites, segregation strategies, methods of treatment and disposal for various types of debris, and the locations/contacts of all treatment and disposal site selections. Onsite treatment/disposal will be preferred.

In order to obtain the best overall Incident Disposal Plan, a combination of methods should be used. There is no template or standard combination of methods that can be used in every spill situation. Each incident should be reviewed carefully to ensure an appropriate combination of disposal methods are employed.

The different types of wastes generated during response operations would require different disposal methods. To facilitate the disposal of wastes, they should be separated by type for temporary storage, transport and disposal.

The following is a brief discussion of some disposal techniques available for recovered oil and oily debris.

Recycling

This technique entails removing water from the oil and blending the oil with uncontaminated oil. Recovered oil can be shipped to refineries provided that it is exempt from hazardous waste regulations. There it can be treated to remove water and debris, and then blended and sold as a commercial product.

Incineration

This technique entails the complete destruction of the recovered oil by high temperature thermal oxidation reactions. There are licensed incineration facilities as well as portable incinerators that may be brought to a spill site. Incineration would require the approval of the local Air Pollution Control Authority. Factors to consider when selecting an appropriate site for onsite incineration would include:

- Proximity to recovery locations.
- Access to recovery locations.
- Adequate fire control.
- Approval of the local air pollution control authorities.

WASTE DISPOSAL (Cont'd)

In Situ Burning/Open Burning

Burning techniques entail igniting oil or oiled debris and allowing it to burn under ambient conditions. These disposal techniques are subject to restrictions and permit requirements established by federal, state and local laws. They would not be used to burn PCBs, waste oil containing more than 1,000 parts per million of halogenated solvents, or other substances regulated by the EPA. Permission for *in situ* burning may be difficult to obtain near populated areas.

As a general rule, *in situ* burning would be appropriate only when atmospheric conditions will allow the smoke to rise several hundred feet and rapidly dissipate. Smoke from burning oil will normally rise until its temperature drops to equal the ambient temperature. Afterwards, it will travel in a horizontal direction under the influence of prevailing winds.

Landfill Disposal

This technique entails burying the recovered oil in an approved landfill in accordance with regulatory procedures. Landfill disposal of free liquids is prohibited by federal law in the United States.

With local health department approval, non-burnable debris which consists of oiled plastics, gravel and oiled vegetation, kelp, and other organic material may be transported to a licensed, lined, approved municipal or private landfill and disposed of in accordance with the landfill guidelines and regulations. Landfill designation would be planned only for those wastes that have been found to be unacceptable by each of the other disposal options (e.g., waste reduction, recycling, energy recovery). Wastes would be disposed of only at approved disposal facilities.

Appendix D

Subcontractor SPCC Plan Certifications

- Development Subcontractor Certifications
- Production Subcontractor Certifications

Development Subcontractor Certifications

Production Subcontractor Certifications

Regulatory Cross Reference

40 CFR § 112.3,5,7,8,9,10
CROSS REFERENCE

40 CFR § 112	BRIEF DESCRIPTION	SECTION
112.3	Requirements for preparation and implementation of Spill Prevention Control and Countermeasure Plan	-----
(a,b,c)	Owners or operators ... and could reasonably be expected to have a discharge oil as described…must prepare and implement a Plan…	§1.1, 1.3
(d)	A licensed Professional Engineer must review and certify a Plan for it to be effective...	Section 1 (1-A)
(e)	Maintain a complete copy of the Plan at the facility if the facility is normally attended at least 4 hours per day, or at the nearest field office**...**	§1.4
112.5	Amendment of Spill Prevention Control and Countermeasures Plans by owners or operators	-----
(a)	Amend the SPCC ...when there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil...	Foreword, §1.6,
(b)	...complete a review and evaluation of the SPCC at least once every five years... amend the SPCC within six months of the review**...**implement within six months of preparation of any amendment.	§1.6,
(c)	Have a Professional Engineer certify any technical amendment…	§1.6,
112.7	Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasures Plan	-----
-----	…must prepare a Plan…have full approval of management…in writing.	Entire Plan,
-----	…follow the sequence specified (or cross-reference) …	Regulatory Cross Reference
(a)(2)	Comply with all applicable requirements in this part… [or] state reasons for non-conformance … and describe alternate methods…	-----
(a)(3)	Describe … physical layout … and include diagram ….	§1.7 , §2.1 Appendix A
(a)(3)(i)	… [address in your Plan] .. the type of oil in each container and its … capacity …	Appendix A
(a)(3)(ii)	… discharge prevention measures including routine handling of products …	§1.10, §2.9
(a)(3)(iii)	...Drainage or discharge controls … and procedures for control of a discharge …	§1.10, 2.2, 3.6, 3.7, Appendix A & C
(a)(3)(iv)	Countermeasures for discharge discovery, response, and cleanup (both … facility's … and contractor ….)	§2.5
(a)(3)(v)	Methods of disposal of recovered materials …	Appendix C
(a)(3)(vi)	Contact list and phone numbers …	Fig. 2.2
(a)(5)	Organize portions of the Plan … that will make them readily usable….	Table of Contents
(b)	Where experience indicates a reasonable potential for equipment failure …, include … a prediction of the direction, rate of flow, and total quantity of oil which could be discharged …	Appendix A

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(c)	Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge … the entire containment system, including walls and floor, must be capable of containing oil …	§1.10, 2.2, Appendix A
(c)(1)	Onshore facilities.	-----
(c)(1)(i)	Dikes, berms or retaining walls sufficiently impervious to contain spilled oil	§1.10, 2.2, Appendix A
(c)(1)(ii)	Curbing or drip pans	N/A
(c)(1)(iii)	Sumps and collection systems	N/A
(c)(1)(iv)	Culverting, gutters, or other drainage systems	N/A
(c)(1)(v)	Weirs, booms, or other barriers	N/A
(c)(1)(vi)	Spill diversion ponds	N/A
(c)(1)(vii)	Retention ponds	N/A
(c)(1)(viii)	Sorbent materials	N/A
(c)(2)	Offshore Facilities.	-----
(c)(2)(i)	Curbing, drip pans	N/A
(c)(2)(ii)	Sumps and collection systems	N/A
(d)	If you determine that the installation of structures or equipment listed in paragraphs (c) and (h)(1) of this section…is not practicable…clearly explain in your Plan…and provide…	-----
(d)(1)	*A strong oil spill contingency plan following...40 CFR 109.*	-----
(d)(2)	A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.	-----
(e)	*Inspections, tests, and records*	-----
(f)	*Personnel, training and discharge prevention procedures*	-----
(f)(1)	...train your oil-handling personnel in the operation and maintenance of equipment to prevent the discharges...	§ 1.8, Appendix B
(f)(2)	Designate a person…accountable for oil spill prevention...	1-C
(f)(3)	Schedule and conduct spill prevention briefings...highlight and describe known spill discharges…or failures, malfunctioning components, and recently developed precautionary measures.	§ 1.8, Appendix B
(g)	*Security (excluding oil production facilities)*	-----
	Describe…how you secure and control access to the oil handling, processing, and storage areas…	§ 2.11
	…secure master flow and drain valves…	§ 2.11
	…prevent unauthorized access to starter controls on oil pumps…	§ 2.11
	….secure out-of-service and loading/unloading connections of oil pipelines…	§ 2.11
(h)	*Facility tank car and tank truck loading/unloading rack (excluding offshore facilities)*	-----
(h)(1)	Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system… …design any containment system to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.	N/A

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(h)(2)	Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle brake interlock system… to prevent vehicles from departing before complete disconnect of flexible or fixed oil transfer lines.	§ 1.10
(h)(3)	Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, that they are tightened, adjusted, or replaced to prevent liquid leakage while in transit.	§ 1.10
(i)	If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure due to brittle fracture…evaluate the container for risk…	§ 2.7, Appendix B
(j)	In addition...include a complete discussion of conformance with applicable requirements…or any more stringent, with State rules, regulations and guidelines.	§ 1.3
(k)	Qualified Oil-filled Operational Equipment	§ 2.4, Appendix A
(k)(1)	…no single discharge from oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges… exceeding 42 U.S. gallons…	-----
(k)(2)	If secondary containment is not provided for qualified oil-filled operational equipment…the owner or operator…must:	-----
(k)(2)(i)	Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or discharge; and	-----
(k)(2)(ii)	Unless you have submitted a response plan…provide…	-----
(k)(2)(ii)(A)	An oil spill contingency plan following the provisions of part 109…	-----
(k)(2)(ii)(B)	A written commitment of manpower, equipment, and materials…	-----
112.8	Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)	-----
(a)	Meet the general requirements for the Plan listed under §112.7, and …	Entire Plan
(b)	Facility drainage.	§ 1.10
(b)(1)	Restrain drainage from diked storage areas by valves … except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; … must manually activate … must inspect condition of accumulation before starting, …	§ 1.10
(b)(2)	Use valves of manual, open-and-closed design, … may not use flapper-type drain valves … drainage drains directly into a watercourse … must inspect and may drain … as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.	§ 1.10
(b)(3)	Design facility drainage systems from undiked areas .. to flow into ponds, lagoons, or catchment basins designed to hold oil … must not locate catchment basins in areas subject to periodic flooding.	§ 1.10, 2.2
(b)(4)	If facility drainage is not engineered as in paragraph (b)(3) of this section, … retain oil in this facility.	NA
(b)(5)	Where drainage waters are treated in more than one treatment unit … must engineer facility drainage systems to prevent a discharge as described in Sec. 112.1(b) …	NA
(c)	Bulk storage containers	-----
(c)(1)	… (container) material and construction are compatible with the material stored and the conditions of storage ...	§ 2.3
(c)(2)	Provide … secondary means of containment for the entire capacity of the largest single container and sufficient freeboard …	§ 1.10, 2.2, 3.7, Appendix A
(c)(3)	Not allow drainage of uncontaminated rainwater from the diked area …bypassing the facility treatment system unless you:	§ 1.10
(c)(3)(i)	Normally keep the bypass valve sealed closed.	§ 1.10
(c)(3)(ii)	Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in Sec. 112.1(b).	§ 1.10, Appendix B
(c)(3)(iii)	Open the bypass valve and reseal it following drainage under responsible supervision; and	§ 1.10

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(c)(3)(iv)	Keep adequate records of such events, for example, any records required under permits issued in accordance with Sec. 122.41(j)(2) and 122.41(m)(3) of this chapter.	§ 1.10, Appendix B
(c)(6)	Test each above ground container for integrity on a regular schedule … frequency of and type of testing must take into account container size and design … You must combine visual inspection with another testing technique such as … keep comparison records and you must also inspect the container's supports and foundations. … frequently inspect the outside of the container … Records of inspections and tests kept … will suffice for purposes of this paragraph.	2.11, Appendix B
(c)(8)	Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:	-----
(c)(8)(i)	High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.	-----
(c)(8)(ii)	High liquid level pump cutoff devices set to stop flow at a predetermined container content level.	-----
(c)(8)(iii)	Direct audible or code signal communication between the container gauger and the pumping station.	-----
(c)(8)(iv)	A fast response system for determining the liquid level of each bulk storage container … If you use this alternative, a person must be present to monitor …	§ 2.3
(c)(8)(v)	You must regularly test liquid level sensing devices to ensure proper operation.	§ 1.10, 2.11 Appendix B
(c)(10)	Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.	§ 1.10
(c)(11)	Position or locate mobile or portable oil storage containers to prevent a discharge as described in Sec. 112.1(b). You must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.	§ 1.10, 2.2, Appendix A
(d)	Facility transfer operations, pumping, and facility process.	-----
(d)(1)	Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. … must also cathodically protect such buried piping installations … satisfy … part 280 of this chapter or a State program approved under part 281 of this chapter. … buried line is exposed … carefully inspect it for deterioration.	§2.12
(d)(2)	Cap or blank flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.	§ 2.12
(d)(3)	Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	§ 2.12
(d)(4)	Regularly inspect all aboveground valves, piping, and appurtenances. … must assess the general condition of items … conduct integrity and leak testing of buried piping at the time of …	§ 1.10, 2.13, Appendix B
(d)(5)	Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.	§ 1.10
112.9	Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities	-----
(a)	Meet the general requirements for the Plan listed under §112.7, and …	Entire Plan
(b)	Oil production facility drainage.	§ 1.10
(b)(1)	… close and seal at all times drains of dikes … except draining uncontaminated rainwater. … remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.	§ 1.10
(b)(2)	Inspect … field drainage systems … … promptly remove any accumulations of oil.	§ 1.10

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(c)	Oil production facility bulk storage containers	-----
(c)(1)	… (container) material and construction are compatible with the material stored and the conditions of storage.	§ 2.3
(c)(2)	Provide … secondary means of containment for the entire capacity of the largest single container and sufficient freeboard …	§ 1.10
(c)(3)	… visually inspect each container of oil …	§ 1.9
(c)(4)	Engineer or update new and old tank battery installations in accordance with good engineering practice … you must provide at least one …	-----
(d)(1)	… inspect all aboveground valves and piping associated with transfer operations …	§ 2.13
(d)(3)	Have a program of flowline maintenance to prevent discharges from each flowline.	§ 2.14
112.10	Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.	-----
(a)	Meet the general requirements for the Plan listed under §112.7, and …	Entire Plan