

FACILITY RESPONSE PLAN and OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

**Off-Airport Fuel Facility,
Airport Fuel Facility, and
Jet Fuel Pipeline**

Prepared for



AND



February 2014

This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Information Summary and Response Plan Cover Sheet

Owner Name:	Anchorage Fueling and Service Company	
Operator Name:	Aircraft Service International Group 6000 De Havilland Ave Anchorage, Alaska 24-hour Phone – (907) 248-5000	
Facility Name:	Off-Airport Fuel Facility 1331 Tidewater Road Anchorage, Alaska	Airport Fuel Facility 6900 West End Road Anchorage, Alaska
Phone:	(907) 277-4024	(907) 249-4240
Fax:	(907) 277-4024	(907) 248-4481
Latitude:	(b) (7)(F)	
Longitude:		
Largest AST (gal):		
Number of ASTs:	Nine (9)	Ten (10)
NAICS Code:	424720	424720
Max. Oil Storage (gal)::	(b) (7)(F)	
Worst Case Discharge (gal):		
Distance to Navigable Waters:	< ¼ mile	> 1 mile
Facility Startup:	June 1981	April 1997/ 2 tanks July 2008 4 tanks August 2012
Pipeline Information:	Response Zone: Shorelines of Upper Cook Inlet, City and Port of Anchorage Type of oil: Jet A Total volume (gal): 230,000 Pipeline startup: May 1999 (b) (7)(F)	
Qualified Individuals: 24- Hr Number (907) 248-5000	Trent Carbaugh, General Manager (907) 249-4201 Marc McCafferty, Plant Manager (907) 249-4202 Mike Farris, Fueling Manager (907) 249-4220	
Substantial Harm Determination:	Certification of Substantial Harm Determination (per 40 CFR 112), page v and Determination of Significant and Substantial Harm (per 49 CFR 194.103), page vii.	
Regulatory Compliance:	State: AS46.04.030, 18 AAC 75.400. Federal: 40 CFR Part 112.20, 33 CFR Part 154, and 49 CFR Part 194	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Record of Changes¹

Effective Date of Change	Section Modified	Modifications/Changes	Regulatory Notification/Date
3/2008	Sections 2.1.5, 2.2, 2.3, 2.5, and 3.1	Incorporate AFSC airport hydrant system.	ADEC 1/08
4/2008	Information Summary and Sections	Incorporate the two new AFSC storage tanks at the Airport Fuel Facility and the API 570 program for facility piping at both Fuel Facilities.	ADEC 4/08 EPA 6/08 DOT 6/08 USCG 6/08
4/2009	All Sections	Changed facility nomenclature throughout Response Plan: Plant #1 referred to as Off-Airport Fuel Facility and APS as Airport Fuel Facility to be consistent with ATA formats.	ADEC April 2009 USDOT April 2009
4/2009	Certification of Substantial Harm Certification of Availability of Resources to Implement This Plan Section 1 and 3	Name new General Manager of ASIG and Agent for AFSC. Designated as QI.	
4/2009	Scenario 2	Addition of the guillotine gate block installed on the 84' storm water culvert at the Anchorage International Terminal.	
4/2009	Section 2.5	Description of the TCS Leak Detection system on the hydrant distribution piping and cargo lines.	
4/2009	Various	Amendments to address EPA first-round review.	
7/2009	Various	Amendments to address EPA second-round review.	EPA July 2009 USCG August 2009 ADEC August 2009* *Not approved
7/2012	Various	Amendment to address the tank expansion at the Airport Fuel Facility.	ADEC July 2012 USCG July 2012 EPA July 2012 USDOT July 2012

¹ Record of Changes kept from November 2007 Response Plan, approved by the ADEC, which was consolidated and streamlined from the previously submitted Plan.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Effective Date of Change	Section Modified	Modifications/Changes	Regulatory Notification/Date
9/2012	Various	5 year application for renewal with the ADEC. Amendments to the Plan include:	ADEC Sep. 2012
	Section 1.1, 1.2, and 1.6	Revisions to describe the new organization of ASIG responder positions; field response, incident command, and Qualified Individual.	
	Section 1.5, 1.6, 3.6	Clarification of the response role of the Chadux contract for on-water response.	
	Part 2	Part 2 Prevention Plan was reformatted for clarity regarding the maintenance and inspection, operational prevention measures, and the prevention training programs for ASIG and the AFSC Facilities.	
	Section 2.1.4	Inclusion of the new <i>Integrity Management Plan</i> , <i>AFSC Hydrant Distribution System</i> , September 2012	
12/2012	Various, see ADEC RFAI Letter November 2, 2012	Amendments to address ADEC first-round review	ADEC Dec 2012
12/2012	Various, Various, see ADEC RFAI Letter December 13, 2012	Amendments to address ADEC second-round review	ADEC Dec 2012
01/2013	Various, see ADEC RFAI Letter January 3, 2013	Amendments to address ADEC third round review	ADEC Jan 2013 USCG Mar 2013 EPA Mar 2013 DOT Mar 2013
06/2013	Various: Spill Form, Section 1.6.1.1, Section 3.1.6.1, and 3.3, and 3.3.2, Part 5, and Appendix A	Amendments to address USCG comments	USCG Jun 2013
12/2013	Various, See ADEC Plan Approval Conditions Dated February 28, 2013	Amendments to address ADEC Plan Approval Conditions	ADEC Dec 2013

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Effective Date of Change	Section Modified	Modifications/Changes	Regulatory Notification/Date
02/2014	Information Summary and Response Plan Cover Sheet, Section 3.9 and Section 5.3	Amendments to address DOT/PHMSA requested amendments	ADEC Jan 2013 USCG Mar 2013 EPA Mar 2013 DOT Mar 2013

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

The following pages include all of the certifications necessary for compliance with 40 CFR 112.

Certification of Substantial Harm Determination

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?

YES X NO

2. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?

YES NO X

3. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III or an alternative formula considered acceptable by the RA) such that a discharge from the facility could cause injury to an environmentally sensitive area defined in Appendix D?*

YES X NO

4. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III or an alternative formula considered acceptable by the RA*) such that a discharge from the facility would shut down a public drinking water intake?

YES NO X

5. Does the facility have a maximum storage capacity greater than or equal to one million gallons and within the past five years has the facility experienced a reportable spill in an amount greater than or equal to 10,000 gallons?

YES NO X

CERTIFICATION

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

Signature

Date

Trent Carbaugh
Name (Please type or print)

General Manager
Title

Certification of Availability of Resources to Implement This Plan

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

This Plan has been reviewed and approved by the management of Anchorage Fueling & Service Company and Aircraft Service International Group (AFSC/ASIG). AFSC/ASIG has obtained, through contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or substantial threat of such a discharge. AFSC/ASIG hereby commits the oil discharge prevention and response resources necessary to implement the plan.

I have reviewed the terms of this plan and will to the best of my ability, oversee the implementation of the plan's provisions. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Date: _____

Name: Trent Carbaugh

Title: General Manager, Aircraft Service International Group
Agent AFSC

Significant and Substantial Harm Statement

Consistent with the requirement in 49 CFR 194.103 and 194.113 (c), ASIG management as determined that a discharge from the AFSC Jet Fuel Pipeline, which is considered one segment, can be expected to cause significant and substantial harm to the environment. The Jet Fuel pipeline is located within a one mile radius of environmentally sensitive areas of the Upper Cook Inlet.

Response Zone Description

As required in 49 CFR 194.113, the Response Zone impacted by a discharge from the AFSC Jet Fuel Pipeline, which is considered one segment, is the shorelines of Upper Cook Inlet adjacent to the City and Port of Anchorage. This area is referred to locally as the Anchorage Mud Flats. This Zone is located in the Municipality and Borough of Anchorage, in the State of Alaska. A discharge from the AFSC Jet Fuel Pipeline has the potential to impact a larger Response Zone including the waters and adjacent shorelines for all of Cook Inlet. This Zone includes the Municipality and Borough of Anchorage, the Kenai Peninsula Borough, State of Alaska.

Consistency with Applicable National and Area Plans

Consistent with the requirements of 49 code of federal regulations (CFR) §194.107 (c) the management of Anchorage Fueling & Service Company has reviewed the National Contingency Plan contained in 40 CFR 300, and the Alaska Federal/State Unified Plan for Oil Spill and Hazardous Substance Response (Area Plan) and the Cook Inlet Sub Area Contingency Plan.

Submission of State Response Plan

Consistent with requirements of 49 CFR § 194.109 in lieu of submitting a plan in the format of §194.107, ASIG maintains this Facility Response Plan/Oil Discharge Contingency Plan (Response Plan) that complies with the state regulation requiring equivalent or greater spill protection. The plan has an information summary complying with § 194.113, lists the names and 24-hour telephone numbers of the qualified individual and one alternate, and a certification that the necessary personnel and equipment are available to respond to the worst case discharge of the AFSC onshore pipeline.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Table of Contents

Information Summary and Response Plan Cover Sheet	iii
Record of Changes.....	v
Certification of Substantial Harm Determination.....	ix
Certification of Availability of Resources to Implement This Plan.....	x
Significant and Substantial Harm Statement	xi
Response Zone Description	xi
Consistency with Applicable National and Area Plans	xi
Submission of State Response Plan	xi
Table of Contents.....	xiii
List of Figures.....	xvii
List of Tables	xvii
Part 1: Response Action Plan	1-1
1.1 Emergency Action Checklists	1-1
1.2 Reporting and Notification	1-8
1.3 Safety	1-19
1.3.1 Safety Officer	1-19
1.3.2 Site Safety Plan	1-19
1.3.3 Personnel Safety.....	1-20
1.3.4 Evacuation Plans and Procedures.....	1-21
1.4 Communications.....	1-22
1.5 Deployment Strategies	1-23
1.5.1 Procedures to Transport and Deploy AFSC-Owned Resources.....	1-23
1.5.2 Response Action Contractor Mobilization	1-24
1.5.3 Adverse Weather	1-24
1.5.4 Deployment Strategies.....	1-25
1.6 Response Scenarios	1-27
1.6.1 Information that applies to all scenarios: EPA Medium and Small Discharges.....	1-27
1.6.2 Worst Case Response Scenarios	1-30
1.7 Non-Mechanical Response	1-93
1.8 Facility Diagrams.....	1-95
Part 2: Prevention Plan	2-1
2.1 Inspection and Maintenance Programs	2-1
2.1.1 Maintenance and Inspection Programs for the Airport and Off-Airport Fuel Facility Storage Tanks	2-2
2.1.2 Maintenance and Inspection Programs for Secondary Containment.....	2-6
2.1.3 Maintenance and Inspection Programs for Facility Piping	2-7
2.1.4 Maintenance and Inspection Programs for the Hydrant Distribution System	2-10
2.1.5 Maintenance and Inspection for the Jet Fuel Pipeline	2-13
2.2 Operational Prevention Programs	2-15
2.2.1 Prevention Training Programs	2-15
2.2.2 Substance Abuse and Medical Programs.....	2-21
2.2.3 Medical Monitoring Program	2-22
2.2.4 Security Program	2-22
2.3 Discharge History	2-25
2.4 Potential Discharge Analysis	2-33
2.4.1 Storage Tank Discharge Analysis	2-33

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

2.4.2 Facility Piping Discharge Analysis	2-34
2.4.3 Facility Equipment.....	2-34
2.4.4 Off-Airport Fuel Facility Marine Transfer Discharge Analysis	2-35
2.4.5 Jet Fuel Pipeline Discharge Analysis.....	2-35
2.4.6 Aircraft Refueling Operations Discharge Analysis	2-36
2.5 Conditions that Might Increase Risk of Discharge.....	2-37
2.5.1 Earthquakes.....	2-37
2.5.2 Sabotage or Vandalism.....	2-37
2.6 Existing Discharge Detection.....	2-39
2.6.1 Off-Airport Fuel Facility	2-39
2.6.2 Airport Fuel Facility	2-40
2.6.3 Jet Fuel Pipeline	2-40
2.6.4 Airport Hydrant System.....	2-42
2.7 Compliance Schedule and Waivers.....	2-43
Part 3: Supplemental Information.....	3-1
3.1 Facility Description and Operational Overview.....	3-1
3.1.1 Off-Airport Fuel Facility Description and Operational Overview.....	3-1
3.1.2 Airport Fuel Facility	3-3
3.1.3 Jet Fuel Pipeline	3-6
3.1.4 Hydrant Distribution System	3-7
3.1.5 Type and Amount of Oil	3-7
3.1.6 Transfer Procedures	3-7
3.2 Receiving Environment.....	3-13
3.2.1 Off-Airport Fuel Facility	3-13
3.2.2 Airport Fuel Facility	3-13
3.2.3 Jet Fuel Pipeline	3-14
3.2.4 Vulnerability Analysis	3-14
3.2.5 RPS to Reach Open Water.....	3-15
3.3 Command System	3-17
3.3.1 Qualified Individuals.....	3-17
3.3.2 Incident Command System.....	3-18
3.3.3 Implementation of ICS System During a Spill	3-21
3.3.4 Unified Command	3-21
3.4 RMROL.....	3-23
3.4.1 Adverse Weather	3-23
3.4.2 Sea States, Tides and Currents.....	3-23
3.4.3 Ice and Debris.....	3-24
3.4.4 Hours of Light.....	3-24
3.5 Logistical Support.....	3-25
3.5.1 Transportation Equipment Inventory.....	3-25
3.5.2 Coordination Procedures	3-25
3.5.3 Maintenance Procedures	3-25
3.6 Response Equipment	3-27
3.6.1 Equipment Inventory	3-27
3.6.2 Time Frame for Delivery and Start-up.....	3-28
3.6.3 Manufacturer's Rated Capacities.....	3-28
3.6.4 Each Vessel Designated for Oil Recovery Operations	3-28
3.6.5 Information on Additional Vessels.....	3-28
3.6.6 Pumping, Transfer, Temporary Storage and Lightering Equipment	3-29
3.6.7 Equipment Storage and Maintenance.....	3-29
3.7 Non-Mechanical Response Information	3-31

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

3.8 Response Action Contractors.....	3-33
3.8.1 Support Contractors.....	3-33
3.9 Response Training	3-39
3.9.1 Spill Response Training	3-39
3.9.2 Facility Drills/Exercises	3-39
3.9.3 Response Plan Updates	3-40
3.10 Protection of Environmentally Sensitive Areas.....	3-43
3.10.1 Drinking water impacts.....	3-44
3.10.2 Cultural Resources	3-44
3.10.3 Wildlife	3-45
3.11 Bibliography.....	3-47
Part 4: Best Available Technology	4-1
4.1 Field Communications Systems	4-3
Table 4.1-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Field Communication Procedures [18 AAC 75.425(e)(1)(D)]	4-3
Procedures to Stop the Discharge and Prevent its Further Spread	4-5
Table 4.2-1 Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]	4-5
Table 4.2-2 Off-Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]	4-6
Table 4.2-3 Jet Fuel Pipeline Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]	4-7
4.3 Trajectory Analyses and Forecasts	4-9
Table 4.3-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Real-time Surveillance and Tracking of Oil on Open Water [18 AAC 75.425(e)(1)(F)(iv)]	4-9
Table 4.3-2 Off-Airport Fuel Facility and Jet Fuel Pipeline Forecasting Shoreline Contact [18 AAC 75.425(e)(1)(F)(iv)].....	4-11
4.4 Wildlife Capture, Treatment, and Release	4-13
Table 4.4-1 Off-Airport Fuel Facility and Jet Fuel Pipeline Protection, Recovery, Disposal, and Rehabilitation of Potentially Affected Wildlife [18 AAC 75.425(e)(1)(F)(xi)]	4-13
4.5 Oil Storage Cathodic Protection	4-17
Table 4.5-1 Off-Airport Fuel Facility and Airport Fuel Facility Cathodic Protection [18 AAC 75.065(h)(2), (i)(3), or (j)(3)]	4-17
4.6 Leak Detection Systems for Tanks.....	4-18
Table 4.6-1 Airport Fuel Facility Leak Detection System [18 AAC 75.065(i)(4) & (j)(4)]	4-18
Table 4.6-2 Off-Airport Fuel Facility Cathodic protection [18 AAC 75.065(h)(2)].	4-19
4.7 Liquid Level Determination in Bulk Storage Tanks.....	4-21
Table 4.7-1 Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4)].....	4-21
4.8 Maintenance Procedures for Buried Steel Piping 18 AAC 75.080(b).....	4-25
4.9 Protective Wrapping or Coating and Cathodic Protection for Buried Steel Piping	4-27
Table 4.9-1 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating [18 AAC 75.080(k)(1), (l), or (m)]	4-27
Table 4.9-2 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating for Pipe Weld Joints [18 AAC 75.080(k)(1), (l), or (m)].	4-29
4.10 Corrosion Surveys for Buried Steel Piping	4-33

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.10-1 Jet Fuel Pipeline Corrosion Survey	4-33
Table 4.10-2 Off-Airport and Airport Fuel Facility Piping Cathodic Protection Survey [18 AAC 75.080(k)]	4-35
4.11 Jet Fuel Pipeline Leak Detection	4-37
Table 4.10-1 Jet Fuel Pipeline Leak Detection	4-37
Part 5: Response Planning Standard	5-1
5.1 RPS Calculations for Off-Airport Fuel Facility	5-1
5.2 RPS Calculations for Airport Storage Facility	5-1
5.3 Determination of PHMSA, DOT Worst Case Discharge for Jet Fuel Pipeline	5-2
5.4 Determination of EPA Volume	5-3
5.5 EPA Volumes for Small and Medium Discharges	5-3
5.6 USCG Average Most Probable and Maximum Most Probable Discharge	5-3
Appendix A: Regulatory Compliance	A-1
USCG Regulatory Cross-Reference	A-1
EPA Regulatory Cross-Reference	A-3
RSPA Regulatory Cross-Reference	A-5
Appendix B: Acronyms & Abbreviations	B-1
Appendix C: Response Team Call-Out List	C-1
Appendix D: Worst Case Discharge Planning	D-1
WCD EPA Worksheet	D-1
AFSC Pipeline Project Spill Volume Analysis	D-3
Appendix E: Qualified Individual Memorandum of Authority	E-1
Appendix F: Site Safety Plan Form	F-1
Appendix G: ASIG Spill Trailer Inventories, Chadux Inventory, and Emerald Alaska Inventory	G-1

List of Figures

Figure 1.2-1: ASIG Anchorage Base Preliminary Spill Form For Into Plane Operations
 Figure 1.2-2: ASIG Anchorage Base Preliminary Spill Form For Plant and Pipeline Operations
 Figure 1.6-1: Off-Airport Fuel Facility Spill Scenario
 Figure 1.6-2: Airport Fuel Facility Drainage and Spill Scenario
 Figure 1.6-3: Jet Fuel Pipeline Spill Scenario
 Figure 1.8-1: AFSC Facility Overview
 Figure 1.8-2: Off-Airport Fuel Facility Site Plan and Drainage
 Figure 1.8-3a: Airport Fuel Facility Site Plan
 Figure 1.8-3b: Airport Fuel Facility Expansion Site Plan
 Figure 1.8-4: Hydrant Fueling System Overview
 Figure 1.8-5: Jet Fuel Pipeline Site Access and Drainage
 Figure 1.8-5: Hospital Route Maps
 Figure 3.8-1: Alaska Chadux SOCT
 Figure 3.8-2: EAI SOCT

List of Tables

Table 1.1-1: Emergency Action Checklists for Fueling Operations
 Table 1.1-2: Emergency Action Checklists for Fueling Facilities/Jet Fuel Pipeline
 Table 1.2-1: Agency Reporting and Documentation Requirements
 Table 1.2-2: Spill Reporting and Notification Telephone Numbers
 Table 1.2-3: ASIG Spill Response Team
 Table 1.2-4: Response Contractors and Spill Cleanup Support
 Table 1.5-1: Estimated Transportation Times for ASIG Personnel and Equipment
 Table 2.1-1: Off-Airport Fuel Facility Storage Tank Maintenance and Inspections
 Table 2.1-2: Airport Fuel Facility Storage Tank Maintenance and Inspections
 Table 2.1-3: Fuel Facilities Secondary Containment Maintenance and Inspections
 Table 2.1-4: Off-Airport Facility Piping Maintenance and Inspections
 Table 2.1-5: Airport Facility Piping Maintenance and Inspections
 Table 2.1-6: Hydrant Distribution System Maintenance and Inspections
 Table 2.2-1: ASIG Prevention Training by Position
 Table 2.3-1: Discharge History for the Off-Airport Fuel Facility
 Table 2.3-2: Discharge History for Airport Fuel Facility
 Table 2.3-3: Discharge History for the Hydrant System
 Table 3.1-1: AFSC Storage Tank Information
 Table 3.1-2: AFSC Facility Piping Inventory
 Table 3.6-1: Equipment Inventory
 Table 3.10-1: Information Sources on Environmentally Sensitive Areas
 Table 3.10-2: Information Sources on Wildlife Protection and Response
 Table 4.1-1: Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Field Communication Procedures [18 AAC 75.425(e)(1)(D)]
 Table 4.2-1: Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]
 Table 4.2-2: Off-Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]
 Table 4.2-3: Jet Fuel Pipeline Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Table 4.3-1: Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Real-time surveillance and Tracking of Oil on Open Water [18 AAC 75.425(e)(1)(F)(iv)]]
- Table 4.3-2: Off-Airport Fuel Facility and Jet Fuel Pipeline Forecasting Shoreline Contact [18 AAC 75.425(e)(1)(F)(iv)]]
- Table 4.4-1: Off-Airport Fuel Facility and Jet Fuel Pipeline Protection, Recovery, Disposal, and Rehabilitation of Potentially Affected Wildlife [18 AAC 75.425(e)(1)(F)(xi)]]
- Table 4.5-1: Off-Airport Fuel Facility and Airport Fuel Facility Cathodic Protection [18 AAC 75.065(h)(2), (i)(3), or (j)(3)]
- Table 4.6-1: Airport Fuel Facility Leak Detection System [18 AAC 75.065(i)(4) & (j)(4)]
- Table 4.7-1: Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4)]
- Table 4.7-2: Off-Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4)]
- Table 4.9-1: Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating [18 AAC 75.080(k)(1), (l), or (m)]
- Table 4.9-2: Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating for Pipe Weld Joints [18 AAC 75.080(k)(1), (l), or (m)]
- Table 4.9-3: Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Cathodic Protection [18 AAC 75.080(k)(1), (l), or (m)]
- Table 4.10-1: Jet Fuel Pipeline Corrosion Survey [18 AAC 75.080(k)(2)]
- Table 4.10-2: Airport Fuel Facility and Off-Airport Fuel Facility Piping Corrosion Survey [18 AAC 75.080(k)]
- Table 4.10-1: Jet Fuel Pipeline Leak Detection

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank

Part 1: Response Action Plan

1.1 Emergency Action Checklists

This section has been prepared in accordance with: 18 AAC 75.425(e)(1)(A), 33 CFR 154.1035(b), and 40 CFR 112.20(h).

The purpose of Emergency Action Checklists (EAC) is to set forth the immediate and essential steps to be taken in case of a discharge, or suspected discharge. ASIG has prepared checklists organized by operational area and for each of the three response roles; field responder, incident command, and Qualified Individual.

ASIG conducts response training by operational area and ASIG position and therefore the checklists are tailored to the response duties of the respective ASIG personnel. The full description of the ASIG responder roles is located in Section 3.3 Command System. Fueling personnel and, GSE and Plant Maintenance personnel are trained to identify abnormal operating conditions and the immediate shut down procedures for the operational area under which they work. The EAC for the Into Plane operations and applicable to the Fueling Supervisors who have received training in additional emergency actions and notification procedures described in the checklists.

The following tables present the ASIG Position with the corresponding response role and EAC List Number. ASIG personnel are provided with one of the following checklist(s) consistent with each person's emergency response duties and encouraged to carry them on their person at all times.

Table 1.1-1 Emergency Action Checklists for Into Plane Operations

ASIG Position	First/Field Response	Incident Commander	Qualified Individual
Fueling Supervisor	EAC #1		
Maintenance Supervisor		EAC #4	
HS&E Manager		EAC #4	
Fueling Manager		EAC #4	EAC #6
General Manager			EAC #6

Table 1.1-2 Emergency Action Checklists for Fueling Facilities/Jet Fuel Pipeline

ASIG Position	First/Field Response	Incident Commander	Qualified Individual
Plant Operator	EAC #2 & #3		
Plant Mechanic	EAC #2 & #3		
Plant Supervisor		EAC #5	
Maintenance Supervisor		EAC #5	
HS&E Manager		EAC #5	
Plant Manager			EAC #6
General Manager			EAC #6

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Field Responder: Into Plane
EMERGENCY ACTION CHECKLIST #1

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not do any task unless it is safe to do so.

Stop the Discharge: Identify the measures taken by the fueling/maintenance personnel onsite. Complete any of the applicable items listed below. See Section 1.6 for additional information on facility specific tactics.

Notifications: Call your immediate manager. If that person is not available, call the next person on the Incident Commander List. See Section 1.2, Table 1.2-3.

Contain and Control: Identify any storm drain or other drainage component in the vicinity and employ the procedure based on the site conditions. See Section 1.5.4 for applicable STAR tactics for berming.

**IMMEDIATE RESPONSE AND
NOTIFICATION ACTIONS**
Ensure Safety of Personnel
☐ *911 for police, fire or medical emergencies*
☐ Evacuate area, if necessary

☐ Remove and prevent new ignition sources from entering the area

Stop Discharge
☐ **Hydrant:** Locate the nearest ESD or Radio Airport Fuel Facility

☐ **Aircraft:** Notify Responsible Airline

Notifications
☐ Incident Commander (s)
Fueling Manager
Office: 249-4220

☐ Maintenance Supervisor
Office: 249-4230

☐ HS&E Manager
Office: 249-4209

Contain and Control
☐ **Ramp Storm Drains:** Locate and drain with matt

☐ **Open Swale:** Damming and Berming Techniques

☐ **Tarmac/Ramp:** Sorbents and Vacuum Trucks

Utilize the note space to record pertinent information for the Incident Commander
--

Note Space

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Field Responder: Fuel Facilities
EMERGENCY ACTION CHECKLIST #2

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not do any task unless it is safe to do so.

Stop the Discharge: Complete any of the applicable items listed below. See Section 1.6 for additional information on facility specific tactics.

Notifications: Call your immediate supervisor or manager. If not available, call the next person on the Incident Commander List. See Section 1.2 of this plan and Table 1.2-3.

Contain and Control: Identify any storm drain or other drainage component in the vicinity and employ the procedure based on the site conditions. Refer to Section 1.5.4 of this Plan for the applicable STAR tactics.

**IMMEDIATE RESPONSE AND
NOTIFICATION ACTIONS**
Ensure safety of personnel
☐ 911 for police, fire or medical emergencies

☐ Evacuate area, if necessary

☐ Remove and prevent new ignition sources from entering the area

Stop Discharge
Off-Airport Fuel Facility:
☐ Transfers
☐ JFP: ESDs
☐ Marine: Radio Marine Vessel
☐ Terminal: Radio Terminal
☐ Tank to tank: Ground-pump ESDs

Airport:
☐ JFP: ESD
☐ Tank: ESD

Notifications
☐ Incident Commander (s)
Plant Supervisor
Office: 249-4240

☐ Maintenance Supervisor
Office: 249-4230

☐ HS&E Manager
Office: 249-4209

Contain and Control
Airport:
☐ Guillotine Culver Gate
☐ Cover Storm drains

Off-Airport:
☐ Cover storm drain NW of Tank 1
☐ Observe drainage areas at the perimeter of the facility

Utilize the note space to record pertinent information for the Incident Commander
--

Note Space

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Field Responder: Jet Fuel Pipeline EMERGENCY ACTION CHECKLIST #3

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not do any task unless it is safe to do so.

Stop the Discharge: Complete any of the applicable items listed below. See Section 1.6 for tactics specific to the Jet Fuel Pipeline.

Notifications: Call your immediate supervisor or manager. If not available, call the next person on the Incident Commander List. See Section 1.2, Table 1.2-3

Locate Discharge: Conduct Pipeline ROW, if instructed to do so by supervisor/manager.

IMMEDIATE RESPONSE AND NOTIFICATION ACTIONS

Note Space

Ensure safety of personnel

☐ 911 for police, fire or medical emergencies

☐ Evacuate area, if necessary

☐ Remove and prevent new ignition sources from entering the area

Stop Discharge

Off-Airport Fuel Facility:

☐ JFP ESDs

Airport:

☐ JFP ESD

Notifications

☐ Incident Commander (s)
Plant Supervisor
Office: 249-4240

☐ Maintenance Supervisor
Office: 249-4230

☐ HS&E Manager
Office: 249-4209

Determine Location of Discharge

☐ Complete ROW route to determine discharge location

Utilize the note space to record pertinent information for the Incident Commander

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Incident Commander: Into Plane Operations
EMERGENCY ACTION CHECKLIST #4

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not do any task unless it is safe to do so.

Stop the Discharge: Identify the tactic already deployed by the Field Responder. See Section 1.6 for tactics specific to the site conditions.

Notifications: Ensure the QI or alternate has been notified. See the list of QIs in Response Plan Cover Sheet, Section 1.2, Table 1.2-2 and 1.2-3 of this Plan. Additionally determine and make any regulatory notifications that are necessary for the spill conditions. See Section 1.2 Table 1.2-1 for information on the ADEC notification procedures and policies. If the discharge is from an aircraft, notify the airline and provide them with the cleanup/and disposal information for their report to ADEC.

Contain and Control: Identify any sensitive areas on the airport area that need to be protected and deploy the appropriate site specific tactic identified in Section 1.5.4 (STAR manual).

**IMMEDIATE RESPONSE AND
NOTIFICATION ACTIONS**
Ensure safety of personnel
☐ 911 for police, fire or medical emergencies

☐ Evacuate area, if necessary

☐ Remove and prevent new ignition sources from entering the area

Stop Discharge
☐ Evaluate the efforts of the first responder(s)

Notifications
☐ **QI**
Trent Carbaugh
Office: 249-4201

☐ **QI Alternate**
Mike Farris
Office: 249-4220

Regulatory Notification
☐ **National Response Center:**
1-800-424-8802

☐ **ADEC**
907-269-3063 or 1-800-478-9300

☐
Airport operations

24-hour number
266-2600

Assess Containment/Control
☐

Assess the measures
implemented by the first
responder

☐

Determine if additional in-house
resources are required

Utilize the Note Space to record pertinent information for the Qualified Individual
--

Note Space

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Incident Commander: Fuel Facilities and Jet Fuel Pipeline
EMERGENCY ACTION CHECKLIST #5

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not do any task unless it is safe to do so.

Stop the Discharge: Identify the tactic already deployed by the Field Responder. See Section 1.6 for tactics specific to the site conditions.

Notifications: Ensure the QI or alternate has been notified. See the list of QIs in Response Plan Cover Sheet, Section 1.2, Table 1.2-2 and 1.2-3 of this Plan. Additionally determine and make any regulatory notifications that are necessary for the spill conditions, see Section 1.2 Table 1.2-1.

Contain and Control: Identify any sensitive areas and deploy the appropriate site specific tactic identified in Section 1.5.4 (STAR manual).

**IMMEDIATE RESPONSE AND
NOTIFICATION ACTIONS**

- ☐ **Ensure safety of personnel**
911 for police, fire or medical emergencies
- ☐ Evacuate area, if necessary
- ☐ Remove and prevent new ignition sources from entering the area
- ☐ **Stop Discharge**
Evaluate the discharge efforts of the first responder
- ☐ **Notifications**
QI
Trent Carbaugh
Office: 249-4201
- ☐ **QI Alternate**
Marc McCafferty
Office: 249-4202
- ☐ **Regulatory Notification**
National Response Center:
1-800-424-8802
- ☐ **ADEC**
907-269-3063 or 1-800-478-9300

☐ **Airport Operations**
266-2600

☐ **Off-Airport**
Port of Anchorage Operations
343-6200

☐ Municipality of Anchorage
Emergency Services
262-4910

☐ **Assess Containment/Control**
STAR manual: Dikes, Berms, and Dams Tactic

Utilize the Note Space to record pertinent information for the Qualified Individual

Note Space

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Qualified Individual: All Facilities
EMERGENCY ACTION CHECKLIST #6

Instructions: Use this check list to ensure you have completed all tasks appropriate to the event.

Safety First! Ensuring personnel safety is the first priority, so do not allow personnel to complete any task unless it is safe to do so.

Stop the Discharge: Identify the tactic already deployed by the IC. See Section 1.6 for tactics specific to the site conditions.

Notifications: Ensure all the necessary regulatory notifications have been completed, see Section 1.2 Table 1.2-1. Make the necessary notifications to the ASIG/BBA and AFSC personnel.

Assessment: Identify any sensitive areas and ensure field personnel deploy the appropriate site specific tactic identified in Section 1.5.4 (STAR manual) and/or procuring additional equipment and personnel to do complete the tactic.

**IMMEDIATE RESPONSE AND
NOTIFICATION ACTIONS**

Utilize the Note Space to record pertinent information for the Qualified Individual

☐	Receive Initial Briefing	
	Designate a Safety Officer	Note Space
☐	Review Regulatory notification requirements	
☐	Designate any other Spill Management Team members as necessary	
	Notifications	
☐	ASIG/BBA	
☐	AFSC Notifications	
☐	Airport Operations Directors Office 266-2529	
☐	Off-Airport Port of Anchorage Director's Office 343-6200	
☐	Municipality of Anchorage Emergency Services 262-4910	
☐	Assess Operations Capabilities	

This page intentionally blank.

1.2 Reporting and Notification

This section has been prepared in accordance with: 18 AAC 75.425(e)(1)(B), 33 CFR 154.1035(b), 33 CFR 154.1035(g), 40 CFR 112.20(h), and 40 CFR 94.107(c).

Per the *BBA/ASIG Crisis Management/Communication Protocol* all ASIG personnel receive initial and recurrent training on the internal policy to report ANY incident or accident, or near miss. ASIG personnel use the form shown in Figure 1.2-1 and Figure 1.2-2 for a fuel discharge incident.

The first ASIG personnel onsite are responsible for emergency notifications (911 and Airport Operations) and notification to an immediate supervisor or manager. ASIG has designated multiple personnel with appropriate training to be the on-scene IC; designated ICs are on-site at the facility nearly 24 hours. The ASIG IC is responsible for meeting the regulatory spill reporting requirements for the various State and Federal Agencies, summarized in Table 1.2-1. The names and telephone numbers for the ASIG ICs are listed in Table 1.2-3 of this plan. The 24-hour number for an ASIG supervisor or manager is 248-5000. The designated QI and alternates will also be notified. The names and telephone numbers of the ASIG QI and alternates are listed on the Information Response Plan Cover Sheet, Table 1.2-2 and 1.2-3.

Information recorded for reporting and notifications includes (to the extent known):

- Date/time of discharge
- Location of discharge
- Name of facility
- Name, address, phone # of:
- Owner/operator of facility
- Persons causing the discharge
- Type/amount of discharge
- Cause of discharge
- Environment damage
- Cleanup actions taken
- Volume recovered
- Disposal plans

**NEVER SPECULATE OR GUESS WHEN REPORTING OR DISCUSSING SPILLS.
REPORT ONLY FACTS. IF SPECIFICS ARE UNKNOWN – STATE SO!**

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.2-1 Agency Reporting and Documentation Requirements

AGENCY		OIL SPILL SIZE/LOCATION	VERBAL REPORT	WRITTEN REPORT
Central Response Team 907-269-3063 After hours 900-478-9300	ADEC	<u>WATER</u> All Spills	Immediately	15 days
		<u>LAND</u> > 55 gallons 10 – 55 gallons < 10 gallons	Immediately 48 Hours None	15 days Monthly Spill Log
		<u>IMPERVIOUS 2^o</u> <u>CONTAINMENT</u> > 55 gallons to impervious secondary containment 10 gallons or less	48 Hours None	15 days Monthly Spill Log
National Response Center 800-424-8802	USCG	Threat to or entered coastal or navigable waters. Sheen on water or sludge or emulsion below surface.	Immediately	If requested
	EPA	1,000 gallons or 2 sheens on navigable water within 12-month period from facility required to have SPCC Plan.	Not required if spill in coastal waters subject to ADEC and USCG jurisdiction	Within 60 days of occurrence. Follow 40 CFR, Part 112, Paragraph 112.4
	DOT	1. > 5 gallons or 2. >5 bbls if resulting from maintenance and all other requirements from §195.50 (b) are met Any size meeting the criteria in §195.52 (a)	Immediately	As soon as practicable

The following notifications are **MANDATORY** for all spills meeting the thresholds outlined in Table 1.2-1:

- National Response Center: 800-424-8802 (USCG, EPA and USDOT)
- ADEC Central Response Team: 907-269-3063 (After hours: 800-478-9300)

Additional phone numbers for spill reporting and notification are included in Section 1.2.1

The Alaska Oil Spill Permit Tool contains copies of state and federal reporting forms for oil spills. http://www.nukaresearch.com/permits/pba_nrf.htm

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.2-2 Spill Reporting and Notification Telephone Numbers

Affiliation		Phone Numbers
Qualified Individuals		
Trent Carbaugh, General Manager		907-249-4201 (office) 907-272-0882 (mobile)
Marc McCafferty, Plant Manager		907-249-4202 (office) 907-952-6505 (mobile)
Mike Farris, Fueling Manager		907-249-4220 (office) 907-250-6155 (mobile)
Internal Corporate Notifications		
Larry McMahon, R.V.P.		310-646-1202 (office) 310-503-9394 (mobile)
Dennis Duncan, Corporate Safety Manager		404-362-6935 (office) 404-955-9663 (mobile)
Mike Morgan, Group Environmental Manager		404-362-6935 (office) 404-955-9663 (mobile)
Federal Agencies		
National Response Center		800-424-8802 202-267-2675
USCG Sector Anchorage		907-271-6700
EPA Anchorage (8-5)		907-271-5083
EPA Region X 24-hr (Seattle)		206-553-1263
NOAA SSC Anchorage		907-271-3593
NOAA Hazmat Seattle		206-526-6317
US Fish and Wildlife Service		907-786-3542
US Forest Service		907-271-4088
US Department of the Interior		907-271-5011
National Park Service		907-257-2648
US Department of Transportation (Pipeline Office)		907-269-7500
National Weather Service, Anchorage		907-266-5105
National Weather Service (weather forecast)		907-936-2525
National Weather Service (marine weather)		907-936-2727
Federal Aviation Administration (24 hr)		907-271-5936
State Agencies		
Alaska Department of Environmental Conservation (Anchorage Spill Prevention & Response)		907-269-3063
Alaska SERC		907-428-7000
Alaska Department of Natural Resources		907-269-8400 or 907-269-8503
Alaska Department of Fish and Game		907-267-2342
Alaska Division of Forestry		907-269-8463
Local Agencies and Organizations		
Municipality of Anchorage Emergency Services		907-262-4910
Alaska State Troopers, Anchorage		907-269-5511

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.2-2 Spill Reporting and Notification Telephone Numbers

Affiliation		Phone Numbers
Police and Fire Departments		911
Cook Inlet Regional Citizens Advisory Council		907-283-7222
Prince William Sound Regional Citizens Advisory Council		907-277-7222
Local Emergency Planning Committee (LEPC)		907-343-1404
Medical		
Alaska Regional Hospital, Anchorage		907-264-1222
Providence Hospital, Anchorage		907-562-2211
EMS/Emergency		911
Utilities		
Anchorage Water and Wastewater		907-564-2762 907-564-2700
Municipal Light & Power		907-279-7671
Chugach Electric		907-563-7494
Enstar		907-277-5551
Locate Call Center (locates utilities)		907-278-3121
Local Radio Stations (See Yellow Pages) QI Authorized only.		
Port Tenants/Property Owners		
Port of Anchorage		907-343-6200
Alaska Railroad		907-265-2659
Flint Hills Resources		907-273-3100
Chevron		907-258-2301
Tesoro Plant #1		907-277-5015
Tesoro Plant #2		907-279-1526
Alaska Basic Industries		907-277-7023
Sealand		907-274-2671
Totem Ocean Express		907-276-5868
Off-Airport Fuel Facility Adjacent Property Owners		
Elmendorf Air Force Base		907-552-3013
Ft. Richardson		907-384-3105
Cook Inlet Region, Inc. (Fire Island)		907-274-8638
Airport		
Director's Office		907-266-2529
Environmental Manager		907-266-2129
Field Maintenance		907-266-2425
Fire Station #1		907-266-2415

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Figure 1.2-1 ASIG Spill Notification Form for Into Plane Operations
**Anchorage Base
Preliminary Spill Form**

This form is intended for use by management/supervisory personnel in gathering the initial information for a spill incident. This form is for internal use only; refer to the AFSC Response Plan for the regulatory notification and the HS&E manual for corporate notification requirements.

General Information

Person Reporting:	Date/Time:	Spill Location:

Discharge Information

Product Spilled	Quantity Spilled	Quantity Contained	Quantity Disposed

Source of Spill (A/C Flight# and Tail # if applicable):

--

Cause of Spill:

☐ Under Investigation

Clean up Actions (Equipment used, # or sorbent pads, etc):

☐ Clean up complete

Disposal Methods:

--

Surface Type and Area Affected:

--

	Potential Responsible Party:	Other PRP
Name/Business		
Mailing Address		
Contact Name		
Contact Number		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan



Anchorage Base Preliminary Spill Form

Notifications	
☐	Airport Operations 266-2600
☐	Fire/Police Department
☐	Alaska Department Of Environmental Conservation: 269-3063 (all spill above 10 gallons refer to reporting table)
☐	National Response Center: 1-800-424-8802 (USCG, EPA and USDOT), all spills to water
☐	ASIG Management (list all notified):
☐	Other (list all notified):

Individuals Responding	
1	
2	
3	
4	
5	
6	
7	

Comments
Additional information on the sequence of events; clean up actions, and on going investigations required for management to follow up.

Original Report submitted to Environmental Manager

The SHEBBA report is required within one hour from knowledge of discharge, on-duty ASIG supervisors are required to complete this task, unless otherwise instructed.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Figure 1.2-2 ASIG Spill Notification Form for Plant and Pipeline Operations

Anchorage Base Preliminary Spill Form		
This form is intended for use by management/supervisory personnel in gathering the initial information for a spill incident for the AFSC Plant and Jet Fuel Pipeline. This form is for internal use only; refer to AFSC Response plan for regulatory notification and the HS&E manual for corporate notification requirements.		
It is not necessary to wait for all the information before calling the NRC		
General Information		
Person Reporting	Reporting Party Address	Date/Time
	6000 Dehaviland Avenue Anchorage AK 99502	
Discharge Information		
Location of Discharge (circle one and fill in application information)		
Airport Fuel Facility 6900 West End Road (b) (7)(F)	Off-Airport Fuel Facility 1331 Tidewater Road	Jet Fuel Pipeline Mile Post:
Tank Capacity:		
Equipment:		
Material: Jet A		
Estimated Volume:		
Estimated Volume to water:		
Incident Description		
Cause of Spill:		
Clean up Actions to correct or mitigate:		
Impact		
Injuries (y/n) #		
Evacuation (y/n)		
Damages (y/n)		
	Potential Responsible Party:	Other Potential Responsible Party:
Name/Business		
Mailing Address		
Contact Name		
Contact Number		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Anchorage Base Preliminary Spill Form

Notifications	
Y/N	Fire/Police Department
Y/N	National Response Center: 1-800-424-8802 (USCG, EPA and USDOT), all spills to water
Y/N	ADEC: 269-3063
Y/N	ASIG Management (list all notified)
Y/N	Other (list notified):
Individuals Responding	
1	
2	
3	
4	
5	
6	
7	
Comments	
Additional information on the sequence of events; clean up actions, and on going investigation required	

Original Report submitted to Environmental Manager

The SHEBBA report is required within one hour from knowledge of discharge, on-duty
ASIG supervisors are required to complete this task, unless otherwise instructed.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.2-3 ASIG Spill Response Team¹

Personnel Position	Emergency Role	Office
Qualified Individual and Alternate		
General Manager	Qualified Individual	249-4201
Plant Manager	Alternate QI	249-4202
Fueling Manager	Alternate QI – Into Plane	249-4220
Incident Commanders		
Maintenance Supervisor	IC – All Facilities	249-4230
Plant Supervisor (4)	IC – Plant Operations	249-4240
Fueling Manager	IC – Into-Plane	249-4220
HS&E Manager	IC – All Facilities	249-4209
Incident Management Team Members		
Administrative Manager	Administrative Section Chief	249-4203
Facility Manager	Logistics Section Chief	249-4204
Environmental Manager	Planning Section Chief	249-4205
Airline Service Manager	Operation Section Chief	249-4220
Maintenance Supervisor	Operation Section Chief	249-4230
Plant Supervisor	Operation Section Chief	249-4240
Quality Control Technician (2)	Pipeline Locates	249-4241/4243
Safety Supervisor	Safety Office	249-4222
Emergency Responders		
Fueling Supervisors (5)	Field Response	248-5000
Maintenance Personnel (12)	Field Response	248-5000
Plant Mechanic (2)	Field Response	248-5000
Plant Operator (13)	Field Response	248-5000/602-2552

¹ List of names and 24-hour contact information for ASIG Response Team members is in Appendix C.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.2-4 Response Contractors and Spill Cleanup Support

Response Contractors		Phone Numbers
Chadux (See SOCT)		907-348-2365
Emerald Alaska (See SOCT)		907-258-1558
PENCO		907-562-5420
Philip Environmental		907-272-9007
PEMCO		907-563-3661 907-229-1867
Other Potential Contractors		
Udelhoven		907-344-2577
Alaska Pro Truck		907-248-6316
Weaver Brothers		907-278-4526
Other		
For additional information about support services, media contacts, fishing and environmental groups, and additional agency contacts, refer to the following:		
• Unified Plan • Cook Inlet Subarea Plan • Municipality of Anchorage Emergency Operations Plan • Local telephone directories		

1.3 Safety

This section has been prepared in accordance with: 18 AAC 75.425(e)(1)(C), 33 CFR 154.1035(g), and 40 CFR 112.20(h).

1.3.1 Safety Officer

ASIG's HS&E Manager and/or Safety Supervisor will be the designated Safety Officer for all incidents that involve activation of the ASIG IMT. For smaller spills, the Incident Commander (IC) will determine whether to activate the Safety Officer or whether to assume these duties.

The Safety Officer will perform the following duties:

1. Ensure that a site-specific safety plan, if required, is in place prior to beginning cleanup operations.
2. Ensure that all response personnel receive an initial safety briefing prior to initiating cleanup actions and prior to each work shift.
3. Ensure that work areas are monitored for hazardous vapors prior to and during spill cleanup activities.
4. Ensure that response personnel are supplied with and wear, adequate personal protective equipment (PPE) prior to and during the response.
5. Conduct daily safety briefing with Incident Command Team and as requested by IC.
6. Brief the Incident Command Team on any safety-related conditions that arise during the incident that may endanger response personnel or that necessitate a change in the cleanup actions.
7. Act as the on-site firefighting coordinator to work with the fire department during an incident.

1.3.2 Site Safety Plan

An Incident Safety Plan will be developed by the Safety Officer whenever a significant response action is initiated that requires outside resources or personnel. The plan will comply with the following government safety standards:

- 29 CFR Part 1910, Occupational Health & Safety Standards
- 29 CFR Part 1904, Record keeping & reporting occupational illnesses
- 29 CFR Part 1910.120, Hazardous Waste Operations and Emergency Response
- 29 CFR Part 1910.132-37, Subpart 1, Personal Protective Equipment
- 29 CFR Part 1910.38, Employee Emergency Action Plans & Fire Prevention
- 29 CFR Part 1910.1200, Hazard Communication Standards
- Alaska Department of Occupational Safety & Health Regulations (8 AAC 61.010): Subchapters 1, 4, 5, 8, 10, and 15.

ASIG has designed a site safety plan that is available in all the spill kits, and a copy is included in Appendix F. Additionally The Alaska Oil Spill Permit Tool includes a

lengthier generic Health and Safety Plan that could be filled out during an incident. <http://www.dec.state.ak.us/spar/perp/permits/>

1.3.3 Personnel Safety

Personnel safety is the highest priority during a spill response. Personnel will only respond to a spill if conditions are safe to do so, and only after an Incident Safety Plan has been developed and approved by the Incident Commander or ASIG's General Manager. ASIG maintains several safety manuals and training programs related to responder safety. BBA Aviation Shared Services, Inc (BBASSI), to which ASIG is a subsidiary, has developed for its subsidiaries standard safety programs (SSPs), and programs compliant with industry standards and applicable regulations; referred to as the Health, Safety, and Environmental (HS&E) System. The programs are maintained at the ASIG office and are available for regulator review. Programs relevant to spill response include:

- Back Safety Program
- Confined Space Entry
- Fall Protection Program
- Hot Work Program
- Heat and Cold Stress SSP
- Fire Safety Program

In addition to the HS&E System and SSPs, all personnel will receive a safety briefing prior to engaging in response activities. As part of the safety briefing, responders will be told what personal protective equipment is required, what the signs of overexposure to Jet A vapors are, and what kind of hazards, physical and chemical, to which they will potentially be exposed. Common hazards associated with Jet A include hazardous vapor exposure and fire/explosion hazards.

High concentrations of petroleum vapors during a spill response on open terrain or water is unlikely because of atmospheric dilution of the vapors. Responders working in narrow trenches or confined spaces as defined by the OSHA regulations 29 CFR 1910 Subpart J could be exposed to hazardous atmospheres. Responder will conduct work in these areas according to the *Confined Space Program* that was designed and is implemented by ASIG per the 29 CFR 1910 Subpart J. The program includes monitoring breathing zones prior to and during the response. ASIG response personnel will be required to wear respirators and would be evacuated if any action level is exceeded.

Jet A fuel presents a considerably reduced fire hazard over most fuels because of its relatively high flash point of approximately 100-120 degrees Fahrenheit (°F). This means that the fuel must be heated in order to give off sufficient vapor to be ignitable. Material Safety Data Sheets (MSDSs) for Jet A are available at ASIG's offices and at each of the tank farms. MSDSs provide physical data, fire, explosion, and reactivity information, spill procedures, and most special precautions. Refer to MSDSs if there are questions regarding safe handling or exposure to discharged product.

ASIG maintains two Scientific Instruments four-gas meter to monitor for explosive vapors. ASIG response team members are trained and qualified to use this equipment to monitor for explosive vapors as directed by the Safety Officer and the Site Safety Plan.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

All accidents that occur during any response or drill will be recorded by the Safety Officer and the records will be kept in the ASIG office. Any accidents involving injury to ASIG employee(s) will be recorded per 29 CFR 1904 and maintained in the ASIG office.

1.3.4 Evacuation Plans and Procedures

ASIG has developed an *Emergency Response Plan; Off-Airport Fuel Facility, Airport Fuel Facility, and Operations and Maintenance Base* (ERP) which fulfills the requirements of 29 CFR 1910.120 "Hazardous Waste Operations and Emergency Response (HAZWOPER)", 29 CFR 1910.38 Employee emergency plans and fire prevention plans, and Emergency response portions of: 40 CFR 265 Subpart D "Resource Conservation and Recovery Act" (RCRA). The ERP describes a facility-wide evacuation plan to evacuate parts of the facilities that are at a high risk of exposure in the event of a spill or other release. Evacuation routes are posted in each facility. The facility diagrams in Section 1.8 also indicate evacuation routes.

The ASIG evacuation plan was designed to be consistent with Annex 1 of the Municipality of Anchorage Emergency Operations Plan, which contains emergency evacuation routes and procedures for community-wide emergencies.

<http://www.muni.org/oem/annex1.cfm>. The following considerations relate to facility or community-wide evacuations affecting ASIG operations:

Location of stored jet fuel	Refer to Facility Diagrams in Section 1.8 and facility overview in Section 3.1.
Hazard imposed by spilled material	Ruptured tanks may contain flammable or explosive vapors; Inhalation of vapors/mist may cause respiratory system irritation, dizziness, nausea, loss of consciousness; Skin contact may cause irritation and dermatitis; Fire fighters must use self-contained breathing apparatus. For additional information, refer to MSDS.
Spill Flow Direction	Refer to Facility Diagrams in Section 1.8 and Receiving Environment information in Section 3.2.
Prevailing Wind Direction and Speed	Call (907) 266-5102 for a recording of hour by hour weather information.
Evacuation Routes	Evacuation Routes posted at each facility and included in the facility diagrams in Section 1.8. Use alternate routes of evacuation if the designated routes of evacuation are unsafe due to spilled jet fuel, fire hazard, tank or pipeline failure, or any other hazard that may jeopardize personal safety. ASIG or regulatory agencies in charge may instruct workers, contractors, and visitors to use alternative routes of evacuation in time of emergency. Always follow instructions from the Incident Commander during a jet fuel spill, release, or fire.
Transportation to the nearest medical facility	See hospital route maps in Section 1.8. For transportation via ambulance call 911.
Centralized check-in area for evacuation validation (roll call/muster areas)	See facility diagrams, Section 1.8
Location of shelter at the facility as an alternative to evacuation	6000 De Havilland Ave. Airport Operation & Maintenance Shop and Offices.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.4 Communications

This section has been prepared in accordance with: 18 AAC 75.425(e)(1)(D) and 33 CFR 154.1035(g).

Facility personnel routinely use VHF radios for day-to-day communications. Handheld and truck-mounted radios are used daily and are maintained in working order to support normal operations. ASIG has a maintenance contract with Motorola to maintain and repair radio units. Any broken units are sent back to Motorola for immediate repair. The following table lists the amount and type of communications equipment available to support an ASIG spill response.

Type of Equipment	Amount	Intrinsically safe?
Motorola Handheld VHF radios	20	Yes
Truck-mounted VHF radios	1 per vehicle (approximately 47 total)	Yes
Stationary mounted VHF radios (Airport Operations Base)	4	Yes

In the event of an oil spill, field personnel would communicate using one or more of the operational frequencies listed below. If necessary, individual task forces or functional units may be assigned specific tactical frequencies. All operational frequencies will be monitored in the command center.

Since all facilities are located within the Municipality of Anchorage, land lines and cellular telephones would be the primary means of external communications between the command center and regulatory agencies, response organizations, and others.

Alaska Chadux maintains a communications system, including marine VHF radios that would be used during a major oil spill or an oil spill with on-water response operations. Assignment of specific frequencies to support spill response operations will be made depending upon the location and size of the spill and the configuration of field response teams. Typical uses for ASIG radio channels during a spill response are listed in the table below.

Channel	Transmit	Receive
Command Channel	159.78000	159.78000
Tactical Network 1	158.325	153.305
Tactical Network 2	153.305	153.305

1.5 Deployment Strategies

This section has been prepared in accordance with: 18 AAC 75.425(e)(1)(E) and 18 AAC 75.445(c).

Response to an oil spill from ASIG operations involves three different response elements: ASIG trained responders using on-site equipment, Alaska Chadux Corporation, the Primary Response Action Contractor (PRAC) for on-water response, and Emerald Alaska for on-land response. The size and severity of the discharge will determine the degree of involvement for each. In the event of a minor operational spill, ASIG personnel and equipment may be sufficient to manage the response. In the event of a moderate or major spill, or one that threatens to affect water, the ASIG Incident Commander will make an initial assessment and if the spill exceeds ASIG's response capabilities, will activate additional resources. Chadux will be called for a spill to open water or one with the immediate potential to reach open water. Table 1.2-4 identifies additional Response Contractors for on-land cleanup.

1.5.1 Procedures to Transport and Deploy AFSC-Owned Resources

During a spill, ASIG personnel will be dispatched from the Operations Base and Airport Fuel Facility as necessary. Company-owned spill response equipment is located at the Airport Fuel Facility, Off-Airport Fuel Facility, and the Maintenance and Operations Base. There are several pickups and other vehicles that are available to dispatch personnel and equipment to a spill. All ASIG equipment and personnel would be transported to the spill site over land.

In the event of an incident, response equipment located at the Port, Operations Base, and Airport Fuel Facility is readily available. ASIG response personnel can be dispatched from the Operations Base or recalled from their homes. Response equipment at the two terminal locations and Operations Base is listed in Section 3.6. It includes vacuum trucks, sorbents, hand tools, transfer pumps, storage containers, boom, skimmers, and miscellaneous consumables. Additional equipment used in day-to-day operation is also available but not specifically dedicated to spill response. Table 1.5-1 summarizes deployment time for equipment and personnel to the spill site, taking into consideration the time required to load and transport equipment for major storage areas.

Table 1.5-1 Estimated Transportation Times for ASIG Personnel and Equipment

Response Resource	Location	Estimated Loading & Transportation Time* to Spill at:		
		Airport Fuel Facility	Jet Fuel Pipeline	Off-Airport Fuel Facility (Port)
Response Equipment (See Section 3.6 For inventory)	Airport Fuel Facility	0 to 0.25 hours	0.75 to 1.75 hours	0.75 to 1.0 hours
Response Equipment (See Section 3.6 For inventory)	Off-Airport Fuel Facility	1.0 to 2.5 hours	0.75 to 1.75 hours	0 to 0.25 hrs

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 1.5-1 Estimated Transportation Times for ASIG Personnel and Equipment

Response Resource	Location	Estimated Loading & Transportation Time* to Spill at:		
		Airport Fuel Facility	Jet Fuel Pipeline	Off-Airport Fuel Facility (Port)
Response Equipment (See Section 3.6 For inventory)	Maintenance and Operations Base	0.5 to 1.0 hours	0.75 to 1.75 hours	0.75 to 2.0 hours
On-duty Personnel	Airport Fuel Facility	0 to 0.25 hours	0.5 to 1.0 hours	0.75 to 1.75 hours
	Off-Airport Fuel Facility	0.75 to 2.0 hours	0.5 to 1.5 hours	0 to 0.25 hours
	Maintenance and Operations Base	0.25 to 1.0 hours	0.25 to 1.75 hours	0.25 to 1.0 hours
Off-duty Personnel	Anchorage and Outlying Communities	0.5 to 2.0 hours	0.5 to 2.0 hours	0.5 to 2.0 hours

*Note: Transportation times include the preparations and mobilization of the spill response trailers.

1.5.2 Response Action Contractor Mobilization

Any spill to open water or with the immediate potential to reach open water requires mobilization of Chadux. If a leak or spill is suspected on the mud flats segment of the pipeline, Chadux will be immediately notified and placed on standby. In the event of a spill on-land, Emerald Alaska, Inc. will be immediately mobilized to the spill site. Emerald has equipment stored at the Port of Anchorage and Viking Drive.

Interim actions to be performed by ASIG personnel while awaiting contractor support are described in the Emergency Action Checklists in Section 1.1.

The ASIG Incident Commander (IC) is responsible for making the decision to mobilize response action contractors in the event of a spill. The IC will be responsible for determining the degree of response action contractor mobilization. Chadux mobilization procedures and timetables for delivery of personnel and equipment from the Chadux Anchorage warehouse or hubs is contained in the Chadux Oil Spill Response Manual and on their website at www.chadux.com

Contact information for Chadux and EAI is included in Section 3.8. Chadux and EAI are both located in Anchorage and will respond in a timely fashion meeting regulatory timeframes. Typical timeframes are described in subsection 1.6.2 Worst Case Response Scenarios.

1.5.3 Adverse Weather

Adverse weather conditions such as high winds, low visibility, or heavy precipitation may slow deployment timetables, but ASIG personnel are accustomed to everyday operations in typical Anchorage conditions, including severe weather, and have appropriate training and gear to manage most conditions. During periods of adverse weather, all AFSC-owned equipment would be transported as usual over land via the road system. Snow removal may be necessary during winter months to locate gates and access points, clear areas for equipment staging, and to provide passage for

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

vehicles, equipment, and personnel. Additional time factors of one half hour to an hour should be added to estimated mobilization and deployment times (Table 1.5-1) during periods of adverse weather, to account for safety considerations and efficiency losses.

A spill from the Jet Fuel Pipeline to the mud flats may present additional challenges for deployment of spill response resources. There are four primary access points to the mud flats: (1) the small boat launch area where the pipeline enters the mud flats, (2) Chester Creek, (3) Earthquake Park, and (4) Point Woronzof. These access points and routes to them use public right-of-ways (e.g. the Coastal Trail). Any spill from the pipeline along the mudflats can be accessed through the Anchorage Water and Wastewater Utility (AWWU) lift station near Sullivan Park. Access points are shown in Figure 1.8-5.

Procedures for transport of Chadux equipment during adverse weather are described in the Chadux Oil Spill Response Manual.

1.5.4 Deployment Strategies

ASIG and Chadux responders will implement oil spill response tactics as described in the Spill Tactics for Alaska Responders (STAR) manual.

Applicable STAR Manual tactics (depending upon the incident):

- Site Entry
- Plume Delineation, Land
- Discharge Tracking on Water
- Dikes, Berms & Dams
- Pits, Trenches & Slots
- On-water Free Oil Recovery
- On-Land Recovery
- Passive Recovery
- Marine Recovery
- Exclusion Booming
- Diversion Booming
- Deflection Booming
- Containment Booming
- Land-Based Storage & Transfer of Oily Liquids

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Marine-Based Storage & Transfer of Oily Liquids
- Pumping Oily Liquids

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6 Response Scenarios

These sections have been prepared in accordance with 18 AAC 75.425 (e)(1)(F), 18 AAC 75.445(b) and (d), 40 CFR 112.20 (h), 40 CFR 194.107(c) and 33 CFR 154.1035(b), (d) and (g).

1.6.1 Information that applies to all scenarios: *EPA Medium and Small Discharges*

The following actions will be followed for the EPA small and medium discharges, 50 bbls, and 857 bbls respectively. Probable sources for these scenarios are described in Section 2.4. Section 1.6.2 contains narrative scenarios for small, medium, and worst case discharges.

1.6.1.1 Procedures to Stop the Discharge

The following table summarizes prioritized actions for stopping a discharge from all possible sources. ASIG personnel with responsibilities operating within each respective operational area are trained in the following mitigation procedures for stopping a discharge from the facility components identified in the table.

Priority Actions To Stop a Discharge (Safety Permitting!)
Storage Tank Overflow
Stop fuel transfer into the tank by shutting down transfer operations.

(b) (7)(F)

After the transfer has been stopped, bring fuel in the tank to a safe level by transferring product to another tank or facility using the transfer procedures described in Section 3.1.5 or below in Section 1.6.1.3.

Storage Tank Failure

All transfer operations with the affected tank farm would be immediately shut down in the

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Priority Actions To Stop a Discharge (Safety Permitting!)
same manner as described for Storage Tank Overfill.
If safe to do so, remaining product in a damage tank would be transferred to another tank or from Off-Airport Fuel Facility to Airport Fuel Facility. Transfer procedures described in Section 3.1.5 or below in Section 1.6.1.3.
Lightering from a damaged tank would only be considered after an engineering evaluation of the damaged tank. ASIG would use lightering procedures designed by the engineer for the specific tank failure scenario.
Piping Rupture or Equipment Failure
For leaks from transfer piping or hoses, stop the transfer and isolate the leak. If safe to do so, evacuate the section of pipe or hose by pumping, suctioning, or draining product into a container.
If there is any recognized equipment failure, during a transfer the affected transfer would be immediately shut down.
Jet Fuel Pipeline Discharge
Shut down pipeline pump, close isolation valves, and determine the location of the leak.
Direct pipeline repair contractor to the site of the leak.
Follow procedures in the <i>AFSC Operation and Maintenance Manual 12-inch Cross-Town Pipeline</i> to excavate the pipeline in the vicinity of the leak (tides and safety permitting).
Stop the leak by placing a temporary relief sleeve or clamp on the pipeline, or by plugging the two pipe ends with inflatable plugs if the pipe ends are separated.

1.6.1.2 Fire Prevention and Control

The Airport or Anchorage Fire Department would be called to respond to fuel spills depending upon location and would be called upon to take any necessary actions to prevent, control or extinguish a fire. ASIG personnel will assist in extinguishing fuel fires and/or applying foam for vapor suppression and provide the firefighters with system operation and technical information.

Jet A has a minimum flash point of 100 °F and is not ignitable at normal ambient air temperatures in Anchorage. Therefore, pooled fuel usually does not pose a significant fire hazard as long as sources of heat and ignition, such as running vehicles and equipment, are kept outside the spill area. The primary method of preventing a fire in the event of a spill will be to remove potential ignition sources.

Fire suppression equipment is located at all the AFSC Facilities and fire extinguishers are located in each vehicle. At Off-Airport Fuel Facility and the Airport Storage Facility an Aqueous Film Forming Foam (AFFF) is piped directly to each bulk storage tank for fire suppression.

1.6.1.3 Damage Pipe/Tank Transfer and StorageOff-Airport Fuel Facility

The following procedures could be used at Off-Airport Fuel Facility to transfer fuel from a damaged tank or undamaged tank that is at risk of discharging additional fuel. Transfer from a damaged tank would only be completed after an engineer had evaluated the tank to ensure the transfer is safe.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Fuel may be transferred to empty or partially empty tanks within the yard via ground pumps and in-place piping at a rate of approximately 2,200 barrels per hour (bph).
- Fuel may be transferred to empty or partially empty tanks via gravity feed. This can only be done until the height of fuel in the receiving tank is the same as the damaged tank. The rate of transfer will vary with the difference in fuel elevation in the two tanks and will decrease rapidly once the equilibrium height is approached.
- A portable trash pump (centrifugal type) can be used to transfer fuel from the damaged tank to another tank via the water draw outlets on each tank. Delivery rate would be approximately 360 gpm (514 bph).
- Fuel may be transferred through the Port of Anchorage Valve Yard to another oil company with available storage using ground pumps with a delivery rate of approximately 2,200 bph. This would only be considered if there was not enough available empty capacity in the tank farm. There is no current agreement with any tank farm operator in the port to allow such a transfer.
- Fuel may be transferred via the Jet Fuel Pipeline to the airport at a maximum rate of 1320 bph. This would likely be done only to create additional capacity for tank to tank transfers.

Airport Fuel Facility

The following procedures could be used at Airport Fuel Facility to transfer fuel from a damaged tank or undamaged tank that is at risk of discharging additional fuel. Transfer from a damaged tank would only be completed after an engineer had evaluated the tank to ensure the transfer is safe.

Fuel can be transferred from tank to tank at a rate of about 900 gpm using two 500 gpm ground pumps. At this rate it would take 78 hours to completely empty a full tank. Fuel could also be transferred to the airport ramp for refueling of aircraft via the hydrant system. The rate of transfer would depend on the demand for fuel. Currently approximately 2.0 million gallons of fuel per day are delivered to aircraft through the hydrant system.

Jet Fuel Pipeline

The only practicable method available to remove fuel from the pipeline is to run a dewatering pig through the line to push fuel out. The pig would be used after a repair sleeve has been placed over the damaged portion of the line. Use of a dewatering pig would require that the entire line, not just the damaged segment, be drained of fuel. Approximately 100 to 150 psi of air pressure would be needed to move the pig. Typically, several pig runs would be needed to remove the remaining fuel. Some residual fuel may still stay in the line. Transfer from a damaged pipeline would only be completed after an engineer had evaluated the damage to ensure use of the pig is safe.

1.6.1.4 Estimating the Spill Volume and Amount of Oil Recovered

Spill Volume

The volume of oil in each storage tank is recorded during tank inventory and pumping reports. If a spill should occur, the involved tank(s) would be isolated and gauged to determine oil loss. Volume changes can be calculated to estimate the volume of oil

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

spilled. Pipeline losses may be estimated based on flow rates and a comparison of inventory changes.

Recovered Volume

The volume of fuel recovered from on-land and on-water operations would be determined by gauging the storage tanks used to temporarily store the recovered fuel. If the fuel is stored in an existing tank at the tank farm, ASIG could utilize the existing gauges or hand gauge. If the recovered fuel is stored in land bladders, fast tanks, or vacuum trucks, the volume would be estimated by hand gauging. ASIG would use a gauging contractor to assist with this process.

1.6.2 Worst Case Response Scenarios

The scenarios in this plan are formatted to include in each narrative, a description of the specific actions taken during each operational period, to comply with the requirements at 18 AAC 75.425(e)(1)(F)(i) through (xii). This section uses a series of narrative scenarios to demonstrate how these plans and procedures would be applied during an actual event.

A Jet A fuel discharge from the pipeline or bulk fuel storage facilities requires immediate mobilization and deployment of manpower and equipment resources. Response strategies must take into account the locations of environmentally sensitive areas, spill site accessibility, spill response equipment staging availability, and response operating limitations.

These scenarios were developed and validated through a series of tabletop exercises including ASIG operators, response team members, and response management personnel. Alaska Chadux also reviewed and added to the scenarios where Chadux responders would be involved.

The following spill scenarios illustrating possible response actions to potential catastrophic or operational discharges are presented in this section.

Scenario Number	Scenario	Volume (bbl)
1	Off-Airport Fuel Facility Scenario – Tank #9 failure	(b) (7)(F)
2	Airport Fuel Facility – Tank 1010 failure	
3	Jet Fuel Pipeline Rupture, Spring	800
4	Jet Fuel Pipeline Rupture, Winter	800
5	Airport Facility Aircraft Refueling Spill	50

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6.2.1 Scenario #1 – Off-Airport Fuel Facility Tank #9 Failure

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure	
This scenario depicts representative oil spill response activities for a Jet A oil spill from a ruptured tank at Off-Airport Fuel Facility with the loss of the EPA worst case discharge of (b) (7)(F) (scenario also represents a response to a spill of the Alaska RPS).	
The information in this scenario describes one possible approach to organizing and managing a response from a ruptured tank at Off-Airport Fuel Facility in order to satisfy planning requirements for an oil spill response scenario.	
Response Type: WCD or RPS – land and water	Spill Volume (bbl): (b) (7)(F)
Source: Tank #9 ruptures by unknown causes. The entire tank volume – (b) (7)(F) - is released from the tank over a two hour period. The area around Off-Airport Fuel Facility is industrial and flat, the discharge flows in all directions. Approximately 18,300 bbl reach Cook Inlet.	
Date/Time: Thursday July 27, 2006 Time: 15:00	Season: Summer
CONDITIONS ON-SCENE: Temperature: 60 Winds: 0 to 10 knots from the SE Sea state: 0 to 1.5' chop	Precipitation: None, partly cloudy skies Visibility: Unlimited Tide/Currents: Low Tide 03:51 hr. - 4.9 ft. High Tide 09:14 hr - 28.6 ft. Low Tide 16:12 hr - 0.0 ft High Tide 21:50 hr. - 28.5 ft. Tidal Current at Anchorage Ship Dock Max Flood 06:54 hr - 3.7 knots Slack Water 10:30 hr Max Ebb 12:47 hr - 5.0 knots Slack Water 15:30 hr Max Ebb 19:22 hr - 4.5 knots
ASSUMPTIONS: 1. Tank #9 is transferring fuel to the pipeline at the time of the discharge. 2.. Transfer pumps are not inundated with fuel, so it is safe to continue transferring fuel from Tanks #1, #2, and #3 to the airport.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
Operational Period 1: 0 to 6 hours		
Objectives and Strategies for Operational Period 1: Ensure personnel safety; Evacuate nearby tenants if necessary; Assess the situation for fire hazards; Notifications to emergency personnel, the Port of Anchorage security, response personnel, regulatory agencies; Initiate steps to control the spill source: continue fueling transfer from the tank to the pipeline or to another tank Mobilize Chadux, and; Initial containment of the fuel.		
INITIAL RESPONSE ACTIONS		
0:00	Off-Airport Fuel Facility operator notices rapid drop in Tank #9 level from control room and conducts yard check discovering catastrophically ruptured tank.	
0:20	Off-Airport Fuel Facility operator initiates emergency shut-down device (ESD) and contacts the Plant Supervisor, who is currently at Airport Fuel Facility, via a hand held radio. Returns to the control room and calls 911 and Port of Anchorage (POA) security.	Section 1.2
0:20	Plant Supervisor instructs Airport Fuel Facility Plant Operator to call field responders who are not on-duty, and instructs the second Airport Fuel Facility Plant Operator to hook up spill trailer.	Section 1.2 Section 1.5
0:30	Plant Supervisor notifies Plant Manager who is currently at the Operations Base. The Plant Manager notifies all ASIG personnel currently at the Operations Base, including the General Manager (QI). The QI assigns the Plant Supervisor to the role of Incident Commander (IC).	Section 1.2
0:35	Planning Section Chief completes notifications to ADEC and NRC. USCG Sector Anchorage and local EPA office are also contacted.	Section 1.2
0:35	Plant Supervisor 2, who is also at the Airport Fuel Facility during shift change (Division Leader #1) departs for Off-Airport Fuel Facility with one field responder and the Airport Fuel Facility spill response trailer. (25 minute transit time)	Section 1.5
0:35	Airport Fuel Facility Plant Operator completes the notification to field responders. Transit time ranges from 15 to 60 minutes for all personnel.	Section 1.2 Section 1.5

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
0:40	Plant Supervisor (IC) assembles personnel at operations base to form the ASIG IMT: Environmental Manager (Planning Section Chief), Facility Manager (Logistics Section Chief), Maintenance Supervisor (Operations Section Chief), and Safety Supervisor (Safety Officer). The Operations Section Chief provides a briefing of the information received from the Plant Supervisor and the IMT determines the initial response strategy: • Division #1: Containment and control, culvert blocking, creek booming • Division #2: On-land recovery • Division #3: On-water recovery and creek diversionary booming (Chadux) General Manager (QI) maintains operations and provides a liaison role throughout the incident, but is not directly involved in incident management.	Scenario 1 ICS Organization Chart
0:40	Division Leader #2 (Plant Supervisor) assembles 7 ASIG field responders currently at the operations base and departs for Off-Airport Fuel Facility with 3 truck-mounted vacuum systems.	Scenario 1 ICS organization chart
0:40	QI makes internal corporate notifications. IC mobilizes Chadux.	Section 1.2
0:45	IC and Operations Section Chief depart for Off-Airport Fuel Facility.	Section 1.5
0:40	Logistics Section Chief contacts Emerald Alaska Inc (EAI) and requests vacuum trucks to supplement on-land recovery under the EAI contract.	Section 3.8
0:45	Logistics Section Chief contacts Chadux and requests vacuum trucks to supplement on-land recovery. Trucks are dispatched from Chadux storage hubs in Anchorage, Seward, Nikiski, Cordova, and Valdez.	Section 3.8 and www.chadux.com
0:50	Safety Officer completes Incident Safety Plan.	Section 1.3
0:55	Division Leader #1 arrives at Off-Airport Fuel Facility. Assemble Field Team #1 to block the culverts.	Scenario 1 ICS org chart
1:00	IC and Operations Section Chief arrive at Off-Airport Fuel Facility, use the control room as field operations and await the arrival of Chadux, the FOSC, and SOSC. The Operations Section Chief continues to report to the Planning Section Chief for documentation and reporting, and to the Logistic Section Chief for equipment and personnel requests.	Section 1.2
1:05	Safety Officer arrives at Off-Airport Fuel Facility, conducts a site assessment, and determines that safe entry criteria have been met for containment and recovery of spilled fuel. However, it is determined upon consultation with the Plant Operator that the	Section 1.3 STAR Manual: Site Entry tactic

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
	tank valve, because of its location, cannot be safely accessed until fuel stops flowing out of the tank.	Section 1.8
PROCEDURES TO STOP THE DISCHARGE		
0:20	Plant Operator at the Off-Airport Fuel Facility leaves the manual valve open at the base of the Tank #9 due to safety concerns accessing the valve.	Section 1.6.1.1
1:20	Operations Section Chief determines that there are no safe options to stop the discharge from the ruptured tank. Resources will be used to contain, control, and recover the discharged fuel. Contacts the Logistics Section Chief.	Section 1.6.1.1
1:25	Logistics Section Chief contacts engineering firms for an engineer's assessment of Tank #9.	
FIRE PREVENTION/CONTROL		
0:20	Plant Operator at Off-Airport Fuel Facility engages the ESD located on the catwalk near Tank #9, stopping the transfer pumps in the yard which eliminates an ignition source.	AFSC 12" Jet Fuel Pipeline Auto Startup Procedures Section 1.3
0:35	Police/Fire mobilized from Station #1 and arrive on site.	Section 1.2
Ongoing	Safety Officer conducts initial safety briefing to all responders arriving on site. Responders are instructed to ensure that ignition and heat sources are removed or kept clear from the spill area.	Section 1.3
SPILL TRACKING AND SURVEILLANCE		
0:10	Off-Airport Fuel Facility Plant Operator noticing the rapid drop in Tank #9 level, conducts a yard check and discovers the ruptured tank. Makes note that most of the spilled fuel is contained in the dike. Some fuel has overrun the dike at the north and southeast corner of the plant. Fuel is flowing overland due west over the parking area and towards Cook Inlet. Fuel discharged to the northeast in the drainage ditch is within the ditch but flowing towards Cook Inlet.	Section 2.1.5 Scenario 1 diagram Section 1.8 Section 3.1
1:30	Planning Section Chief calls Anchorage Tide Station to get water level, tide stage, wind direction and speed. Estimates a trajectory of the spilled fuel: flood currents will initially transport fuel reaching open water east along shore, away from the mouth of Ship Creek, Fish Creek, and the Chester Creek outfall culverts. Reports information to Operations Section Chief.	Scenario 1 diagram Section 1.8 Section 3.1
2:30	IC, FOSC and SOSC depart Anchorage International Airport (ANC) for an overflight of the spill area using a contracted fixed-wing aircraft. Fuel is observed to have spread overland and	Scenario 1 diagram STAR Manual:

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
	through the storm drain system into upper Cook Inlet, with sheens visible in several locations. Overflight observations are recorded on a map by the Planning Section Chief and used to validate spill trajectory and allocate response resources.	Discharge Tracking
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
2:00	Planning Section Chief identifies sensitive areas at risk based on spill trajectory and ESI maps. Identifies GRS in potential impact areas (Ship Creek and Fish Creek). Chester Creek also confirmed to be a sensitive area in need of protection.	GRS: NCI-01 and NCI-02; NOAA ESI Maps; Section 3.10
2:00	ASIG Field Team #1 and Chadux responders initiate booming of Fish Creek (from land), using 500 feet of Chadux harbor boom deployed as shown in the GRS NCI-01. ASIG Field Team #1 periodically checks boom and monitors shoreline for pooled oil that may be recovered using Chadux rope mop skimmer.	GRS: NCI -01 STAR Manual: Exclusion Booming Tactic
2:30	Chadux (Field Team #4) initiates diversion booming of Ship Creek (1500 ft boom - Chadux) per GRS NCI-02. One landing craft and one skiff are used to implement the GRS. Once deployed, the landing crafts stay on-scene to tend boom. Shoreside recovery is used to recover any oil that is collected, using Chadux rope mop skimmer.	GRS: NCI - 02 STAR Manual: Diversion Booming Tactic; Shoreside Recovery Tactic
3:00	Chadux (Field Team #5) initiates protective booming in vicinity of Chester Creek, using 500 feet of Chadux harbor boom and a rope mop skimmer for shoreside recovery. Booming is done from land.	STAR Manual: Exclusion Booming Tactic
3:30	Planning Section Chief uses the diagram from the overflight observations to determine ESA protection and nearshore recovery for the ASIG and Chadux responders.	STAR Manual: Spill Tracking; Exclusion, Diversion and Deflection Booming; Shoreside Recovery Tactic
SPILL CONTAINMENT AND CONTROL		
0:50	Off-Airport Fuel Facility Plant Operator assembles the culvert blocking material from the Off-Airport Fuel Facility spill trailer and waits for assistance to initiate culvert blocking. Continues to monitor control room.	Section 3.6
0:55	Field Team #1 begins blocking culvert NW (assignment to team #1) of tank #9. Assumption that it takes two people one hour per culvert (done simultaneously by two different teams).	Scenario 1 Diagram
1:30	Logistics Section Chief contacts local contractors for heavy equipment to dig interception trench to contain fuel flowing overland toward Cook Inlet (PENCO, PEMCO, TAM	Section 3.8

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
	construction).	
1:30	Additional field responders for Field Team #1 arrive on site and begin blocking culvert NE (assignment to team #1) of tank #9. Assumption that it takes two people one hour per culvert.	STAR Manual: Dikes, Berms, and Dams Tactic
2:00	Culvert blocking completed at culvert NW of Tank #9 by ASIG responders.	STAR Manual: Dikes, Berms, and Dams Tactic
2:30	Culvert blocking completed at culvert NE of Tank #9 by ASIG responders.	STAR Manual: Dikes, Berms, and Dams Tactic
3:30	Interception trench dug and berm constructed down-gradient of spill site by AFSC contractor (in area west of northwest culvert) to contain fuel flowing over land toward Cook Inlet.	STAR Manual: Dikes, Berms, and Dams Tactic Scenario 1 Diagram
RECOVERY OF SPILLED PRODUCT		
1:05	Division Leader #2 arrives on site with vacuum trucks and Field Team #1 and #2 field responders; begins recovery from on-land containment areas.	Section 3.6 STAR Manual: Shoreside Recovery
1:40	Chadux responders arrive on site with equipment for environmentally sensitive areas protection, shoreside recovery, on-water containment, diversion, and deflection booming, nearshore recovery, and temporary oil storage.	STAR Manual: Shoreside Recovery; Diversion and Deflection Booming, Marine Recovery, Land-Based Storage and Transfer of Oily Equipment Chadux equipment inventory www.chadux.com
2:00	Field Team #2 initiates recovery of standing free product behind the culvert blocks with vacuum trucks (ASIG and Emerald). Deploy ASIG and Chadux pumps at culverts' standing fuel.	STAR Manual: Nearshore Recovery
2:30	Chadux responders deploy six 20,000 gallon bladders and four 10,000 gallon bladders near the facility, and a 2,400 gallon fast tank near culvert outfall.	Chadux Equipment Inventory www.chadux.com
5:00	EAI vacuum trucks (5 x 80-bbl; 2500 bpd capacity each) arrive on-scene and begin recovery of standing fuel. Chadux vacuum trucks (five total) also arrive on-scene and begin recovery of standing fuel.	EAI Equipment List Figure 3.8-2

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
5:00	Chadux on-water recovery team deployed & begin nearshore free oil recovery using 2 x Manta Ray skimmers (1032 bpd each), 1x Skimpack 1800 (2054 bpd) and 1x Desmi Mini-max (1056 bpd). Vacuum trucks and small rope mop are used for shoreside recovery, depending upon whether the fuel is floating or stranded in pools. On-water free-oil recovery team is also deployed to collect and recover any oil that escapes nearshore response. Chadux deploys several towable bladders (total storage capacity 15,250 gal) using Chadux response vessels.	STAR Manual: Marine Recovery; Free oil Recovery; Shoreside Recovery Chadux Equipment Inventory www.chadux.com
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
4:00	Engineering contractor contacted to request survey and repair plan for damaged tank. No fuel is recovered from the tank.	Section 3.1.5 and Section 1.6.1.3
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids from on-water is pumped from skimming systems and transfer pumps into Chadux floating bladders. Recovered fuel and liquids from on-land is stored in vacuum trucks and transferred to Chadux's 20,000 gallon land bladder & the ASIG 2,000 gallon slop tank at Off-Airport Fuel Facility until Tank #1 draindown is complete.	STAR Manual: Transfer and Storage of Recovered Oily Liquids (marine and land-based)
2:40	Initiate drain down of Tank #1 to use it for storage of recovered fuel (max time required is estimated to be 15 hours, assuming tank is full).	Section 3.1.5 and ASIG/AFSC SOP #3
3:00	Logistics Section Chief contracts PEMCO, a petroleum contractor, to make the necessary modifications to the incoming 10-inch and 12-inch lines. The incoming lines will be used to transfer recovered fuel to tank #1 when the drain down is completed.	
WILDLIFE PROTECTION		
1:00	Chadux mobilizes IBRRC and deploys wildlife response trailer from Anchorage warehouse.	Chadux Oil Spill Response Manual
4:00	Once spill tracking overflight has been completed, wildlife overflight is ordered. IC flies with state and federal trustee agency representatives to survey the area for affected wildlife. Team conducts spotting for Beluga whales but does not observe any in spill vicinity. A few oiled seabirds are observed.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
Ongoing	Field Team #1 periodically checks the boom at Fish Creek and monitors the shoreline throughout the spill impact area and beyond for pooled free product. Radio to vacuum trucks if any is encountered for recovery.	STAR Manual Deflection, Exclusion and Diversion Booming; Shoreside Recovery

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
Operational Period 2: 7 to 24 hours		
Objectives and Strategies for Operational Period 2: Ensure personnel safety; Contain and recover spilled fuel; Protect environmentally sensitive areas; and Coordinate response with Chadux and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Field Team #1 continues to visually track the spilled fuel and to report back through the chain of command.	STAR Manual: Discharge Tracking
12:00	Planning Section Chief updates trajectory estimates as needed.	STAR Manual: Discharge Tracking, NOAA Trajectory Modeling
18:00	IC, FOSC, and SOSC conduct second overflight to track spill extent. Sheen areas noted in nearshore areas and pockets of fuel observed along shoreline.	STAR Manual: Discharge Tracking
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Field Team #1 and Field Team #4 & #5 (Chadux) responders periodically check ESA exclusion boom and monitor shoreline for pooled oil that may be recovered. Chadux response vessels tend boom as needed and continue to use rope mop skimmers for shoreside recovery.	GRS: NCI -01, NCI-02 STAR Manual: Booming tactics
SPILL CONTAINMENT AND CONTROL		
Ongoing	Blocked culverts are monitored by Field Team #1 and found to be intact.	STAR Manual: Dikes, Berms, and Dams
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	Accumulated fuel in the trench, drainage ditches, and wetlands is being recovered by Field Team #2 using pumps. Vacuum trucks are recovering standing fuel from puddles along the shoreline and augmenting the recovery from the ditches and wetlands. Rope mop skimmers (3) are used for shoreside recovery.	STAR Manual: Shoreside recovery
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	Two Manta Ray skimmers, one Skimpack 1800 and one Desmi Mini-max have been deployed and are operating at Ship Creek – total recovery capacity 3120 bpd. (Chadux Field Team #3). On-water free-oil recovery team continues to collect and recover any	STAR Manual: Shoreside, On-water and Free Oil

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
	oil that escapes nearshore response using Chadux vessels, harbor boom and two other Manta Ray skimmers.	Recovery; Storage & Transfer of Recovered Oily Liquids
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
Ongoing	Awaiting engineering contractor to evaluate damaged tank.	Section 1.6.1.3 and Section 3.1.5
WASTE MANAGEMENT		
12:30	PEMCO completes the incoming line modifications to the 10" and 12" incoming lines. Because there is adequate capacity in the system, due to highly dynamic inventory, Tank #1 drain down is ordered in order to provide storage for recovered liquids. Liquids recovered on-water will be stored temporarily in Chadux's available bladders, and ultimately transferred to Tank #1. Fuel can be pumped at 1,800 gpm pumping to Tank #1 when drain down is completed.	Section 3.1
17:40	Drain down of Tank #1 completed using facility piping. Tank #1 to be used for storage of recovered fuel.	ASIG/AFSC SOP #3
Ongoing	Field Team #1 transfers recovered fuel from the truck-mounted vacuum systems via the unloading rack into Tank #1.	
Ongoing	Recovered fuel from the pumps is stored in land bladders and fast tanks. AFSC and EAI vacuum trucks transfer fuel from the land bladders and fast tanks to Tank #1 via the unloading rack when bladder and fast tank capacity is met. Recovered fuel from two of the pumps is transferred directly to Tank #1.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids
Ongoing	Recovered fuel and liquids from on-water is pumped from skimming systems and transfer pumps into Chadux towable bladders. AFSC and EAI vacuum trucks transfer fuel from the towable bladders to Tank #1 via the unloading rack when bladder capacity is met.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids
Ongoing	Recovered oily wastes (solid) would be segregated and placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids Alaska Permit Tool (ADEC)

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
WILDLIFE PROTECTION		
8:00	Chadux wildlife trailer arrives on-scene. IBRRC responders en route.	IBRRC and Chadux Response Manuals
10:00	Chadux responders initiate wildlife hazing. State and federal trustee agencies participate.	ARRT Wildlife Guidelines
Ongoing	Several oiled gull carcasses are recovered from along the adjacent shoreline. A state or federal trustee is included on all future surveillance flights to look for Beluga whales. None are reported.	IBRRC and Chadux Response Manuals ARRT Wildlife Guidelines
SHORELINE CLEANUP		
Ongoing	Field Team #1 periodically checks ESA boom along the shoreline and monitors the shoreline for pooled free product. Radio to Field Team #2 if any is encountered for recovery.	STAR Manual: Booming Tactics; Shoreside Recovery
24:00	Planning Section Chief begins process of forming shoreline assessment teams, to include agencies.	NOAA SCAT Manual
Operational Period 3: 25 to 48 hours		
Objectives and Strategies for Operational Period 3: Ensure personnel safety; Contain and recover spilled fuel; Protect environmentally sensitive areas; Transfer recovered fuel for storage and disposal; Initiate damaged tank survey/repair process; Coordinate response with Chadux and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Response personnel continue to visually track the spilled fuel and to report back through the chain of command.	STAR Manual: Discharge Tracking
Ongoing	Environmental Manager updates trajectory estimates as needed	STAR Manual: Discharge Tracking; NOAA Trajectory Modeling
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	ASIG & Chadux responders periodically check ESA boom and monitor shoreline for pooled oil that may be recovered.	GRS: NCI -01 and 02 STAR Manual: Booming Tactics and Shoreside Recovery

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
Ongoing	Chadux tends boom at ESA sites as needed.	GRS: NCI -01 and 02 STAR Manual: Booming Tactics and Shoreside Recovery
SPILL CONTAINMENT AND CONTROL		
Ongoing	ASIG responders monitor blocked culverts -- found to be intact.	STAR Manual: Dikes, Berms, and Dams
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	Field Team #2 (ASIG and Emerald) continue on-land recovery with pumps and truck-mounted vacuum systems from drainage ditches, interception trench and along shoreline when encountered. Rope mop skimmers (3) are used to supplement shoreside recovery of pooled oil.	STAR Manual: Shoreside Recovery
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	Chadux responders have deployed two Manta Rays, one Skimpack 1800 & one Desmi Mini-max skimmer - skimmers are operating in nearshore recovery task forces (EDRC of 1032 bpd each for Manta Rays and 1056 for Mini-max). Each skimmer has one landing craft and one skiff associated with it, as well as containment boom. On-water free-oil recovery team continues to collect and recover any oil that escapes nearshore response using Chadux vessels, harbor boom and two Manta Ray skimmers.	STAR Manual: Free-oil, Marine and Shoreside Recovery
Ongoing	Recovered oil stored in Chadux towable bladders and barge of opportunity.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
30:00	AFSC engineering contractor surveys the damaged tank and completes an assessment on how and when any remaining fuel could be safely transferred from Tank #9 to another tank in the yard. Since total storage quantity was released, it is determined that no transfer will be required.	Section 1.6.1.3 Section 3.1.5.3
WASTE MANAGEMENT		
Ongoing	Recovered fuel is being transferred from truck mounted vacuum system via the unloading rack into Tank #1.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids
Ongoing	Recovered fuel is transferred from pumps directly to Tank #1 via the 10" and 12" incoming lines and two 8" pumps with 1,800 gpm pumping capabilities.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
Ongoing	Recovered fuel and liquids from on-water is pumped from skimming systems and transfer pumps into Chadux towable bladders. AFSC and EAI vacuum trucks transfer fuel from the towable bladders to Tank #1 via the unloading rack when bladder capacity is met.	
Ongoing	Recovered oily wastes (solid) would be segregated, placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	
WILDLIFE PROTECTION		
Ongoing	Chadux, IBRRC, and state/federal wildlife protection agencies continue with wildlife response. Activities include hazing gulls and other seabirds, looking for Beluga whales from overflights and shoreline areas, and periodically surveying coastal areas for additional wildlife.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
Ongoing	After removal of floating product from open water and removal of any freestanding pockets of fuel along the shoreline is complete, shoreline impacts will be addressed. An assessment team will be formed to evaluate shoreline impacts and recommend cleaning strategies. Representatives from the USCG, ADEC, ADNRR, ADFG, USFWS, and MOA will be invited to join the team.	STAR Manual: Shoreside Recovery NOAA SCAT Manual
Operational Period 4: 49 to 72 hours		
Objectives and Strategies for Operational Period 4: Ensure personnel safety; Contain and recover spilled fuel; Protect environmentally sensitive areas; Transfer recovered fuel for storage and disposal; Initiate damaged tank survey/repair process; Coordinate response with Chadux and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Field Team #1 continues to visually track the spilled fuel and to report back through the chain of command.	STAR Manual: Discharge Tracking
72:00	Planning Section Chief updates trajectory estimates and determines that spill will not reach Fish Creek, Ship Creek or Chester Creek.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
72:00	Field Team #1 removes Fish Creek boom.	NCI-01

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
72:00	Chadux shoreside recovery operations at Ship Creek & Chester Creek demobilized.	NCI-02, STAR Manual
SPILL CONTAINMENT AND CONTROL		
Ongoing	Blocked culverts are monitored and found to be intact.	STAR Manual: Dikes, Berms, and Dams
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	Field Team #1 recovers accumulated fuel in drainage ditches and wetlands with pumps and truck-mounted vacuum systems.	STAR Manual: Shoreside Recovery
72:00 +	On-land recovery will continue using vacuum trucks and pumps until all standing oil is recovered. Rope mop skimmers (3) are used to supplement shoreside recovery of pooled oil.	
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	Two Manta Ray skimmers, one Skimpack 1800 & one Desmi Mini-max are operating in nearshore free oil recovery. By T + 60:00 on-water recovery has been maximized and beyond that point is limited to small amounts collected using sorbents, and to shoreside recovery using rope mop skimmers and sorbents. On-water free-oil recovery team continues to collect and recover any oil that escapes nearshore response using Chadux vessels, harbor boom and the Manta Ray skimmers.	STAR Manual: Free-oil, Marine & Shoreside Recovery
Ongoing	Recovered oil stored in Chadux bladders.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
60:00	Engineering assessment completed. Since total storage quantity spilled, no transfer is required. If fuel were left in the tank, it would be transferred following the ASIG SOP-56 transfer procedures described in Section 3.1.5.3.	Section 3.1.5.3
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquid wastes have been stored in Tank #1 at Off-Airport Fuel Facility. Once recovery has been completed, ASIG will ship the fuel to a refinery using the truck rack to load the recovered fuel. Recovered solid wastes have been segregated and will be transported via sealed drums to a facility for proper disposal. Contaminated soil will be transported to Alaska soil recycling. ASIG will ensure that all permits are in order for transporting and disposal of recovered oily wastes.	STAR Manual: Storage and Transfer of Liquid Oily Wastes, Pumping Oily Liquids

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 – Off-Airport Fuel Facility Tank #9 Failure		
Time (T +)	Action	Additional Information
Ongoing	Recovered fluid volumes will be estimated by decanting the water from stored, recovered fuel and gauging the tanks prior to and after which the recovered product is pumped into them. The amount of fuel recovered using sorbent materials will be estimated by weighing the bags of material, subtracting the weight of the sorbent and bag material, and converting to gallons based on the fuel density.	
WILDLIFE PROTECTION		
Ongoing	Chadux, IBRRC, and state/federal wildlife protection agencies continue with wildlife response.	ARRT Wildlife Response Guidelines
SHORELINE CLEANUP		
Ongoing	After removal of floating product from open water and removal of any freestanding pockets of fuel along the shoreline is complete, shoreline impacts will be addressed. An assessment team will be formed to evaluate shoreline impacts and recommend cleaning strategies. Representatives from the USCG, ADEC, ADNR, ADFG, USFWS, and MOA will be invited to join the team.	NOAA SCAT Manual

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 1 Resource Summary

Resource	Assignment	Mobilization Timeline		Capacity	Operational period
		Time Ordered	Begin Operating		
Vacuum Truck SP 18	On-land recovery	0:50	1:05	2286 bpd	Vacuum trucks operate 40% of the time; other time is spent unloading and on maintenance.
Vacuum Truck SP 01	On-land recovery	0:50	1:05	245 bpd	
Vacuum Truck SP 02	On-land recovery	0:50	1:05	245 bpd	
5 x Emerald Vacuum Truck (80-bbl tank)	On-land recovery	0:50	5:00	2500 bpd each	
5 x Stellar Vacuum Truck (Chadux)	On-land recovery	0:45	5:00	998 bpd each	
Pump	On-land recovery	0:50	1:05		Pumps operate 60% of the time.
Pump	On-land recovery	0:50	1:05		
Culvert blocking materials	On-land containment and recovery	0:50	n/a		Culvert blocking is complete by 2:30.
2,000 gallon fast tank (Off-Airport Fuel Facility)	Storage		1:05	2,000 gallons	
Tank #1 (Off-Airport Fuel Facility)	Storage	2:40	17:40 ¹	36,100 bbl	Note that 15 hour assumption for Tank #1 drain-down is absolute maximum; could be done faster depending on inventory.
Chadux towable bladders – various sizes – total capacity 15,250 gal	Storage	0:45	2:30	15,250 gallons	Note: used for temporary storage of on-water recovered liquids.
6 (six) total 20,000 gallon land bladder (Chadux)	Storage	0:45	2:30	120,000 gallons	
2,400 gallon fast tank (Chadux)	Storage	0:45	2:30	2,400 gallons	
4 (four) total 10,000 gallon land bladder (Chadux)	Storage	0:45	2:30	120,000 gallons	
600 feet 44" inflatable boom (Chadux)	On-water containment	1:00	2:00		
6,000 feet Harbor Boom (Chadux)	ESA protection & on-water containment	1:00	2:30		
3 x Manta Ray Skimmers (Chadux)	On-water recovery	1:30	5:00	1032 bpd each (total = 4128 bpd)	EDRC = 20% nameplate
1 x Skimpack 1800	On-water	1:30	5:00	2054 bpd	EDRC = 20%

¹ Note that 15 hour assumption for Tank #1 drain-down is absolute maximum; could be done faster depending on inventory.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Resource	Assignment	Mobilization Timeline		Capacity	Operational period
		Time Ordered	Begin Operating		
(Chadux)	recovery				nameplate
1 x Desmi Mini-max skimmer (Chadux)	On-water recovery	1:30	5:00	1056 bpd	EDRC = 20% nameplate
3 x Diesel rope mop skimmers (Chadux)	On-water recovery	1:30	5:00	96 bpd each	EDRC = 20% nameplate
2 x Chadux landing craft	ESA protection & on-water free-oil recovery	1:30	5:00		
3 x Chadux skiffs	ESA protection & on-water free-oil recovery	1:30	5:00		
Chadux vessels of opportunity	ESA protection & on-water free-oil recovery	1:30	5:00		

Scenario 1 Recovery Amounts

Total spill amount: (b) (7)(F)

Total on-land recovery capacity Hours 0-1 = none

Total on-land recovery capacity Hours 1-5 = 2,776 bpd (115 bbl/hr)

Total on-land recovery capacity Hour 6-72 = 17,490 bpd (728 bbl/hr)

Total on-water recovery capacity Hours 0-5 = none

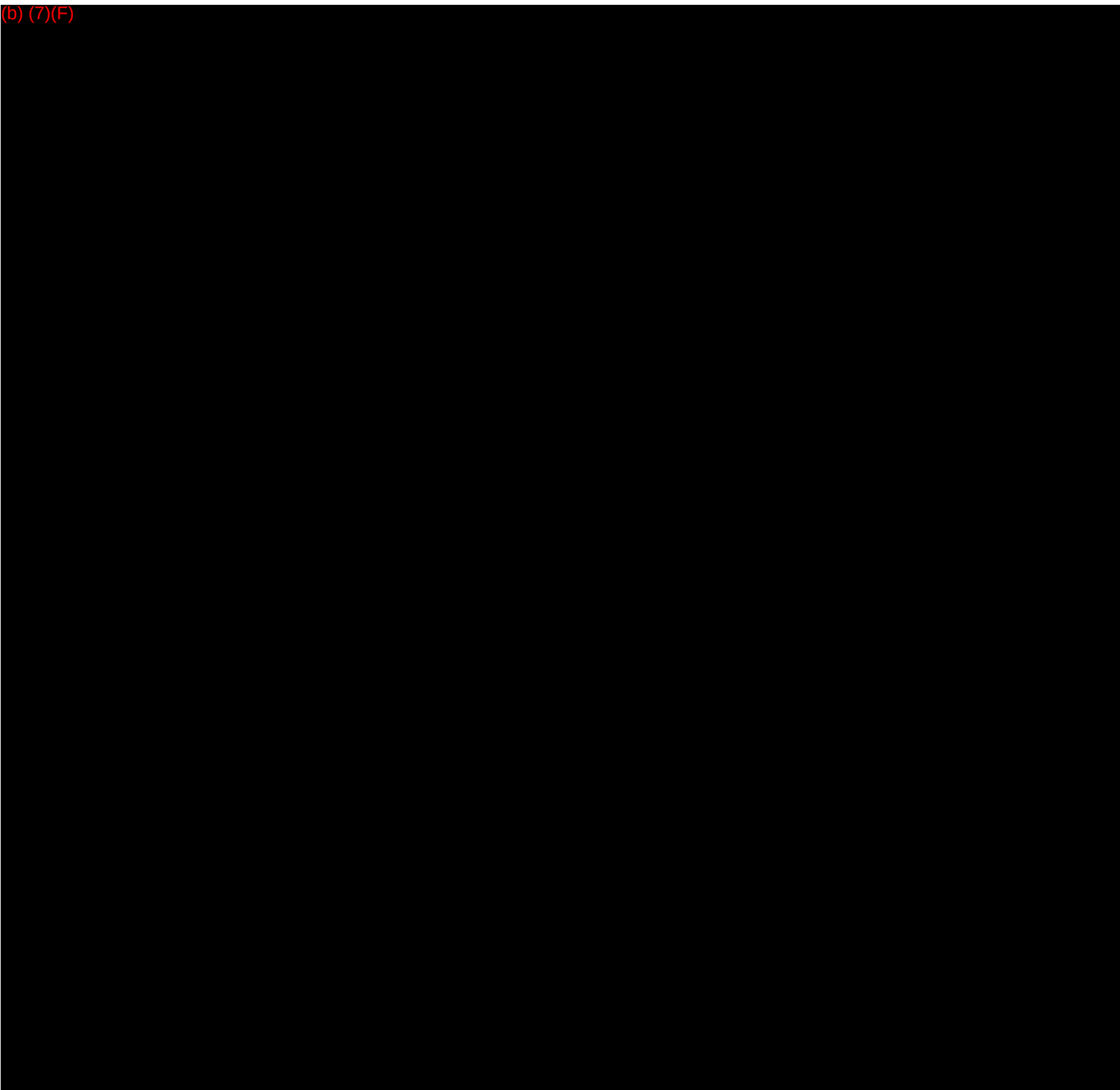
Total on-water recovery capacity Hour 6-72 = 7,526 bpd (313.5 bbl/hr)

	Amount recovered during operational period – on-land	Amount recovered during operational period – on-water	Amount recovered total per operational period
Period 1: 0 to 6 hours	1,303 bbl (2,776 bpd derated for ASIG 5 hrs of operation + 17,490 bpd derated for EAI & Chadux 1 hr of operation)	313 bbl (7,526 bpd derated; 1 hr of operation)	1,616 bbl
Period 2: 7 to 24 hours	13,104 bbl	5,634 bbl	18,738 bbl
Period 3 : 25 to 48 hours	17,490 bbl	7,526 bbl	25,016 bbl
Period 4: 49 to 72 hours	17,490 bbl	5,016 bbl ¹	22,506 bbl
Total at end of 72 hours:	49,387 bbl	18,489 bbl	70,386 bbl
Day 4 -6 Recovery	52,470 bbl	n/a	52,470 bbl
Total at End of Day 6	On-land recovery: 101,857 bbl On-water recovery: 18, 489 bbl Total recovery capacity by end of Day 6: 120,000 bbl Full on-land WCD volume recovered by end of Day 6 (State of Alaska RPS recovered within first 72 hours)		

¹ Full on-water spill volume is recovered by hour 64.

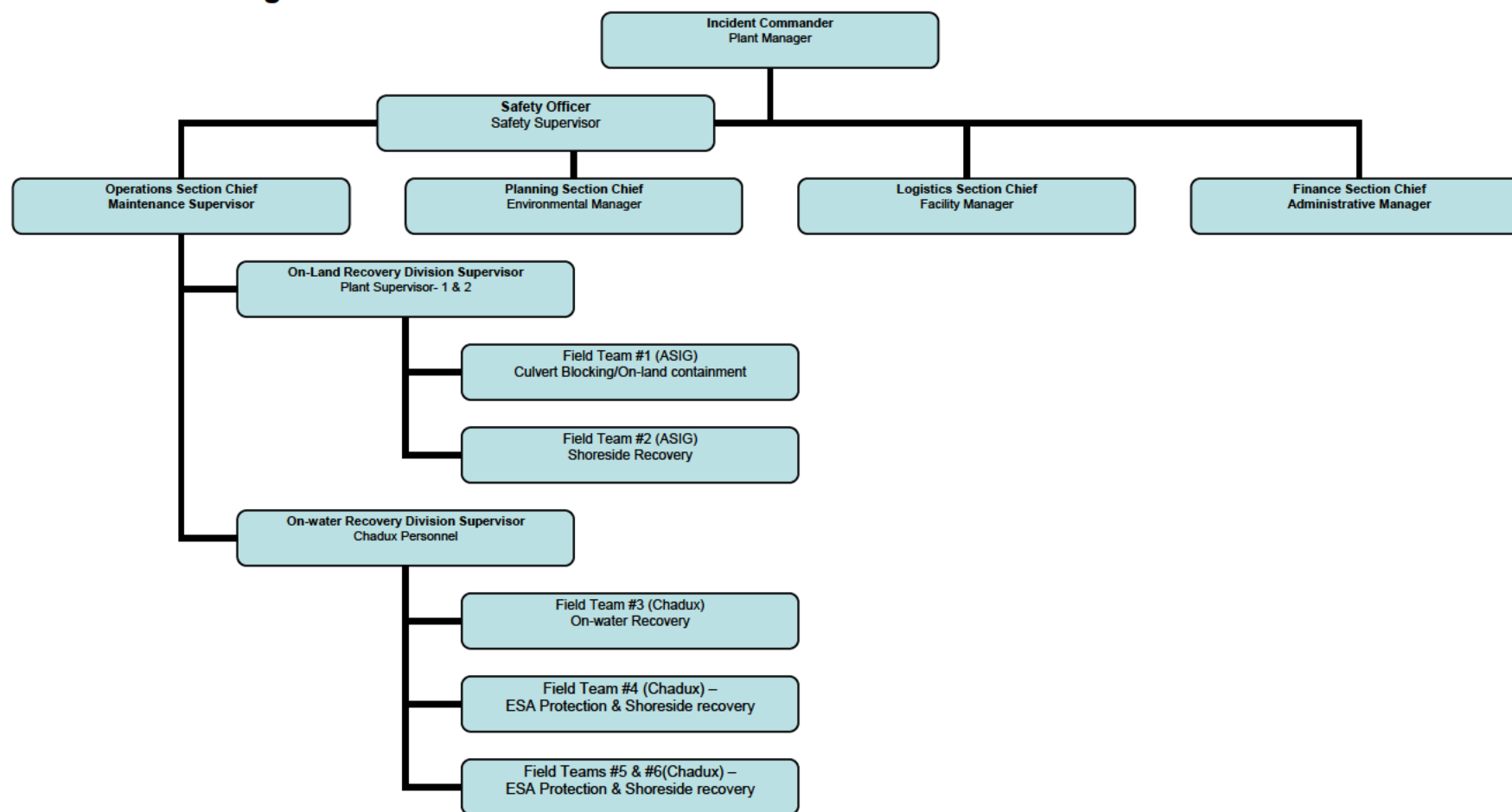
Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Scenario 1 ICS Organization Chart

This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6.2.2 Scenario #2 – Airport Fuel Facility Tank 1010 Failure

Scenario 2 – Airport Fuel Facility Tank 1010 Failure	
This scenario has been prepared in accordance with: 18 AAC 75.425 (e)(1)(F), 40 CFR 112.20 (h)(5)(i), and 33 CFR 154.1035 (b)(2).	
This scenario depicts representative oil spill response activities for a Jet A oil spill from a tank at Airport Fuel Facility with the loss of the (b) (7)(F)	
The information in this scenario describes one possible approach to organizing and managing a response from a damaged tank at Airport Fuel Facility in order to satisfy planning requirements for an oil spill response scenario.	
Response Type: WCD or RPS – land	Spill Volume (bbl): (b) (7)(F)
Source: After an earthquake, the 24" diameter outlet line ruptures at the flange before the valve on Tank 1010. The RSP volume of the tank, (b) (7)(F), is discharge from the tank over a short period of time, escapes the secondary containment and flows toward the AFFF building and then down a grass embankment to the drainage ditch that parallels Point Woronzof Drive.	
Date/Time: Sunday June 11, 2006 05:00	Season: Spring
CONDITIONS ON-SCENE: Temperature: 50 Winds: calm Sea state: N/A	Precipitation: light rain Visibility: Fair Tide/Currents: N/A Other:
ASSUMPTIONS: 1. The earthquake does not damage any other equipment or tank in the facility. 2. Secondary containment dike is breached. 3. The full RPS escapes secondary containment. 4. Based on field exercises, the time to travel from the Airport Fuel Facility storm drain and the drainage ditch to the outfall located west of the facility is 45 minutes.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
Operational Period 1: 0 to 6 hours		
Objectives and Strategies for Operational Period 1: • Ensure personnel safety; • Assess the situation for fire hazards; • Notifications to emergency personnel, the airport, response personnel, regulatory agencies; and, • Initial containment of the fuel		
INITIAL RESPONSE ACTIONS		
0:00	Earthquake occurs.	
0:00	After the earthquake, the Airport Fuel Facility Plant Operator checks the monitors in the control room. The automatic system triggered the ESDs and all pumps have shut down.	Section 3.1
0:10	Airport Fuel Facility Plant Operator conducts a yard check and observes fuel flowing from the secondary containment towards the storm drain. He radios the Operations Base to mobilize all on-duty response personnel.	
0:10	The Off-Airport Fuel Facility Plant Operator receives notification of the spill and mobilizes the Off-Airport Fuel Facility spill trailer.	Section 3.6
0:15	Airport Fuel Facility Plant Operator returns to control room and calls off-duty Plant Supervisor to notify of the spill. Plant Supervisor (Initial IC) notifies the General Manager (QI).	Section 1.2
0:15	Fueling Supervisor at Operations Base sends two ASIG field responders, the vacuum truck (SP18), and a truck-mounted vacuum system to Airport Fuel Facility (SP01).	
0:20	Initial IC completes mandatory notifications to NRC and ADEC.	Section 1.2
0:35	Fueling Supervisor notifies the IMT members, police/fire, and contacts Emerald Alaska and requests vacuum trucks and hazmat-certified responders.	Section 1.2

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
1:10 to 2:00	IMT assembled at operations base: Plant Manager (IC), one Plant Supervisor (Operations Section Chief), second Plant Supervisor (Division Leader #1), Environmental Manager (Planning Section Chief), Facility Manager (Logistics Section Chief), Maintenance Supervisor (Division Leader #2) and Safety Supervisor (Safety Officer). Airport Fuel Facility Plant Operator provides briefing to describe situation. The IMT determines the initial response strategy: • Division #1: Monitor and Recovery at Culvert Blocking • Division #2: Recovery at Facility General Manager (QI) maintains operations at the Airport Facility and provides a liaison role throughout the incident, but is not directly involved in incident management.	Scenario 2 Organization Chart
1:25	IC arrives at Airport Fuel Facility.	
1:40	QI completes internal corporate notifications.	Section 1.2
2:15	Safety Officer completes Incident Safety Plan. Conducts site assessment and determines that safe entry criteria have been met and it is safe to proceed with spill containment and recovery.	Section 1.3
PROCEDURES TO STOP THE DISCHARGE		
2:30	Operator assesses secondary containment and finds it to be ruptured and the fuel is leaking in multiple locations.	Section 3.1
FIRE PREVENTION/CONTROL		
0:35	Fire personnel arrive from airport fire station. Fire chief assesses the situation and determines there is no immediate fire danger but stands by at the scene.	Section 1.3
Ongoing	Safety Officer conducts initial safety briefing to all responders arriving on site. Responders are instructed to ensure that ignition and heat sources are removed or kept clear from the spill area.	
SPILL TRACKING AND SURVEILLANCE		
0:10	During the yard check the Airport Fuel Facility Plant Operator observes fuel flowing from the secondary containment towards the storm drain.	Section 3.1
Ongoing	Division #1 Leader monitors spill visually and reports back to IC and IMT.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
0:30 on	Field Team #1 (Airport Fuel Facility Plant Operator and field responders from Operations Base) block the outfall identified on the diagram with the Guillotine Gate block. One ASIG responder blocks storm drains onsite.	STAR Manual: Dikes, Berms and Dams
4:00	Environmental Manager contacts natural resource agencies to discuss potential impacts to nearby marshes and vegetation, and to arrange for an assessment of environmental impacts once the standing fuel has been recovered.	Section 3.10, ESI Maps
SPILL CONTAINMENT AND CONTROL		
0:20	Airport Fuel Facility plant operator retrieves drain cover material from Airport Fuel Facility spill trailer.	
0:20	Two on-duty ASIG personnel arrive onsite and initiate on-site storm drain blocking.	STAR Manual: Dikes, Berms, and Dams
0:35	Storm drain blocking complete.	
0:35	Field Team #1 initiates culvert blocking.	Guillotine Gate O&M
0:45 to 1:30	Four off-duty field responders arrive at Airport Fuel Facility. Two join Team #1 and mobilize the Airport Fuel Facility spill trailer to the outfall after contacting airport operations to access the AOA.	
0:35	Outfall blocked.	
RECOVERY OF SPILLED PRODUCT		
0:45	On-duty field responders utilize the two truck-mounted vacuum systems to recover standing fuel outside of the secondary containment.	STAR Manual: On-land Recovery
1:10	Two of the four off-duty field responders arrive on site after first stopping at the Operations Base and mobilizing two additional truck-mounted vacuum systems.	
1:10	Team #2 recovers fuel with pumps, vacuum truck, and truck-mounted vacuum systems from the drainage ditch and outside secondary containment.	
2:10	Team #2 initiates recovery from the outfall area behind the culvert guillotine gate.	
5:00	Emerald responders and vacuum trucks arrive on-site and begin recovery operations.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
Ongoing	No product remaining in damaged tank.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
WASTE MANAGEMENT		
0:45 & ongoing	Team #2 offloads recovered fuel from the vacuum truck and truck-mounted vacuum systems into tank 1060 via the truck loading/unloading rack. The recovered fuel from the pumps is transferred to 1060 via fuel hoses. The recovered fuel will be either sent back to the refinery for reprocessing or filtered and downgraded and sold as heating oil.	STAR Manual: Recovery and Transfer of Liquid Oily Fluids
Ongoing	Recovered oily wastes (solid) would be segregated, placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	STAR Manual: Recovery and Transfer of Liquid Oily Fluids
WILDLIFE PROTECTION		
4:00	Wildlife trustee agencies will be contacted with a request to assess the spill area for impacts to birds, fish, or other wildlife. If wildlife impacts are observed, ASIG will activate IBRRC.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts.	
Operational Period 2: 7 to 24 hours		
Objectives and Strategies for Operational Period 2: • Ensure personnel safety; • Contain and recover spilled fuel; • Protect environmentally sensitive areas; and • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Team #1 field responders continue to visually track the spilled fuel and to report back through the chain of command.	STAR Manual: Plume Delineation
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
12:00	Planning Section Chief calls in an environmental assessment firm to assess the impact to soil and groundwater and to the wetlands area. A site assessment will be forwarded to ADEC and a corrective action plan will be developed and implemented.	
SPILL CONTAINMENT AND CONTROL		
By end of Period 1	Culverts, storm drains and outfalls are blocked and take minimal attention from spill responders to maintain.	STAR Manual: Dikes, Berms, and Dams

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
RECOVERY OF SPILLED PRODUCT		
7:00	Team #2 now consists of eight ASIG field responders – replacing the original day shift workers from Period #1 who had been working for 12 hours	STAR Manual: On-Land Recovery
Ongoing	Team #2 recovers fuel from drainage ditches, culverts, outfalls, and secondary containment with pumps, vacuum trucks, and truck-mounted vacuum systems (ASIG and Emerald). EDRC is 7961 bpd.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
Ongoing	No product remaining in damaged tanks. Logistics Section Chief contacts engineering contractor to request inspection and repairs.	
WASTE MANAGEMENT		
Ongoing	Team #2 transfers recovered fuel via the loading/unloading rack into Tank 1060. Once Tank 1060 nears capacity, it can be emptied using the truck loading rack and/or the Jet Fuel Pipeline and fuel can be transported to Tank #1 at the Off-Airport Fuel Facility or to another storage/disposal facility.	STAR Manual: Recovery and Transfer of Liquid Oily Fluids
Ongoing	Contaminated soil would be stored in a lined secondary containment area. This area would be lined prior to use in accordance with ADEC guidelines. Recovered oily wastes (solid) would be segregated, placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting. It is unlikely that a significant amount of oily waste debris other than soil and sorbent material would result from a spill cleanup.	STAR Manual: Waste Segregation
WILDLIFE PROTECTION		
Ongoing	Site assessment will consider any potential wildlife impacts, and address these in corrective plan. If wildlife response or rehabilitation is required, IBRRC will be contacted.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
Operational Period 3: 25 to 48 hours		
Objectives and Strategies for Operational Period 3: • Ensure personnel safety; • Recover spilled fuel from outside secondary containment; • Begin draining secondary containment; • Protect environmentally sensitive areas; • Transfer recovered fuel for storage and disposal; and • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Team #1 continues to visually track the spilled fuel and to report back through the chain of command.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
30:00	If marshes or other vegetation communities were impacted by the spill, cleanup actions would be based on the recommendations of an assessment team including a contractor, ADEC, and other resource agencies. Site assessment and remediation would be initiated as soon as possible after standing oil is removed from spill area.	
SPILL CONTAINMENT AND CONTROL		
Ongoing	Team #1 continues to monitor and maintain culvert, outfall, and storm drain blocks.	STAR Manual
RECOVERY OF SPILLED PRODUCT		
Ongoing	Team # 2 continues to recover fuel from the drainage ditches and culvert, and to monitor the outfall. EDRC is 7961 bpd.	
29:00	Begin recovering fuel from the secondary containment using piping retrofitted to pump fuel at 888 bph.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
48:00	AFSC engineering contractor survey the damaged tank and completed an assessment on how and when Tank 1010 can be repaired.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
WASTE MANAGEMENT		
Ongoing	Team #2 transfers recovered fuel to 1060 and Tank #1 at Off-Airport Fuel Facility which is ultimately either sent back to the refinery for reprocessing or filtered and downgraded and sold as heating oil.	STAR Manual: On- Land Recovery
Ongoing	Contaminated soils would be stored in a lined secondary containment area. This area would be lined prior to use in accordance with ADEC guidelines. Recovered oily wastes (solid) would be segregated, placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting. It is unlikely that a significant amount of oily waste debris other than soil and sorbent material would result from a spill cleanup.	
WILDLIFE PROTECTION		
Ongoing	All recommendations from fish and wildlife agencies, especially recommendations from experts on flora and fauna, will be taken into consideration prior to initiating cleanup of vegetation areas. Every effort would be made to gain a consensus on final cleanup actions from the assessment team, to include wildlife agencies. Site assessment would be initiated as soon as possible after standing oil is removed from spill area.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts.	
Operational Period 4: 49 to 72 hours		
Objectives and Strategies for Operational Period 4: • Ensure personnel safety; • Initiate cleanup of spill impacted area; • Continue with survey and initiate repair of damaged tank. • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
49:00	Spill has been contained and recovered; no further surveillance required beyond routine prevention programs.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	If marshes or other vegetation communities were impacted by the spill, cleanup actions would be based on the recommendations of an assessment team including a contractor, ADEC, and other resource agencies. Site assessment and remediation would be initiated as soon as possible after standing oil is removed from spill area.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 – Airport Fuel Facility Tank 1010 Failure		
Time (T +)	Action	Additional Information
SPILL CONTAINMENT AND CONTROL		
Ongoing	Spill contained and recovered.	
RECOVERY OF SPILLED PRODUCT		
Ongoing	EDRC is 7961 bpd (3291 pumps, 4464 vac trucks).	
Ongoing	Continue collection of remaining fuel on-land outside of the secondary containment.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
72:00	Engineering assessment completed and tank repair plan drafted. Tank repair plan will be submitted to ADEC for review and approval.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel is transferred via the truck rack to a refinery for reprocessing. Contaminated soils and recovered solid waste will be manifested and shipped to appropriate disposal facilities.	
WILDLIFE PROTECTION		
Ongoing	All recommendations from fish and wildlife agencies, especially recommendations from experts on flora and fauna, will be taken into consideration prior to initiating cleanup of vegetation areas. Every effort would be made to gain a consensus on final cleanup actions from the assessment team, to include wildlife agencies. Site assessment would be initiated as soon as possible after standing oil is removed from spill area.	
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 2 Resource Summary

Resource	Assignment	Mobilization Timeline		Capacity (Nameplate/ Derated to 20%)	Operational period
		Time Ordered	Begin Operating		
Vacuum Truck SP 18	Recovery	0:15	0:45	2286 bpd	Vac trucks operate 40% of the time; other time is spent unloading and on maintenance.
Vacuum Truck SP 01	Recovery	0:40	1:10	245 bpd	
Vacuum Truck SP 02	Recovery	0:40	1:10	245 bpd	
5 x Emerald Vacuum Truck (80- bbl tank)	Recovery	0:35	5:00	2500 bpd each	
Pump	Recovery		1:15	823 bpd	Pumps operate 60% of the time.
Pump	Recovery		1:15	2468 bpd	
Tank 1060	Recovered oil storage			5,625 bbl	
Tank #1	Recovered oil storage			36,100 bbl	
Culvert Blocking Materials	On-land containment and recovery	0:50	n/a		Culvert blocking is complete by 2:30.

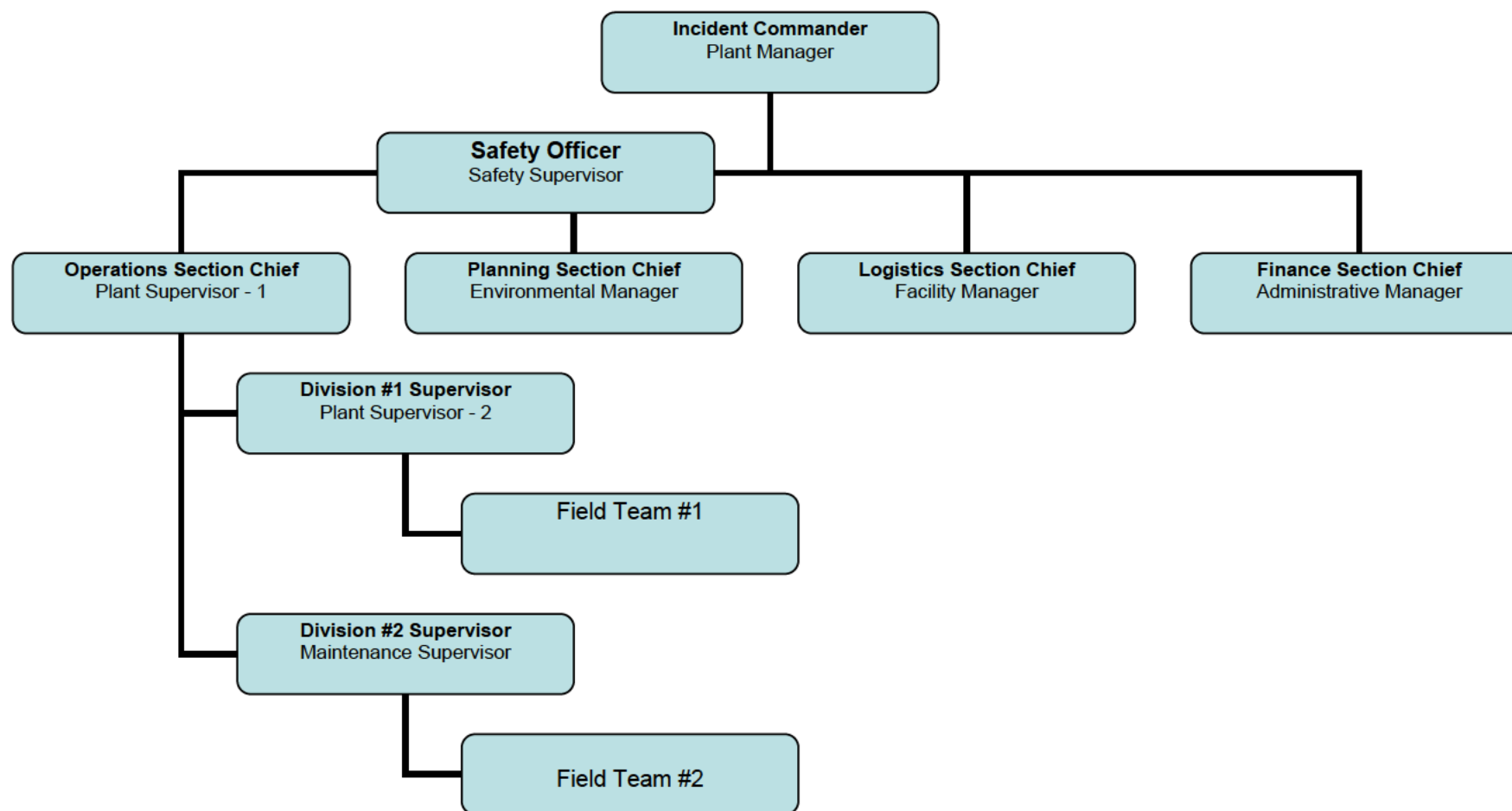
Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Scenario 2 ICS Organization Chart

This page is intentionally blank.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6.2.3 Scenario #3: Jet Fuel Pipeline Release in Summer

Scenario 3 – Jet Fuel Pipeline Release, (Summer)	
This scenario has been prepared in accordance with: 18 AAC 75.425 (e)(1)(F), 40 CFR 112.20 (h)(5)(i), and 33 CFR 154.1035 (b)(2).	
This scenario depicts representative oil spill response activities for a Jet A oil spill from the Jet Fuel Pipeline with the loss of the (b) (7)(F)	
The information in this scenario describes one possible approach to organizing and managing a response from a damaged pipeline in order to satisfy planning requirements for an oil spill response scenario.	
Response Type: WCD or RPS – water	Spill Volume (bbl): (b) (7)(F)
Source: A contractor doing trenching work along the mud flats breaches the pipeline with a backhoe southwest of the Chester Creek outfall. Fuel pours out of the pipeline quickly filling the excavation trench and spilling out onto the mud flats. Within the first half hour (b) (7) spread out on the mud flats, (b) (7) are contained in a trench, and the remaining (b) (7) release within T + 2:00	
Date/Time: Wednesday August 9, 2006. 14:00	Season: Summer
CONDITIONS ON-SCENE: Temperature: 60 degrees Fahrenheit Winds: calm	Precipitation: none Visibility: Good Tide/Currents: Low Tide -3.4feet at 2:50 p.m.
ASSUMPTIONS: 1. High tides are 29.9ft at 8:40 p.m. on the 9th, 31.8 ft at 8:23 a.m. and 30.8 ft at 9:15 p.m. on the 10th, and 32.0 ft at 9:11 a.m. and 31.7 ft at 9:50 p.m. on the 11th. 2. Low tides are 2.7 ft at 3:05 a.m. and -4.0 ft at 3:32 p.m. on the 10th, 0.8 ft at 3:50 a.m. and -3.9 at 4:13 p.m. on the 11th. 3. Two hours before high tide until three hours before low tide the spill site cannot be accessed. 4. On–water recovery efforts are feasible during times of high tides.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
Operational Period 1: 0 to 6 hours		
Objectives and Strategies for Operational Period 1: • Ensure personnel safety; • Assess the situation for fire hazards; • Stop the discharge; • Notifications to emergency personnel, response personnel, regulatory agencies; and, • Initial containment of the fuel.		
INITIAL RESPONSE ACTIONS		
0:00	(b) (7)(F)	
0:10	Airport Fuel Facility Plant Operator notes the shutdown on the monitor and radios the Plant Supervisor (IC), who is currently at the Operations Base.	
0:10	Plant Supervisor (IC) instructs Airport Fuel Facility Plant Operator and Off-Airport Fuel Facility Plant Operator to conduct a right-of-way (ROW) inspection to determine the cause of the shutdown.	
0:10	Off-Airport Fuel Facility Plant Operator initiates ROW inspection from the Ship Creek vault.	
0:15	Airport Fuel Facility Plant Operator departs for Chester Creek location.	
0:30	Airport Fuel Facility Plant Operator arrives at the Chester Creek location, assesses the situation, and radios the Plant Supervisor confirming the pipeline breach.	
0:35	Plant Supervisor notifies Plant Manager, who notifies General Manager (QI).	Section 1.2
0:35	Plant Supervisor (IC) gathers the Plant Manager (Operations Section Chief), General Manager (QI), Safety Supervisor (Safety Officer), Facility Manager (Logistic Section Chief), and Environmental Manager (Planning Section Chief) and provides a briefing of the situation. The IMT determines the initial response strategy and forms Division #1 which consists of: • Field Team #1: Deploy underflow dam • Field Team #2: Recovery	Section 1.5.4 and 1.6.1
0:40	The IC completes mandatory notification of ADEC and NRC. The QI completes internal corporate notifications and notifies AFSC.	Section 1.2

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
0:45	Airport Fuel Facility Plant Operator returns to Airport Fuel Facility to mobilize the spill trailer.	
0:45	Division Leader #1 assembles the eight on-duty field responders.	Scenario 3 Organization Chart
0:45	Off-Airport Fuel Facility Operator hears about pipeline breach over radio and returns to plant to mobilize the spill trailer.	
0:50	Operations Section Chief completes notifications to fire/police and recalls off-duty personnel.	Section 1.2
0:50	IC mobilizes Chadux and departs for site.	Section 1.2
0:50	Chadux notified and begins mobilization.	Section 1.5, Section 3.8
1:00	Plant Supervisor arrives on site.	
1:05	Operations Section Chief and QI and IC arrive on site.	
1:10	Airport Fuel Facility Plant Operator arrives on site with spill trailer. Off-Airport Fuel Facility Operator also arrives on site with spill trailer.	
1:50	Chadux arrives on site with response vessels, boom, and skimmers.	Chadux Response Manual and Equipment Lists
1:55	Safety Supervisor arrives on site.	Section 1.3
Ongoing	Planning Section Chief submits regular reports to agencies on spill situation status and response actions.	
PROCEDURES TO STOP THE DISCHARGE		
0:45	IC orders drain down of line using vacuum truck (SP-18).	Section 1.6.1
0:45	Planning Section Chief determines that excavation and repair of the line before the site is inundated by the flood tide is not feasible.	
1:00	Two ASIG responders arrive on-scene with SP-18.	
1:30	Initiate line drain-down.	
3:30	Line drain down completed.	
FIRE PREVENTION/CONTROL		
1:05	Police and Fire personnel arrive at the Coastal Trail to limit access.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
1:05	Fire chief assesses the situation and determines there is no immediate fire danger but stands by at the scene.	
1:10	Police route personnel off the Coastal Trail.	
2:15	Safety Officer completes site safety plan.	
Ongoing	All incoming response personnel are briefed by Safety Officer on safety plan and policies. Responders are instructed to ensure that ignition and heat sources are removed or kept clear from the spill area.	
SPILL TRACKING AND SURVEILLANCE		
0:30	Airport Fuel Facility plant operator arrives at the Chester Creek location and provides visual confirmation of the release.	STAR Manual: Spill Tracking
0:40	Planning Section Chief contacts the Anchorage Tide station to obtain current water level, tide stage, wind direction and wind speed. Determines that spill site will be inundated with water at 1800 (T + 4:00).	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
2:00	Planning Section Chief identifies sensitive areas at risk based on spill trajectory and ESI maps. Identifies GRS in potential impact areas (Ship Creek and Fish Creek). Identifies Chester Creek as additional sensitive area requiring protection.	GRS: NCI-01 and NCI-02; NOAA ESI Maps; Section 3.10
2:00	Members of Field Team #3 initiate exclusion booming at mouth of Fish Creek. Team periodically checks boom and monitors shoreline for pooled oil that may be recovered.	GRS: NCI - 01 STAR Manual
2:30	Field Team #3 initiates diversion booming of Ship Creek (1500 ft boom) using landing craft and skiff. Similar approach taken at Chester Creek.	GRS: NCI - 02 STAR Manual
4:00	Field Team #3 (broken into three sub-teams, each assigned to a specific ESA) completes booming at Ship and Fish Creeks and Chester Creek.	
SPILL CONTAINMENT AND CONTROL		
1:10	Maintenance Supervisor and two ASIG responders arrive on site with SP-01 & SP-02 (vac trucks). Form Field Team #2	STAR Manual: Dikes, Berms, and Ditches
1:15	Field Team #2 begins to hand-dig interception trench down-gradient of spill site and construct boom-berm using “river” boom (owned by ASIG).	
1:30	Field Team #1 constructs underflow dam.	STAR Manual
1:30	Field Team #2 initiates stream blocking.	STAR Manual
1:30	Field Team #1 places static containment boom around spill site.	STAR Manual
2:30	Underflow dam complete. Culvert blocking complete.	Section 1.5.4 and 1.6.1, STAR Manual

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
2:45	Interception trench complete.	Scenario 1 diagram
RECOVERY OF SPILLED PRODUCT		
2:30	Field Team #2 initiates recovery of standing fuel using SP-01 and SP-02 (vac trucks, EDRC of 245 bpd each – operation 40%).	Equipment Table, Recovery Table
3:30	SP18 (EDRC 2286 bpd) initiates recovery.	Equipment table, recovery table
4:00	Spill site is inundated by incoming tide and on-land recovery stops.	
5:00	On-water recovery initiated by Field Team #4 due to high tide. EDRC is 1032 bpd for one Manta Ray skimmer. One hour on-water recovery.	STAR Manual
DAMAGED PIPELINE REPAIR		
2:00	Logistics Section Chief initiates discussion of pipeline repair with pipeline contractors.	Section 3.8
WASTE MANAGEMENT		
2:15	Chadux sets up fast tank and land bladders adjacent to recovery areas.	STAR Manual: Scenario Equipment List
Ongoing	Recovered fuel from vac trucks stored in ASIG's 2,000 gallon fast tank.	
Ongoing	Fuel recovered with pumps emptied into Chadux's 20,000 gallon bladder.	
Ongoing	Fuel recovered from line drain down is stored in Off-Airport Fuel Facility slop tank or reclaim tank.	
WILDLIFE PROTECTION		
1:00	Chadux mobilizes IBRRC and deploys wildlife response trailer from Anchorage warehouse.	
SHORELINE CLEANUP		
Ongoing	Field Team #3 periodically checks the boom at Fish Creek and monitors the shore line for pooled free product. Radio to vacuum trucks if any is encountered for recovery.	
Operational Period 2: 7 to 24 hours		
Objectives and Strategies for Operational Period 2:		
• Personnel safety; • Boom maintenance; • Wildlife hazing; • Sorbent boom replacement; • Coordination of response with agencies; and, • Recovery of standing and on-water fuel.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Response personnel continue to visually track the spilled fuel and to report back through the chain of command.	
Ongoing	Planning Section Chief updates trajectory estimates as needed and continues to monitor tides for site access issues. Site to be accessible from land after 23:00 (T + 9:00).	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Field Team #3 periodically checks Fish Creek boom and monitors shoreline for pooled oil that may be recovered.	GRS: NCI -01 STAR Manual
Ongoing	Chadux 24' landing crafts stays on-scene to tend boom at Ship Creek.	GRS: NCI - 02 STAR Manual
SPILL CONTAINMENT AND CONTROL		
Ongoing	Field Team #1 monitors and tends as needed creek and trench boom.	STAR Manual
Ongoing	Sorbent materials continually placed and replaced along mud flats.	
RECOVERY OF SPILLED PRODUCT: On-land		
9:00	On-land recovery resumed due to low tide. Total hours site is accessible = 10. EDRC of vac trucks 2776 bpd. Recovery is now only 20% due to limited accessibility reaching fuel.	Scenario 3 Recovery Tables
RECOVERY OF SPILLED PRODUCT: On-water		
7:00 to 9:00; 17:00 to 22:00	On-water recovery resumed during periods of high tide. A total of 7 hours.	
DAMAGED PIPELINE REPAIR		
10:30	The pipeline repair technician patches the leak using a pipeline clamp (Plidco® 12").	
WASTE MANAGEMENT		
Ongoing	Recovered fluids pumped from skimming systems and transfer pumps into bladders or Fastanks. Fluids collected onshore would be offloaded from the Fastanks to vacuum trucks at the access point to the mud flats area on the Coastal Trail.	
WILDLIFE PROTECTION		
8:00	Chadux wildlife trailer arrives on-scene. IBRRC responders en route.	
10:00	Chadux responders initiate wildlife hazing. State and federal trustee agencies participate.	ARRT Wildlife Response Guidelines
SHORELINE CLEANUP		
Ongoing	Field Team #3 periodically checks the boom at Fish Creek and monitors the shore line for pooled free product. Radio to vacuum trucks if any is encountered for recovery.	
24:00	Planning Section Chief begins process of forming shoreline assessment	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
	teams, to include agencies.	
Operational Period 3: 25 to 48 hours		
Objectives and Strategies for Operational Period 3: • Personnel safety; • Wildlife hazing; • Sorbent boom replacement; • Recovery of standing and on-water fuel; • Coordination of response with agencies; and • Assessment of shoreline impacts.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Response personnel continue to visually track the spilled fuel and to report back through the chain of command.	
Ongoing	Planning Section Chief updates trajectory estimates as needed and continues to monitor tides for timing of on-land and on-water recovery operations.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Field Team #2 periodically checks Fish Creek boom and monitors shoreline for pooled oil that may be recovered.	GRS: NCI -01 STAR Manual
Ongoing	Chadux 24' landing crafts stays on-scene to tend boom at Ship Creek.	GRS: NCI -02 STAR Manual
SPILL CONTAINMENT AND CONTROL		
Ongoing	Continue to monitor boom and to replace sorbents in mud flats.	STAR Manual Tactic
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	Field Team #2 continues on-land recovery with pumps and vac trucks during periods of low tide. Recovery rates are expected to decrease as standing fuel amounts are lowered and ratio of recovered water/fuel changes. Recovery amounts expected to be low, since most of the fuel has already been recovered.	Recovery Table, Equipment Table
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	Field Team #4 continues with on-water recovery using Vikoma skimmer during periods of high tide.	
Ongoing	Recovered oil is stored in Chadux's on-water towable bladders, with a total capacity of 15,250 gallons. Chadux will bring in a barge of opportunity as needed to pump out bladders.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
DAMAGED PIPELINE REPAIR		
33:00 - ongoing	The AFSC contractor pipeline repair crew begins excavation of the pipeline to complete permanent repair.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids from on-water is pumped from skimming systems and transfer pumps into bladders or Fastanks. Recovered fuel and liquids from on-land is stored in vac trucks and transferred to slop tank at the Off-Airport Fuel Facility.	
Ongoing	Recovered oily wastes (solid) would be placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	
WILDLIFE PROTECTION		
Ongoing	Chadux, IBRRC, and state/federal wildlife protection agencies continue with wildlife response.	
SHORELINE CLEANUP		
Ongoing	After removal of floating product from open water and removal of any freestanding pockets of fuel along the shoreline is complete, shoreline impacts will be addressed. An assessment team will be formed to evaluate shoreline impacts and recommend cleaning strategies. Representatives from the USCG, ADEC, ADNR, ADFG, USFWS, and MOA will be invited to join the team.	
Operational Period 4: 49 to 72 hours		
Objectives and Strategies for Operational Period 4: • Personnel safety; • Wildlife hazing; • Sorbent boom replacement; • Recovery of standing and on-water fuel; • Coordination of response with agencies; and • Shoreline assessment and cleanup.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Response personnel continue to visually track the spilled fuel and to report back through the chain of command.	
Ongoing	Planning Section Chief updates trajectory estimates and continues to monitor tides for timing of on-land and on-water recovery on mud flats.	Section 3,10
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Sensitive resources, such as businesses and public use lands are discussed in detail in Section 3.10. The resources discussed in Section 3.10 are found within the planning distance (Section 3.2.2).	
Ongoing	Fish Creek, Ship Creek and Chester Creek booms are maintained until all	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
	fuel is removed/recovered and the potential for re-oiling is gone.	
SPILL CONTAINMENT AND CONTROL		
Ongoing	Continue to monitor boom and replace sorbents in mud flats until cleanup is complete.	STAR Manual
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	On-land recovery continues during periods of low tide with trash pumps and vac trucks. Recovery amounts expected to be low, since most of the fuel has already been recovered. Recovered fuel stored in fastanks and slop tanks.	Recovery table, Equipment Table
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	Two Manta Ray skimmers continue to operate during periods of high tide to recover refloated oil.	
Ongoing	Recovered oil stored in Chadux towable bladders and ultimately transferred to a barge of opportunity.	
DAMAGED PIPELINE REPAIR		
Ongoing	The AFSC contractor pipeline repair crew continues excavation of the pipeline to complete permanent repair.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids from on-water is pumped from skimming systems and transfer pumps into bladders or Fastanks. Recovered fuel and liquids from on-land is stored in vac trucks and transferred to slop tank at the Off-Airport Fuel Facility.	
Ongoing	Recovered oily wastes (solid) would be placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	
WILDLIFE PROTECTION		
Ongoing	Chadux, IBRRC, and state/federal wildlife protection agencies continue with wildlife response.	
SHORELINE CLEANUP		
Ongoing	The shoreline of Knik Arm, the primary shoreline that could be impacted by a spill, consists of sheltered tidal flats or broad, mixed sands and gravel beaches. Because the soil that comprises the tidal flats is fine-grained and saturated, the penetration of fuel into the soil strata should be minimal. A likely course of action for cleanup of the mud flats would be to place lengths of containment boom along impacted shoreline areas to capture fuel as it washes from the mud flats over several tide cycles. Any fuel would be captured by absorbent boom placed along the shoreward side of the containment boom. It is not anticipated that removal of contaminated soil would be required. If necessary, however, contaminated soil could be excavated using a backhoe, placed into the bucket of a front-end loader and hauled to a lined dump truck for hauling to a local thermal processor. The shorelines along the lower sections of Ship, Chester, and Fish Creeks are similar in composition to the shorelines of Knik Arm. The same techniques would be used to remove	ESI Maps, NOAA SCAT Guidelines

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 – Jet Fuel Pipeline Spill (Summer)		
Time (T +)	Action	Additional Information
	fuel. Any shoreline cleanup in one of the creeks would be closely coordinated with ADF&G to minimize adverse impacts that could be caused by an intensive cleanup effort. During cleanup, every effort would be made to minimize impact to shoreline areas. It is possible that more harm than good could be done by attempting to actively remove fuel contamination from shoreline areas, especially given the fact that the tidal action and evaporation would likely remove most contamination in a relatively short period of time, perhaps several days to several weeks. The only exception might be shoreline impacts that occurred during a higher than normal tide. In these instances some areas of shoreline might require cleanup actions such as flushing.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 3 Resource Summary

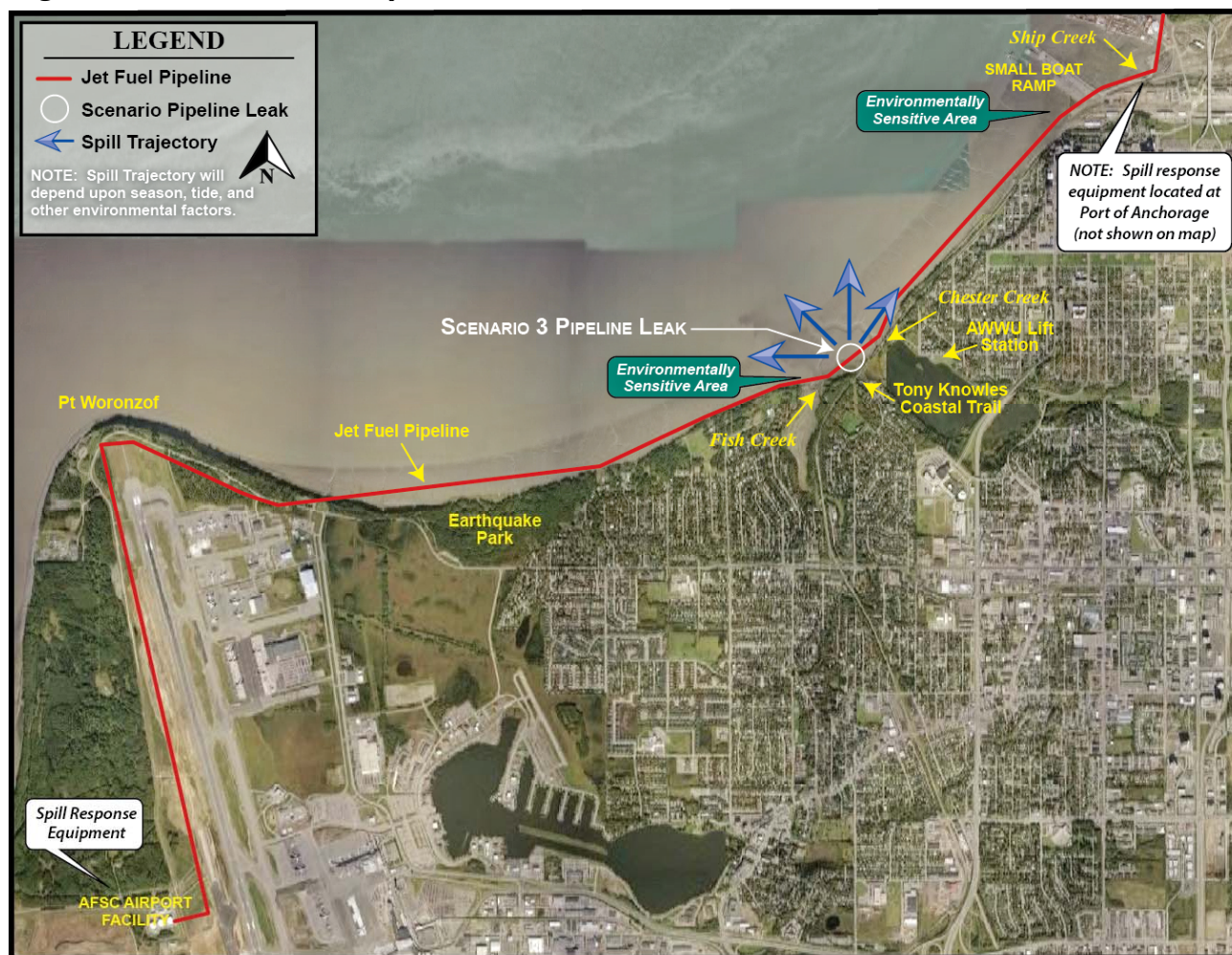
Resource	Assignment	Mobilization Timeline		Capacity (Nameplate)	Operational period
		Time Ordered	Begin Operating		
Vacuum Truck SP 18	On-land recovery	0:45	3:30	2286 bpd	Vac trucks assumed to operate 40% during Period 1 and 20% of the time from then on due to inundation during high tide.
Vacuum Truck SP 01	On-land recovery	0:45	2:30	245 bpd	
Vacuum Truck SP 02	On-land recovery	0:45	2:30	245 bpd	
6 x 20,000 gallon land bladder (Chadux)	Recovered oil storage	1:00	2:30	120,000 gallons	
2,400 gallon fast tank (Chadux)	Recovered oil storage	1:00	2:30	2,400 gallons	
6,000 feet Harbor Boom (Chadux)	ESA protection & on-water containment	1:00	2:30		
Slop tank (ASIG)	Recovered oil storage			2,000 gal	
Tank #1	Recovered oil storage			36,100 bbl	
1 x Manta Ray weir skimmer (Chadux)	On-water recovery	1:30	5:00	1032 bpd	EDRC = 20% nameplate; operate during tide inundation
2 x Chadux landing craft	ESA protection & free-oil recovery	1:30	5:00		
3 x Chadux skiffs	ESA protection & free-oil recovery	1:30	5:00		

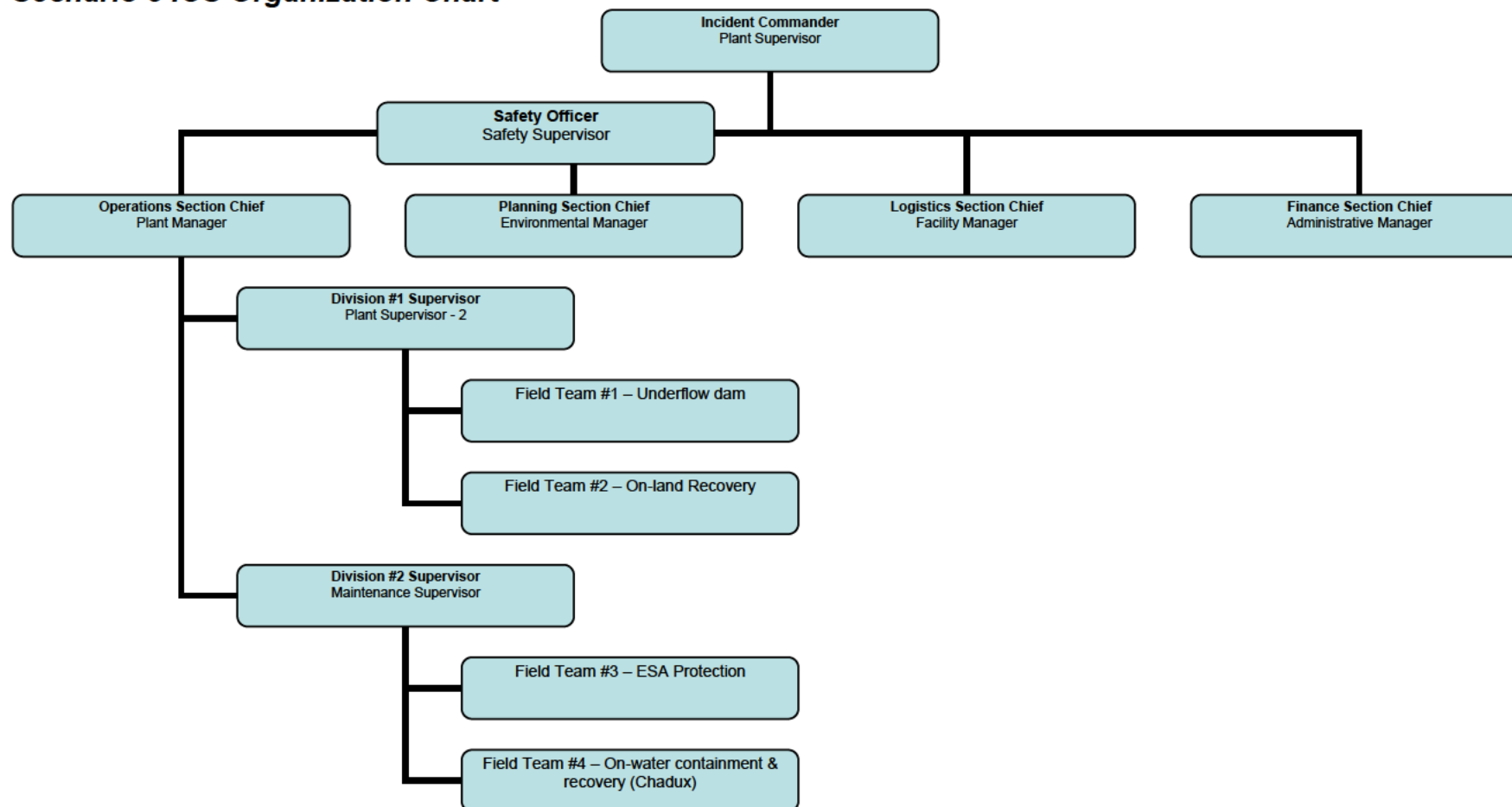
Scenario 3 Recovery Amounts

	Amount recovered during operational period (on-land)	Amount recovered during operational period (on-water)	Amount recovered total
Period 1: 0 to 6 hours	21.8 bbl	43 bbl	64.8 bbl
Period 2: 7 to 24 hours	231.3 bbl	301 bbl	532.3 bbl
Period 3 : 25 to 48 hours	115.6 bbl	122.3 bbl	835 bbl +
Period 4: 49 to 72 hours	Variable, not substantial	Variable, not substantial	835 bbl +

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Figure 1.6-3: Jet Fuel Pipeline Scenario**Scenario #3: Jet Fuel Pipeline Leak**

Scenario 3 ICS Organization Chart

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6.2.4 Scenario #4 – Jet Fuel Pipeline Release in Winter

Scenario 4 – Jet Fuel Pipeline Release, (Winter)	
This scenario has been prepared in accordance with: 18 AAC 75.425 (e)(1)(F), 40 CFR 112.20 (h)(5)(i), and 33 CFR 154.1035 (b)(2).	
This scenario depicts representative oil spill response activities for a Jet A oil spill from the Jet Fuel Pipeline with the loss of the (b) (7)(F)	
The information in this scenario describes one possible approach to organizing and managing a response from a damaged pipeline in order to satisfy planning requirements for an oil spill response scenario.	
Response Type: WCD or RPS – water	Spill Volume (bbl): (b) (7)(F)
Source: A pinhole leak caused by corrosion manifested in the line below the dynamic leak detection threshold and above the static leak detection threshold. Approximately 750 gallons of fuel are on the surface of the mud flats at the time of detection and fuel continues to discharge at a rate of about 1 gpm.	
Date/Time: December 11, 2006. 07:00	Season: Winter
CONDITIONS ON-SCENE: Temperature: 15 degrees Fahrenheit Winds: North, 20 kts	Precipitation: None Visibility: Overcast Tide/Currents: Next high tide 22.6 feet at t+18:00
ASSUMPTIONS: Winter conditions in Cook Inlet make a response in the mud flats or in Cook Inlet unsafe due to the presence of ice. Therefore, this scenario would focus on repairing the damaged pipeline, monitoring the area for spill impacts, and revisiting the spill site for potential cleanup and remediation during the spring melt.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 4 – Jet Fuel Pipeline Spill (Winter)		
Time (T +)	Action	Additional Information
Operational Period 1: 0 to 72 hours		
Objectives and Strategies for Operational Period 1: • Ensure personnel safety; • Assess the situation for fire hazards; • Stop the discharge; • Notifications to emergency personnel, response personnel, regulatory agencies; and, • Initiate pipeline repairs.		
INITIAL RESPONSE ACTIONS		
0:00	A static leak detection test is concluded & indicates that there is a leak occurring somewhere along the mud flats.	
0:10	Airport Fuel Facility plant operator notifies the Plant Supervisor.	
0:10	Plant Supervisor receives initial notification. Instructs operator to conduct a second leak detection test to confirm data.	
0:20	System fails the second static leak detection test. Plant Supervisor notifies the Plant Manager (IC) and begins to assemble a reconnaissance team.	
0:20	Plant Manager notifies Chadux of potential release.	
0:20	Operator initiates recall of IMT to Operations Base. Notifies police/fire, ADEC, NRC.	
0:45	Three off-duty ASIG responders arrive at Operations Base.	
1:00	Plant Manager (IC) arrives at Operations Base.	
1:30	Recon #1 reports fuel encountered at station 116.00 between the small boat harbor and Chester Creek. (See "tracking & surveillance" for additional information from this report).	
1:35	IC contacts ADEC, NRC, police & fire to confirm spill. Activates Chadux and EAI.	
1:55	Safety Supervisor arrives on site and determines that the presence of ice in the mud flats and Cook Inlet make response operations inherently unsafe.	
PROCEDURES TO STOP THE DISCHARGE		
1:45	IC orders drain down of line using vac truck (SP-18).	
1:45	Planning Section Chief determines that excavation and repair of the line is feasible before the tide inundates the site.	
2:15	Two ASIG responders arrive on-scene with SP-18.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 4 – Jet Fuel Pipeline Spill (Winter)		
Time (T +)	Action	Additional Information
2:30	Initiate line drain-down.	
4:30	Line drain down completed.	
FIRE PREVENTION/CONTROL		
1:55	Police and Fire personnel arrive at the Coastal Trail to limit access.	
1:55	Fire chief assesses the situation and determines there is no immediate fire danger but stands by at the scene.	
2:10	Police route personnel off the Coastal Trail.	
SPILL TRACKING AND SURVEILLANCE		
0:30	Plant Supervisor provides safety briefing to Recon team #1 and then begins to walk ROW starting at small boat harbor.	
1:00	Recon Team #2 is deployed to Chester Creek and begins walking towards Point Woronzof.	
1:30	Recon #1 reports the following: Spill location (per GPS and visual inspection) is near station 116.00. Distance from the leak to Cook Inlet is greater than 1,500 feet. Fuel has flowed out onto the mud flats. Rate of fuel release appears to be <1 gallon/min.	
1:30	Recon teams recalled to Operations Base for reassignment to containment and recovery divisions.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
3:00	Environmental Manager identifies sensitive areas at risk based on spill trajectory and ESI maps. Since it is not feasible to conduct response operations on the mud flats or Cook Inlet, environmentally sensitive area protection focuses on tracking the extent of the spill and identifying areas for potential cleanup during the spring. Where safety and on-scene conditions permit, protective actions may be taken to minimize spill impacts.	
SPILL CONTAINMENT AND CONTROL		
Ongoing	Pipeline repairs will be conducted to control the source of the release. Containment on the mud flats and on-water will be attempted as feasible, if conditions are safe enough for responders and equipment.	
RECOVERY OF SPILLED PRODUCT		
Ongoing	On-water recovery would be attempted only if determined to be safe and feasible. Sorbents are used to clean up pools of fuel on land. Contaminated snow and soils are excavated on land.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 4 – Jet Fuel Pipeline Spill (Winter)		
Time (T +)	Action	Additional Information
DAMAGED PIPELINE REPAIR		
2:30	Two responders locate the line using pipeline locator and begin to probe for the pipeline with steel probes.	
3:00	Pipeline is located with steel probes.	
5:45	Track hoe, loader and pipeline repair crew arrive on site. Excavation of pipe commences.	ASIG Pipeline Excavation Procedures (USCG Operations Manual)
8:00	Pipeline leak is exposed.	
10:00	Leaking section of pipeline is repaired using a clamp.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel is limited primarily to used sorbents, which are segregated and stored in oily waste bags and then sealed in drums for proper disposal.	
WILDLIFE PROTECTION		
6:00	ASIG works with wildlife trustee agencies to identify at-risk wildlife populations. Trustees will collect any oiled wildlife if it is safe to do so. Primary risk is determined to be to bird populations.	ARRT Wildlife Response Guidelines
SHORELINE CLEANUP		
Ongoing	Shoreline cleanup cannot commence until the ice melts.	
24:00	Planning Section Chief begins process of forming shoreline assessment teams, to include agencies.	
Beyond 72 hours		
Objectives and Strategies for Beyond 72 hours: • Personnel safety; • Spill tracking and surveillance; • Develop spring cleanup plan; • Consult with spill response and natural resource agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Response personnel continue to visually track the spilled fuel and to report back through the chain of command. Periodic overflights are conducted with representatives of ASIG, the USCG, ADEC, and Chadux.	
Ongoing	Environmental Manager updates trajectory estimates as needed and	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 4 – Jet Fuel Pipeline Spill (Winter)		
Time (T +)	Action	Additional Information
	continues to monitor tides and ice conditions.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	ASIG works with Chadux and natural resource agencies to identify and monitor areas at-risk and develop cleanup plans.	
SPILL CONTAINMENT AND CONTROL		
Ongoing	Continue to monitor snow berm and to replace sorbents in mud flats.	STAR Manual
RECOVERY OF SPILLED PRODUCT: On-land		
Ongoing	On-land recovery has been conducted using sorbents and excavation equipment.	STAR Manual
RECOVERY OF SPILLED PRODUCT: On-water		
Ongoing	On-water recovery will be initiated when ice recedes if any pockets of fuel or sheen are observed. Chadux on-water response resources as described in Scenarios 1 and 3 could be used for this purpose.	STAR Manual
DAMAGED PIPELINE REPAIR		
	Pipeline has been repaired.	
WASTE MANAGEMENT		
Ongoing	Recovered solids would be segregated for proper disposal. Recovered liquid wastes would be handled as described in Scenarios 1 through 3 once on-water recovery commences in the spring.	
WILDLIFE PROTECTION		
Ongoing	Chadux, IBRRC, and state/federal wildlife protection agencies continue to monitor wildlife impacts. Particular attention will be paid to the possibility that spring snow and ice melt may remobilize fuel and pose an additional threat to wildlife populations.	STAR Manual
SHORELINE CLEANUP		
Ongoing	An assessment team will be formed to evaluate shoreline impacts and recommend cleaning strategies once the ice melts. Representatives from the USCG, ADEC, ADNR, ADFG, USFWS, and MOA will be invited to join the team. Particular attention will be paid to the possibility that spring snow and ice melt may remobilize fuel and pose an additional threat to shorelines.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

1.6.2.5 Scenario #5 – Airport Facility Aircraft Refueling Vehicle Spill

Scenario 5 – Airport Facility Refueling Spill	
This scenario has been prepared in accordance with: 18 AAC 75.425 (e)(1)(F), 40 CFR 112.20 (h)(5)(i), and 33 CFR 154.1035 (b)(2).	
This scenario depicts representative response activities for a Jet A spill that occurs from a rampmaster with the loss of the small discharge amount of 50 bbl.	
The information in this scenario describes one possible approach to organizing and managing a response that occurs during aircraft refueling in order to satisfy planning requirements for an oil spill response scenario.	
Response Type: Small spill	Spill Volume (bbl): Jet A 50
Source: While driving on the airport tarmac, a refueling vehicle slips on an icy patch, loses control and rolls over, causing a crack in the storage tank. Approximately 30 barrels of Jet A 50 are released instantaneously to the concrete pad and asphalt apron area, with another 20 released during the next three hours at the rate of 4.6 gallons per minute. Total release volume is 50 barrels before discharge can be stopped.	
Date/Time: February 10, 2007. 12:00	Season: Winter
CONDITIONS ON-SCENE: Temperature: 10 degrees Fahrenheit Winds: North, 20 kts	Precipitation: None Visibility: Overcast
ASSUMPTIONS: There is approximately 30 inches of snow base, with larger drifts, adjacent to the concrete pad where aircraft park for refueling. Snow acts as a natural containment barrier and absorbs spilled fuel, inhibiting spreading.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
Operational Period 1: 0 to 6 hours		
Objectives and Strategies for Operational Period 1: - Secure spill area; - Ensure personnel safety; - Assess the situation for fire/explosion hazards; - Stop the discharge; - Notify emergency personnel, the airport, response personnel, regulatory agencies; and, - Initial containment of the fuel.		
INITIAL RESPONSE ACTIONS		
0:00	The AFSC Rampmaster rolls over in aircraft refueling area, instantaneously spilling 30 barrels of Jet A 50. Jet fuel continues to leak at the rate of approximately 4.6 gallons per minute.	
0:01	ASIG personnel at the aircraft witness the roll over and notify Fueling Supervisor and contact airport 266-2600 and local emergency services (911).	
0:05	Fueling Supervisor conducts internal notification to Fueling Manager (IC) and General Manager (QI). Airport Fuel Facility Plant Supervisor is contacted for personnel and spill response equipment.	Section 1.2
0:10	The Airport Fuel Facility Plant Supervisor sends one Plant Operator with spill trailer to spill site.	Section 3.6
0:15	Fueling Supervisor at Operations Base sends 4 ASIG field responders, the vacuum truck (SP18), and a truck-mounted vacuum system to spill site (SP01).	Section 3.6
0:15	QI (General Manager) notifies IMT members and Planning Section Chief completes mandatory notifications to NRC and ADEC.	Section 1.2
0:25	Logistics Section Chief contacts Emerald Alaska and requests vacuum trucks, hazmat-certified responders, and additional temporary storage for recovered oil and snow.	Section 1.2

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
1:00 to 1:15	IMT assembled at Operations Base: Fueling Manager (IC), General Manager (QI), Maintenance Supervisor (Operations Section Chief), Environmental Manager (Planning Section Chief), Facility Manager (Logistics Section Chief), and Safety Supervisor (Safety Officer). ASIG fueling personnel and Fueling Supervisor provide briefing to describe situation. The IMT determines the initial response strategy: • Establish safety perimeter and site access control. • Stop the discharge. • Contain/recovery spilled oil.	Section 1.5
1:00	QI completes internal corporate notifications.	Section 1.2
1:30	Safety Officer completes Incident Safety Plan. Conducts site assessment and determines that perimeter has been established and safe entry criteria have been met and it is safe to proceed with spill containment and recovery.	Section 1.3
1:45	Local emergency response personnel have removed driver from vehicle and transported to local hospital.	Section 1.8
PROCEDURES TO STOP THE DISCHARGE		
2:00	Once scene has been secured and safe entry criteria established, Fueling Manager directs spill response personnel to take steps to stop discharge from refueling vehicle. Response personnel initiate process of removing excess fuel from vehicle using vacuum trucks, so that crack can be repaired and discharge to concrete pad minimized.	Section 3.1
2:15	Response personnel from Emerald Alaska use vacuum truck to remove approximately 100 bbl of Jet -A 50 from refueling vehicle storage tank.	
3:00	All fuel has been removed from refueling vehicle; release to aircraft refueling area ceases. A total of 50 bbl has been released since the spill occurred.	
FIRE PREVENTION/CONTROL		
0:15	Fire personnel arrive from airport fire station. Fire chief assesses the situation and determines there is no immediate fire danger but stands by at the scene. Emergency medical personnel stabilize vehicle driver for transport.	Section 1.3
Ongoing	Safety Officer conducts initial safety briefing to all responders arriving on site. Responders are instructed to ensure that ignition and heat sources are removed or kept clear from the spill area.	
SPILL TRACKING AND SURVEILLANCE		
0:30	Visual observation is initiated.	Section 3.1

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
Ongoing	Spill responders continue to monitor spill visually and report back to IC and IMT.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
1:30	Environmental Manager reviews airport drainage diagrams and confers with airport personnel regarding the potential for oil to migrate beyond concrete pad and asphalt apron to impact sensitive areas. It is determined that the fuel is unlikely to escape concrete pad/asphalt apron area where aircraft refuels, and that any fuel to escape that area would encounter snow pack and snow drifts that would significantly impede spreading.	
Ongoing	Environmental Manager reviews spill surveillance data to identify any further spread of spill and monitor the potential to impact environmentally sensitive areas.	
SPILL CONTAINMENT AND CONTROL		
0:20	Two on-duty ASIG personnel from Airport Facility arrive onsite and await clearance from Safety Officer to initiate spill containment and control.	STAR Manual
0:30	ASIG personnel deploy sorbent materials to absorb spilled fuel in vicinity of refueling vehicle. Surrounding snow is used as a berm.	
1:00	Emerald Alaska spill response personnel use vacuum trucks to recover fuel from areas where it has pooled.	
RECOVERY OF SPILLED PRODUCT		
1:00	On-duty field responders utilize the two truck-mounted vacuum systems to recover standing fuel in the aircraft refueling area.	STAR Manual Recovery Tactics
1:10	Responders recover fuel with pumps, vacuum truck, and truck-mounted vacuum systems from the aircraft refueling area.	
1:30	Impacted snow is shoveled into drums.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
2:15	Response personnel from Emerald Alaska use vacuum truck to remove approximately 100 bbl of Jet A 50 from refueling vehicle storage tank.	
3:00	All fuel has been removed from refueling vehicle; release to aircraft refueling area ceases. A total of 50 bbl has been released since the spill occurred.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids is stored in vac trucks and transferred to one of the two 2,000 gallon slop tanks at the Operations Base. Snow in drums is placed in warm wash bay area at the Operations Base. Separated fuel floating on top of melted snow is removed	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
	by vacuum truck and transferred to one of the two 2,000 gallon slop tanks.	
Ongoing	Recovered oily wastes (solid) would be placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	STAR Manual
WILDLIFE PROTECTION		
4:00	Wildlife trustee agencies will be contacted with a request to assess the spill area for impacts to birds, fish, or other wildlife. If wildlife impacts are observed, ASIG will activate IBRRC.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts.	
Operational Period 2: 7 to 24 hours		
Objectives and Strategies for Operational Period 2: • Ensure personnel safety; • Contain and recover spilled fuel; • Protect environmentally sensitive areas; and • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Field responders continue to visually track the spilled fuel and to report back through the chain of command.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Planning Section Chief coordinates with spill surveillance personnel to continually monitor whether spilled fuel escapes refueling pad to sensitive areas. No impacts are observed.	
SPILL CONTAINMENT AND CONTROL		
By end of Period 1	All remaining fuel has been removed from refueling vehicle and no additional spillage occurs. Total spill amount was 50 bbl; release had concluded by hour 5.	
7:00	Emerald Alaska provides small earth-moving vehicles to excavate oiled snow around perimeter of aircraft refueling pad.	
RECOVERY OF SPILLED PRODUCT		
Ongoing	Majority of standing fuel has been recovered using vacuum trucks. Small pockets are targeted for removal and sorbents are used to clean up smaller amounts of fuel.	STAR Manual
Ongoing	Recovered oiled snow is stored in fast tanks. It is melted and disposed of as liquid oily waste.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
	No product remaining in damaged refueling vehicle tank.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids (including oiled, melted snow) is stored in vac trucks or fast tank and transferred to one of two 2,000 gallon slop tanks at the Operations Base.	
Ongoing	Recovered oily wastes (solid) would be placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	STAR Manual
WILDLIFE PROTECTION		
Ongoing	Site assessment will consider any potential wildlife impacts, and address these in corrective plan. If wildlife response or rehabilitation is required, IBRRC will be contracted.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts	
Operational Period 3: 25 to 48 hours		
Objectives and Strategies for Operational Period 3: • Ensure personnel safety; • Contain and recover spilled fuel; • Protect environmentally sensitive areas; • Transfer recovered fuel for storage and disposal; and • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
Ongoing	Responders continue to visually track the spilled fuel and to report back through the chain of command.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	Planning Section Chief coordinates with spill surveillance personnel to continually monitor whether spilled fuel escapes refueling pad to sensitive areas. No impacts are observed.	
SPILL CONTAINMENT AND CONTROL		
	Spill has been contained.	
RECOVERY OF SPILLED PRODUCT		
Ongoing	Majority of standing fuel has been recovered using vacuum trucks. Small pockets are targeted for removal and sorbents are used to clean up smaller amounts of fuel.	STAR Manual
Ongoing	Recovered oiled snow is stored in fast tanks. It is melted and disposed of as liquid oily waste.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
	No product remaining in damaged refueling vehicle tank.	
WASTE MANAGEMENT		
Ongoing	Recovered fuel and liquids (including oiled, melted snow) is stored in vac trucks and transferred to slop tank at the Off-Airport Fuel Facility.	
Ongoing	Recovered oily wastes (solid) would be placed in oily waste disposal bags, stored in drums, and eventually shipped off to a disposal facility with the proper permitting.	STAR Manual
WILDLIFE PROTECTION		
Ongoing	Wildlife agencies determine no impact to wildlife because oil did not escape refueling pad.	ARRT Wildlife Guidelines
SHORELINE CLEANUP		
	Not applicable; no shoreline impacts.	
Operational Period 4: 49 to 72 hours		
Objectives and Strategies for Operational Period 4: • Ensure personnel safety; • Wrap up cleanup; and • Coordinate response with contractors and with agencies.		
SPILL TRACKING AND SURVEILLANCE		
49:00	Spill has been contained and recovered; no further surveillance required beyond routine prevention programs.	
PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS		
Ongoing	No environmental sensitive areas were impacted.	
SPILL CONTAINMENT AND CONTROL		
Ongoing	Spill contained and recovered.	
RECOVERY OF SPILLED PRODUCT		
Ongoing	Vacuum truck had sufficient recovery capacity and storage to remove all 50bbl. Sorbent materials were used to clean up additional small patches of fuel. Oiled snow was removed and melted.	
TRANSFERRING PRODUCT FROM DAMAGED TANKS		
	No product remaining in damaged refueling vehicle tank. Vehicle will be sent out for evaluation and repair or removal from service.	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Scenario 5 – Airport Facility Refueling Vehicle Spill		
Time (T +)	Action	Additional Information
WASTE MANAGEMENT		
	Recovery is completed and liquid and solid wastes have been disposed of as described in Operational Periods 1 through 3.	
WILDLIFE PROTECTION		
Ongoing	Wildlife agencies determine no impact to wildlife because oil did not escape refueling pad.	
SHORELINE CLEANUP		
	Not applicable: no shoreline impacts.	

1.7 Non-Mechanical Response

This section has been prepared in accordance with 18 AAC 75.425(e)(1)(H) and 18 AAC 75.445(h).

ASIG does not intend to use non-mechanical response options such as in-situ burning or dispersants to respond to a spill at the facility.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

1.8 Facility Diagrams

This section has been prepared in accordance with 18 AAC 75.425(e)(1)(H) and 40 CFR 112.20(h).

AFSC operations covered under this Contingency Plan consists of two fuel storage facilities (Off-Airport Fuel Facility at the Port of Anchorage and Airport Fuel Facility) connected by an underground pipeline.

The following diagrams are included:

Figure 1.8-1: Facility Overview

Figure 1.8-2: Off-Airport Fuel Facility Site Plan and Drainage

Figure 1.8-3a: Airport Storage Facility Site Plan

Figure 1.8-3b: Airport Storage Facility Diagram Showing New Tanks⁵

Figure 1.8-4: Hydrant Fueling System Overview

Figure 1.8-5 Jet Fuel Pipeline Site Access and Drainage

Figure 1.8-6: Hospital Route Maps

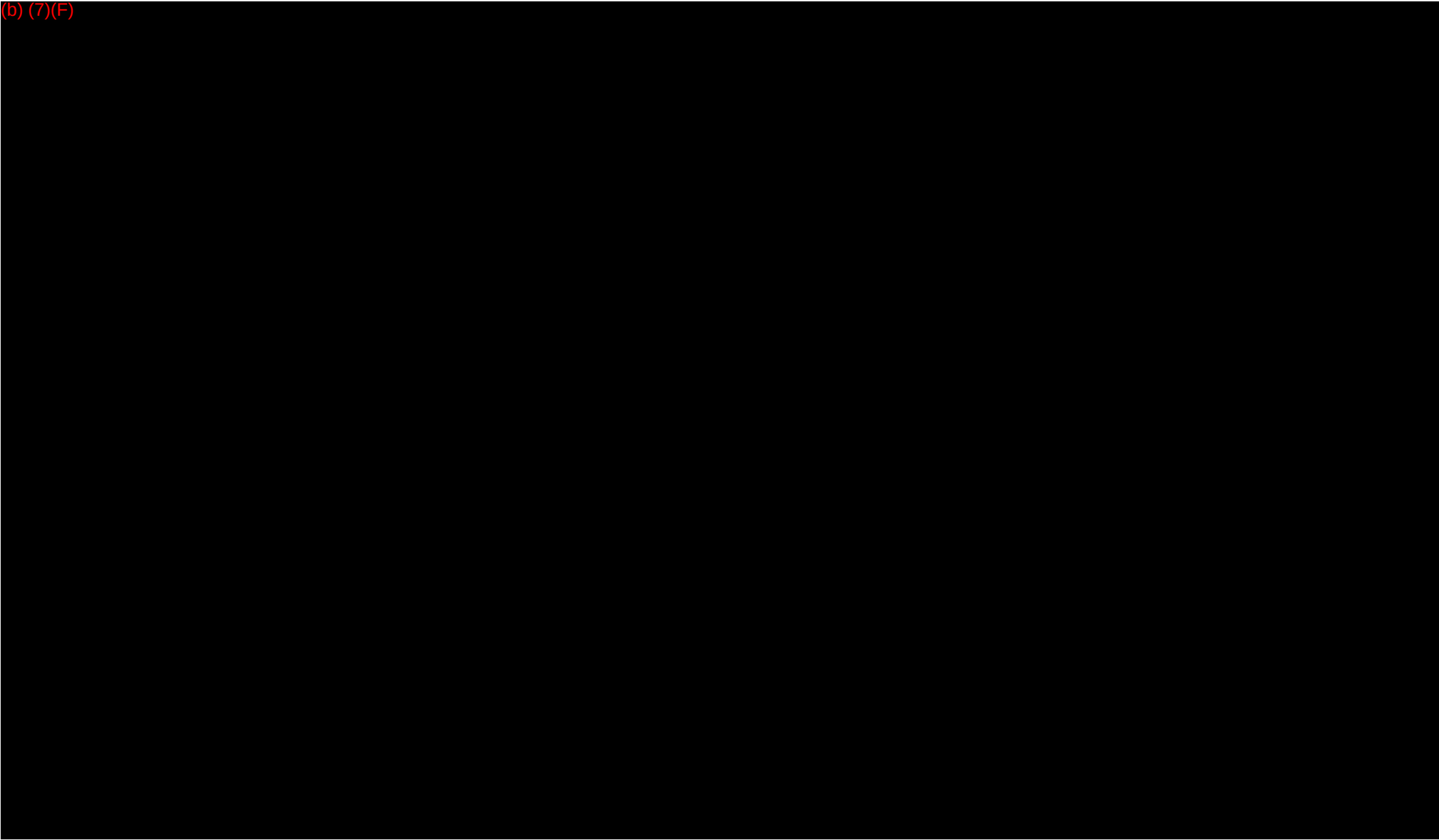
⁵ Note the aerial photograph was taken prior to tank construction.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

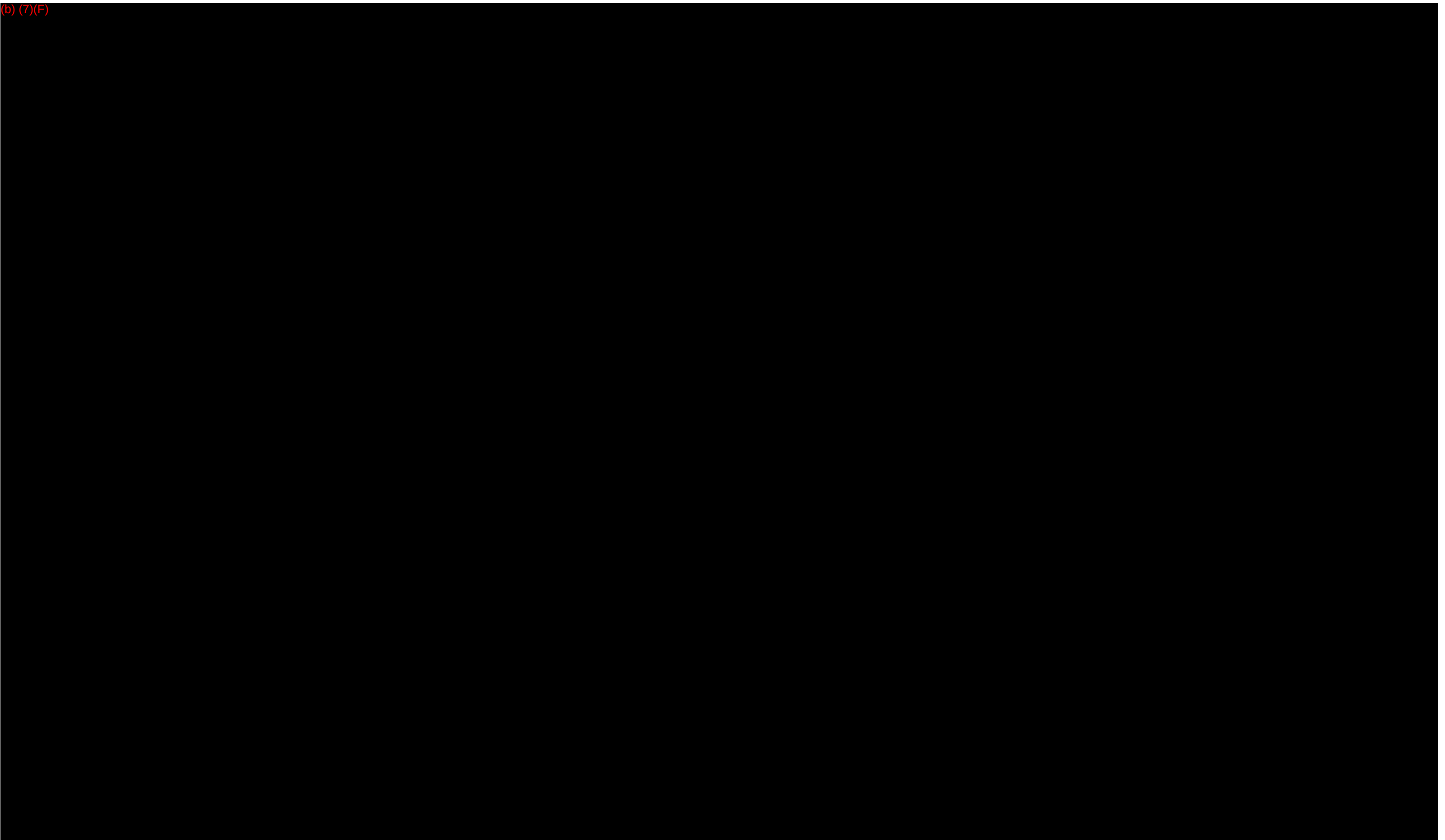
Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



This page intentionally blank

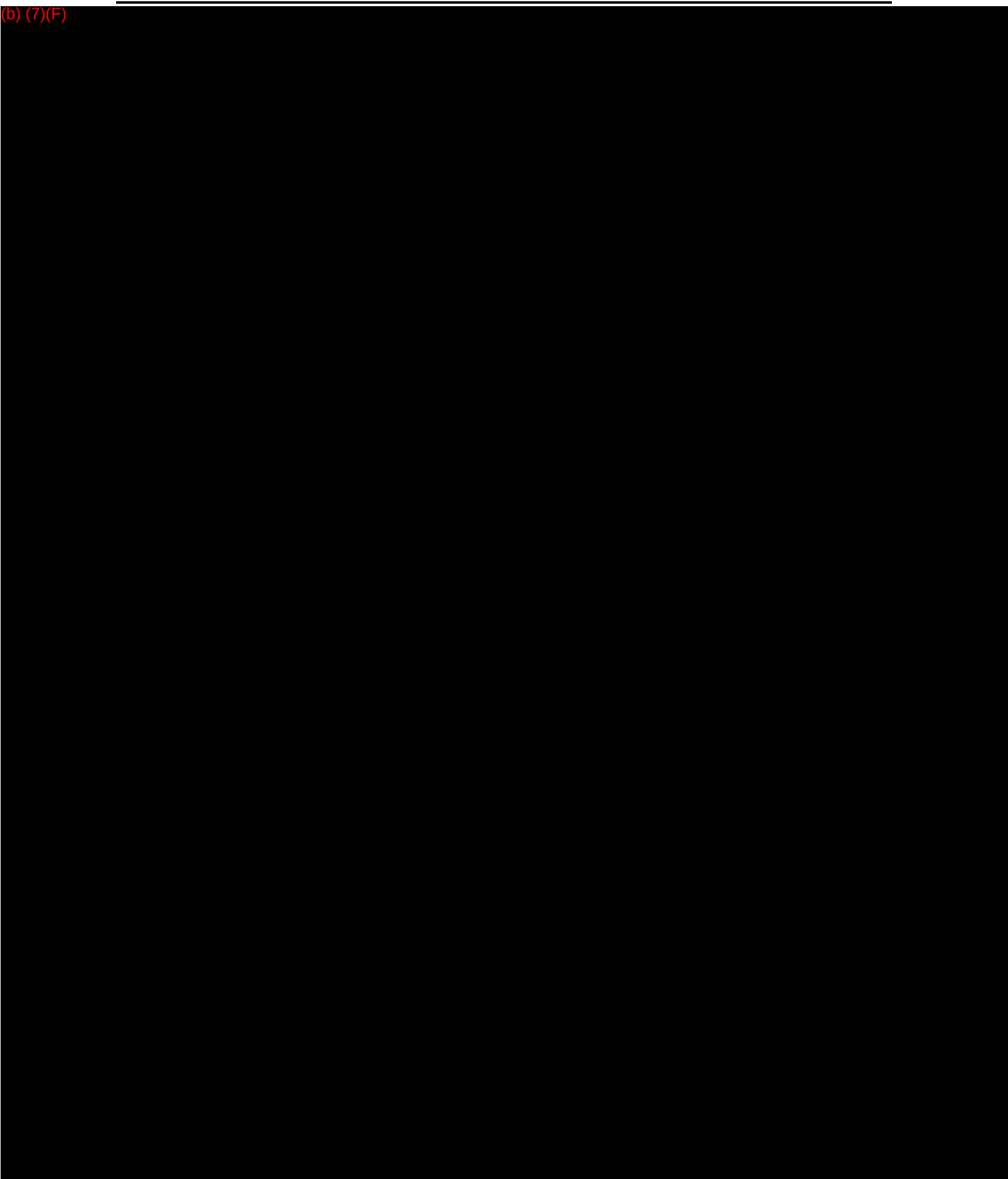
(b) (7)(F)



This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)

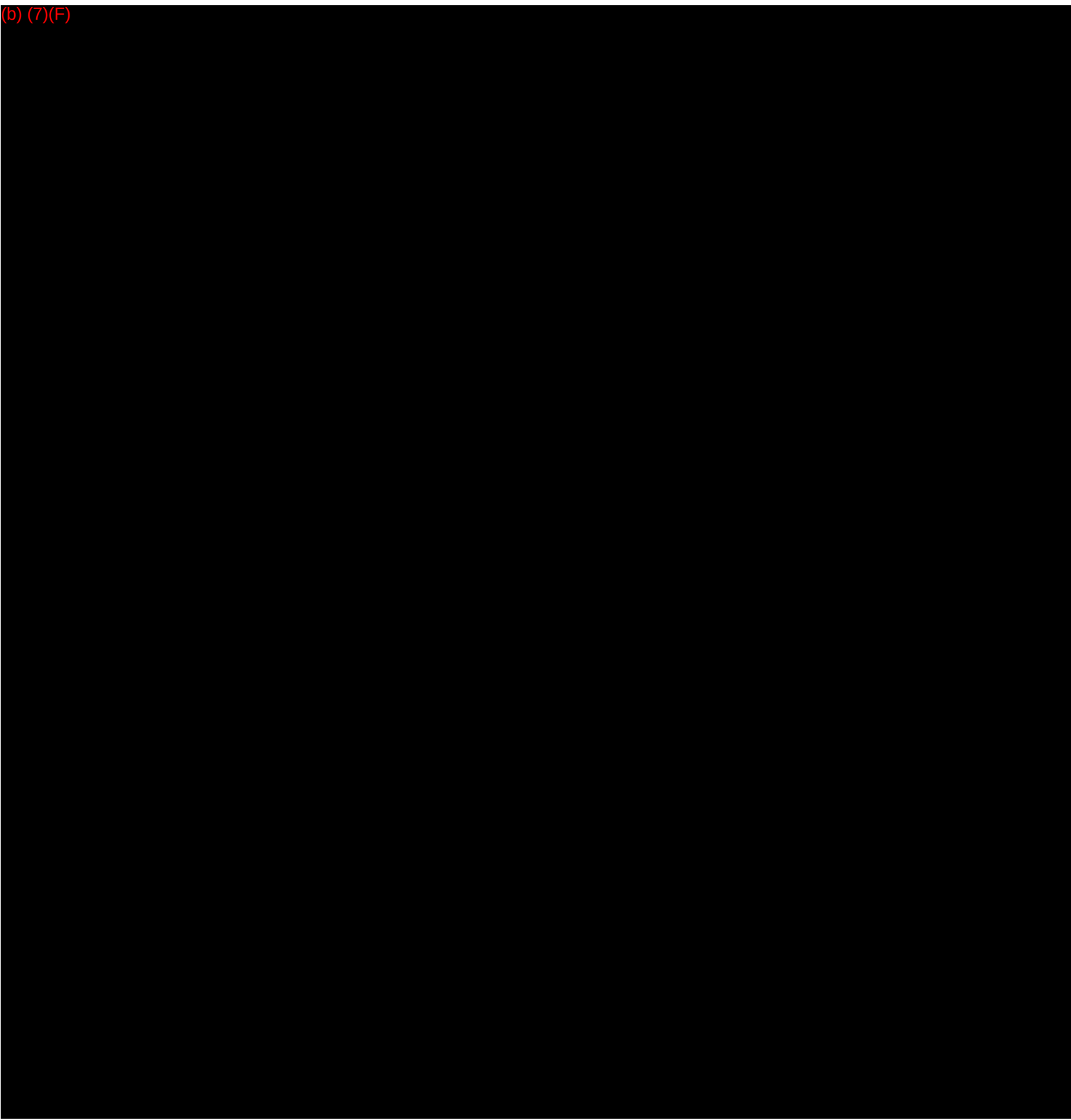


Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

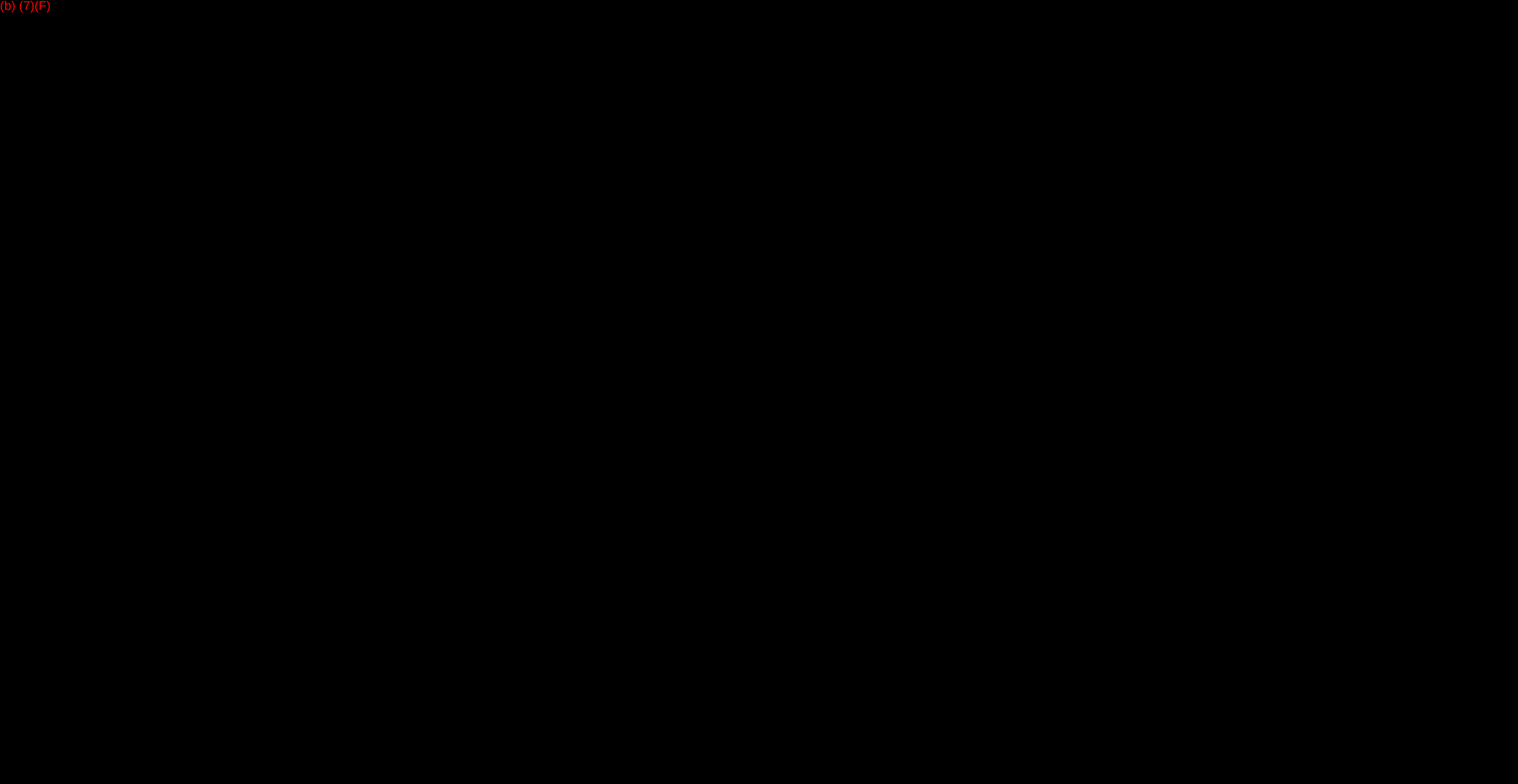
(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

(b) (7)(F)



This page intentionally blank.

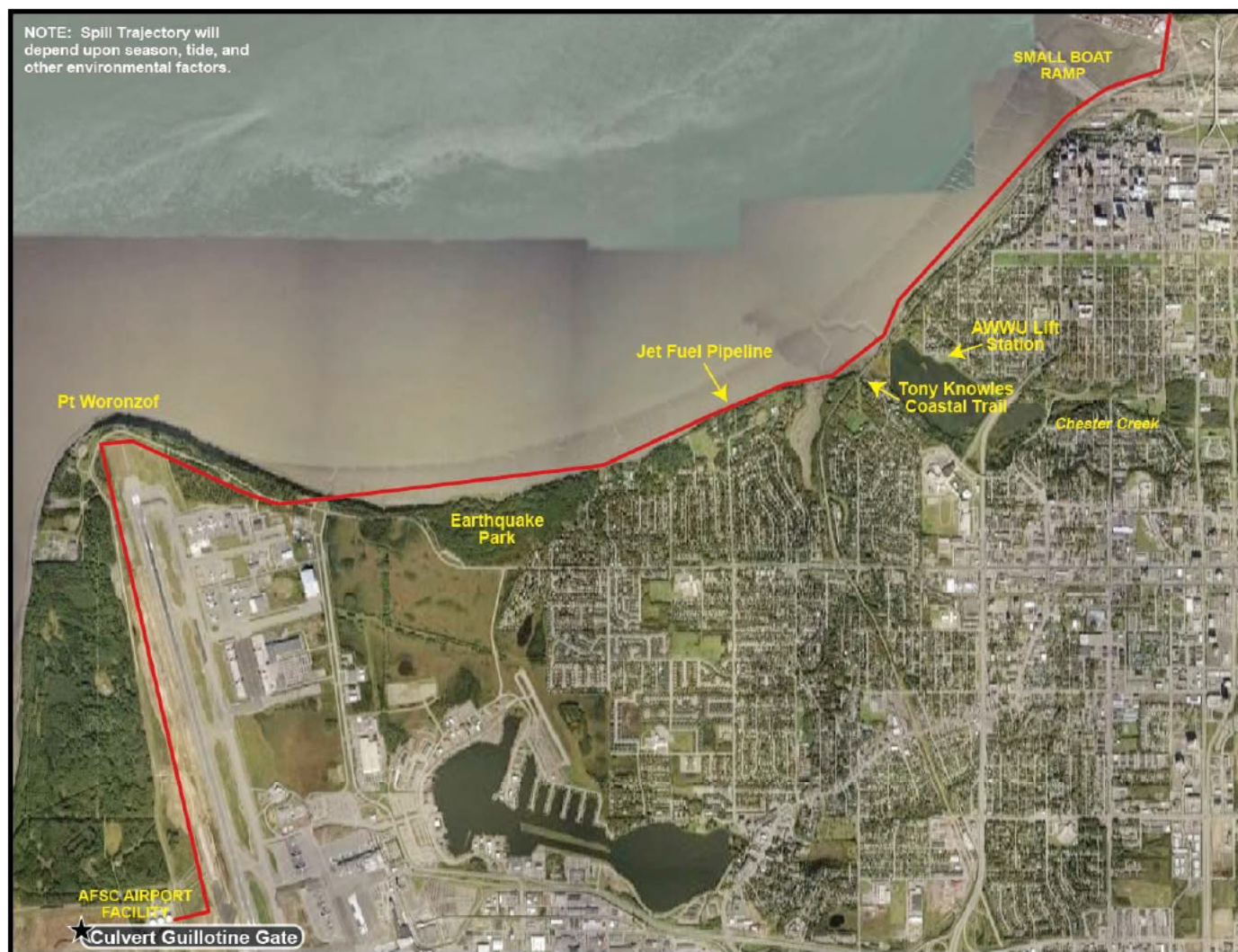
Figure 1.8-5: Jet Fuel Pipeline Site Access and Drainage**Jet Fuel Pipeline Site Access and Drainage**

Figure 1.8-6 Hospital Route Maps

(b) (7)(F)



Part 2: Prevention Plan

This Part describes the extensive Prevention Plan put in place by ASIG for the AFSC Facilities and is presented in accordance with 18 AAC 75.425 (e)(2). The key elements of the ASIG Prevention Plan include the following:

- Rigorous maintenance and inspection programs meeting and exceeding the applicable requirements in 18 AAC 75.005 through 75.080 (section 2.1);
- Prevention training for all ASIG personnel with job duties handling fuel transfer and storage operations;
- Substance abuse and medical monitoring of ASIG personnel;
- Security of the fuel storage and handling facilities;
- Evaluation and analysis of the AFSC operations based on past discharge history, potential discharge scenarios, and circumstances which could increase a risk of discharge; and,
- Discharge detection installed on the AFSC facility components.

The AFSC facility transfer procedures (18 AAC 75.025), the full description of the field constructed aboveground oil storage tanks (18 AAC 75.065), a full description of the secondary containment areas (18 AAC 75.075), and the full description of the facility piping (18 AAC 75.080) is located in Part 3 of this Plan.

2.1 Inspection and Maintenance Programs

The aircraft fueling operations and AFSC Facilities are maintained and operated under the most stringent industry standards. This subpart describes the inspection and maintenance programs in place at the AFSC Facilities which meet the applicable requirements of 18 AAC 75.005 through 75.080 but must also comply with strict standards imposed by the aviation standards and qualification to maintain a clean, dry supply of proper grade fuel at the point of aircraft delivery. In addition to the maintenance and inspection, ASIG has an operational inventory control program in order to maintain accountability to individual airlines by accurately and precisely tracking fuel inventories.

The AFSC Facilities are operated by ASIG, a flight support division of parent company BBA Shared Services Inc (BBASSI). BBASSI is a global aftermarket service provider at over 200 airport locations on five continents. BBASSI established the *Aviation Fuel Quality Control Program* (AFQC), which covers all aspects of aviation fuel handling from terminal receipt through dispensing into aircraft. The AFQC program is implemented at the AFSC Facilities and the local ASIG operating group is audited by regional BBA/ASIG inspectors for strict compliance with the program. The applicable elements of the AFQC program are described in more detail in respective section.

The following sections describe the specific inspection and maintenance programs and are presented by each operating component of the AFSC Facilities; storage tanks, secondary containment, facility piping, hydrant distribution system, and Jet Fuel Pipeline.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

2.1.1 Maintenance and Inspection Programs for the Airport and Off-Airport Fuel Facility Storage Tanks

This subsection describes the maintenance and inspection programs in compliance with 18 AAC 75.065 for the storage tanks at the Airport and Off-Airport Fuel Facility. The design and construction of the tanks at the Off-Airport and Airport Fuel Facility are in Part 3 sections 3.1.1 and 3.1.2, respectively. In addition, all tank bottoms are cathodically protected. The cathodic protection is operated per NACE RP193-2001. The cathodic protection system is described in Part 3. The testing and any necessary maintenance are performed in accordance with API RP 651, NACE RP 0169-2002 and NACE RP-0193.

In compliance with 18 AAC 75.065 (a)(1) all tanks at the fuel facilities are maintained in accordance with the American Petroleum Institute (API) 653; *Tank Inspection, Repair, Alteration, and Reconstruction*. Additionally, ASig implements quality control programs and inventory balancing which provide additional preventative measures for the Airport and Off-Airport Fuel Facility storage tanks. Below is a brief description of each of the inspection and maintenance programs for the storage tanks, and the tables following, (Table 2.1-1 and 2.1-2), summarize for each program; the inspection components, the frequency of the inspection and/or maintenance, and where the records [18 AAC 75.065 (d)] are maintained.

Storage Tank Maintenance and Inspection Program	Description
American Petroleum Institute (API) 653: Tank Inspection, Repair, Alteration, and Reconstruction	Covers the inspection, repair, alteration, and reconstruction of steel aboveground storage tanks used in the petroleum and chemical industries. Provides the minimum requirements for maintaining the integrity of welded or riveted, nonrefrigerated, atmospheric pressure, aboveground storage tanks after they have been placed in service.
Aviation Fuel Quality Control (AFQC) Program	The program is a detailed inspection and maintenance program incorporating and/or exceeding the requirements of the Domestic Air Carriers Fuel QC Manuals, and Air Transport Association (ATA) 103 tank inspection procedures.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Storage Tank Maintenance and Inspection Program	Description
Inventory Control	The AFSC system is considered a secured facility. All fuel withdrawals are metered via certified gauges, and all fuel receipts are hand gauged, witnessed by the supplier, and compared with the shipping quantity provided by the supplier. The system as a whole is balanced daily. If there are any differences in excess of 0.25%, plus or minus, the gauging is verified for accuracy. Variances are tracked by tank and researched when outside of the 0.25% tolerance. This program verifies the accuracy of the tank gauges as well as determining any losses from the system.
Cathodic Protection Inspection Program	Trained ASIG personnel verify readings of individual cathodic protection rectifiers to certify the effectiveness of the cathodic protection system [18 AAC 75.065 (n)]. Cathodic protection testing performed by a qualified cathodic protection tester and corrosion expert. Any testing and necessary maintenance to the cathodic protection system are performed in accordance with API RP 651, NACE RP 0169-2002 and NACE RP-0193.

Table 2.1-1 Off-Airport Fuel Facility Storage Tank Maintenance and Inspections

Program	Description	Frequency	Records
18 AAC 75.065 (a)(1)	API 653 Visual inspection of • tank exterior surface for leaks, • shell distortion; • settlement; • corrosion; • condition of foundation; • paint coatings; • insulation system; and • appurtenances.	Monthly	Airport Fuel Facility Quality Control Room
	Formal In-service Inspection conducted by a qualified third party inspector (Follows Appendix C of the API 653 standard).	5-years	
	Formal Internal Inspection conducted by a qualified third party inspector	10-years	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-1 Off-Airport Fuel Facility Storage Tank Maintenance and Inspections

Program		Description	Frequency	Records
AFQC		Visual inspections for • general conditions; • deficiencies in security & fire prevention; • fuel leaks; • water in sumps; and • location & condition of fire extinguishers.	Daily	Operations Base
		• Operational testing of tank high level alarms and adjustment/repair to inoperative controls [18 AAC 75.065 (l)];	Quarterly	
		Visual inspection of the facility checking the following: • facility condition; • interiors of the tank for cleanliness; • condition of the tank vents; and • cathodic protection.	Annually	
Inventory Control		Balance of the fuel inventory of the AFSC system	Daily	Admin. Manager
18 AAC 75.065 (h)(2)	Cathodic Protection Survey	Cathodic protection testing performed by a qualified cathodic protection tester and corrosion expert, and any necessary maintenance to the cathodic protection system. The testing and any necessary maintenance are performed in accordance with API RP 651, NACE RP 0169-2002 and NACE RP-0193	Annual	Airport Fuel Facility Quality Control
CP Test		Verify and record reading of individual cathodic protection rectifiers.	Monthly	

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-2 Airport Fuel Facility Storage Tank Maintenance and Inspections

Program	Description	Frequency	Records
18 AAC 75.065 (a)(1) API 653	Visual inspection of • tank exterior surface for leaks; • shell distortion; • settlement; • corrosion; • condition of foundation, paint coatings; • insulation system; and • appurtenances.	Monthly	Airport Fuel Facility Quality Control Room
	Formal In-service Inspection conducted by a qualified third party inspector (Follows Appendix C of the API 653 standard).	5-years	
	Formal Internal inspection conducted by a qualified third party inspector.	10-years	
AFQC	Visual inspections for • general conditions; • deficiencies in security & fire prevention; • fuel leaks; • water in sumps; and • location & condition of fire extinguishers.	Daily	Operations Base
	• Operational testing of tank high level controls and adjustment/repair to inoperative controls [18 AAC 75.065 (l)]; • Operational check of the emergency shutdown system.	Quarterly	
	Visual inspection of the facility checking the following: • facility condition; • interiors of the tank for cleanliness; • condition of the tank vents; and • cathodic protection.	Annually	
Inventory Control	Balance of the fuel inventory of the AFSC system	Daily	Admin. Manager

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-2 Airport Fuel Facility Storage Tank Maintenance and Inspections

Program		Description	Frequency	Records
18 AAC 75.065 (i) and (j) (3)	Cathodic Protection Survey	Cathodic protection testing performed by a qualified cathodic protection tester and corrosion expert, and any necessary maintenance to the cathodic protection system. The testing and any necessary maintenance are performed in accordance with API RP 651, NACE RP 0169-2002 and NACE RP-0193.	Annual	Airport Fuel Facility Quality Control
	CP Test	Verify and record reading of individual cathodic protection rectifiers.	Monthly	

2.1.2 Maintenance and Inspection Programs for Secondary Containment

This section has been prepared in accordance with 18 AAC 75.075 and per the requirements of 18 AAC 75.075 (a). All the AFSC bulk storage tanks are located within secondary containment with capacity to hold the volume of the largest tank within the respective containment area. The design and construction, volumes, and drainage procedures for the Off-Airport and Airport Fuel Facility secondary containments are provided in Part 3 sections 3.1.1 and 3.1.2 respectively. Additionally, truck loading/unloading racks, the transfer pump station and the pig receiving station for the Jet Fuel Pipeline, and piping associated with the prover station at the Operations Base are located in secondary containment areas.

As a part of the AFQC program described above for the storage tanks, ASIG plant personnel inspect secondary containments at the Off-Airport and Airport Fuel Facilities. Per the AFQC program, ASIG personnel are trained to report any evidence of fuel spills including but not limited to: staining, strong fuel odors, or the presence of fuel in the containment. Additionally, the secondary containments at the fuel facilities are inspected during the monthly API 653 inspections.

The following table provides the inspection components, the frequency of the inspection and/or maintenance, and where the records are maintained.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-3 Fuel Facilities Secondary Containment Maintenance and Inspections

Program		Description	Frequency	Records ⁶
18 AAC 75.075 (c)	AFQC	Inspect the facility for evidence of a fuel spill If/when there is any unsatisfactory condition a report would be included on "Daily shift change" report.	Daily	Airport Fuel Facility Quality Control
	API 653	Inspect for: • Vegetation against bottom of tank • Evidence of leakage • Operating contamination of dike drains.	Monthly	
	Secondary Containment Inspection Program	Inspect for the following • Debris and vegetation • Proper alignment and operation of drain valves • Visible sign of oil leaks or spills • Defects or failures of the containment area.	Weekly	Respective Facility
Drainage		Valves are kept closed until accumulated water is inspected. Drainage logs tracking the inspection for sheen and estimated volumes will be kept for five years.	As needed	
Debris Removal		Moss and growth is sprayed in the spring. Plants are removed from the secondary containment on an as-needed basis.	Annually, and as needed	Facility Manager

2.1.3 Maintenance and Inspection Programs for Facility Piping

The facility piping for the purpose of this Plan is defined as transport piping within the Off-Airport and Airport Facility. The Off-Airport facility piping consists of aboveground and underground piping while the Airport Fuel Facility has only aboveground piping. The facility piping at the Off-Airport and Airport Fuel Facility are described in Part 3 sections 3.1.1 and 3.1.2, respectively.

ASIG implements the *API 570 Piping Inspection Code: In-service Inspection, Repair, and Alteration of Piping Systems* (API 570) for all facility piping. The facility piping at the Off-Airport and Airport Fuel Facility was inspected and evaluated by a qualified API 570 piping inspector. The programs *API 570 Inspection Program Port Facility Plant 1*, and *API 570 Inspection Program Airport Fuels Storage Facility*, Enterprise Engineering, Inc, 2008 (API 570 Program) assessed and tailored the API 570 requirements to the AFSC system. The API 570 Program provides details and descriptions for visual inspection

⁶ If/when there is any unsatisfactory condition of the secondary containment noted during the AFQC daily inspections there would be written report included on "Daily shift change" report

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

and UT measurements, pressure and static testing of underground piping, remedial and follow-up actions for any conditions identified, and cathodic protection testing.

The following tables summarize for each inspection and maintenance program; the program components, the frequency of the inspection and/or maintenance, and where the records are maintained.

Table 2.1-4 Off-Airport Facility Piping Maintenance and Inspections

Program		Description	Frequency	Records
Aboveground Piping				
18 AAC 75.080(j)	API 570	Routine visual inspection • Movement or misalignment of piping • Weeps and leaks.	Daily	Airport Fuel Facility Quality Control ⁷
		Formal Visual Inspection of all piping for the following: • Coating condition • Misalignment, dent, damage • Support contact • Weeps and leaks • Pipe to soil interface coating damage.	Annual	API Program Facility Manager
		Formal Visual Inspection completed by a certified API 570 piping inspector and the UT measurements at the selected thickness measurement locations (TMLs) – low point drains.	5 years	
		Formal Visual Inspection completed by a certified API 570 piping inspector and the UT measurements at the selected TMLs – all above ground piping.	10 years	

⁷ If/when there is any unsatisfactory condition of the facility piping noted during the AFQC daily inspections there would be written report included on “Daily shift change” report

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-4 Off-Airport Facility Piping Maintenance and Inspections

Program		Description	Frequency	Records
Coating and Supports Maint. Program		Any deficiencies documented during the Annual API 570 visual inspection are repaired the following spring. Corrosion resistant painting can be completed by a coating specific contractor.	As needed	Facility Manager
Underground Piping				
Cathodic Protection		Cathodic protection testing performed by a qualified cathodic protection tester and corrosion expert, and any necessary maintenance to the cathodic protection system.	Annual	Airport Fuel Facility Quality Control
CP Test		Verify and record reading of individual cathodic protection rectifiers.	Monthly	
18 AAC 75.080(j)	API 570 Program	Pump dead-head pressure test for not less than one hour duration, against closed system valves. Test is repeated to reach thermal equilibrium with the ground. If after repeating the test pressure cannot be held, additional pressure testing will be conducted by a piping engineer to confirm if inability to hold pressure is due to a leak, rather than air, thermal stability, or valve seat leak-by.	Annual	API Program Facility Manager
		Pressure testing of piping at 225 psig, for eight hours duration. After the first formal four hours of the test period, take pressure measurements every 30 minutes for the last four hours. Additional testing and/or corrective action would be determined and completed by a piping engineer.	5 years	
		Whenever the pipe is exposed for any reason, it will be cleaned and inspected per API 570 Section 9.2.6 [18 AAC 75.080 (g)]	As needed	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-5 Airport Facility Piping Maintenance and Inspections

Program		Description	Frequency	Records
18 AAC 75.080(j)	API 570	Routine visual inspection • Movement or misalignment of piping • Weeps and leaks.	Daily	Airport Fuel Facility Quality Control ⁸
		Formal Visual Inspection of all piping for the following: • Coating condition • Misalignment, dent, damage • Support contact • Weeps and leaks • Pipe to soil interface coating damage.	Annual	API Program Facility Manger
		Repeat the annual Formal Visual Inspection and the UT measurements at the selected thickness measurement locations (TMLs) – low point drains.	5 years	
		Repeat the annual Formal Visual Inspection and the UT measurements at the selected thickness measurement locations (TMLs) – all above ground piping.	10 years	
Coating and Supports Maint. Program		Any deficiencies documented during the Annual API 570 visual inspection are repaired the following spring.	As needed	Facility Manager

2.1.4 Maintenance and Inspection Programs for the Hydrant Distribution System

The AFSC hydrant system consist of primarily underground piping that is located under pavement and provides fueling service at multiple hydrant valves at airport parking locations throughout the Anchorage International Airport. The design and construction is described in Part 3 section 3.1.4.

The AFSC hydrant distribution system was evaluated and assessed by a piping engineer against accepted engineering and industry practices. The *Integrity Management Plan, AFSC Hydrant Distribution System, Anchorage, Alaska*, Enterprise Engineering, Inc., September 2012 (Hydrant IMP) was developed as a tailored program to address the piping integrity of the hydrant system. The key elements of the Hydrant IMP include a

⁸ If/when there is any unsatisfactory condition of the facility piping noted during the AFQC daily inspections there would be written report included on "Daily shift change" report

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

summary of existing ASIG inspection and maintenance programs as well as the addition of a periodic formal engineering assessment, audit, and review of the Hydrant IMP and ASIG Maintenance and Inspection programs completed by a certified piping engineer.

The following table summarizes the inspection and maintenance elements, the frequency of the inspection and/or maintenance, and where the records are maintained.

Table 2.1-6 Hydrant Distribution System Maintenance and Inspections

Program	Description	Frequency	Records
TCS @ Leak Detection ⁹	Pressure-step method involves the pressurizing of a settled pipeline section, seven sections total, successively with two different test pressures. The median is then measured and leak rates are calculated. The test is conducted by qualified ASIG personnel in the fueling and plant department.	Quarterly per segment	Airport Fuel Facility
Cathodic Protection Survey	Cathodic protection testing performed by a qualified cathodic protection tester and corrosion expert, and perform any necessary maintenance to the cathodic protection system. The testing and any necessary maintenance are performed in accordance with API RP 651, NACE RP 0169-2002 and NACE RP-0193	Annual	Airport Fuel Facility Quality Control
CP Test	Verify and record reading of individual cathodic protection rectifiers.	Monthly	
AFQC	Fueling Department Hydrant Pit Inspections: Hydrant pits are inspected before each use/hook-up of the moose head prior to the service of aircrafts. In addition to this, all active hydrant pits are visually inspected daily for condition, cover, and fluids.	Before Use and Daily	Fueling Department

(b) (7)(F)

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.1-6 Hydrant Distribution System Maintenance and Inspections

Program	Description	Frequency	Records
AFQC	Pit Technician Hydrant Pit Inspection of ALL hydrant pits: - leaks, fluid in the containment area, - valve integrity, - pressure control, - replace or repair dust covers, - test for hot or cold valve, - cracks in the valve box, - loose or torn boots at the base of the valve box, - pressure washing/cleaning of hydrant valves, - lid condition.	Monthly	Maintenance Department
	Issues identified during daily and monthly inspection are reported and maintenance is completed as soon as practical and includes: - Fluid removal, - pit repair, - lid repair and maintenance.		
	Vault Inspection to include: - Fluid measurement and removal - Assessment of lid condition - High point and low point drain inspection and low point drain flues, bleed air from high point vents - Exercising all isolation valves - Inspection of vault containment, rubber boots, and condition of electrical components.	Monthly	
Utility Locate and Oversight	ASIG personnel are notified prior to digging on the airport tarmac so that the hydrant piping can be located. ASIG personal also observe any excavation project within 10 feet of the hydrant system piping.	As needed	Airport Fuel Facility Quality Control
Exposed Piping Inspection	If the hydrant piping is exposed for any reason, a qualified ASIG person inspect the exposed pipe for - Leaks - Crack - Type of coating - Coating condition - Evidence of corrosion	As needed	
Inventory Control	Balance of the fuel inventory of the AFSC system.	Daily	Admin. Manager

Table 2.1-6 Hydrant Distribution System Maintenance and Inspections

Program	Description	Frequency	Records
Low-use Segment Maint.	Low-use piping segments will require circulation of fuel.	Annually	Hydrant IMP Facility Manager
Audit Piping Inspection ¹⁰	A formal assessment and inspection of accessible piping and updating of the Hydrant IMP.	10 years	

2.1.5 Maintenance and Inspection for the Jet Fuel Pipeline

The Jet Fuel Pipeline design, maintenance, inspection, and testing follow accepted industry standards as prescribed in 49 CFR 195. The primary means of corrosion control for the pipeline is a fusion bonded epoxy coating with heat shrink fittings made of high-density polyethylene (HDPE) at weld joints. The secondary corrosion control is provided by an impressed current cathodic protection system consisting of a rectifier and grounding system. The cathodic protection system is tested during the Monthly Corrosion Survey and during the Annual Corrosion Survey conducted by the certified AFSC contractor.

Per DOT regulation ASIG conducts the following inspections and tests:

- The pipeline route and stations are visually inspected biweekly and the inspections will be recorded on a Biweekly Inspection form.
- Pipeline valves are inspected, serviced and operated semi-annually.
- The mud flats portion of the pipeline is inspected by walking the route once in spring after break up and once in fall before freeze up.
- Pipeline pressure relief devices are tested annually.
- Corrosion measurements by smart pig.

A pig launcher and trap is permanently installed on the pipeline to allow the use of cleaning and internal inspection devices (intelligent or smart pigs). The smart pig records measurements as the flow stream pushes it along the interior of the pipeline. A smart pig is able to monitor the pipeline walls for degradation (caused by corrosion) or damage. The most common type of intelligent pig used today is the Magnetic Flux Leakage pig. This technology involves saturating the pipe wall with a magnetic field and scanning the inside surface of the pipe to detect leakage fields caused by anomalies within the pipe wall. On-board sensors record the location, size and depth of corrosion, and other defects that have resulted in metal loss. This information is then analyzed and the results presented to the pipeline operator to be used as a part of the overall maintenance strategy.

If a potential anomaly (e.g., thin pipe wall) is detected, the electrical potential of the pipe can be tested at a suspect location to assess likelihood that corrosion is a problem. This measurement can usually be taken at the ground surface (over the location of the

¹⁰ The next certified piping assessment and audit will be conducted in 2022; 10 years from the initial assessment and audit conducted in 2012.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

pipeline anomaly) with hand-held instruments, provided structures, utilities, and concrete/pavement do not interfere. If measurements indicate corrosion may be a problem, the pipeline can be excavated to allow inspection and testing as necessary.

Per DOT regulations at 49 CFR 195, the frequency of smart pig use depends on a number of factors including: 1) the nature of the product moving through the pipeline (internal corrosion); 2) changes in external conditions (potential for third-party force damage, external corrosion, etc.); and/or 3) the age of the pipeline. The first smart pig runs are being conducted at five and ten years, a frequency that exceeds the minimum requirements outlined in present USDOT regulations. The frequency of the smart pig runs will be based on corrosion rates thereafter.

In addition to the maintenance and inspection for the Jet Fuel Pipeline, ASIG conducts operational checks of the ESDs that control fuel transfers from the Off-Airport and Airport Fuel Facility. The operational checks are conducted by ASIG SOP-15, and the checks are conducted monthly.

2.2 Operational Prevention Programs

In addition to designing, constructing, and maintaining the AFSC Facilities by stringent industry standards to prevent fuel discharge, ASIG implements multiple operational programs which would prevent a discharge. These operational prevention programs include training and substance abuse and medical monitoring for all ASIG personnel, as well as security measures for the AFSC Facilities.

2.2.1 Prevention Training Programs

This section describes the Prevention Training Programs ASIG has in place for all ASIG employees to promote safe operation of the AFSC facilities and to prevent oil spills. The section has been prepared in accordance with 18 AAC 75.425(2)(A)(i) and 18 AAC 75.020(a).

ASIG personnel are trained by a combination of classroom and on-the-job programs designed to qualify them for ALL the job duties assigned to them. The training is specific to the department and position. Thorough training of standard operations and safety procedures, transfer procedures, and compliance manuals in addition to specific prevention training is an important part of the overall prevention program.

Table 2.2-1 summarizes training programs by ASIG position that aide in the prevention of fuel discharge. Logs and records of personnel training are kept for each ASIG employee and maintained at the Operations Base for a minimum of five years. The training records for personnel qualified to operate the AFSC Jet Fuel Pipeline are maintained permanently. The records are periodically reviewed by ASIG management. Following the table is a description of each training program, the objectives and scope, frequency, type of training, and documentation.

Table 2.2-1 ASIG Spill Prevention Training by Position

ASIG Position	Job Duties	Training Program
General Manager	Plans, directs, and coordinates activities concerned with operation of the airport facilities and aviation fueling.	• HS&E System • Compliance Manuals • Operational Manuals
HS&E Manager Safety/Training Supervisor	Develops and conducts training programs. Test trainees. Oversees and conducts safety observations, safety audits, and compliance.	• HS&E System • AFQC • Compliance Manuals, all • Operational Manuals, all

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.2-1 ASIG Spill Prevention Training by Position

ASIG Position	Job Duties	Training Program
Plant Manager	Management of the support equipment maintenance and tank facility O&M.	• HS&E System • AFQC • Terminal and Pipeline Operator Qualification Program • Compliance Manuals, all • Operational Manuals, all
Plant Supervisor	Oversight of tank facility O&M and oversight of fuel transfers.	• HS&E System • AFQC • Terminal and Pipeline Operator Qualification Program • Compliance Manuals, all • Operational Manuals ○ AFSC Marine Transport Facility Operations Manual ○ Anchorage Fueling and Service Company Operation and Maintenance Manual 12-inch Cross-Town Pipeline ○ API 570 Program
Plant Operator	Conduct the operation of the tank facilities; fuel transfers, tank filling, monitoring of Jet Fuel Pipeline.	• HS&E System • AFQC • Terminal and Pipeline Operator Qualification Program • Compliance Manuals, all • Operational Manuals ○ AFSC Marine Transport Facility Operations Manual ○ Anchorage Fueling and Service Company Operation and Maintenance Manual 12-inch Cross-Town Pipeline ○ API 570 Program
Maintenance Supervisor	Oversight of facility and support equipment maintenance.	• HS&E System • AFQC • Compliance Manuals, all • Operational Manuals, all

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.2-1 ASIG Spill Prevention Training by Position

ASIG Position	Job Duties	Training Program
Plant Mechanic	Repair and maintain equipment and systems associated with the tank facilities and hydrants.	• HS&E System • AFQC • Terminal and Pipeline Operator Qualification Program • Compliance Manuals, all • Operational Manuals ○ Anchorage Fueling and Service Company Operation and Maintenance Manual ○ 12-inch Cross-Town Pipeline ○ API 570 Program ○ Hydrant IMP
GSE Mechanic	Repair and maintain support equipment. QC for hydrant trucks and carts.	• HS&E System • AFQC • Compliance Manuals ○ Storm Water Pollution Prevention Plan for Anchorage Fueling and Service Company: Airport Fuel Facility and Operations Base ○ Spill Prevention Control and Countermeasure Plan for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline
Pit Technician	Maintenance and inspection of the hydrant system and supporting systems for fueling activities.	• HS&E System • AFQC • Compliance Manuals ○ SWPP: Airport Fuel Facility and Operations Base ○ SPCC for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.2-1 ASIG Spill Prevention Training by Position

ASIG Position	Job Duties	Training Program
Fueling Manager	Manages and coordinates activities of the workers concerned with aircraft fueling and the safe and efficient operation of fueling equipment.	• HS&E System • AFQC • Compliance Manuals ○ SWPP: Airport Fuel Facility and Operations Base ○ SPCC for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline • Operational Manuals ○ Hydrant IMP
Fueling Supervisor	Supervises aircraft fueling operation, observations of fueling agents.	• HS&E System • AFQC • Compliance Manuals ○ SWPP: Airport Fuel Facility and Operations Base ○ SPCC for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline • Operational Manuals ○ Hydrant IMP
Fueling Agent	Responsible for the safe and efficient fueling of aircraft, safe and proper driving of the fueling equipment, and fuel QC.	• HS&E System • AFQC • Compliance Manuals ○ SWPP: Airport Fuel Facility and Operations Base ○ SPCC for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline
Environmental Manager	Responsible for the environmental regulatory compliance.	• HS&E System • Compliance Manuals, all

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.2-1 ASIG Spill Prevention Training by Position

ASIG Position	Job Duties	Training Program
Facility Manager	Responsible for the oversight and management of facility improvements and maintenance including work conducted by contractors of the fuel systems.	• HS&E System • Compliance Manuals, all • Operational Manuals: ○ API 570 Program ○ Hydrant IMP

Note: ASIG provides training for the job duties involving inspection, maintenance, or operation of oil storage and transfer listed above and does not have license or certification requirements for the listed positions. However, the Maintenance staff holds a commercial driver's license for the purposes of driving the SP-18 vacuum truck. Additionally, ASIG maintains 3 to 5 personnel with training in Hazardous Material Shipping per US DOT Hazmat regulations of CFR 49 for the purpose of shipping small quantities of hazardous material

HS&E System

As a subsidiary to BBA Shared Services Inc (BBASSI), ASIG has a comprehensive training program that follows the BBASSI format. All new ASIG personnel complete training of the BBASSI standard safety procedures (SSPs) and Health Safety and Environmental (HS&E) System prior to conducting job duties and annual refreshers thereafter. The SSPs and HS&E System was developed to familiarize personnel with job duties to include operation of the fuel tank farms, the pipeline, airline fueling, and maintenance activities.

The following is a list of the training programs developed for the overall HS&E system that ensure the safe transfer, operating, and maintenance procedures which help to prevent discharges:

- Health, Safety, and Environmental System Manual
- Aviation Fuel Quality Control Program (AFQC), training described in more detail below
- Drivers Safety Program
- Safety Procedures (SSP): to ensure the safe operations for the fueling and M&O operations that aid in the prevention of accidents that could result in a fuel discharge.
 - SSP 110 GSE Operator Procedures
 - SSP 113 Aircraft Approach Procedures
 - SSP 115 Parking of Ramp Equipment
 - SSP 120 Vehicle Equipment Inspection
 - SSP 121 Ramp Speed Limits
 - SSP 122 Hazardous Weather Operations
 - SSP 405 Refueler Dispensing
 - SSP 406 Volumetric Top-Off Procedure
 - SSP 407 Waste Stream Control
 - SSP 415 Deadman Control

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Frequency: All new employees must have thorough employee orientation training on work processes in the department and per the job duties they will be assigned prior to beginning work. Additionally dependent upon the job duty, ASIG employees will receive specific information on maintenance and/or inspections they will conduct under the HS&E overall programs.

Type: Employees are required to participate in both classroom and on-the-job instruction

Records: ASIG maintains a computer based program that tracks the initial and annual recurrent training on most of the HS&E programs. Additionally there is a file maintained for each ASIG person.

Aviation Fuel Quality Control Program

The AFQC program, a part of the HS&E System, requires fully trained and qualified personnel to conduct all fuel handling and quality control functions and the inspections per the AFSC program. The ASIG personnel identified to have duties under the AFSC program are required to complete this training.

Frequency: All new employees must have thorough employee orientation training on the assigned job duties under the AFQC program.

Type: Employees are required to participate in both classroom and on-the-job instruction.

Records: ASIG maintains a computer based program that tracks the initial and annual recurrent training AFQC program.

Terminal and Pipeline Operator Qualification Program

The ASIG personnel who have job responsibilities at the tank facility or with pipeline operations undergo training in the Terminal and Pipeline Operator Qualification Program. The program is consistent with the training requirements of 49 CFR 195 and 33 CFR 156 and includes the following training areas:

- Pipeline receipts;
- Marine terminal transfers, terminal to terminal transfers;
- Control and operation of filters, pumps and valves;
- Monitoring equipment and emergency shutdown;
- Facility and equipment test and inspections.

Frequency: Initial and annual recurrent.

Type: Employees are required to participate in both classroom and on-the-job instruction.

Records: ASIG personnel enrolled in the program have certification in their respective training files.

Compliance Manuals

ASIG maintains compliance documents that outline procedures and practices established to aide in the prevention of oil discharges. ASIG maintains the following environmental compliance plans:

- Storm Water Pollution Prevention Plan for Anchorage Fueling and Service Company: Airport Fuel Facility and Operations Base;

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Port of Anchorage Storm Water Management Program; Storm Water Pollution Prevention Plan and System–Wide Report;
- Spill Prevention Control and Countermeasure Plan for Off-Airport Fuel Facility, Airport Fuel Facility, Operations and Maintenance Base, and Jet Fuel Pipeline.

Frequency: Upon hire, annual, operational change and/or plan update.

Type: Each employee identified with responsibilities in one of the compliance plans must read and acknowledge their understanding of the respective plan. The prevention plans are typically reviewed annually as a part of the spill responder refresher classroom training. Additionally, identified personnel have on-the-job familiarization with the identified responsibilities.

Records: Employee acknowledgements and classroom training curriculum and class attendance sheets.

Operational, Maintenance, and Inspection Manuals

ASIG has developed in-house and also contracted for third party development of manuals and programs designed for the operational, and/or maintenance and inspection components which aide in the prevention of a fuel discharge. ASIG personnel who have job responsibilities in one of the programs or named responsibilities in the manual must be trained on the material. The Operational and Maintenance and Inspection Manuals are listed below.

- *United States Coast Guard, Marine Transport Facility Operations Manual, AFSC Off-Airport Fuel Facility*; per the requirements of CFR, Part 154, Subpart B
- *Procedural Manual for Operations, Maintenance and Emergencies, 12-INCH CROSSTOWN PIPELINE (CTP)*; per the requirements of 49 CFR 195
- *API 570 Inspection Program, Port Facility Plant 1*
- *API 570 Inspection Program, Airport Fuels Storage Facility*
- *Integrity Management Program, AFSC Hydrant Distribution System*

Frequency: ASIG with job duties identified in the plan or program will be trained in those duties upon hire, then recurrent annually, and after any operational change and/or plan update.

Type: The training occurs as a mixture of classroom training and on-the-job training.

Records: Course curriculum and personnel attendance sheets are maintained for classroom training and annual employee acknowledgements are maintained with each plan.

2.2.2 Substance Abuse and Medical Programs

This section has been prepared in accordance with 18 AAC 75.425(2)(A)(ii) and 8 AAC 75.007(e).

ASIG has a Drug and Alcohol Policy in place to ensure that all personnel shall be free of substance abuse problems that would impair that person's ability to perform his or her job duties. The ASIG Drug and Alcohol Policy is compliant with 49 CFR 199 adopted by reference in 18 AAC 75.007(e), and the Federal Aviation Administration Anti-Drug Guidelines.

The ASIG Drug and Alcohol Policy consists of a pre-employment drug screen for all positions, drug and alcohol testing for current employees if there is reasonable suspicion, or if an employee is involved in a work-related accident or injury, regardless of

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

fault. A confirmed positive result on a screen or the refusal to submit to a drug screen for pre-employment or of a current employee will disqualify that person from further employment consideration.

The ASIG Drug and Alcohol Policy also has provisions for the employees with duties relating to the operation of the Jet Fuel Pipeline. Employees in these "safety-sensitive" positions are placed in a random drug-testing pool. Personnel testing positive for banned substances are subject to immediate dismissal.

2.2.3 Medical Monitoring Program

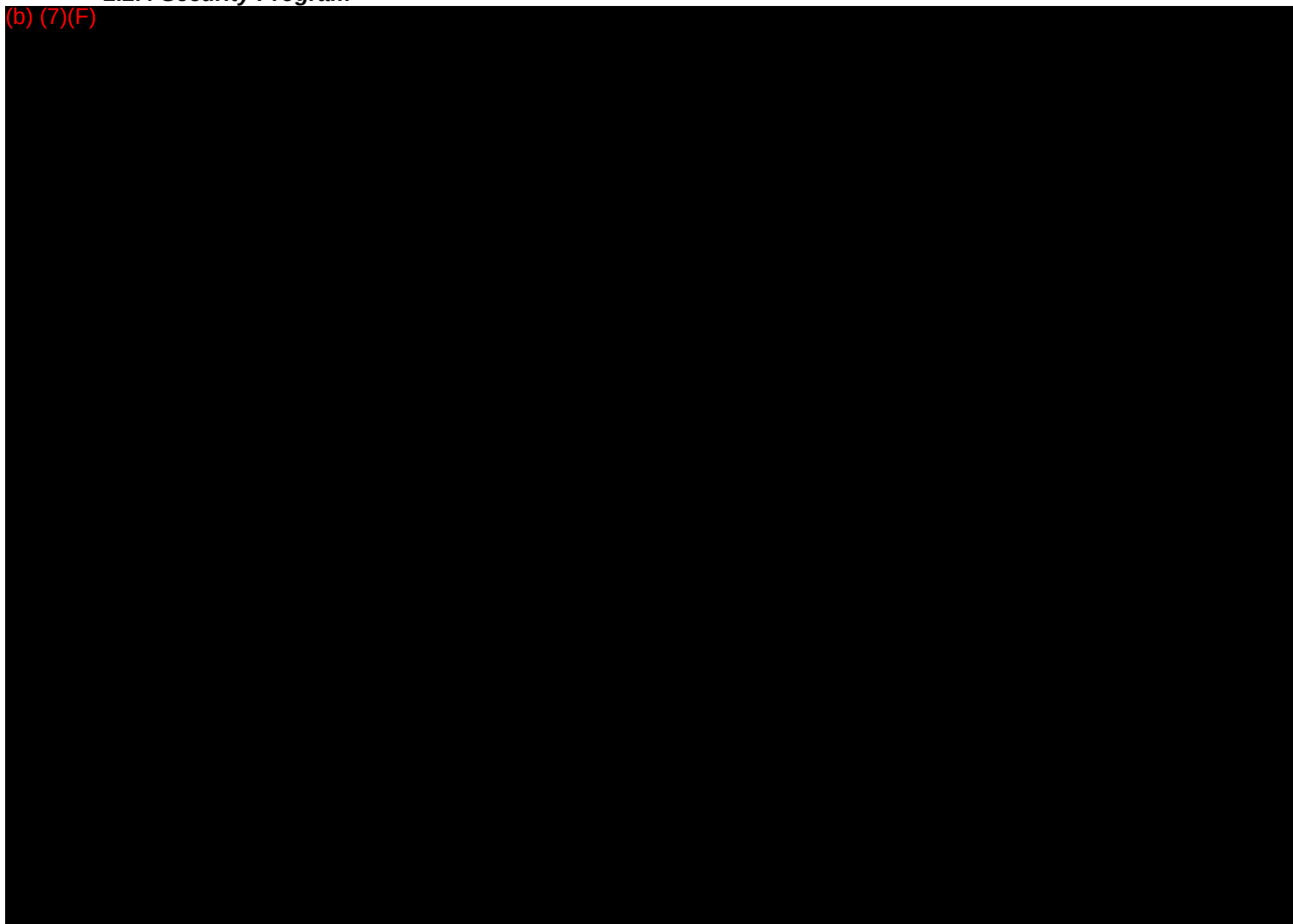
This section has been prepared in accordance with 18 AAC 75.425(2)(A)(ii) and 8 AAC 75.007(e).

Any employee having a debilitating injury or illness must have a medical release signed by the attending physician prior to returning to normal work duties.

ASIG has a hearing conservation program. As part of the program, all employees undergo a baseline hearing test and an annual test to check for any hearing loss.

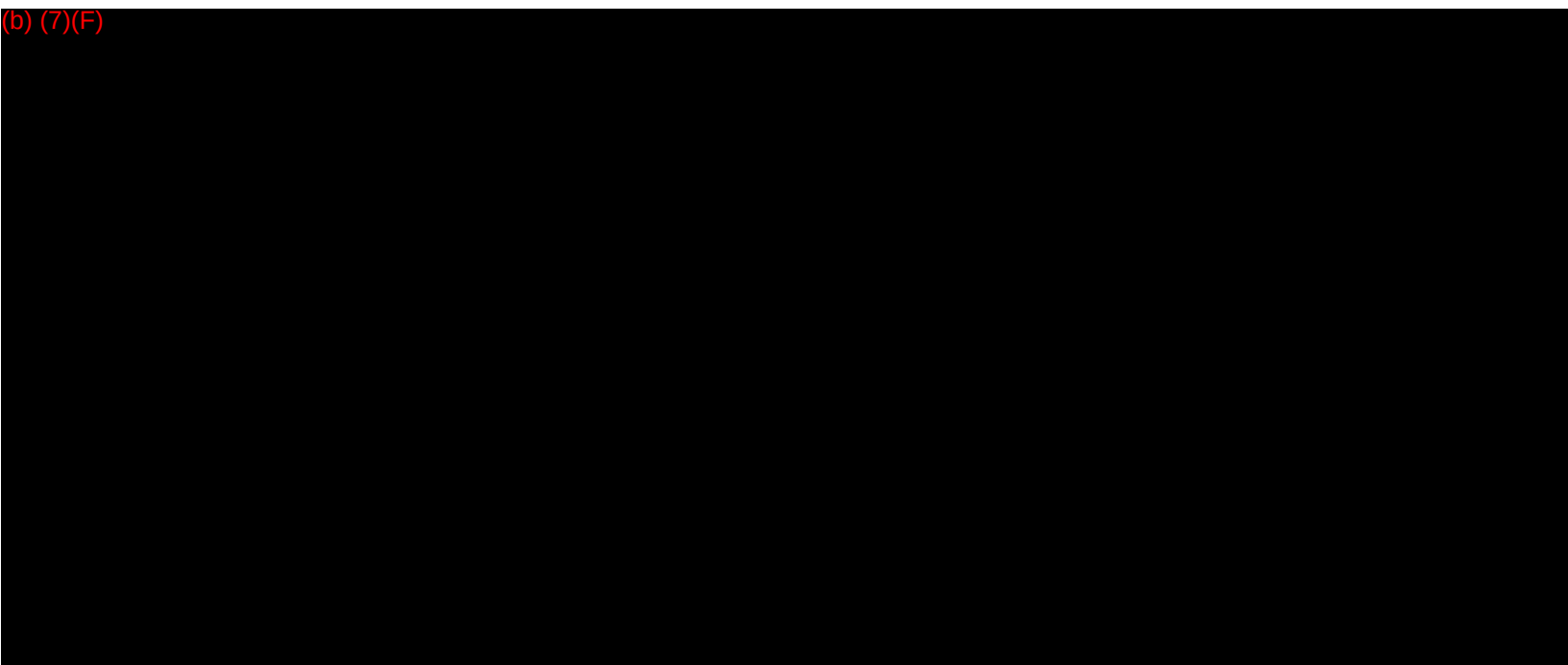
2.2.4 Security Program

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

2.3 Discharge History

This section has been prepared in accordance with 18 AAC 75.425(e)(2)(B) and 33 CFR 154.1035(c).

Anchorage Fueling & Service Company (AFSC) purchased the Off-Airport Fuel Facility in July 1981 from Shell Oil Company. Table 2.3-1 summarizes the discharge history since that time. In addition to the spills from Off-Airport Fuel Facility, there have been a few minor spills at the Airport Storage Facility, as summarized in Table 2.3-2. There have been no spills from the currently operating Jet Fuel Pipeline.

Table 2.3-1: Discharge History for the Off-Airport Fuel Facility

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
March 1983 (Tank 1)	120,000 gallons, Jet A Tank 1 overfill.	Installed high level and high-high level alarms on all tanks in the AFSC system. Installed a digital level readout for Off-Airport Fuel Facility tanks.	None
October 11, 1985	2,557 gallons, Jet A spill during transfer because flange improperly fastened.	The cause of the spill was the failure of a construction company doing modifications in the area to securely tighten nuts and bolts on a flange. ASIG policy is to ensure all nuts and bolts are properly fastened and to check connections prior to transfer (See Transfer Procedures Section 3.1.5).	None
November 3, 1986	Unknown amount of Jet A fuel was released when a two-inch cargo takedown line rusted through.	To prevent recurrence of this type of spill, all underground facility piping, including through-dike penetrations, are now cathodically protected.	None

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-1: Discharge History for the Off-Airport Fuel Facility

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
March 14, 1987	About 200 to 250 gallons of Jet A fuel was spilled when a one-inch sample valve was broken off by an employee during a barge transfer.	Transfer procedures require checking all valves.	Transfer-related spill, although different causes than October 1985. ASIG employees follow USCG-endorsed transfer procedures.
October 5, 1988	7,000 gallons of Jet A fuel was spilled due to operator error during removal of water from a tank. Sump was being used to remove water from the dike area when spilled fuel overflowed an oil/water separator connected to the sump line and discharged fuel to a ditch outside the diked area.	To prevent this type of spill from recurring, it is now standard procedure to sump water from storage tanks directly into open 55-gallon drums while a plant operator is in direct control of the water flow. Standard practice at the time of the spill was to run water directly from the tank to an oil/water separator. This procedure allowed water to be sumped without direct control of the water flow by the plant operator.	None
April 14, 1994	Approximately 500 gallons of Jet A fuel was discharged inside a concrete containment area when a seal on a 75 hp pump blew. A small 1/4" to 1/2" crack in the concrete sidewall allowed 50 to 100 gallons to escape secondary containment and contaminate a small area of gravel fill. Some fuel migrated down 1 1/2 to 2 feet to perched water.	Secondary containment is inspected.	None

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-1: Discharge History for the Off-Airport Fuel Facility

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
December 12, 1994	Approximately 600 to 1000 gallons of fuel was discharged when a chunk of ice fell from one of the storage tanks and struck a fuel line, causing it to split open.	Whenever safe to do so, snow and ice are removed from areas where they could cause damage to fuel lines.	None
October 9, 1998	Approximately 20 to 30 gallons of Jet A-50 fuel was released when a contractor installing a secondary containment liner at the facility severed a ¾" thermal relief line on one of the facility bulk fuel tanks with a backhoe bucket.	Oversight of contractor operations enhanced.	None
October 14, 2001	Approximately 50 gallons of Jet A fuel was discharged on soils above the lined containment area. Caused by a contractor who installed a flange on Tank 3-cargo line and when contractor restarted pipeline the leak occurred.	Frozen soil stained with fuel was loosened by a jackhammer and removed down to the liner. Contaminated soils were transported to Alaska Soils Recycling. Area was replaced with Type Two Classified Soils.	None
January 31, 2004	Mechanical failure on a pump shaft seal on ground pump 8/9 caused the seal to unseat and a discharge of approximately 35 gallons. The discharge contaminated soil around the pump pad and collected into a basin.	Twenty gallons of Jet A were removed from the collection basin and contaminated snow and frozen soil were removed. The snow was melted and disposed. Soil was placed on a bermed liner until transfer to Alaska Soils Recycling.	None

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-1: Discharge History for the Off-Airport Fuel Facility

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
February 5, 2005	Mechanical failure of ground pump 6/7 caused a discharge of 50 gallons of Jet A which contaminated the surrounding snow and ice.	Six drums of snow and ice were collected, melted, and placed in a slop tank to await removal by the AFSC disposal contractor. Plant Operators were retrained to look for potential damage to tank appurtenances.	January 31, 2004
September 18, 2011	Failure of a strainer in-line with a stripping pump (a positive displacement pump for emptying fuel from the AFSC cargo lines) during a TCS © leak test of the AFSC Cargo Lines, resulting in 150 gallons discharged to secondary containment.	Initial recovery actions included removal of free standing fuel. A total of 52.28 tons of contaminated soil was transported to ASR for disposal.	None

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-2: Discharge History for Airport Fuel Facility

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
October 6, 1997	Approximately 10 gallons of Jet A-50 was spilled on the paved driveway at the Airport Storage Facility when a tanker truck driver for a local company failed to completely close the top hatch of the truck after filling at Off-Airport Fuel Facility. Several gallons of fuel sloshed out of the top hatch when the truck stopped at the gate entrance to the facility.	In order to prevent recurrence, a Weaver Brother Supervisor instructed the driver in proper loading procedures.	None
January 21, 2002	Approximately 25 gallons of jet fuel was released inside the Airport Fuel Facility Filter Building due to a misaligned transfer valve.	All fuel discharged was recovered and sent to the slop fuel recovery system.	None
June 18, 2002	Approximately 25 gallons of jet fuel was released inside the Airport Fuel Facility Filter Building due to water slug shutdown of the incoming filter train system.	All the fuel was contained in a floor drain. All fuel discharged was recovered and sent to a slop fuel recovery system.	None
August 18, 2002	During a pipeline receipt approximately 800 gallons of jet fuel was released inside the Airport Fuel Facility Filter Building due to a misaligned receiving filter train valve.	All the fuel was contained in a floor drain. All fuel discharged was recovered and sent to a slop fuel recovery system.	None

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-3: Discharge History for the Airport Hydrant System

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
March 1989	Fuel was discovered in the storm sewer system that drains the area just north of the Anchorage International Terminal. Further investigation revealed that the fuel system valve pit in the area of Gate N-3 at International Terminal at AIA was the source of the problem. An unknown amount of fuel had leaked from leaking valve packing and had filled the pit to an exit point.	The leaking valve packing was repaired immediately. A recovery well was installed. 1,600 gallons of Jet A fuel was recovered from the recovery system. An additional 1,400 gallons were recovered from a nearby utility access pit that houses the sump for a jet engine air-start system.	None
March 30, 1990	50 to 100 gallons of Jet A fuel leaked from the pipeline that serves Federal Express and UPS. The leak came from the valve box where the 16-inch service line to Federal Express ties in to the main 20" line. Bolts were left loose on a flange during construction and the line leaked after being flooded with fuel.	Fuel was removed from the ditch by vacuum trucks.	None
May 8, 1990	4,031 gallons of Jet A fuel leaked into the valve box where the 16" service line to Federal Express terminates. Loose flange bolts on a flange inside the valve box caused the leak.	The leak was totally contained within the valve box. Vacuum trucks were used to recover the fuel.	None
September 7, 1990	550 gallons of Jet A fuel leaked into Valve Box B-20 that is located on the AIA International Terminal Ramp apron near the jet blast fence. Loose flange bolts on a 16" valve blind flange in the valve box caused the leak.	The leak was totally contained within the valve box. Vacuum trucks were used to recover the fuel.	May 8, 1990

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 2.3-3: Discharge History for the Airport Hydrant System

Date & Location of Spill	Amount, Type & Cause of Spill	Corrective Actions taken to address spill cause & prevent similar future spills	Relationship to other spills
October 19, 1991	2,500 gallons of Jet A fuel was spilled from a refueling dart located on the Dart Parking Area west of the International Terminal at AIA. A frozen copper sump line burst due to expansion of water freezing in the line caused the spill.	The sump line is used to sump water that accumulates from condensation in the tank. The leak resulted from failure to sump water from the tank on a daily basis and simultaneous failure of the spring loaded valve used to internally seal the sump line. Darts are sumped daily.	None
February 15, 1994	70,000 gallons of Jet A-50 fuel overflowed a valve box at Federal Express after a flange on a 16" valve within the box failed.	Snow and fuel was recovered. A recovery system was installed after the ground froze.	None

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

2.4 Potential Discharge Analysis

This section has been prepared in accordance with: 18 AAC 75.425(e)(2)(C) and 33 CFR 154.1035(c).

All petroleum operations carry some risk of accidental discharge. This section considers the potential discharge sources, likelihood and frequency, causes, location, size, and actions to prevent discharges from the AFSC Facilities.

The potential oil discharges from Off-Airport Fuel Facility and Airport Fuel Facility include, tank overfill, tank failure, facility pipeline failure, or failure of other equipment (e.g. pumps or valves). In addition, there is a potential for discharge at Off-Airport Fuel Facility and the POA POAVY during marine fuel transfer.

2.4.1 Storage Tank Discharge Analysis

Sources: Potential sources of a discharge from the Off-Airport and Airport Fuel Facility storage tanks include the tank bottoms, inlet or outlet piping, and the tank itself from overfilling or failure.

Likelihood/Frequency: Rupture or failure of the tank itself has a very low probability and frequency unless there are specific conditions that increase the risk as discussed in Section 2.5. Based on the results of the tanks' full bottom scans and internal API 653 inspections, it appears that a corrosion leak from a tank is very improbable. A discharge from the inlet or outlet tank piping has a low likelihood and frequency of occurring.

Cause: Corrosion, significant seismic event, or overpressure of the tanks during receipt of fuel could cause a discharge from the tank bottom or sidewalls. Causes of a discharge from the tank inlet or outlet piping include failure of valve packing, pipe gaskets, or loosening of bolted pipe connections. Over-pressuring during transfers, falling ice, or damage from equipment in the area can also cause a discharge from the tank inlet or outlet piping.

Location: The tanks at Off-Airport and Airport Fuel Facility are all located in secondary containment. Spilled product up to the volume of the largest tank within the tank yard would be confined within the secondary containment.

Size: The maximum quantity of product which could be reasonably discharged from the storage tanks is based upon the shell capacity of the largest storage tank within the tank yard. The largest tank within the facility is Tank 9, with a capacity of (b) (7)(F). The nine bulk fuel storage tanks at the Airport Fuel Facility each have a capacity of (b) (7)(F).

Actions to prevent discharge: The transfer procedures to the storage tanks at Off-Airport and Airport Fuel Facility described in Section 3.1.5 greatly reduce the probability of overpressure to the tanks and inlet and outlet piping. Tanks at Airport Fuel Facility have overfill prevention devices that would automatically close the inlet valves to the tank and disengage the transfer pumps. The tanks at Off-Airport Fuel Facility are gauged prior to, during, and after transfers as a preventative measure for overfilling.

The API 653 internal inspections and external inspection, described in Section 2.1.1, are preventative to tank failure by identifying any corrosion or deformities in the storage tanks. The maintenance and inspection programs also are preventative to mechanical failure of the inlet and outlet valve packing, pipe gaskets, and bolted pipe connections.

Additionally, equipment and work around the tank inlet and outlet is very minimal and restricted to necessity.

2.4.2 Facility Piping Discharge Analysis

Sources: At Airport Fuel Facility the facility piping is above ground. The majority of the facility piping is above ground at Off-Airport Fuel Facility.

Likelihood/Frequency: Discharge from aboveground piping is unlikely and a low frequency.

Cause: A discharge from above ground piping could be caused by pipe rupture due to failure, by an outside force, or from pinhole leaks caused by corrosion.

Location: Most facility piping is located within secondary containment, so the discharge from Off-Airport and Airport Fuel Facility piping would most likely be within the respective secondary containments. Spilled product up to the volume of the largest tank within the tank yard would be confined within the secondary containment.

Size: Based on the size of the facility piping and time to close valves and isolate the ruptured pipe, it is estimated that discharge could be very minor; from a few gallons to the small or medium discharge of 2,100 to 36,000 gallons respectively (per 40 CFR 112).

Actions to prevent discharge: Facility personnel are trained in the proper transfer procedures and to recognize abnormal conditions in the operating parameters of the facility piping. Facility piping is inspected through daily routine visual inspections and annual, 5-year, and 10-year formal visual inspections (per API 570), as described in Section 2.1.3. During any maintenance activities facility piping is de-fueled prior to the work as a preventative measure.

2.4.3 Facility Equipment

Sources: Facility equipment at Off-Airport and Airport Fuel Facility includes transfer pumps and valves. At Airport Fuel Facility additional facility equipment includes filters.

Likelihood/Frequency: Discharge from facility equipment is unlikely and low in frequency (3 spills in the last 10 years at Off-Airport Facility; 2 spills in the last 10 years at Airport facility), as identified in the Table 2.3-1 and 2.3-2 Discharge History of the Off and on Airport Fuel Facility.

Cause: Discharges from facility equipment can be caused by mechanical failure, or can occur during maintenance of the equipment.

Location: The pumps and valves at Off-Airport Fuel Facility are located within secondary containment. The pumps and filters at Airport Fuel Facility are located within pump and filter buildings at Airport Fuel Facility. These buildings are designed with secondary containment.

Size: Discharge from facility equipment is based on historical data and is estimated to be between 10 gallons and 800 gallons.

Actions to prevent discharge: The facility equipment is part of the rigorous BBASSI AFQC maintenance and inspection program as a preventative measure to mechanical failure. The facility equipment is checked daily by Plant Operators. Facility equipment is de-fueled prior to maintenance activities as a preventative measure.

2.4.4 Off-Airport Fuel Facility Marine Transfer Discharge Analysis

Sources: During a marine transfer, a discharge could occur from the barge hoses, POA owned equipment; piping, pumps, and valves, or the AFSC owned equipment; piping, pumps, and valves.

Likelihood/Frequency: The likelihood of such a release is very low.

Cause: A failure could be caused by a mechanical failure of the hoses, piping, valves, and pumps, or by human error operating the pumps and valves.

Location: Dependent upon the equipment that failed, a spill might occur at the POAVY yard in secondary containment, or valves and/or pumps during transfer in the Off-Airport Fuel Facility yard, if the secondary containment is breached

Size: Based on the maximum pumping rates from a vessel and for one of the AFSC underground pipelines feeding Off-Airport Fuel Facility from the POAVY yard, (14,000 barrels/hour and 8,300 barrels/hour), it is estimated 130 bbl could be lost between the time of a leak occurrence and shut down of the flow. Per the definition in 33 CFR 154.1020, the average most probable discharge for the Marine Transportation Related (MTR) portion of the facility is 50 barrels, and the maximum most probable discharge for the MTR portion of the facility is 1,200 barrels.

Actions to prevent discharge: Rigorous transfer procedures described in Section 3.1.5 are in place to prevent human error from causing a discharge. The maintenance and inspection programs described in Section 2.1 are in place to prevent mechanical failure of the marine transfer components.

2.4.5 Jet Fuel Pipeline Discharge Analysis

Sources: A leak could develop in one of the valve boxes, from the pumps, or from the pipeline itself.

Likelihood/Frequency: The likelihood of a discharge from the pipeline itself is very low, and there have been no discharges to date. Corrosion leaks are not very common in properly maintained pipelines. The most probable location for discharge from the pipeline itself would be the industrialized POA area where excavation occurs near the pipeline. Discharges in the valve box, or from the pumps is more likely, but still would have a very low probability.

Cause: A leak could develop in one of the valve vaults from loose valve flange bolts, valve packing failure, pipe or valve corrosion, metal fatigue, or during maintenance. A blown pump seal or other type of mechanical failure could cause a leak in the pumping system. A discharge from the pipeline itself could be caused by a contractor or other third party striking the line when excavating, corrosion, or from specific conditions discussed in Section 2.5.

Location: There are two remote controlled motor operated block valves in 6,000 gallon capacity vaults, located just before and just after the section of pipeline through the mud flats as depicted on Figure 1.8-1 and Figure 1.8-5. The pump stations are located at Off-Airport Fuel Facility within their own dedicated secondary containment.

Size: A discharge in the valve box or a blown pump would range in size from a few gallons to a worst-case volume of 800 barrels. A pump discharge could range from a few gallons up to several hundred gallons.

Actions to prevent discharge: The 6,000 gallon valve vaults are equipped with liquid level alarms that activate the emergency shut down, therefore a discharge in the valve

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

vault would be contained entirely within the valve vault itself. ASIG also has a valve box and valve maintenance program that will greatly reduce the likelihood and frequency of leak occurrences. The pumps are located in secondary containment and are routinely checked for leakage. Inspection of the pipeline, described in Section 2.1.5, is a rigorous program that ensures the integrity of the pipeline and greatly reduced the potential of a discharge.

2.4.6 Aircraft Refueling Operations Discharge Analysis

Sources: Spills that occur from the aircraft fueling operations could come from the fueling vehicles, aircraft, or from the hydrant system.

Likelihood/Frequency: The most common spill from the aircraft refueling operations occur during aircraft fueling and are either from the fueling vehicle, the hydrant pit valve, or the aircraft itself. The average frequency of these fuel spills is approximately two per month. About half of the spills reported to the ADEC from the fueling operations are from aircraft and are the respective airlines' responsibility. Larger spills from fueling vehicles are much less likely. Even less common are spills from the hydrant system piping.

Cause: The cause of aircraft refueling operations varies but is commonly connection or equipment failures, leaking hose or pipe fittings, or improper closure of drain or inlet piping. Broken piping and hoses, and tank leaks and failures could cause larger spills from the fueling vehicles.

Location: The location of the fuel spill during aircraft refueling is the concrete pad and asphalt apron where the aircraft is parked. Some of the fuel spills are entirely contained in the hydrant pits. When the fueling vehicles are not in operation they are parked at the Operations Base in secondary containment. The secondary containment drains to a 20,000 gallon OWS.

Size: The majority of the spills from the aircraft refueling operations are less than 10 gallons and are contained on the asphalt/concrete ramp surface or in a hydrant pit. Fuel spills from the aircraft or fueling vehicle failure could range from 100 to 7000 gallons.

Actions to prevent discharge: The hydrant pit check program described in Section 2.1.4 prevents the majority of the small spills from the hydrant pit valve. The valve vault and high and low point inspections help prevent damage or failure from the hydrant system piping. The hydrant system piping is coated and cathodically protected.

2.5 Conditions that Might Increase Risk of Discharge

This section has been prepared in accordance with: 18 AAC 75.425(e)(2)(D) and 33 CFR 154.1035(c).

2.5.1 Earthquakes

The Anchorage area is seismically active and there is the potential for an earthquake to cause a discharge from storage tanks or the jet fuel pipeline. All tanks in the AFSC system were designed to comply with API Standard 12c or 650, which requires tanks to be designed for the seismic area where they are located.

Other than original design considerations there is little that can be done to actually reduce the likelihood of a discharge resulting from an earthquake. However, ASIG does take measures to reduce the size of any discharge that might occur. When an earthquake of large enough magnitude to be felt by on duty personnel occurs, the following actions are taken:

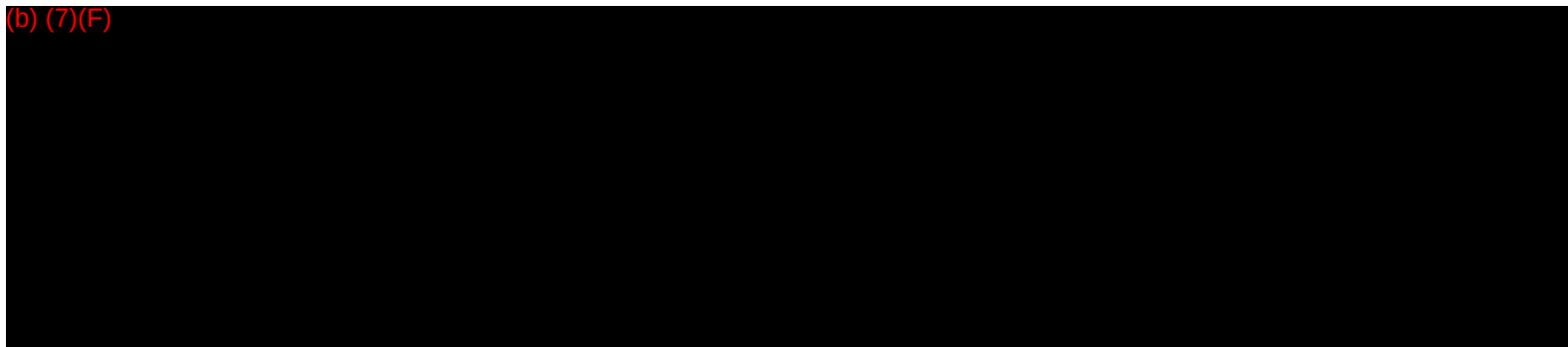
- A visual inspection of all bulk storage tanks and above ground piping within the tank farms is conducted.
- All pumps, filter vessels, control units, etc. are visually inspected for leaks and/or damage.
- All structures for the new terminal facility and operations base were constructed for Zone 4 seismic conditions. Zone 4 is the highest seismic rating. The tank ringwalls and diameter to height ratio of greater than 3 to 1 make the tanks seismically stable.

The pipeline is flexible enough and the soil has sufficient stability in most areas that it is expected to be able to withstand a large earthquake without causing a fracture of the line. The area where the pipeline comes up the bluff at Point Woronzof is the area along the pipeline route that was of most concern during pipeline construction planning. The bluff area could become unstable and slide toward Knik Arm during an earthquake. For this reason it was decided that instead of excavating along the bluff, the pipeline would be installed by boring through the bluff from the south side of Point Woronzof Drive to a depth of about four feet at the base of the bluff. Therefore the line is buried deep enough below the bluff that it would not be affected if a large portion of the bluff slides into Knik Arm.

Michael Baker Jr., Inc., prepared a seismic analysis for the pipeline. The conclusion of the analysis is that the pipeline would not be compromised by the expected seismic loading resulting from an earthquake of the magnitude of the 1964 Good Friday earthquake.

2.5.2 Sabotage or Vandalism

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

2.6 Existing Discharge Detection

This section has been prepared in accordance with: 18 AAC 75.425(e)(2)(E) and 33 CFR 154.1035(c).

2.6.1 Off-Airport Fuel Facility

Bulk Storage Tanks

In compliance with 18 AAC 75.065 (h) (1) the nine tank bottoms at Off-Airport Fuel Facility are cathodically protected in accordance with API 651.

A discharge would be detected when physical inventories of product are taken every day and reconciled. A third-party gauger inventories fuel stocks on a quarterly basis. These controls are established to quickly ascertain if any leakage problems exist in either the lines or the tanks.

In addition to the regular inventories, all receiving tanks are hand gauged prior to receipt of product. During receipt of product an automatic tank gauge reading is taken hourly and at the end of the transfer. A hand gauge is taken following completion of each transfer to verify product levels. The receipt inventory is recorded and reconciled.

Each fuel tank uses redundant instrumentation (two completely independent systems) for determining liquid level; Shands & Juhrs float and tape gauge, and the Rosemont differential pressure gauges. The gauges systems can be read from the outsides of the tanks, and the readings from the Rosemount DP system are displayed at the Off-Airport and Airport Fuel Facility control rooms. The fluid levels from the gauges systems are measured to the nearest 1/16".

For overfill protection, the (b) (7)(F)



Cargo Lines

A (b) (7)(F)




¹¹ Leak rates are based on 0.004% of the pipeline capacity and area at 10 bar or 150 psi.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

2.6.2 Airport Fuel Facility

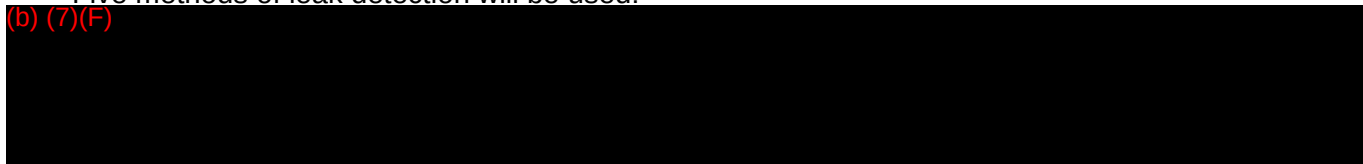
To comply with the requirements under 18 AAC 75.065, the original four tanks, the two storage tanks installed in 2007, and the four (b) (7)(F) tanks at Airport Fuel Facility are equipped with the following means of detecting leaks:

- Each tank is equipped with a leak detection monitoring tube; a 4" diameter leak detection monitoring tube with a 4" diameter by 4'-0", 10-slot well screen installed underneath the center of the tank. The tank liner is sloped to the center of the annular space between the tank and bottom liner so that any liquid present would flow into the well screen and out of the monitoring tube.
- Each fuel tank uses redundant instrumentation (two completely independent systems) for determining liquid level within. The gauging systems report liquid level to 1/100 of a foot.
- In addition, gauging wells, accessible from the tank roof, are used each day to manually determine liquid level.

2.6.3 Jet Fuel Pipeline

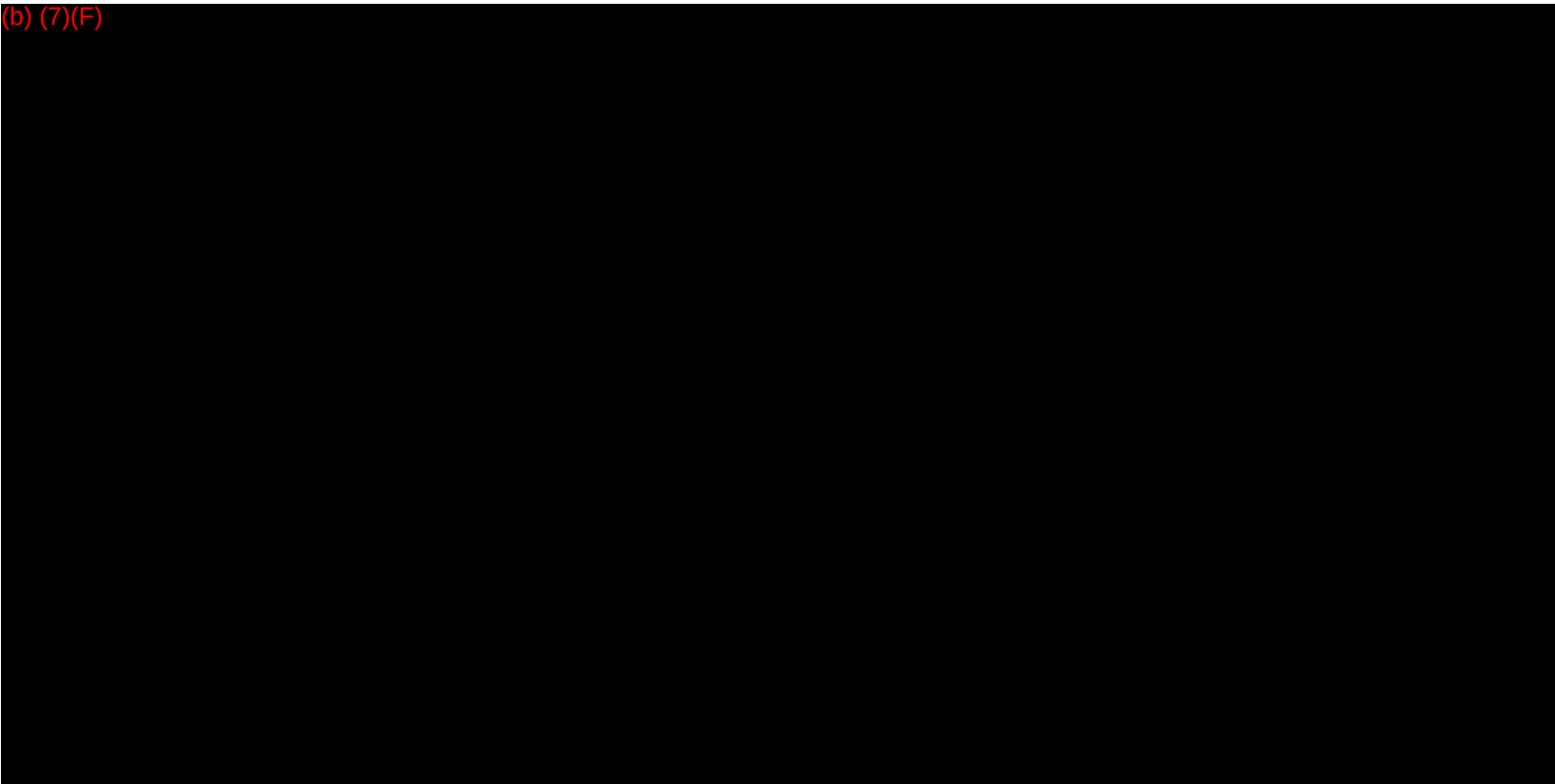
Five methods of leak detection will be used:

(b) (7)(F)

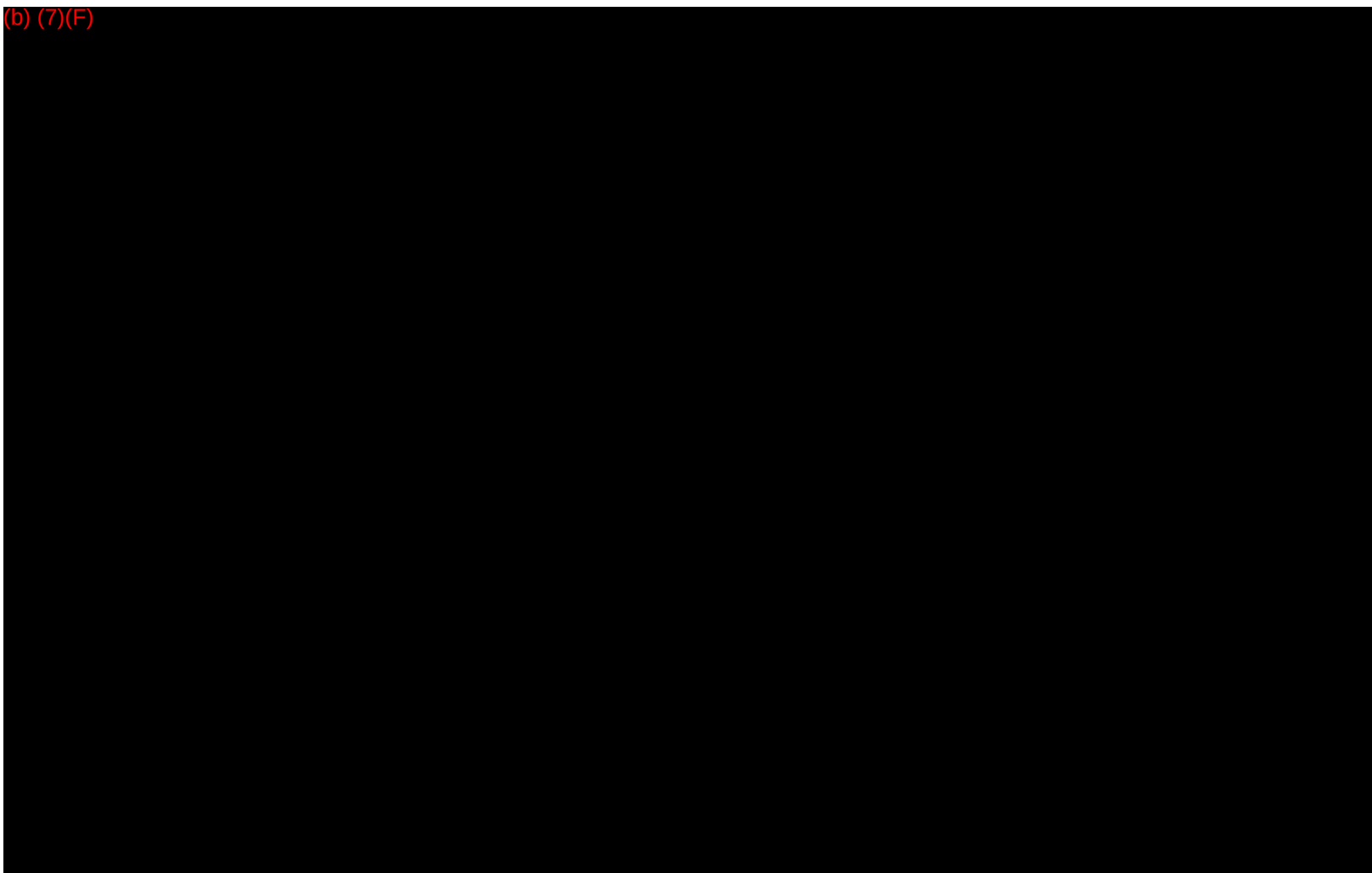


4. Weekly visual inspection of the right-of-way, and
5. Visual observation and reporting by the public.

(b) (7)(F)



(b) (7)(F)



Visual Inspection

A major portion of the line is in saturated sediments along the mud flats. This environment is ideal for visual inspection for a leak. Fuel from a leak would rapidly migrate to the surface where it would manifest as rainbow sheen.

Winter will complicate visual observation along the mud flats when shorefast ice is present. During the winter months, fuel from a leak could migrate under shorefast ice out into the inlet. Fuel from a leak would still be visible on the water or on top of the ice.

In upland areas, visual inspection would identify a leak only if fuel migrated to the surface somewhere along the right-of-way. Site-specific soil conditions and leak rates will control whether and how quickly a leak is manifested at the ground surface in upland areas.

Observations by the Public

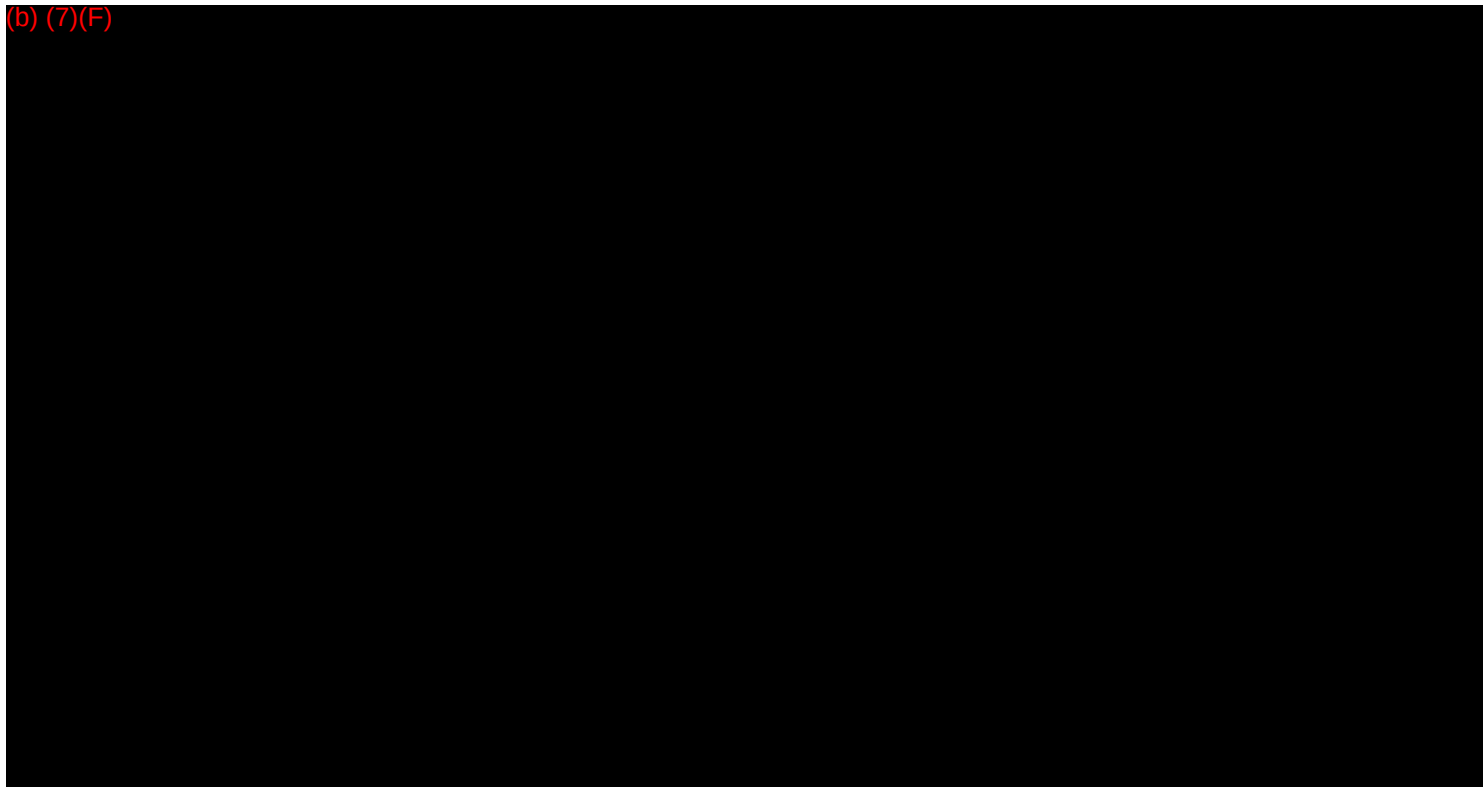
While not considered a part of the main leak detection system, under certain conditions it is possible that a leak could be detected by the public before it was detected by the primary methods of leak detection. For example, odor from a very small leak could be detected by people walking above the pipeline, fuel on the surface of the ground or

¹² The leak alarm rates are based on 0.0006% of the pipeline segments capacities and are at 10 bar or 150 psi.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

water could be observed before the daily inspector arrived, or fuel could be detected during excavation or drilling activities in the vicinity of the pipeline. It is expected that the public would detect a leak before the primary leak detection only under unusual circumstances.

(b) (7)(F)



2.7 Compliance Schedule and Waivers

This section has been prepared in accordance with 18 AAC 75.425(e)(2)(F).

There are no compliance waivers for the AFSC facilities.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Part 3: Supplemental Information

3.1 Facility Description and Operational Overview

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(A) and 33 CFR 154.1035(g).

AFSC is a consortium of airlines which was formed in July, 1981 to provide fueling services to member company aircraft at AIA. AFSC owns the bulk fuel storage plants and appurtenant transfer pipelines, fuel trucks, and aircraft-fueling facilities. The combined AFSC facilities, to include storage tanks and transmission pipeline, total approximately 1.4 million bbls of Jet A fuel storage.

All fuel entering the AFSC system is Jet A. The fuel is consigned to AFSC members; the fuel is managed and delivered to aircraft by ASIG. ASIG delivers fuel to aircraft by tanker truck and underground pipeline hydrant system.

The Operations and Maintenance Base, located at 6000 DeHavilland Drive is staffed 24 hours per day and provides support facilities for AFSC aircraft fueling operations. The facility provides offices for aircraft fueling personnel, vehicle and plant maintenance personnel, and administrative, environmental and engineering support staff. There is also a maintenance facility which provides storage for support vehicles and equipment that can be used for emergency spill response.

In addition to the support facility, there is a fuel loading rack used for on-loading of fuel into tanker trucks for delivery to aircraft. Tanker trucks from various fuel vendors at the Airport use the loading rack for bottom loading of tanker trucks. The loading rack has four fueling positions. The loading rack has a containment area that consists of a sunken concrete pad. An impermeable liner is placed below the concrete pad. The containment area has a capacity of 10,000 gallons and has two storm drains that would convey spilled product to a buried 20,000 gallon capacity OWS. The valve from the OWS is closed and locked, and discharge is conducted under the National Pollutant Discharge Elimination System (NPDES) MSGP AKR05CD75/AKR05000. Additional information about the Base is in the *AFSC Airport Operations and Maintenance Base and Airport Storage Facility Spill Prevention Control and Countermeasure Plan*.

All facility diagrams are located in Section 1.8 of this plan.

3.1.1 Off-Airport Fuel Facility Description and Operational Overview

Off-Airport Fuel Facility, located on Tidewater Road at the Port of Anchorage (POA), consists of nine aboveground storage tanks (AST), with a total storage capacity of (b) (7)(F) a truck loading/offloading rack, and a control building. The Off-Airport Fuel Facility receives tenders of Jet A from the Flint Hills Tank Farm at the POA via an underground pipeline connected directly to the Off-Airport Fuel Facility internal distribution system. The Off-Airport Fuel facility also receives tenders of Jet A from Tesoro via the 8-inch diameter underground pipeline owned by Tesoro through the POAVY, and from ocean tankers via the POA marine dock. In an emergency, the Off-Airport Fuel Facility can receive or dispense Jet A from a truck loading/unloading rack.

Field-Constructed Above Ground Storage Tanks

The tank details are contained in Table 3.1-1. The facility was constructed prior to May 14, 1992 and is therefore subject to the requirements for an existing installation. The tanks are of vertical, steel construction with welded seams, in accordance with either API 650 or API 12C

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

standards. To comply with the requirements under 18 AAC 75.065 (h), each tank at the Off-Airport Fuel Facility is equipped with:

- a Shands & Juhrs float and tape gauge observable from the outside of each tank;
- a Rosemount automatic tank gauge that records tank levels in increments of 1/16"; the automatic tank gauge can be observed from the outside of each tank and from the control building;
- a gauging hatch for manual gauging;
- a Magnetrol high, high high, and low mechanical float switch with visual and audible alarm; and,
- impressed current cathodic protection in accordance with API Standard 651.

The tank bottoms have an internal liner that covers the bottom of each tank and extends approximately two feet up each sidewall. Tanks 6, 8, and 9 have a thick film fiberglass liner installed, in accordance with API 652, in 2001, 2000, and 1997 respectively. The remaining tanks have thin film epoxy liners from the original tank installations. Two tanks have floating roofs; all others have fixed roofs.

There are no underground tanks or partially buried tanks at the terminal.

Secondary Containment

In compliance with 18 AAC 75.075 the tanks are located within an earthen dike secondary containment that has a total volume of (b) (7)(F) exceeding 110% of the largest tank capacity. The secondary containment is lined with an XR-5 (30 mil) geomembrane liner; the liner protected on each side by another continuous layer of geotextile fabric. The area drains through a baffle-type 1,000 gallon oil/water separator (OWS), which in turn drains to a storm sewer. The ultimate discharge point for the storm sewer is Cook Inlet. The valve before the OWS is normally closed, locked and manually operated. Water accumulations are only drained when there is no fuel or fuel sheen present and all discharges comply with the NPDES municipality permit AK S052426.

Truck Loading/Unloading Area

The truck loading/unloading area is contained by a sunken concrete pad with curbing and asphalt berm. The volume of the concrete pad and sump piping is 10,000 gallons. The concrete area is equipped with a drain valve, which is closed and locked. Any water accumulations are observed for fuel or fuel sheen present before the drain valve is opened. The concrete containment drains to the surrounding area.

Facility Piping

The facility piping at Off-Airport Fuel Facility is defined as the piping downstream of the tie-in flange on the valve to the Jet Fuel Pipeline pump, the tie-in flange on two valves at the end of the cargo lines from the POAVY, the tie-in flange on the valve from the receipt line from Tesoro Rail Rack, and the tie-in flange on the valve from the Flint Hills receipt pipeline. The majority of the piping is above ground and is located in secondary containment. The piping was designed in accordance with ASME B31.3 Process piping, and constructed to ANSI Class 150 requirements. The piping inventory and inspection dates are shown in Table 3.1-2.

The underground delivery lines to Off-Airport Fuel Facility from the POA, split into an internal distribution system on Off-Airport Fuel Facility property through a manifold to tank incoming lines. Movement of fuel through the internal distribution system is controlled by a series of gate and check valves. The manifold serving the internal distribution system moves fuel between

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

tanks, the truck-loading facility, and the Jet Fuel Pipeline connecting Off-Airport Fuel Facility with the Airport Storage Facility.

In compliance with 18 AAC 75.080 all underground pipeline is cathodically protected using an impressed current system. In addition, all sections of underground pipe are tar-coated and encased in a plastic type coating called Extra Coat. All joints are wrapped with pipe wrap to 40-mil thickness or heat shrink to 80-mil thickness.

3.1.2 Airport Fuel Facility

The Airport Fuel Facility, located on West End Road west of AIA, consists of three (b) (7)(F) ASTs, (b) (7)(F)

The Airport Fuel Facility receives tenders of Jet A from Tesoro via an 8" diameter underground pipeline owned by Tesoro. The Airport Fuel Facility also receives fuel from the AFSC Off-Airport Facility via the Jet Fuel Pipeline. In an emergency, Airport Fuel Facility can receive or dispense Jet A from a truck loading/unloading rack.

Field-Constructed Above Ground Storage Tanks

The tank details are contained in Table 3.1-1. The tanks are of vertical, steel construction with welded seams, in accordance with API 650. The four original tanks and the two new tanks are equipped with the following, compliant with 18 AAC 75.065 (i):

- a Shands & Juhrs float and tape gauge observable from the outside of each tank and from the control room;
- a Shands & Juhrs automatic tank gauge that records tank levels in increments of 1/8". The automatic tank gauge can be observed from the outside of each tank and from the control building;
- a gauging hatch for manual gauging;
- Magnetrol high, high high, low and low low ultrasonic level switches with visual and audible alarm;
- a 4" diameter leak detection monitoring tube with a 4" diameter by 4'-0" 10-slot well screen installed underneath the center of the tank. The tank liner is sloped to the center of the annular space between the tank and bottom liner so that any liquid present would flow into the well screen and out of the monitoring tube;
- tank bottom liners installed in accordance with API 652; and,
- impressed cathodic protection in accordance with API Standard 651 installed under each fuel tank in the soil layer between the liners and the tank bottoms.

The tanks installed in 2012 have all the features included in the list above. However, the Shands & Juhrs float and tape gauge and automatic tank gauge have been replaced with a state of the art radar tank gauging system accurate to ± 1 mm and will record levels to 1/8". The radar tank gauging system has a digital tank side display that can be viewed by facility personnel on the walkway and from the control room

There are no buried fuel tanks or tanks with internal heating coils at Airport Fuel Facility.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Secondary Containment

The original tanks are located within an earthen dike secondary containment, with a total volume of approximately (b) (7)(F). The secondary containment was originally constructed in 1996 and expanded in 2007 for the two tank expansion (1000-series containment area). A new, completely segregated secondary containment system was constructed directly adjacent to the existing six (6) tanks, installed in 2012, of the same earthen dike construction with a total volume of (b) (7)(F) (2000-series containment area). Both secondary containments have an XR-5 (30 mil) geomembrane liner that encompasses the entire area within the earthen dike; under the tanks and to the full height of the earthen berm. Both containment area liners have welded seams which have been integrity tested before the tanks were covered. The tanks rest on perimeter concrete ringwall foundations built on top of continuous two feet deep gravel fill on top of the containment liner. Both new and existing tanks have an additional second liner installed under each tank floor, which extends up the sides and to the top of the interior of each concrete wall.

Each secondary containment area drains to a separate, dedicated 10,000 gallon OWS that has a 4,000 gallon oil storage capacity. The discharge of both the OWSs is to a storm drain system which is the major conduit from the airport. The valve before the OWS is normally closed and the man cover is locked. The valve is manually operated, and water accumulations are only drained when there is no fuel or fuel sheen present. All discharges comply with the NPDES permit MSGP AKR05CD73/APDES AKR5000.

Water accumulations are not evident in the 1000-series containment area. Therefore, the water accumulations will be checked periodically and drained as necessary.

Truck Loading/Unloading Area

Outside of the tank secondary containment berm are three buildings; Fire Foam, Pump house, and Filter building. In front of the pump house is a truck-loading apron. Beneath the entire footprint of the Pump house, Filter Building and apron is another liner of the same geotextile material. The truck loading/unloading area is concrete and sloped so that fuel spill would be entirely contained on the pad. The volume of the concrete pad fueling apron is 10,000 gallons. The drainage for this containment area is through the 10,000 gallon OWS for the original secondary containment area and the OWS draining procedures are described above.

Facility Piping

The aboveground facility piping at Airport Fuel Facility is defined as the piping downstream of the tie-in flange from the Jet Fuel Pipeline, the branch connection from the Tesoro Pipeline, and the tie-in flange to the underground airport hydrant system. The Airport Fuel Facility piping is carbon steel and consists of main distribution lines, filter train line, and pump house lines. The piping is located in secondary containment. The piping, installed in 1996 with additions in 2007 and 2012, was designed in accordance with ASME B31.3 Process piping, and constructed to ANSI Class 150 requirements. The piping inventory and inspection dates are shown in Table 3.1-2.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 3.1-1: AFSC Storage Tank¹ Information

Tank ID	Capacity (bbls)	Type/Construction/Tank Foundation Type	Installation Year	Condition	API 653 Inspection ²	
					Internal	External
Off-Airport Fuel Facility						
1	(b) (7)(F)	Welded steel/ API 12C/ Gravel pad	1962	Good	2001	2011
2		Welded steel/ API 12C/ Gravel pad	1962	Good	1999	2010
3		Welded steel/ API 12C/ Gravel pad	1962	Good	1999	2010
4		Welded steel/ API 12C/ Gravel pad	1962	Good	1999	2009
5		Welded steel/ API 12C/ Gravel pad	1962	Good	1998	2009
6		Welded steel/ API 12C/ Gravel pad	1962	Good	1999	2010
7		Welded steel/ API 650, Gravel pad	1964	Good	1999	2010
8		Welded steel/ API 650, Gravel pad	1967	Good	2009	2009
9		Welded steel/ API 650, Gravel pad	1967	Good	2008	2008
Airport Fuel Facility						
1010	(b) (7)(F)	Welded steel/ API 650. Gravel pad, with concrete ringwall	1996	Good	2007	2012
1020			1996	Good	2007	2012
1030			1996	Good	2007	2012
1040			2007	New	2008 ²	2008 ³
1050			2007	New	2008 ²	2008 ²
1060			1996	Good	2007	2012
2010			2012	New	2012 ⁴	2012
2020			2012	New	2012	2012
2030			2012	New	2012	2012
2040			2012	New	2012	2012

¹ All tanks are aboveground.² API 653 Inspection is the most recent internal/external inspection completed by an API 653 certified inspector.³ The new tanks 1040 and 1050 underwent internal and external API 653 inspection at completion.⁴ The new tanks 2010 thru 2040 will undergo internal and external API 653 inspection at completion.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 3.1-2: AFSC Facility Piping Inventory

Piping Type		Installation Year ¹	Length (feet)	Diameter (Inch)	API 570 Inspection ² / Pressure Test
Off-Airport Fuel Facility					
Aboveground	Carbon Steel, ANSI Class 150	Original	1392	6	2008
		Original	2670	8	
		Original	575	10	
		Original	1305	12	
		1998	920	8	
		1998	635	16	
Belowground	Carbon Steel, ANSI Class 150	Original	8	6	2008
		1998	75	8	
		Original	75	10	
		Original	45	12	
		1998	15	16	
Airport Fuel Facility					
Aboveground	Carbon Steel, ANSI Class 150	2012	1890	2	2013
		2012	293	4	
		2012	607	6	
		2012	105	8	
		2012	1350	10	
		2012	825	24	
		2007	72	2	2007
		2007	228	3	
		2007	73	4	
		2007	1340	10	
		2007	853	24	
		1996	1200	4	
		1996	1000	6	
		1996	900	8	
		1996	1400	10	
		1996	630	12	
		1996	1500	24	
		1996	65	36	

3.1.3 Jet Fuel Pipeline

The 12-inch diameter pipeline is approximately 7.7 miles long and exits Off-Airport Fuel Facility near the southwest corner of the property. The boundary traverses the POA, through the mud flats to Point Woronzof bluff, around the airport, finally terminating at the Airport Fuel Facility. The pipeline is constructed using 12-3/4" outside diameter ERW pipe, manufactured to API Specification 5LX42. The portion of the pipeline in the tidal mud flats has a pipe wall thickness of 1/2". It also has a minimum of 1" thickness of reinforced concrete coating over the fusion

¹ The Off-Airport Fuel Facility piping installation varies. Original piping was installed for tanks 1 to 7 in 1962, and tank farm additions in 1964 and 1967. The Off-Airport Fuel Facility was upgraded in 1998, during which the majority of the original piping was removed and replaced.

² API 570 Inspection refers to the formal inspection conducted by an authorized piping inspector.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

bonded epoxy to provide added weight and eliminate the possibility of the pipeline floating in the saturated mud. The rest of the pipeline has a pipe wall thickness of 3/8".

The primary means of cathodic protection is an impressed current system designed by a corrosion expert. For secondary corrosion protection all pipe is coated with fusion bonded epoxy. The weld joints are sealed with heat shrink sleeves made of HDPE. The pipeline is buried at a minimum depth of four feet along its entire length.

Fuel flow through the pipeline is delivered via two 300 horsepower pumps located at Off-Airport Fuel Facility. Fuel is delivered by only one pump, with the other pump acting as a standby. (b) (7)(F). These are located just before and just after the section of pipeline through the mud flats. The block valves are installed to allow segmenting of the line, in case of a leak, and to allow for pressure testing of the line in segments.

3.1.4 Hydrant Distribution System

The AFSC Hydrant Distribution System consists of 16.3 miles of underground piping of various size diameters. The main supply lines range from 12-inch to 24-inch diameter, and the delivery lines range from 4-inch to 16-inch diameter pipes. Fuel is delivered through the pipeline on a pressure demand system using sequential pumps located at the Airport Fuel Facility.

The Hydrant Distribution System is ANSI Class 150, operating at an average pressure of 180 psi. All piping is carbon steel (ASTM A53 or A106, Grade B, or API 5L Grade B). The permanent inventory (volume of fuel in the hydrant system) is (b) (7)(F).

The entirety of the underground piping is cathodically protected using an impressed current system. In addition, all sections of underground pipe are tar-coated and encased in a plastic type coating called Extra Coat. All joints are wrapped with pipe wrap to 40-mil thickness or heat shrink to 80-mil thickness.

Delivery to the aircraft is completed at the aircraft parking spots from the hydrant valves. The hydrant valves are located within impermeable concrete, steel, or fiberglass hydrant pits. All other hydrant system valves and other bolted and/or threaded connections are located in underground vaults or manholes. The vaults and manholes are also constructed of impermeable materials or have an impermeable coating. The piping penetrations are sealed and coated.

3.1.5 Type and Amount of Oil

A four year (2008-2011) average for the annual fuel throughput for both facilities combined is 670 million gallons, and the average daily throughput for the AFSC facilities combined is 1.8 million gallons. Only Jet A is stored and transported at these facilities. MSDS for Jet A are available at the Operations and Maintenance Base and online at <http://www.ilpi.com/msds/>

3.1.6 Transfer Procedures

All ASIG transfer procedures include the following components to prevent accidental fuel spills:

- Operators are required to remain at the tank during fill operations;
- A pre-transfer conference is conducted where operators review transfer procedures and where equipment such as valves, hose, gaskets, flanges, and line supports are examined;
- Emergency shut-down procedures are reviewed;
- Initial pumping rates are conducted at slower than normal speeds; and
- Communication procedures and signals are reviewed prior to transfer.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

The following subsection describes, in more detail, transfer procedures used to load or transfer oil to and from the facilities and pipeline covered under this plan.

Section 1.8 contains facility diagrams that show the location of transfer piping and associated valves.

3.1.6.1 Transfers to Off-Airport Fuel Facility from Marine Dock

Off-Airport Fuel Facility receives tenders of Jet A from ocean tankers via the POA marine dock. The line from the Petroleum Off Load (POL) marine dock to the POA valve yard (POAVY), where a manifold distributes to the tenants at the port, is owned by POA. AFSC has a terminal use permit required by POA to conduct transfers from ocean tankers at the marine dock. ASIG, on behalf of AFSC as a designated terminal use operator, is required to show that insurance, training, and qualification requirements are met; and to ensure that spill response equipment is on-site and operational during all marine transfers. Parallel 10" and 12" underground pipelines, belonging to AFSC, deliver Jet A from the POAVY to the internal distribution system of Off-Airport Fuel Facility. The POA marine dock can accommodate multiple sizes, types, and volume of vessel, the Off-Airport Fuel Facility cannot receive fuel from vessels simultaneously.

The Plant supervisor determines the number of plant personnel and number of tanks needed at Off-Airport Fuel Facility for a marine shipment. The pre-transfer procedures include: verifying correct ADEC contingency plan paperwork; obtaining a Declaration of Inspection (per 33 CFR 156.150); inspecting cargo hose, gaskets, connections, flanges, line supports, valves and pipeline at the marine dock, POAVY, and in the Off-Airport Fuel Facility terminal; ensuring safety procedures are in place; and ensuring all transfer personnel have radios. Upon initiating the transfer of fuel, all tanks, lines, and valves in the tank farm and POAVY are checked for flow and/or leaks before normal pumping rates are reached.

During the marine transfers, the Plant Operator gauges the receiving tank and monitors the transfer valves and the piping hourly, to identify leaks and prevent overfilling.

When transfer operations are completed, the following procedures are in place to prevent spills: the hoses at the POL dock and the lines from the POAVY to POL dock are drained or pumped clear; valves in the POAVY, on the tanks, and on the distribution lines are closed; and a security auto gauge is taken.

Complete marine transfer procedures to Off-Airport Fuel Facility are outlined in the ASIG/AFSC SOP – 31, and the AFSC Oil Transfer Procedures Manual which has received a U.S. Coast Guard Letter of Adequacy. All ASIG personnel involved in the marine transfers are qualified as a Person in Charge as defined by 33 CFR 154.710.

In the event of abnormal conditions, the transfer is stopped by radioing the marine dock and having the vessel initiate pump shut down aboard the vessel.

3.1.6.2 Transfer to Off-Airport Fuel Facility from Other Port Terminal

Off-Airport Fuel Facility receives multiple tenders of Jet A from the Flint Hills tank farm at the POA via an 8" diameter underground pipeline connected directly to the Off-Airport Fuel Facility internal distribution system. The Plant Supervisor determines the number of plant personnel and number of tanks needed at the facility for any terminal to terminal product transfer. The pre-transfer procedures include checking all the tank and pipeline valves for proper alignment; gauging the receiving tank, and ensuring all transfer personnel have radios.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

During the transfers from other port terminals to the Off-Airport Fuel Facility, the Plant Operator checks all tanks, pipelines, and valves at the Off-Airport Fuel Facility for flow and leakage hourly.

When transfer operations are completed, the proper valves are closed and that tank is gauged.

Complete transfer procedures are outlined in the ASIG/AFSC Standard Operating Procedure (SOP) 29.

In the event of abnormal conditions, the transfer is stopped by radioing the Port Terminal and having them initiate pump shut down of their transfer pumps. Additionally ASIG personnel would close incoming line valve and tank inlet valves.

3.1.6.3 Tank to Tank Transfer at Off-Airport Fuel Facility

Transfers can occur from any tank at the Off-Airport Fuel Facility to another, depending upon storage requirements. The Plant Supervisor will determine tanks to be involved in tank to tank transfers. Prior to the transfer, the cargo and service lines are isolated from the main system to ensure there are no piping conflicts. The tanks selected for the transfer are hand and auto-gauged. The outlet of the transferring tank is opened, and the auto-gauge is checked again to ensure no movement. The ground pump (GP) is lined up to the cargo line. The inlet valve for the receiving tank is opened, again ensuring there is no movement of the auto-gauge. When ready for the transfer the GP is initiated.

During the transfer the Plant Operator monitors hourly at a minimum, checking the tanks, the GP, and the cargo lines.

When the transfer is complete the valves are closed and the tanks are gauged. The tank levels are logged.

Complete transfer procedures are outlined in the ASIG.AFSC SOP – 56.

In the event of abnormal conditions, the transfer is stopped by shutting down the transferring pump from the control room.

3.1.6.4 Transfers from Off-Airport Fuel Facility to Airport Fuel Facility

Transfers of Jet A from Off-Airport Fuel Facility to Airport Fuel Facility are conducted via the Jet Fuel Pipeline. The Plant Supervisor will determine the tanks at the Off-Airport Fuel Facility to supply fuel and the receiving tanks at Airport Fuel Facility. The pre-transfer procedures include: checking the inlet valve of the receiving tank at Airport Fuel Facility and gauging; checking the outlet valve of the service tank at the Off-Airport Fuel Facility and gauging fuel level; and checking the valves and pumps on the Jet Fuel Pipeline. Both fuel facilities have radios and can be contacted via land-lines. Transfer is initiated at a slow speed.

After transfer begins the Plant Operators continue to monitor all valves, piping, and pumps. The receiving tank is gauged every half hour until the transfer is complete. All the transfer information is recorded on a tender logsheet.

When transfer operations are completed the proper valves are closed and that tank is gauged.

In the event of abnormal conditions, the transfer is stopped by initiating an ESD at the following locations:

- Off-Airport Fuel Facility: Control Building on the exterior (north) wall

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- o Off-Airport Fuel Facility Control Building on the Pipeline Control Panel
- o Off-Airport Fuel Facility on the tank farm center catwalk.
- Airport Fuel Facility:
 - o Airport Fuel Facility: exterior west wall of the AFFF Building (hydrant system)
 - o exterior north wall of the pump house (hydrant system)
 - o exterior east wall of the filter house (hydrant system)
 - o up on the central containment area catwalk leading to tankage (hydrant system)
 - o in the control room on the plant mosaic panel (hydrant and pipeline)
 - o in the motor control center adjacent to the pump house (hydrant and pipeline)
 - o exterior west wall of the filter house (jet fuel pipeline).

Complete transfer descriptions from Off-Airport Fuel Facility to Airport Fuel Facility are in 12" CTP Auto Startup Procedure SOP and DOT O&M.

3.1.6.5 Tesoro Branch

The Airport Fuel Facility receives Jet A from an 8" diameter underground pipeline owned by Tesoro that branches off from the Tesoro Nikiski Pipeline approximately one mile north of Airport Fuel Facility. Incoming fuel passes through a series of filters in the filter building and is directed to one of the ASTs. The pre-transfer procedures include checking the inlet valve of the receiving tank at Airport Fuel Facility and gauging. Both fuel facilities have radios and can be contacted via land-lines. Transfer is initiated at a slow speed.

After transfer begins the Plant Operator continues to monitor all valves, piping, and pumps. The receiving tank is gauged every half hour until the transfer is complete.

When transfer operations are completed the proper valves are closed and that tank is gauged.

The transfer procedures follow the *Airport Fuel Facility - 1H Tesoro P/L SOP*.

In the event of abnormal conditions, the transfer is stopped by radioing or calling Tesoro to initiate shut down of the transferring pumps.

3.1.6.6 Aircraft Refueling Operations

The aircraft fueling procedure using the hydrant system requires constant watchfulness and care by the operators and fuelers. An aircraft waiting to be fueled is positioned with wings over the hydrants. The operator of the hydrant truck or hydrant cart receives a written fuel load slip either at the aircraft or from the airline's operations base. This slip has the total amount of fuel requested for servicing each flight. Fueling gauges for each tank are located under the wing next to the fueling receptacles. The operator of the hydrant truck or hydrant cart controls the flow of fuel by a dead-man control. The dead-man is held in the hand of the hydrant truck or cart operator. Aircraft fueling is stopped when the dead-man is released. During aircraft fueling the aircraft gauges and system meters are monitored at all times.

During the fueling of any aircraft there is a VTO (volumetric top off) system in place. This system is in place to shut down the aircraft's fueling system once a tank has reached a potential overflow or spill level. All VTO's are maintained by the airline, and if removed for any reason, we will not resume fueling till the proper precautions are taken. All fuel through the hydrant truck or cart is metered and filtered through the equipment.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

The tank trucks have a capacity of 10,000 gallons. There are also two 7,000 gallon "Rampmaster" trucks. The tank trucks are loaded at the tank truck bottom loading facility at the Operations and Maintenance Base. Fuel is metered while being loaded on to the tank trucks. Once full, fuel tank trucks deliver fuel in a similar manner as from the hydrant system.

3.1.6.7 Loading/Unloading Rack

In an emergency the Off-Airport and Airport Fuel Facility can receive or dispense Jet A from a truck loading/unloading rack. Additionally the Operations and Maintenance Base has a fuel loading rack used for on-loading of fuel into tanker trucks for delivery to aircraft. Tanker trucks from various fuel vendors at the Airport use the loading rack for bottom loading of tanker trucks. Procedures and spill prevention for the loading/unloading rack at Off-Airport and Airport Fuel Facility and the loading rack at the Operations and Maintenance Base are in accordance with the *AFSC Spill Prevention Control and Countermeasure Plan*.

The Off-Airport Fuel Facility loading/unloading rack is for emergency loading of tank trucks for transfer. Prior to loading a tanker, the vehicle is chocked. In order to prevent a discharge during filling, tanker truck loading is observed by two trained personnel. One person controls the bottom loading valve and the other is positioned over the tanker truck top hatch to observe the fuel level. During loading the person observing the fuel level would signal the attendant at the bottom loading valve to close the valve when dispensing is complete. During bottom loading, fuel can only be dispensed when the operator depresses and holds a deadman control. The person operating the deadman is in a position to see the fuel level of the tanker truck being filled. In the event of an abnormal condition there is an ESD clearly marked and accessible at the loading rack.

The Airport Fuel Facility loading/unloading rack is typically used to off-load Jet A to tanks at the terminal. Prior to off-loading, ASIG plant personnel determine the receiving tank and ensure there is adequate volume to accept the transfer. Trained ASIG personnel conduct all transfers at the loading rack. Tank trucks are chocked prior to transfers. Prior to departure the tanker truck's lowermost drain and all outlets are examined.

Additionally the transfer procedures for the other loading/unloading areas are covered by standard operating procedures. In general, all the loading/unloading rack transfer procedure

- During the loading/unloading the equipment must not be left unattended at any time
- Equipment with a hand-held dead man assembly to initiate flow must not be blocked
- The tank must be gauged before and after loading/unloading.
- Close bottom loading interlock control, if applicable
- Perform a walk-around inspection and stow all cones and wheel chocks.

Emergency loading/unloading at Off-Airport and Airport Fuel Facility would also comply with Department of Transportation requirements established in CFR 49 Part 194.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

3.2 Receiving Environment

This section was developed in accordance with 18 AAC 75.425(e)(3)(B) and 18 AAC 75.445(e). This section describes the potential routes of oil discharge from the AFSC Facilities, the planning distance per the requirements in 40 CFR 112, and a vulnerability analysis of the potential effect to human health, property, or the environment of an oil discharge.

Per EPA regulation, planning distances are used to describe fuel transport to and in navigable waters. The planning distances are as follows:

D1 = Distance from the nearest opportunity for discharge, X one, to a storm drain or an open channel leading to navigable water.

D2 = Distance through the storm drain or open concrete channel to navigable water.

D3 = Distance downstream from the outfall within which fish, wildlife, and/or sensitive environments could be injured, or a public drinking water intake would be shut down as determined by the planning distance formula.

D4 = Distance from the nearest opportunity for discharge, X two, to fish and wildlife and sensitive environments not bordering navigable water.

3.2.1 Off-Airport Fuel Facility

A spill from Off-Airport Fuel Facility could flow beyond the containment dike in the northeast corner of the tank farm and into the wetland along the east side of the containment area, into surrounding soil and drainage ditches. While much of the spill would likely be contained or absorbed on land, it is possible that a portion of the fuel would reach Cook Inlet by traveling through drainage ditches. Scenario 1 diagram (Section 1.6) shows the potential routes of travel for a spill from Off-Airport Fuel Facility to reach Cook Inlet.

The planning distances for the Off-Airport Fuel Facility are as follows:

D1 = < 100 feet

D2 = < 1,200 feet

D3 = 5 miles

D4 = < 100 feet

Assuming a length of 1,200 feet from the point of discharge through a storm drain to navigable water, the travel times (distance/velocity) are:

- > 1 min at a velocity of 25 feet per second
- > 7 min at a velocity of 3 feet per second
- > 10 min at a velocity of 2 feet per second

3.2.2 Airport Fuel Facility

Fuel spilled at the Airport Fuel Facility can reach open water only through the storm drainage system. Any response effort to a fuel spill outside the secondary containment area would focus on first blocking off the 30" culvert that drains runoff from the site. This would effectively prevent the possibility of any fuel reaching open water. Spilled fuel traveling over land would essentially

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

have to travel uphill through drainage ditches with a high absorptive capacity over a distance of more than 1.3 miles to reach marine waters. Scenario 2 diagram (Section 1.6) shows the location and drainage patterns for this facility.

The planning distances for the Airport Fuel Facility are as follows:

D1 = < 100 feet

D2 = < 1.3 miles

D3 = 5 miles

D4 = 2,000 feet

Assuming a length of 1.3 miles from the point of discharge at the Airport Fuel facility through a storm drain to navigable water, the travel times (distance/velocity) are:

- 5 min at a velocity of 25 feet per second
- 40 min at a velocity of 3 feet per second
- 1 hour at a velocity of 2 feet per second

3.2.3 Jet Fuel Pipeline

When a high-pressure underground pipeline breaks, the soil around the pipe rapidly becomes saturated with fuel. Once the soil is saturated, additional fuel follows the path of least resistance, which is usually the ground surface. Once the fuel reaches the ground surface it will follow the natural terrain contours, similar to rainwater and snowmelt.

For the section of pipeline between the two valve boxes, the pipeline is buried in the mud flats along Knik Arm. Fuel from a pipeline leak would flow directly down-gradient toward the waters of Knik Arm.

A pipeline spill could also be transported by the tides along the mud flats. Flood tides would float the fuel, which could then be transported to Knik Arm and Cook Inlet. During winter, the presence of ice in the mud flats may slow the movement of fuel from the mud flats into marine waters.

Figure 1.6-3 shows a potential route of discharge for oil spilled from the Jet A pipeline along its route. Potential discharge routes/trajectories will vary based on spill location, tides, and prevailing winds.

3.2.4 Vulnerability Analysis

This section considers how a spill from the AFSC Facility might affect human health, property, and the environment.

Generally, the groundwater flow would be towards the Cook Inlet and Knik Arm. Any release at the facilities has the capacity to infiltrate through the soil to groundwater. The City of Anchorage does not have any wellhead protection areas near the facilities. Contaminated groundwater however, could flow to the Cook Inlet and Cook Inlet-Knik Arm.

(1) Water intakes (drinking, cooling, or other);

None within reach of a release.

(2) Schools;

None within reach of a release.

(3) Medical facilities;

None within reach of a release.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(4) Residential areas;

None, there are no nearby residences. None within reach of a release.

(5) Businesses;

Other tanks farms near Off-Airport Fuel Facility, none within release reach of Airport Fuel Facility.

(6) Wetlands or other sensitive environmental;

Cook Inlet, Cook Inlet-Turnagain Arm and Cook Inlet-Knik Arm.

(7) Fish and wildlife;

Cook Inlet, Cook Inlet-Knik Arm, and Cook Inlet-Turnagain Arm.

(8) Lakes and streams;

Ship Creek, Fish Creek; Chester Creek; Six Mile Creek; Campbell Creek.

(9) Endangered flora and fauna;

Unknown.

(10) Recreational areas;

Earthquake Park.

(11) Transportation routes (air, land, and water);

Tidewater Road runs north/south and is located approximately 50 feet west of the Off-Airport Facility.

The Anchorage International Airport's Taxiway "Y" and 'K' are located within approximately 1800 feet to 1200 feet from Airport Fuel Facility. Airport terminals are located approximately one mile east of the facility.

West Access Road runs north//south and is located approximately 650 feet north of the Airport Fuel Facility.

(12) Utilities;

Gas, water, and electricity are provided to the AFSC sites.

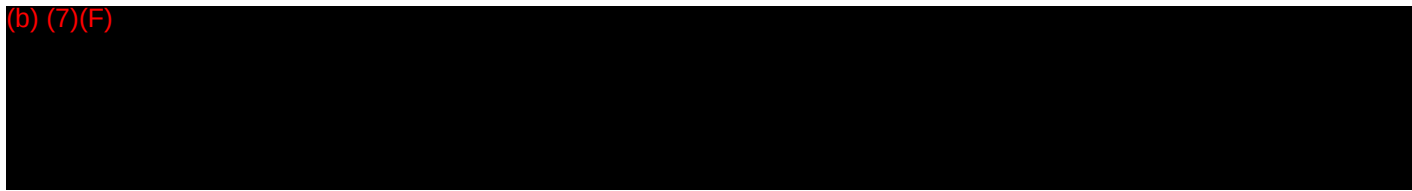
(13) Other areas of economic importance (e.g. beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats;

Cook Inlet, Cook Inlet-Turnagain Arm, Cook Inlet-Knik Arm and Earthquake Park.

3.2.5 RPS to Reach Open Water

Part 5.0 contains RPS calculations. The percentage of RPS to reach open water from each component of the covered operations are:

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

3.3 Command System

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(C), 33 CFR 154.1035(b), and 40 CFR 112.120(h).

3.3.1 *Qualified Individuals*

The Qualified Individuals (QI) for the AFSC Facilities are identified and contact information is provided in Section 1.2 of this plan. ASIG QIs meet the following qualifications:

- Speak English,
- Available on a 24 hour basis and be able to arrive at the facility in a reasonable time,
- Familiar with the implementation of the plan, and
- Trained in the responsibilities of the response plan in which they are named.

A Memorandum of Authority for the QIs for this plan is maintained in Appendix D. The QI is authorized by the facility owner to take the following actions in the event of a discharge, or the threat of a discharge:

- ⇒ Activate the Alaska Chadux Corporation (Chadux) to provide spill response resources services as appropriate and described in the Chadux Response Manual,
- ⇒ Designate an Incident Commander, and
- ⇒ Obligate funds to ensure that the response actions described in this plan are carried out without delay as the result of the absence of a person with authority to incur liabilities or execute contracts or purchase orders.

Upon receipt of notification of a discharge, or the threat of a discharge at the facility described in the plan, the QI will take actions, which shall include the following:

- ⇒ Ensure and make a written record that the notifications listed in Section 1.2 of this plan have been made,
- ⇒ Ensure that the facility's Oil Spill Removal Organization / Response Action Contractor (Chadux) has been notified and that resources requested are underway, and
- ⇒ Ensure that an appropriately authorized representative of the facility's owner is on scene to assess additional actions are being taken.

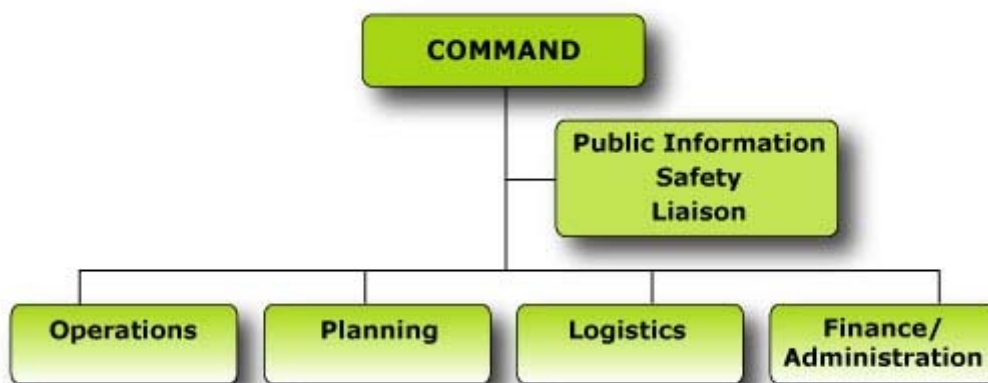
It is important to understand that the Qualified Individual does not need to be at the scene of the discharge or response to fulfill the above-described duties. As long as the QI is satisfied that the response is being conducted per the provision of this plan, the QI need not travel to the scene. The primary indicator of the need to travel to the scene is the size of the discharge, and the satisfaction of the FOSC and SOSC that all appropriate actions are being taken. The QI will document of all communications with the FOSC and any other government agencies that are contacted.

3.3.2 Incident Command System

AFSC will implement an ICS organization consistent with the guidance for the use of NIMS-ICS in oil spills contained in the following documents:

- United States Coast Guard/ Oil Spill Field Operations Guide/ ICS-OS-420-1 June 2000,
- Alaska Incident Management System Guide for Oil and Hazardous Substance Response January 2000,
- Homeland Security Presidential Directive (HSPD)-5; Management of Domestic Incidents.

The major ICS functional areas utilized by ASIG are:



1. Command: consists of the IC, Deputy IC (if needed), Information Officer, Safety Officer, and Liaison Officer.
2. Operation: consists of the Operations Chief and any other operations personnel. The operations section manages the actual cleanup activities.
3. Planning: consists of the Planning Chief and any other planning personnel. This section is responsible for determining the response strategy and objectives.
4. Logistics: consists of the Logistics Chief and any other logistics personnel. This section provides primary logistical support for cleanup operations and secondary logistical support for maintaining facilities, transportation, equipment, food services, communication, medical services, and volunteer services.
5. Finance: consists of the Finance Chief and any other finance personnel. The finance section is responsible for administering all financial matters, including time recording for personnel and equipment, compensation and claims, and cost analysis.

Staffing within the ICS is flexible and based upon the requirements of the incident. The following is a description of the responsibilities for individuals fulfilling the various functions under the ICS system.

Incident Commander

The IC is on-site and responsible for overall management of all spill activities. The IC directs the Incident Management Team, and approves the ordering and release of resources for spill cleanup, including call out of spill response contractors. General duties of the IC include:

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Act as a liaison with the Federal On-Scene Coordinator (USCG), State On-Scene Coordinator (State of Alaska Department of Environmental Conservation), Local On-Scene Coordinator (City of Anchorage Public Safety Designee);
- Ensuring notification to appropriate government agencies and other affected groups such as nearby property owners or lessees that a spill has occurred;
- Direct that on on-scene actions consistent with the initial response actions described in this plan are implemented without delay, if conditions allow;
- Establish direct communications with the FOSC and SOSC to ensure that all appropriate actions are being taken to the satisfaction of the FOSC/SOSC;
- Determine with the FOSC and SOSC if the establishment of a Unified Command will be required;
- Approval of an Incident Specific Safety Plan. The IC will develop the plan or assign a qualified member of the Incident Management Team to do so;
- Development and implementation of preliminary response strategy immediately following activation;
- Conducting initial briefings, which summarize incident organization, current activities, resources deployed and enroute, and special instructions;
- Coordination of staff and ICS function activities;
- Constant monitoring of the spill response and the development of alternative strategies with the Incident Management Team;
- Ensuring reports on cleanup are sent to appropriate government agencies following completion of cleanup activities; and
- Reviewing response effectiveness following completion of cleanup activities;

Operations Chief

The Operations Chief(s) is responsible for managing actual cleanup activities and implementation of response strategies developed by the IC and Planning Section Chief. Additionally, the Operations Chief(s) is responsible to directing the Field Response personnel in the containment, control, and recovery strategies identified by the Incident Management Team.

General duties of the Operations Chief include:

- Implementation of response strategies;
- Directing resources and cleanup personnel;
- Establishing and maintaining staging areas, and projecting resources requirements; and
- Coordinating with the Logistics Chief for needed services and support.

Planning Chief

The Planning Section Chief is responsible for establishing the strategy and objectives for cleanup.

General duties of the Planning Chief are:

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

- Ascertaining the critical nature of the spill and developing a response strategy in coordination with the IC and other Section Chiefs based on location, trajectory, prevailing weather conditions, and other factors that affect spill response;
- Documenting and collecting spill data from the inception of the incident through demobilization; and
- Coordinating of damage assessments and establishing monitoring and sampling activities.

Logistics Chief

The Logistics Chief is responsible for supplying all support needs for the response, such as supplies, food, fuel, and medical services.

General duties of the Logistics Chief include:

- Coordinating with the IC, and Planning and Operations Chiefs and ordering, receiving, storing and processing response equipment, personnel, and supplies. Verifying accountability and security of resources;
- Providing for sanitation and food service for spill work force; and
- Developing medical plans, which address medical emergency procedures for the work force.

Finance Chief

The Finance Section Chief is responsible for all financial and administrative aspects of the spill response, including procurement, clerical support, contracts, compensation, claims, data processing and cost analysis.

Duties of the Finance Section Chief include:

- Protecting the interest of AFSC and ASIG in all financial matters;
- Providing accounting functions including billing, invoice payment, and documentation of labor, materials and services;
- Establishing and administering vendor contracts and rental agreements; and
- Initiating investigation and documentation of claims.

Public/Government Information Liaison

In the event that the size of the event requires a Public Information Liaison, they would be responsible for interfacing with the public, the media, government agencies, and any other agency or entity such as the Anchorage International Airport or the Port of Anchorage. The Public Information Liaison assembles accurate, accessible and complete information of the incident for both internal and external dissemination. The Public Information Liaison may also perform key public information monitoring, such as implementing measure for rumor control.

Safety Officer

The Safety Officer monitors incident operations and advises the Incident Command on all matters relating to operational safety. The key roles are defined in Section 1.3 of this Plan, including developing the incident safety plan. Additionally the Safety Officer has emergency authority to stop and/or prevent unsafe acts during incident operations.

3.3.3 Implementation of ICS System During a Spill

ASIG personnel will establish a NIMS-ICS organization of an appropriate size and staff with the necessary positions.

Depending on the size of the cleanup, individuals may fill multiple ICS roles. For example, a response effort that requires only on-duty ASIG personnel will likely be staffed by a single member of the ASIG Incident Management Team who will fill all five ICS functional areas. During most spill responses individuals will fill multiple roles within the ICS functional areas. It will be up to the ASIG IC to decide upon the staffing levels required to fill the five functional areas.

During the initial stages of any pipeline spill response, the initial IC will be the on-duty Plant Supervisor. The Plant Supervisor will remain in charge of the response until completion of cleanup effort or until relieved by one of the Incident Management Team members.

The position of IC will always be filled by a qualified member of the ASIG Incident Management Team. All other ICS positions, including the various section chiefs, may be contracted out to Chadux staff or to other qualified contractor personnel at the discretion of the ASIG IC.

Personnel available to implement an Incident Management Team

The ASIG personnel qualified to fill various ICS roles for a pipeline spill response effort are listed in Section 1.2.2. The scenarios in Section 6 demonstrate how ASIG might be assigned to various ICS positions for different types and sizes of discharges. Information on the response training for those personnel is contained in Section 3.9 of this plan.

3.3.4 Unified Command

During a spill incident the Federal OSC and/or State OSC, if designated, and the ASIG IC would join together to form a Unified Command for the Incident. During the initial phases of a response, the Unified Command may also include a Local OSC, as described in the Unified Plan. ASIG will coordinate with state and federal agencies through the Unified Command, and also through the MAC (multi-agency coordinating) group, which, if formed, is linked to the command staff through the Liaison officer. Additional state and federal agency representatives may be involved in specific response functions, such as wildlife hazing and rehabilitation, or shoreline assessment.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

3.4 RMROL

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(D) and 18 AAC 75.445(f).

The term “realistic maximum response operating limits or RMROL” is used to describe adverse weather and environmental conditions that may preclude the ability to safely or effectively clean up an oil spill.

A spill from AFSC Facilities that enters Cook Inlet or the mud flats could pose several difficulties for spill response. The tidal currents in Knik Arm are very strong. These strong currents coupled with the large amount of silt suspended in the water create difficulties with deploying boom. Encompassing oil on open water with containment boom would probably not be possible except for short periods around both low and high tides. Additionally, it would be unrealistic to have crews deploying boom during hours of darkness. Another factor to be considered is that floating pack ice and shoreline ice in Knik Arm would likely prevent any type of vessel or booming activities from about November through March. Additional factors that must be considered for an on-water response are wind and wave heights.

Safety is the main consideration during any fuel spill response. A response effort in Knik Arm could pose severe risks to responders and all of the operating limitations discussed here would be considered prior to mounting any response.

The conditions that may impose RMROL on ASIG operations include: adverse weather; sea states, tides and currents; ice and debris; and limited daylight.

3.4.1 Adverse Weather

Subfreezing temperatures may complicate response operations, particularly on the mud flats or on Cook Inlet when ice is present. Subfreezing temperatures would not prevent an on-shore spill response effort but could make the response effort much more difficult because of cold temperature efficiency losses, problems processing and decanting water/ice from recovered fuel, safety considerations for responders, the need for more frequent responder breaks, or cold weather injuries. High winds can impact boom effectiveness, especially when combined with sea state. Poor visibility can impact on-water response operations and can make it difficult or impossible to conduct aerial surveillance.

Subfreezing temperatures are the norm in Anchorage from about mid-October to mid-March, coinciding with the presence of ice in Cook Inlet. Based on available climatological information, high winds are infrequent occurrences in Anchorage. Wind speeds recorded for Anchorage exceed 27 knots less than one percent of the time. Recorded visibility thresholds for Anchorage indicate that conditions where visibility is less than $\frac{1}{2}$ nautical miles occur less than four percent of the time in Anchorage for all months except for January, where such conditions exist 5.5 percent of the time. November through February are the months when poor visibility exists most often. These are also the months when an on-water response is unlikely to take place because of heavy ice in Knik Arm.

3.4.2 Sea States, Tides and Currents

Upper Cook Inlet is characterized by extensive tidal mud flats and is dominated by some of the most extreme tidal ranges in the world. Despite their extreme range, tidal currents near Anchorage are moderate because they are not confined and the gradient of the intertidal zone is slight; however, the rapid ebb and flow of tides over the mud flats has formed tidal guts (channels). Since the portion of the pipeline traversing the mud flats is inundated only 10

percent of the time, there should be opportunities during most tidal cycles to implement either on-land or on-water recovery or a combination of both, with the ebb and flow of the tide. In other areas of Cook Inlet, tidal currents may preclude boom deployment or require constant monitoring and shifting of boom as the tide changes.

3.4.3 Ice and Debris

Ice is present in Turnagain and Knik Arms for nearly seven months each year. Inlet waters generally begin to freeze in mid to late October, and ice persists until April or May. Although Upper Cook Inlet does not freeze solid, ice floes up to 15 feet thick typically cover most of the surface. This dynamic ice environment is generally considered to be unsafe for on-water response, and there will be no mechanical on-water response capabilities during periods of significant broken ice coverage.

It should be noted that during winter the shorefast ice along the mud flats would form a barrier to migration of fuel toward open water. Winter is also the period when there is the least diversity and abundance of wildlife in the mud flats area. If fuel reaches open water during a period when a vessel response is not possible, the most probable course of action will be to monitor the movement of the fuel to anticipate possible shoreline impact areas, so that shoreline protection and/or recovery operations can take place.

3.4.4 Hours of Light

Daylight ranges from about 5.5 hours in midwinter to 19.5 hours in midsummer. Response activities will progress slower during hours of darkness but will continue. Light plants powered by diesel generators will be used as necessary to provide adequate light for response activities in onshore and nearshore areas. Vessels used for on-water response will be equipped with lights, although some on-water response may be limited to daylight operations.

3.5 Logistical Support

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(E).

3.5.1 Transportation Equipment Inventory

There is adequate transportation equipment to transport AFSC cleanup equipment and ASIG personnel to any possible spill site. The transportation equipment inventory includes 19 vehicles, including pickup trucks, utility vehicles, and passenger vans. The equipment in the spill response trailers would be towed using one of the support vehicles.

Chadux is the primary response action contractor for an on-water response. Chadux has transportation equipment at their Anchorage hub sufficient to transport all equipment in that inventory, including boat trailers for response vessels. In addition to Chadux's Anchorage equipment, they have response equipment stored at a number of other "hubs" across Alaska. In responding to a spill at AFSC Facilities, Chadux would first mobilize equipment from their Anchorage warehouse using towed trailers and boat trailers. If resources were required from other hub locations, Chadux would follow their cascading scheme to bring in response equipment via ground or air transport to supplement the response. All Chadux equipment is stored in a way to make it easy to load and transport. The Chadux oil spill response manual describes their transportation procedures. www.chadux.com

3.5.2 Coordination Procedures

Because all of the AFSC facilities are in industrial areas within Anchorage, all possible spill locations are within 20 minutes of the airport terminals where most of the transportation equipment and personnel are located. The ASIG IC will provide necessary coordination of logistical support through direct verbal communication with personnel, radio communications with handheld radios, and/or by telephone between facilities.

Initial coordination of Response Contractor's logistical support will be primarily through phone communication with the response contractor, Chadux. Chadux's 24-hour contact number is in Section 1.2 and their mobilization procedures are summarized on their website at www.chadux.com. Any additional coordination with Chadux will be through direct verbal communication at the spill scene and/or the command center, and via hand-held radio and/or telephone.

No vessel or aircraft transportation will be required for response to an AFSC Facility spill since all necessary equipment and personnel are located within Anchorage and there is road access to all possible spill sites. Chadux has coordination procedures in place to manage the transport of their equipment via aircraft or vessel if necessary.

3.5.3 Maintenance Procedures

All maintenance on AFSC transportation equipment is performed at the AFSC Operations Base. Records of all repairs and maintenance work to vehicles are kept in the maintenance shop. ASIG maintains an inventory of spare parts for its fleet of trucks at the Operations Base. Most spare parts not on inventory are readily available from local suppliers and can be obtained quickly.

Chadux keeps an up-to-date maintenance and service schedule on all of their transportation equipment.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

3.6 Response Equipment

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(F), 18 AAC 75.445(g), 33 CFR 154.1035(b) and (g), and 40 CFR 112.120(h).

3.6.1 Equipment Inventory

Table 3.6-1 lists the oil spill response equipment inventories maintained by ASIG on behalf of AFSC. In addition to the major response equipment listed in these tables, ASIG maintains additional small hand tools and consumable items, which are used in day-to-day operations. Inventories of the AFSC spill trailers located at the Off-Airport and Airport Fuel Facilities is contained in Appendix G.

Table 3.6-1 AFSC Equipment Inventory

Skimmer/Pump	Qty	Rate (gpm)	EDRR (bpd)	Storage Location
Rope mop skimmer	1		48	Off-Airport Fuel Facility
Petro-Guard petroleum pump	1	140	960	Off-Airport Fuel Facility
Petro-Guard petroleum pump	1	140	960	Airport Fuel Facility
Homelite fuel pump	1	160	1097	Off-Airport Fuel Facility
Truck-mounted Vacuum System (250 gallons): SP-01, SP-02, SP-10	3		245	Operations Base
Truck-mounted Vacuum System (250 gallons): SP-17	1	94	429	Operations Base
Truck-mounted Vacuum System (110 gallons): SP-13, SP-14	2	6	189	Operations Base
Vacuum truck (3,000 gallons)	1	67	2286	Operations Base
Containment Boom	Length (feet)			Storage Location
4" boom	100			Airport Fuel Facility
Storage	Capacity (gallon)			Storage Location
Slop Tank	2,000			Operations Base
Slop Tank	2,000			Operations Base
Slop Tank	2,000			Operations Base
DSRV	650			Operations Base
Sorbents	Quantity			Storage Location
Sorbent Boom (8")	40 feet			Off-Airport Fuel Facility
Sorbent boom	40 feet			Airport Fuel Facility
Sorbent sweeps	300 feet			Off-Airport Fuel Facility
Sorbent pad bundles	3			Off-Airport Fuel Facility
Sorbent pad bundles	30			Airport Fuel Facility
Misc Tools	Quantity			Storage Location
Storm Drain Covers 4' x 4'	10			Operations Base
Generator	1			Off-Airport Fuel Facility
Culvert blocking kit	2			Off-Airport Fuel Facility
Culver blocking kit	1			Airport Fuel Facility
12" Pledco pipe repair kit	1			Airport Fuel Facility
12' x 100' reinforced plastic	1			Airport Fuel Facility

Table 3.6-1 AFSC Equipment Inventory

45' 2" hose	4	Airport Fuel Facility
Misc Consumables	Quantity	Storage Location
Trash bags	Varies	Off-Airport Fuel Facility, Airport Fuel Facility
55 gallon drums	Varies	Off-Airport Fuel Facility, Airport Fuel Facility
Overpack drums	Varies	Off-Airport Fuel Facility, Airport Fuel Facility

AFSC relies on Chadux's on-water containment, recovery, and storage capability to meet the on-water RPS. Chadux's website contains a list of equipment stored in its Anchorage warehouse. <http://www.chadux.com/anchorage.html> Total EDRC for Chadux's Anchorage-based skimmers that may be used on light to medium oils is approximately 12,000 barrels per day. Additional equipment can be cascaded in from Chadux's ten other equipment hubs across Alaska. The Chadux Anchorage inventory as of July 2012, is located in Appendix G.

AFSC may also rely on Emerald Alaska to supplement ASIG's on-land recovery capacity for an RPS-sized spill. Emerald Alaska's equipment inventory is located in Appendix G.

3.6.2 Time Frame for Delivery and Start-up

All of the spill response equipment owned by AFSC is within ASIG's primary region of operation. All can be transported over land on the Anchorage road system. Chadux's response equipment in their Anchorage warehouse is sufficient to meet AFSC response planning standards. Personnel and resources from outside Anchorage will not be required to respond to a spill of the size of the applicable response planning standard volume.

ASIG personnel will also all come from within the region, as will Chadux's spill responders. Estimated mobilization times for loading and transportation of personnel and equipment are provided in Section 1.5.

3.6.3 Manufacturer's Rated Capacities

The manufacturer's rated capacities for mechanical recovery equipment owned by ASIG are provided in Table 3.6-1. Note that the EDRC listed for the truck mounted vacuum systems and the vacuum truck is based on daily use of these systems.

The manufacturer's rated capacities for recovery equipment owned by Chadux is provided on their website at www.chadux.com.

3.6.4 Each Vessel Designated for Oil Recovery Operations

All vessels used as skimmer platforms or to deploy or maintain boom will be owned or contracted by Chadux. In their Anchorage inventory, Chadux has two landing craft and three work skiffs. Chadux personnel are trained in vessel operations and on-water oil spill response, including boom deployment and skimmer operations.

3.6.5 Information on Additional Vessels

Chadux has additional vessel capability available to them through contracts with vessels-of-opportunity. Chadux is responsible for ensuring that all vessel crews are appropriately trained and that the vessels are adequately equipped to perform on-water oil spill response operations.

3.6.6 Pumping, Transfer, Temporary Storage and Lightering Equipment

Fuel recovered on land by ASIG responders would be pumped using vacuum trucks or ASIG pumps into temporary storage and ultimately into an empty storage tank at either Off-Airport Fuel Facility or Airport Fuel Facility. Chadux will provide towable bladders, land bladders, and fast tanks to supplement temporary storage of recovered oil. On-water lightering operations are not anticipated.

3.6.7 Equipment Storage and Maintenance

ASIG has an inspection and maintenance procedure for the AFSC spill response equipment. The portable pumps and generator are inspected and run on a quarterly basis, and the rope mop skimmer and weir oil skimmer are inspected and run annually. The spill response equipment will undergo preventative maintenance annually; oil is changed, spark plugs checked and cleaned, and filters are checked and changed as appropriate. Additionally, batteries are replaced annually. As specified in Standard Operating Procedure (SOP) 77, all quarterly and annual equipment inspections are documented in ASIG Anchorage Spill Equipment Inspection and Maintenance Logs, which are filed with the Maintenance Supervisor and are available for agency review upon request.

The guillotine culvert block on the 84" storm drain culvert will undergo semi-annual inspection and maintenance. The guillotine culvert block and the cable and crank will be inspected for damage or rust and will be operated to ensure proper function. The crank will also be oiled.

Much of the equipment which would be used during a spill event is used by ASIG personnel in day-to-day operations. This equipment is part of the ASIG preventative maintenance program, and receives regular inspection and maintenance.

AFSC's spill response equipment is stored in two spill trailers; within the facilities and in support vehicles. One spill trailer is stationed at the Off-Airport Fuel Facility, and one at the Airport Fuel Facility. Locations of spill response trailers are shown in the scenario diagrams (Section 1.6) and facility diagrams (Section 1.8).

Additional spill response equipment, like sorbent pads and storage drums, are stored in the maintenance bay at the Operations Base and the Pump house Building at the Airport Fuel Facility. The support vehicles servicing the airport ramp carry sorbent pads and storm drain covers.

ASIG's primary spill response contractor, Chadux, keeps an up-to-date maintenance and service schedule on all of their response equipment.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank

3.7 Non-Mechanical Response Information

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(G) and 18 AAC 75.445(h).

ASIG does not have the capability or the intent to use non-mechanical response methods such as dispersants or in-situ burning.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

3.8 Response Action Contractors

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(H), 18 AAC 75.445(i), 33 CFR 154.1035(b) and (g), 194.107(c), and 40 CFR 112.120(h).

ASIG relies on Alaska Chadux, a member-owned response cooperative, to provide equipment and personnel to support an on-water spill response to an RPS-sized spill. Chadux is classified as an Oil Spill Removal Organization (OSRO) by the US Coast Guard and registered as Primary Response Action Contractor (PRAC) with the State of Alaska. A copy of the Statement of Contractual Terms between AFSC and Chadux is included in Figure 3.8-1.

Contact information for Chadux:

Alaska Chadux Corporation
2347 Azurite Court, Anchorage, AK 99507
(907) 348-2365 info@chadux.com www.chadux.com

Chadux has spill response equipment in Anchorage as well as approximately ten "hub" locations throughout Alaska. Chadux maintains up-to-date equipment inventories and specifications for all of their equipment on their website at <http://www.chadux.com/equipment.html>. The Anchorage equipment list is printed in Section 3.6 of this plan.

3.8.1 Support Contractors

In addition to AFSC's contract with Alaska Chadux, several other contractors provide both day-to-day support and supplemental personnel or resources that may be used during an oil spill response.

Contractor Name and Contact Information	Capabilities
Emerald Alaska, Inc. (EAI) 2020 Viking Drive Anchorage, AK 99501 (907) 258-1558	EAI is a spill cleanup contractor and waste oil recycler. EAI can provide vacuum trucks, tank trucks and fixed storage for recovered or waste petroleum products. Chemron, Inc., a division of EAI, operates a waste oil refinery and soil remediation unit in Palmer, Alaska. In addition, Chemron, Inc. has six 20,000 capacity fuel tanks that can be used for storage of recovered product. The facility can process fuel contaminated water and fuel/water mixtures. It cannot accept halogenated products. Throughput of the fuel/water processing equipment is approximately 5,000 gallons per day. Figure 3.8-2 contains a letter of commitment between EAI and ASIG. Figure 3.6-2 shows EAI's equipment list.
Pacific Environmental Group (PENCO) 600 West 59 th Avenue Anchorage, AK 99518 (907)562-5420 (907)562-5426 (fax)	PENCO maintains a database of HAZWOPER trained personnel for spill response. PENCO also provides dock watch services at the Port of Anchorage for Williams Alaska Petroleum and Chevron on a permanent basis. PENCO also provides dock watch services for other fuel suppliers on a contract basis. PENCO is responsible for providing spill response technicians and for maintaining Cook Inlet Spill Prevention & Response Inc. (CISPRI) response equipment in the Port of Anchorage for all CISPRI members in the Port.
PEMCO Corporation (PEMCO) 720 W 58th Avenue # H	PEMCO offers certified welding, pipe repair, valve repair and tank repair. PEMCO will be the primary contact for performing permanent repairs on the pipeline.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Contractor Name and Contact Information	Capabilities
Anchorage, AK 99518-1636 Office: (907) 564-3661 Fax: (907) 561-5877	
Philip Environmental (Burlington Environmental) 1813 East 1 st Street, Suite 201 Anchorage, AK 99501-1833 (907) 272-9007	Philip Environmental has several hazardous waste storage facilities in Washington State and can arrange for shipment of contaminated wastes generated from spills to these facilities. After their merge with Northwest Enviroservices, Philip provides environmental, marine and industrial services from offices in Anchorage and Seattle. Areas of expertise include emergency spill response, tank cleaning, hydroblasting, remedial cleanup activities and hazardous materials treatment, storage and disposal.

Figure 3.8-1. Alaska Chadux Statement of Contractual Terms

STATEMENT OF CONTRACTUAL TERMS

AS REQUIRED UNDER AS46.04.30, AS 46.04.035, and 18 AAC 75.445(I) (1) in fulfillment of requirement for registration of primary response action contractors and for approval of an Oil Discharge Prevention and Contingency Plan

PLAN TITLE: Anchorage Fueling & Service Company/ASIG Oil Discharge Prevention and Contingency Plan

PLAN HOLDER: Anchorage Fueling & Service Company/ASIG

This statement is a certification to the Alaska Department of Environmental Conservation summarizing the contract between Anchorage Fueling & Service Company/ASIG the oil discharge prevention and contingency plan holder (hereinafter "PLAN HOLDER"), and Alaska Chadux Corporation, the oil spill primary response action contractor or a holder of an approved oil discharge prevention and contingency plan under contract (hereinafter "CONTRACTOR"), executed on June 27, 2011, and the original which is located at 2347 Azurite Court, Anchorage, AK 99507, as evidence of the PLAN HOLDER's access to the containment, control and/or cleanup resources required under standards at AS 46.04.030 and 18 AAC 75.400 -- 18 AAC 75.495. The PLAN HOLDER and the CONTRACTOR attest to the Department that the provisions of this written contract clearly obligate the CONTRACTOR TO:

- A) provide the response and equipment listed for the CONTRACTOR in the contingency plan;
- B) respond if a discharge occurs;
- C) notify the PLAN HOLDER immediately if the CONTRACTOR cannot carry out the response actions specified in this contract or the contingency plan;
- D) give written notice at least 30 days before terminating this contract with the PLAN HOLDER;
- E) respond to a Department-conducted discharge exercise required of the PLAN HOLDER; and
- F) continuously maintain in a state of readiness, in accordance with industry standards, the equipment and other spill response resources to be provided by the CONTRACTOR under the contingency plan.

STATEMENT OF CONTRACTUAL TERMS
6/27/2011

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

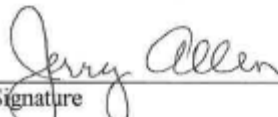
I hereby certify that, as representative of the PLAN HOLDER, I have the authority to legally bind the PLAN HOLDER in this matter. I am aware that false statements, representation, or certifications may be punishable as civil or criminal violations of law.

 June 27, 2011
Signature Date

Title: ASIG General Manager, AFSC Authorized Representative

For Anchorage Fueling and Service Company
PLAN HOLDER

I hereby certify that, as representative of the CONTRACTOR, I have authority to legally bind the CONTRACTOR in this matter. I am aware that false statements, representation, or certifications may be punishable as civil or criminal violations of law.

 June 27, 2011
Signature Date

Title: Business/Finance Manager

For Alaska Chadux Corporation
CONTRACTOR

STATEMENT OF CONTRACTUAL TERMS
6/27/2011

Figure 3.8-2. EAI SOCT

1

STATEMENT OF CONTRACTUAL TERMS

(PLEASE COMPLETE BOTH SIDES)

AS REQUIRED UNDER AS 46.04.30, AS 46.04.035 and 18 AAC 75.445(i)(1) in fulfillment of a requirement for registration of primary response action contractors and for approval of an Oil Discharge Prevention and Contingency Plan.

PLAN TITLE: RESPONSE CLEAN-UP SERVICES FOR HAZARDOUS MATERIALS

PLAN HOLDER: ASIG | AIRCRAFT SERVICE INTERNATIONAL GROUP

This statement is a certification to the Alaska Department of Environmental Conservation summarizing the contract between ASIG | AIRCRAFT SERVICE INTERNATIONAL GROUP, the oil discharge prevention and contingency plan holder (hereafter "PLAN HOLDER"), and EMERALD ALASKA, INC., the oil spill primary response action contractor or a holder of an approved oil discharge prevention and contingency plan under contract (hereafter "CONTRACTOR"), executed on TUESDAY, JULY 17, 2012, and the original of which is located at 6000 DeHAVILLAND AVE. ANCHORAGE, AK, as evidence of the PLAN HOLDER's access to the containment, control and/or cleanup resources required under standards at AS 46.04.030 and 18 AAC 75.400 -- 18 AAC 75.495. The PLAN HOLDER and the CONTRACTOR attest to the Department that the provisions of this written contract clearly obligate the CONTRACTOR to:

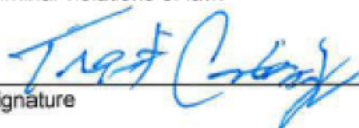
- (A) provide the response services and equipment listed for the CONTRACTOR in the contingency plan;
- (B) respond if a discharge occurs;
- (C) notify the PLAN HOLDER immediately if the CONTRACTOR cannot carry out the response actions specified in this contract or the contingency plan;
- (D) give written notice at least 30 days before terminating this contract with the PLAN HOLDER;
- (E) respond to a Department-conducted discharge exercise required of the PLAN HOLDER; and
- (F) continuously maintain in a state of readiness, in accordance with industry standards, the equipment and other spill response resources to be provided by the CONTRACTOR under the contingency plan.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

2

STATEMENT OF CONTRACTUAL TERMS

I hereby certify that, as representative of the PLAN HOLDER, I have the authority to legally bind the PLAN HOLDER in this matter. I am aware that false statements, representations, or certifications may be punishable as civil or criminal violations of law.

 9-11-12
Signature Date

Name: Trent Carbaugh

Title: General Manager, AFSC Agent

FOR: ASIG | AIRCRAFT SERVICE INTERNATIONAL GROUP
PLAN HOLDER

I hereby certify that, as representative of the CONTRACTOR, I have the authority to legally bind the CONTRACTOR in this matter. I am aware that false statements, representations, or certifications may be punishable as civil or criminal violations of law.

 9-4-12
Signature Date

Name: RHONDA STRUCHER

Title: ORGANIZATIONAL DEVELOPMENT MGR

For: EMERALD ALASKA, INC.
CONTRACTOR

3.9 Response Training

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(I), 18 AAC 75.445(j), 40 CFR 194.117, 33 CFR 154.1035(e), and 40 CFR 112.120(h).

ASIG personnel with identified roles in discharge response receive appropriate training, as described below, to ensure that they can carry out their assigned duties. Table 3.9-1 summarizes the response training received for each spill response team member. Spill prevention training is described in Section 2.2.1.

3.9.1 Spill Response Training

ASIG develop a spill response training program based on the elements in the *Training Reference For Oil Spill Response; Department of transportation/ Environmental protection Agency/ Department of Interior-* August 1994, which contains a foundation of suggested subject material for the QI, the IMT, and facility response personnel.

The applicable training components for the personnel at AFSC facilities include the following.

- QI Training; The QI, and designated alternate are trained on the information necessary to be familiar with their responsibilities and duties as described in the Plan.
- SMT Training; the IMT members receive training in accordance with their functional role. In addition to training for the IMT roles, the ASIG IMT positions are filled with ASIG personnel such that they are able to draw upon skill that they use in ASIG's every day activities.
- Facility Personnel; ASIG facility personnel receive training in their roles as spill responders and in the immediate mitigating procedures for abnormal operating conditions such as emergency shut down and tank and pipe isolation.
- Worker Health and Safety Training – HAZWOPER; The QI, QI alternate, IMT, and the response personnel have received either 40 hour or 24 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and maintain HAZWOPER certification through 8-hour annual refresher training.

Many ASIG personnel have hands-on training in spill response as a result of responding to minor fuel spills that have occurred. The use of sorbent pads, ice and snow, hand dug ditches and other containment and recovery techniques is well known to managers, supervisors, plant operators, mechanics, and most refueling personnel.

The response training program is described in more detail in the AFSC *Oil Discharge Response Exercise and Training Program Manual*. A record of all response training including personnel receiving training and an outline of each training course will be maintained for at least five years. In accordance with 49 CFR 194.117(b), the training records for personnel qualified to operate the AFSC Jet Fuel Pipeline are maintained as long as the individual is assigned duties under the plan.

3.9.2 Facility Drills/Exercises

ASIG conducts facility drills and exercises in accordance with the guidelines outlined in the National Preparedness for Response Exercise Program (NPREP). A complete description of drills and exercises is included in the *AFSC Oil Discharge Response*

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Exercise Program Manual. Consistent with this program, drills and exercises will be performed as described below:

1. The QI notification and IMT call out exercise is conducted monthly. The exercise is conducted to ensure that the QI, or designee, and the IMT, are able to be reached; contact must be made, or confirmation received to complete the drill.
2. Annually ASIG conducts a Spill Management Team Table Top Exercise. The exercise is conducted to ensure the ASIG IMT is familiar with the Plan and is able to use it effectively to conduct a spill response.
3. Semi-annually ASIG conducts equipment deployment exercises. The equipment deployment drills are conducted to meet two requirements. First, to demonstrate the ASIG responders' ability to deploy and operate the equipment. Secondly, to verify the equipment is in good operating condition, and that the equipment is appropriate for the intended operating environment.
4. ASIG will participate in any unannounced drill initiated by the ADEC, USCG, or USEPA as required in the NPREP guidelines.
5. Per the NPREP guidelines ASIG will conduct a Worst Case Discharge drill once every three years.

Documentation of all drills and exercises will be kept on file in the AFSC Oil Discharge Response Exercise Program Manual.

3.9.3 Response Plan Updates

This Response Plan is reviewed periodically on a schedule that does not exceed five years. The Response Plan will be reviewed and amended for the following reasons:

- Facility changes that materially affect the response to a worst case discharge;
 - o Change in facility configuration;
 - o New pipeline construction or purchase;
- Change in facility spill prevention and response equipment or emergency response procedures;
- Change in Response Action Contractor;
- Change in Qualified Individual.

Additionally, this Plan will be updated by the ASIG Environmental Manager following drills, exercises, and incidents to reflect lessons learned. The information in this plan will be reviewed at least annually for accuracy and will be updated accordingly.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

ASIG Position	40 or 24 hr HAZWOPER	8-Hr HAZWOPER Awareness	8-Hr HAZWOPER Refresher	Monthly Call Out	Semi-annual Equipment Deployment	Annual Spill Management Tabletop
General Manager			X	X	X	X
Administrative Manager			X	X		X
Safety/Training Supervisor	X		X	X	X	X
Plant Manager	X		X	X	X	X
Plant Supervisor	X		X	X	X	x
Plant Operator ¹	X	X	X	X	X	X
Maintenance Supervisor	X		X		X	X
Plant Mechanic	X		X		X	
GSE Mechanic	X	X	X		X	
Pit Technician	X		X		X	
Fueling Manager	X		X	X	X	
Fueling Supervisor	X		X		X	X
Fueling Agent		X			X	
Environmental Manager	X		X	X	X	X
Facility Manager	X		X	X	X	X

This page is intentionally blank.

3.10 Protection of Environmentally Sensitive Areas

This section has been prepared in accordance with 18 AAC 75.425(e)(3)(J) and 33 CFR 154.1035(b).

For any spill with the potential to impact environmentally sensitive areas, ASIG will work with the natural resources trustee agencies (NOAA, ADFG, ADNR, DOI, USFWS).

The most important step in preventing impacts from an ASIG spill to environmentally sensitive areas is to prevent oil from traveling into Cook Inlet or into adjacent wetlands. This will be accomplished using the containment and control strategies described in Section 1.6 scenarios.

Jet A is a kerosene-type aviation fuel consisting of aliphatic and aromatic hydrocarbons. Upon entering the environment, individual components of Jet A will disperse and partition according to their physical and chemical properties. A 2005 workshop focused on the toxicity of jet fuel found that the most toxic effects of jet fuel exposure to humans and the environment are initial.¹⁹ Toxic exposure pathways include ingestion and dermal transfer. Because Jet A degrades very rapidly, the most harmful impacts are from acute initial exposure.

ASIG has identified four environmentally sensitive areas that could be threatened by a release from AFSC facilities: Ship Creek, Fish Creek, Chester Creek, and a wetland area east of Off-Airport Fuel Facility. These areas are illustrated on the facility diagram in Section 1.8. These areas were identified because they are important recreational sites and provide important habitat for various wildlife and fish species. Geographic Response Strategies have been developed by an industry/agency work group for two of these sites. If either of these areas is threatened by a spill from ASIG, the Incident Commander will confer with the resource agencies to determine the need for implementing either or both GRS NCI-01 (Fish Creek) and GRS NCI-02 (Ship Creek). Should the spill spread to threaten other GRS sites in Northern Cook Inlet, ASIG will also consider implementation of those strategies, as listed at <http://www.dec.state.ak.us/spar/perp/grs/ci/cin/home.htm>. Although there is no GRS for Chester Creek, ASIG would implement environmentally sensitive area protection tactics there as well.

As shown in the GRS, protection of environmentally sensitive areas is usually accomplished by diverting oil away from the resources of concern, or using exclusion booms to block off an area. ASIG responders will apply these tactics (as described in the GRS and in the STAR Manual) as required.

Several reference documents contain information about environmental sensitivities; these resources (listed in Table 3.10-1) would also be consulted by the Environmental Unit Leader during an ASIG spill response.

¹⁹ <http://www.udri.udayton.edu/News/2005/Pages/HowToxicisJetFuel.aspx>

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 3.10-1 Information Sources on Environmentally Sensitive Areas

Reference	Author	Information Provided & Web Address
Cook Inlet Subarea Plan	ARRT/ Subarea Committee	Criteria for prioritizing environmental sensitivities, locations of GRS. Locations and concentrations of sensitive environments and resources. Seasonal variations in environmental sensitivities. www.akrrt.org
Cook Inlet Geographic Response Strategies (GRS)	GRS Work Groups/ Subarea Committees	Map-based response strategies for pre-identified sensitive areas in most of the Alaska subareas. GRS projects are ongoing and new strategies are regularly added. http://www.dec.state.ak.us/spar/perp/grs/home.htm
Sensitive area map series (ESI, MESA, etc.)	Various	Map series for each subarea providing information regarding environmental sensitivities: aquatic farm locations; Environmental Sensitivity Index (ESI) maps; GRS maps (same as ADEC website); land management maps; Most Environmentally Sensitive Areas (MESA) maps; rare plant maps; public access atlases; seabird maps; Steller sea lion maps; state land plat record maps; State Parks maps; and USFWS wetlands maps. http://www.asqdc.state.ak.us/maps/cplans/subareas.html or http://www.asqdc.state.ak.us/maps/cplans/mapdescript.html
<i>Environmental Sensitivity Index Maps</i>	NOAA	ESI maps help spill responders and planners identify vulnerable coastal locations before a spill happens, so that protection priorities can be established and cleanup strategies identified in advance. http://response.restoration.noaa.gov/

Considerations for protecting environmentally sensitive areas vary seasonally. During winter, shoreline ice may provide a natural barrier to spreading; however, the presence of marine sea ice in Cook Inlet could make on-water spill response operations more difficult or unsafe.

3.10.1 Drinking water impacts

(b) (7)(F)

3.10.2 Cultural Resources

Cleanup activities resulting from an oil spill could impact cultural or historical resources. The Alaska Department of Natural Resources (ADNR) Office of History and Archaeology (SHPO) will be notified of any response that may impact cultural resources or ADNR lands.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

3.10.3 Wildlife

During a fuel spill every effort will be made to minimize the impact on wildlife in the area. There are various species of birds, including a variety of waterfowl, bald eagles, and shorebirds that could be adversely impacted by a spill reaching open water, mud flats, or wetland areas. In addition, a spill occurring between mid-May and mid-September could impact salmon migrating to or from Ship Creek. Salmon migrating along Knik Arm to streams further up the Arm also could be impacted by a spill.

Mammals known to inhabit the immediate Anchorage coastal area include weasel, muskrat, marten, and otter. Wolverine, moose, lynx, and black bear have been seen in the vicinity of the port and airport.

From late spring to early fall, Knik and Turnagain Arms are considered concentration areas for beluga whales. From April through November, the Anchorage Coastal Wildlife Refuge along Turnagain Arm is considered to be a concentration area for waterfowl.

Additionally, the pipeline crosses under both Ship and Fish Creeks and crosses over the Chester Creek outlet culverts. Both Ship and Chester Creek are anadromous streams and have varying size runs of several salmon species. The primary response effort for any spill that could impact one or more of these streams would focus on exclusion and/or diversion booming for protection of the streams and associated marshes. The appropriate GRS would be implemented.

Chadux maintains wildlife response equipment in its Anchorage warehouse. If there is the threat of impact to wildlife from a spill, ASIG will request that Chadux place the International Bird Rescue and Research Center (IBRRC) on stand-by. The IBRRC will be activated to carry out wildlife response. State and federal resource trustee agencies will be notified as required by the Unified Plan and the Cook Inlet Subarea Contingency Plan. Contact information for trustees is included in Section 1.2 of this plan.

Wildlife response activities including hazing, capturing/collecting, transporting, and treating will commence only upon receiving authorization and permits from the pertinent State and Federal wildlife resource agencies. The Alaska Oil Spill Permit Tool contains copies of the ARRT Wildlife Hazing Checklists and other state and federal wildlife response permits. www.nukaresearch.com/permits Wildlife response will only be carried out by trained responders from Chadux, IBRRC, and the state/federal trustee agencies.

Table 3.10-2 lists additional information sources for wildlife protection and response.

Table 3.10-2 Information Sources on Wildlife Protection and Response

Reference	Author	Information Provided & Web Address
Subarea Plans	ARRT/ Subarea Committees	Information on wildlife populations, locations of GRS www.akrrt.org
Wildlife Protection Guidelines (Annex G to Unified Plan)	ARRT & Trustee Agencies	Checklists and response strategies to protect wildlife during an oil spill. These strategies are prioritized into Primary, Secondary, and Tertiary. Also identifies factors to be considered when determining when to begin and end a wildlife capture and treatment program.
Geographic Response Strategies (GRS)	GRS Work Groups/ Subarea	Map-based response strategies for pre-identified sensitive areas in most of the Alaska subareas. GRS projects are ongoing and new strategies are regularly added.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 3.10-2 Information Sources on Wildlife Protection and Response

Reference	Author	Information Provided & Web Address
	Committees	http://www.dec.state.ak.us/spar/perp/grs/home.htm
Sensitive Area Map Series (ESI, MESA, etc.)	Various	Map series for each subarea providing information regarding environmental sensitivities: aquatic farm locations; Environmental Sensitivity Index (ESI) maps; GRS maps (same as ADEC website); land management maps; Most Environmentally Sensitive Areas (MESA) maps; rare plant maps; public access atlases; seabird maps; Steller sea lion maps; state land plat record maps; State Parks maps; and USFWS wetlands maps. http://www.asgdc.state.ak.us/maps/cplans/subareas.html or http://www.asgdc.state.ak.us/maps/cplans/mapdescript.html
<i>Alaskan Seabird Colony Catalog</i>	USFWS	The Beringian Seabird Colony Catalog is a computerized, GIS-based database, maintained by the Division of Migratory Bird Management, U.S. Fish and Wildlife Service, in Anchorage, Alaska. It contains the locations and names of seabird breeding colonies in Alaska (AK) and Russia (RU), the species of birds that nest in each colony, and the numbers of each species. The colony number consists of a map number and a site number. Map number (1 - 153) refers to a USGS 1:250,000 quadrangle, which is not the same as official USGS map number. A site number refers to a specific colony and is not duplicated within the quadrangle. The site name is derived from an official name on USGS map, if one exists; otherwise a descriptive name was invented. http://seamap.env.duke.edu/datasets/detail/270
<i>California Oiled Wildlife Care Network (OWCN) Wildlife Guidelines</i>		Wildlife capture, handling, treatment and release protocols that are in use throughout the West Coast of the United States. http://www.vetmed.ucdavis.edu/owcn .

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

3.11 Bibliography

This section was prepared in accordance with 18 AAC 75.425(e)(3)(L).

Reference	Date	Author(s)
The Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases, Unified Plan Volume 1	May 1994	ADEC, USCG, EPA
Cook Inlet Subarea Plan, Change 1	May 2004	ADEC, USCG, EPA
Spill Tactics for Alaska Responders (STAR) Manual	April 2006	ADEC
Chadux Oil Spill Response Manual	2007	Chadux
Cook Inlet and Kenai Peninsula, Alaska, Environmentally Sensitive Areas Index Maps, Spring, Summer, Fall and Winter,	December 1994	Research Planning Institute
Sensitivity of Coastal Environments and Wildlife to Spilled Oil, Cook Inlet and Kenai Peninsula, Alaska, An Atlas of Coastal Resources	1983	Research Planning Institute
Wildlife Protection Guidelines for Alaska	January 1997	Alaska Regional Response Team
State of Alaska Land Ownership Maps at http://www.dnr.state.ak.us/pic/maps.htm		ADNR
Field Guide for Oil Spill Response in Arctic Waters http://www.arctic-council.org/fldguide/	1998	Arctic Council
International Oil Spill Control Directory, 19 th Edition,	1999-2000	Cutter Information Corp.
Mechanical Protection Guidelines	June 1994	Dr. Jacqueline Michel, et. al., Research Planning Institute
Oil Containment Boom: Design, Deployment, Use, Recovery & Cleaning		R. E. Miller, Clean Sound Cooperative

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Reference	Date	Author(s)
Oil Spill Response in Fast Currents, A Field Guide, Coast Guard Report #CG-D-01-02	2001	US Coast Guard
USCG Commandant (G-M) Letter 16465, Revised Guidelines for Conducting the USCG's OSRO Program	December 28, 1995	US Coast Guard
<i>World Catalog of Oil Spill Response Products – Eighth Edition</i>	2004	Potter
<i>Standard Practice for Classifying Water Bodies for Spill Control Systems</i>	2003	American Society of Testing and Materials (ASTM)
Standard Guide for Estimating Oil Spill Recovery System Effectiveness (ASTM F1780-97)	2002	American Society of Testing and Materials (ASTM)

Part 4: Best Available Technology

This section discusses the best available technology (BAT) requirements of 18 AAC 75.425(e)(4).. The discussion of each technology covers the evaluation criteria of 18 AAC 75.445(k)(3). The following BAT analyses include the following:

- 4.1 Communications [18 AAC 75.425(e)(4)(A)(i)]
- 4.2 Source Control Procedures [18 AAC 75.425(e)(1)(F)(i)]
- 4.3 Trajectory Analyses and Forecasts [18 AAC 75.425(e)(1)(F)(iv)]
- 4.4 Wildlife Capture, Treatment, and Release Programs [18 AAC 75.425(e)(1)(F)(xi)]
- 4.5 Cathodic Protection [18 AAC 75.065 (h)(2), (i)(3), and (j) (3).]
- 4.6 Leak Detection System for Tanks [18 AAC 75.065 (i)(4), (j) (5)]
- 4.7 Liquid level Determination in Bulk Storage Tanks [18 AAC 75.065 (k)(3) and (4)]
- 4.8 Maintenance Procedures for Buried Steel Piping [18 AAC 75.080(b)]
- 4.9 Protective Wrapping or Coating and Cathodic Protection for Buried Steel Piping [18 AAC 75.080(d), (k) (1), (l) or (m)]
- 4.10 Corrosion Surveys for Buried Steel Piping [18 AAC 75.080(k)(2)]
- 4.11 Jet Fuel Pipeline Leak Detection

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

4.1 Field Communications Systems

The following table is BAT review completed per 18 AAC 75.425(e)(4)(A)(i) "communications under (1)(D)".

Table 4.1-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Field Communication Procedures [18 AAC 75.425(e)(1)(D)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES		
	EXISTING: Operator and Alaska Chadux Corporation (ACC) VHF hand-held radios, ACC owned ground to air AHF radio, and cellular telephones	OPTION 1: High frequency single sideband radios	OPTION 2: Mobile operation center communication center.
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	VHF communication systems are commonly used by response organizations for field communications during a spill response. Cellular telephones are also commonly used for communications between field personnel and non-field resources by response organizations where service is available. Both cellular and VHF communication systems would be available to field supervisors during a response.	This technology is not commonly used in spill responses except where responders are spread out over a large area. HF radios are used for long range communications. HF radios are available.	These systems are widely available.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	The communications systems described presently exists and are operational.	Could be applied to spill response operations.	Could be applied to spill response operations.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	The communication systems available provide for excellent field communication capabilities. The handheld VHF radios can be used for communications between responders on shore and aboard response vessels. The ground-air handheld radio provides communications with aircraft to direct on-water response efforts. In addition the cellular phones allow field personnel to communicate with resource agencies, suppliers, and personnel at the command center.	These types of radios are generally used for long distance communications at sea and in undeveloped areas. Would not add any to existing communication system with VHF and cellular phones. Response resources are expected to be well within the communications range of VHF radios.	Could be used to provide both phone and fax communications in mobile operation center. Would allow field responders to send and receive faxed information such as response diagrams and strategies.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	The VHF radios that would be used by ASIG personnel are used in day to day operations so there is no additional cost for using them for spill response. The VHF radios and cellular phones available to response personnel working under ACC are available to the applicant as part of the applicant's membership in ACC.	Similar cost to VHF radios presently used.	Cost of cellular service and fax machine would be less than \$2,000.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.1-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Field Communication Procedures [18 AAC 75.425(e)(1)(D)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES		
	EXISTING: Operator and Alaska Chadux Corporation (ACC) VHF hand-held radios, ACC owned ground to air AHF radio, and cellular telephones	OPTION 1: High frequency single sideband radios	OPTION 2: Mobile operation center communication center.
AGE & CONDITION What is the age and condition of existing technology?	All communication equipment is maintained so that it is operational. AFSC radios are maintained under an existing service agreement with the manufacturer.	N/A.	N/A.
COMPATIBILITY Is the technology compatible with existing operations?	The communications systems are compatible with spill response.	Not compatible with existing communications system used for spill response since they cannot communicate with VHF radios.	Compatible.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	The existing field communication systems allow for effective communications between responders in the field and between field personnel and personnel at the command center. The communications systems do not need to be upgraded at this time.	Would not enhance present field communications capabilities because long range radio communications is not needed since VHF radios have adequate range for response operations that would be expected for a pipeline spill.	Could enhance response effectiveness by enhancing the ability to send and receive written communication in the field.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Lithium batteries for VHF radios are a hazardous waste when disposed of. Batteries for cellular devices may be a hazardous waste when disposed of.	Lithium batteries for HF radios are a hazardous waste when disposed of.	Batteries for cellular devices may be a hazardous waste when disposed of.
BAT SUMMARY: The existing technology for field communications allows for good communication between responders in the field and the cellular phones allow for communications between field personnel and the command center. Cellular fax service for ACC's mobile operation center could be somewhat useful but would not likely dramatically improve response effectiveness.			

4.2 Procedures to Stop the Discharge and Prevent its Further Spread

The following tables represent the BAT review completed per 18 AAC 75.425(e)(4)(A)(i) "source control procedures to stop the discharge at its source and prevent its further spread described under (1)(F)(i)". Table 4.2-1 is for the Airport Fuel Facility, Table 4.2-2 was completed for the Off-Airport Fuel Facility, and Table 4.2-3 was completed for the Jet Fuel Pipeline.

Table 4.2-1 Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	(b) (7)(F)
TRANSFERABILITY Can the technology be applied to the applicant's operation?	
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	
AGE & CONDITION What is the age and condition of existing technology?	
COMPATIBILITY Is the technology compatible with existing operations?	
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	
BAT Summary: The current S available as an alternative.	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.2-2 Off-Airport Fuel Facility Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	EXISTING: Manual Valves for isolation	OPTION 1: Automatic shut-down valves for isolation.
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	(b) (7)(F)	
TRANSFERABILITY Can the technology be applied to the applicant's operation?		
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?		
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?		
AGE & CONDITION What is the age and condition of existing technology?		
COMPATIBILITY Is the technology compatible with existing operations?		
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?		
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?		
(b) (7)(F)		

Table 4.2-3 Jet Fuel Pipeline Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES (b) (7)(F)
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	
TRANSFERABILITY Can the technology be applied to the applicant's operation?	
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	
AGE & CONDITION What is the age and condition of existing technology?	
COMPATIBILITY Is the technology compatible with existing operations?	
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	

Table 4.2-3 Jet Fuel Pipeline Procedures to Stop the Discharge [18 AAC 75.425(e)(1)(F)(i)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	(b) (7)(F)
(b) (7)(F)	

4.3 Trajectory Analyses and Forecasts

The following tables were completed for the BAT review of the “trajectory analyses and forecasts described under (1)(F)(iv)” of 18 AAC 75.425(e) and was completed per 18 AAC 75.425(e)(4)(A)(i). Table 4.3-1 is for Real-time Surveillance and Tracking of Oil on Open water at all the AFSC Facilities, and Table 4.3-2 is for the Off-Airport Fuel Facility and Jet Fuel Pipeline Forecasting Shoreline Contact.

Table 4.3-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Real-time Surveillance and Tracking of Oil on Open Water [18 AAC 75.425(e)(1)(F)(iv)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	PROPOSED: Visually tracking from shoreline and with response vessels.	PROPOSED: Aerial tracking by helicopter or small plane.
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Best means of tracking spill during early stages of response because it can be implemented quickly. Visual tracking of spills is a widely used practice during spill response efforts. Alaska Chadux Corporation, the PRAC for AFSC, has boats that can be used in this capacity. Signature Flight Support Response personnel can track discharge from shoreline and radio information to incident command.	Aerial tracking is widely used during spill response efforts and has been proven to be a very effective tool for responders. During a response effort there are numerous local aircraft vendors that would be available to provide aerial surveillance during a spill response.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Easily transferable because it does not require specialized tools, and vessels being used to respond can also be used for tracking.	Alaska Chadux Corporation, the AFSC PRAC, maintains pricing agreements with several local aircraft vendors. It is almost certain that one or more aircraft would be available for tracking of fuel.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Visual tracking is an effective means of tracking spill movement in many situations and is used on all spills to some extent.	Can be very effective when used in conjunction with appropriate air to ground communication system. It provides best overall view of discharge movement on water, especially if there has been significant spreading and breakup of fuel into several slicks.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	No additional equipment cost to AFSC because there is an existing contract with ACC for spill response. During a spill, cost would be part of response cost for booming and recovery operations.	There is no cost to maintain pricing agreements with local vendors. During a response, cost could reach several thousand dollars depending on duration of operations.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.3-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Real-time Surveillance and Tracking of Oil on Open Water [18 AAC 75.425(e)(1)(F)(iv)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	PROPOSED: Visually tracking from shoreline and with response vessels.	PROPOSED: Aerial tracking by helicopter or small plane.
AGE & CONDITION What is the age and condition of existing technology?	ACC boats are maintained in a state of operational readiness at all times.	All aircraft would be hired on a contract basis and presumed to be fit for operation in accordance with FAA regulations.
COMPATIBILITY Is the technology compatible with existing operations?	Compatible with spill response techniques currently employed for existing terminal and pipeline facilities.	Compatible with communications systems owned by Alaska Chadux Corporation for spill response.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	From an operational standpoint, visual tracking from the shoreline and boats is feasible as long as weather permits. Visual tracking does have limitations. Fuel slicks on open water are not possible to spot from shoreline or boats from more than a few hundred feet. This means that visual tracking should not be used as the primary means of locating a fuel slick after visual contact has been lost for a significant period of time. Visual tracking is best used as a means of maintaining visual contact with spilled fuel, or in conjunction with aerial surveillance.	From an operational standpoint, aerial surveillance is the probably the best means of locating, and tracking a spill on open water when the exact location of the fuel slick is unknown. Aerial tracking can be used to direct shoreline and vessel response teams and provide the most accurate information on the location and heading of fuel slicks for forecasting purposes. It also provides a valuable means of finding multiple slicks that may form during a spill and provides an overall view of a spill that would not be possible using only visual observation from the shore or vessels
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Fuel consumption of vessels is a minor impact. Definitely does not offset benefits of visual tracking by vessels.	Fuel consumption of aircraft is a minor impact. Definitely does not offset benefits of aerial tracking.
BAT Summary: The use of the proposed methods will be decided in the event of a discharge to open water. ASIG would implement one technology or both dependent upon the circumstances of the discharge.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.3-2 Off-Airport Fuel Facility and Jet Fuel Pipeline Forecasting Shoreline Contact [18 AAC 75.425(e)(1)(F)(iv))]

BAT EVALUATION CRITERIA	ALTERNATIVE TECHNOLOGIES		
	PROPOSED: NOAA ON-SCENE SPILL MODEL:	OPTION 1: Calculations from Wind/current Vectors.	OPTION 2: Tracking Buoys
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Model run is available within 2 to 3 hours of notification to NOAA. Spill modeling by NOAA has been widely used in Alaska for forecasting spill trajectories during a response and modeling results would be available to responders on a pipeline spill.	Basic wind/current vector calculations have been widely used during spill response efforts. NOAA SSC can support.	Technology is available and is used to a limited extent in the spill response industry.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Technology is available for use in any on-water response effort.	Transferable.	Technology could be applied to response operations.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Due to dynamics of Upper Cook Inlet, forecasts would have to be continually updated. Because current speeds change throughout the tide cycle and also vary with distance from the shoreline, trajectory analysis will require constant updating based on visual observations. It is a good forecasting tool for predicting fuel slick movement and possible areas of shoreline impact for deployment of protective booming.	Because current speeds and directions change throughout the tide cycle and also vary with distance from the shoreline, this methodology will probably not provide an accurate assessment of the trajectory of a spill. Could only be used to provide short term forecasting of spill trajectory and primary used would be during early stages of response prior to implementation of more sophisticated techniques.	Tracking Buoys are effective as long as signal can be received by monitoring device or it can be seen visually. However, visual tracking from vessels and from the air is more reliable method of tracking spills. It would be most helpful for use during inclement weather or to aid in visual tracking from aircraft or from response vessels.
COST	No cost to applicant.	No cost to applicant.	Tracking buoys cost approximately \$1,500 each with computer software.
AGE & CONDITION What is the age and condition of existing technology?	The model and data are kept up to date.	Does not require specialized equipment.	Tracking buoys have been used since the 1980s.
COMPATIBILITY Is the technology compatible with existing operations?	Totally compatible with applicants operations.	Could be utilized by response personnel for short term forecasting of spill movement.	Could be compatible with purchase of appropriate equipment.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.3-1 Airport Fuel Facility, Off-Airport Fuel Facility, and Jet Fuel Pipeline Real-time Surveillance and Tracking of Oil on Open Water [18 AAC 75.425(e)(1)(F)(iv))]

BAT EVALUATION CRITERIA		TECHNOLOGY ALTERNATIVES	
		PROPOSED: Visually tracking from shoreline and with response vessels.	PROPOSED: Aerial tracking by helicopter or small plane.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	This technology has been used successfully by spill responders throughout the state of Alaska and in the rest of the U.S. When used properly it can aid in the deployment of response resources. However, as with all models there are limits to its accuracy.	This technology has been used successfully by spill responders throughout the state of Alaska and in the rest of the U.S. However, the continuous tide cycle that exists in Cook Inlet would make it very difficult to forecast spill movement based on this simple approach.	The technology is feasible but is not as reliable as visual observations from response vessels and aircraft. Therefore, the use of tracking buoys would not likely provide additional benefits over visual tracking.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	None.	None.	Small electrical consumption for computer tracking software.
BAT Summary. The use of the proposed methods will be decided in the event of a discharge to open water. ASIG would implement one technology or both dependent upon the circumstances of the discharge.			

4.4 Wildlife Capture, Treatment, and Release

The following table presents the BAT review for wildlife capture, treatment and release per 18 AAC 75.425(e)(4)(A)(i).

Table 4.4-1 Off-Airport Fuel Facility and Jet Fuel Pipeline Protection, Recovery, Disposal, and Rehabilitation of Potentially Affected Wildlife [18 AAC 75.425(e)(1)(F)(xi)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:		
	EXISTING: Alaska Chadux Corporation (ACC) implementation of wildlife response.	OPTION 1: Contract directly with the international bird rescue and research center	OPTION 2: Bird deterring buoy for wildlife hazing
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	ACC has a contract with IBRRC for wildlife response. The IBRRC has responded effectively to spills on an international basis. These services are available to the applicant as a member of ACC.	The IBRRC has responded effectively to spills on an international basis. The applicant does not have a contract with the IBRRC and therefore their services are not currently available to the applicant.	The manufacturer could not point to the use of the buoy during an actual spill response effort. Reportedly CISPRI has at least one buoy in their response inventory. The buoys are available for purchase by the applicant or by ACC.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	The resources listed above are currently available to the applicant as a member of Alaska Chadux Corporation and would be available for a spill response.	IBRRC is available to ASIG already through the contract with Chadux.	The technology could be transferred to our spill response operations.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	IBRRC is an internationally renowned wildlife response organization with a rehabilitation and response center in Anchorage. ACC has effectively utilized IBRRC to support wildlife response in Alaska. There is a reasonable expectation that ACC's contractor	IBRRC is an internationally renowned wildlife response organization with a rehabilitation and response center in Anchorage. Directly contracting with IBRRC would not have any bearing on effectiveness compared to current ACC contract.	The manufacturer claims that each buoy has been shown to be immediately effective in deterring over 85% of the sea birds present within a 0.5 mile radius, with a long term effectiveness of 60%. They can also be used as a tracking buoy for tracking a spill.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.4-1 Off-Airport Fuel Facility and Jet Fuel Pipeline Protection, Recovery, Disposal, and Rehabilitation of Potentially Affected Wildlife [18 AAC 75.425(e)(1)(F)(xi)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:		
	EXISTING: Alaska Chadux Corporation (AAC) implementation of wildlife response.	OPTION 1: Contract directly with the international bird rescue and research center	OPTION 2: Bird deterring buoy for wildlife hazing
	IBRRC will provide an effective wildlife response based on past performance.		
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	The cost is part of the fee the applicant pays for membership in ACC. ACC has a contract with IBRRC and pays an annual retainer fee. Actual response costs would be billed directly to the spilling party.	IBRRC does not usual contract directly with the responsible party, but if necessary, a contract may be negotiated at the time of the spill.	Each buoy costs about \$10,000. The batteries last 72 hours of full operation and are not rechargeable. A new set of batteries cost about \$1,300. The manufacturer also sells a tracking device for tracking multiple buoys that costs about \$6,500. 1 or 2 buoys would likely be all that is necessary for use during a spill.
AGE & CONDITION What is the age and condition of existing technology?	All wildlife rehabilitation and treatment equipment is current and in excellent condition.	All wildlife rehabilitation and treatment equipment is current and in excellent condition.	N/A.
COMPATIBILITY Is the technology compatible with existing operations?	The technology is compatible with response operations.	The technology is compatible with response operations.	The technology is compatible with response operations.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.4-1 Off-Airport Fuel Facility and Jet Fuel Pipeline Protection, Recovery, Disposal, and Rehabilitation of Potentially Affected Wildlife [18 AAC 75.425(e)(1)(F)(xi)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:		
	EXISTING: Alaska Chadux Corporation (AAC) implementation of wildlife response.	OPTION 1: Contract directly with the international bird rescue and research center	OPTION 2: Bird deterring buoy for wildlife hazing
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	The IBRRC is an international wildlife response agency. They have contracts with several large oil companies in the state for wildlife response. They also have a treatment facility in Anchorage that is paid for by members of Alaska Clean Seas, the northslope response agency for BP, and several other oil companies.	The IBRRC is an international wildlife response agency. They have contracts with several large oil companies in the state for wildlife response. They also have a treatment facility in Anchorage that is paid for by members of Alaska Clean Seas, the northslope response agency for BP, and several other oil companies.	This is a very new technology and its use during an actual spill response is untested. The buoys are likely to be effective but there is no evidence that the combination of standard hazing techniques currently employed are not just as effective. The cost of the buoys makes their purchase by the applicant cost prohibitive. However, purchase of the buoys by ACC for use by members is possible.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	If done improperly, wildlife response can have negative impacts on otherwise healthy wildlife. If done properly the benefits outweigh potential negative impacts.	If done improperly, wildlife response can have negative impacts on otherwise healthy wildlife. If done properly the benefits outweigh potential negative impacts.	Could disturb nesting birds nearby that would otherwise be unaffected by the spill response. However, the reduction in oiled birds would likely be worth it.
BAT SUMMARY: The current wildlife response capabilities through Alaska Chadux are the best available.			

This page is intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

4.5 Oil Storage Cathodic Protection

The following table presents the BAT review for the "cathodic protection or another approved corrosion control system if required by 18 AAC 75.065(h)(2), (i)(3), or (j)(3): per 18 AAC 75.425(e)(4)(A)(ii).

Table 4.5-1 Off-Airport Fuel Facility and Airport Fuel Facility Cathodic Protection [18 AAC 75.065(h)(2), (i)(3), or (j)(3)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	EXISTING: Impressed current system with rectifiers and anode deep wells.	OPTION 1: Galvanic cathodic protection system
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	The technology is currently installed. Best use is determined by a corrosion expert.	The technology is available. Galvanic cathodic protection utilizes an active metal acting as the anode discharge current onto a structure.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Technology is currently installed.	Technology is transferable.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Effectiveness is dependent upon the soil condition, ease of maintenance, and distribution of protective current.	Effectiveness is dependent upon the soil condition.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	Technology is currently installed.	Installation costs are less.
AGE & CONDITION What is the age and condition of existing technology?	Age of technology varies by installation and ranges from 1 to 20+ years. Technology is surveyed monthly and annually and maintained in good operating condition.	
COMPATIBILITY Is the technology compatible with existing operations?	Technology is currently installed	Technology is compatible with the operations.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Technology is currently installed.	Technology is feasible for the operation.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Impressed current uses an external voltage source.	Galvanic metal disposal.
BAT Summary: The cathodic protection program installed for the AFSC Facilities was designed by Norton Corrosion Limited, and it was their engineering expertise after analysis that the most efficient and protective system would be the impressed current cathodic protection. Their corrosion expertise is considered the final answer for the BAT. The 2012 inspection report found that the system is providing adequate protection. Documentation of this evaluation is available upon request.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

4.6 Leak Detection Systems for Tanks

The following Table 4.6-1 presents the BAT review conducted per 18 AAC 425(e)(4)(A)(ii) for the Airport Fuel Facility describing the “leak detection system for each tank if required by 18 AAC 75.065(i)(4) & (j)(4)”.

Table 4.6-1 Airport Fuel Facility Leak Detection System [18 AAC 75.065(i)(4) & (j)(4)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	(b) (7)(F)
TRANSFERABILITY Can the technology be applied to the applicant's operation?	
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	
AGE & CONDITION What is the age and condition of existing technology?	
COMPATIBILITY Is the technology compatible with existing operations?	
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	
BAT Summary: The redund	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.6-2 presents the BAT review for tanks at the Off-Airport Fuel Facility which comply with 18 AAC 75.065 (h)(1)(B). The tanks at the Off-Airport Fuel Facility also have a “sensitive gauging system” as identified in 18 AAC 75.065 (h)(1)(A) for which the BAT review is presented in Section 4.7 Table 4.7-2.

Table 4.6-2 Off-Airport Fuel Facility Cathodic protection [18 AAC 75.065(h)(2)]

AFSC Facility: Off-Airport Fuel Facility 18 AAC 75.065(h)(1)(B): (FOR AN EXISTING INSTALLATION) LEAK DETECTION SYSTEM		
BAT EVALUATION CRITERIA	Existing: CATHODIC PROTECTION IN ACORDANCE WITH API 651	Option 1: SECONDARY CATCHMENT WITH LEAK DETECTION SUMP
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Tanks are cathodically protected per API 651.	Technology is available, but installation would be a large project, and could compromise the integrity of the tanks.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Technology is installed.	Technology is transferable.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Tank bottom cathodic protection is effective at preventing leaks from above ground storage tanks. The cathodic protection is tested monthly and annually.	Small amounts of leaking fluid can be detected when monitored on a scheduled basis.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	Currently installed.	Installation would require excavation work beneath the tanks, and exorbitant costs. Cost estimate would require site analysis and would need to consider tank down time.
AGE & CONDITION What is the age and condition of existing technology?	Condition is maintained within acceptable parameters of API 651.	
COMPATIBILITY Is the technology compatible with existing operations?	Currently installed.	Technology is compatible, but would require tank down-time for installation.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Currently installed.	Technology is compatible, but would require tank down-time for installation.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	There are no offsetting environmental impacts.	There are no offsetting environmental impacts.
BAT Summary: Due to the possibility of compromising the integrity of the tank to install the leak detection, the best technology is the tank bottom cathodic protection.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

4.7 Liquid Level Determination in Bulk Storage Tanks

The following tables present the BAT review for “means of immediately determining the liquid level of bulk storage tanks as specified in 18 AAC 75065(k)(3) and (4)” and was completed per 18 AAC 75.425(e)(4)(A)(ii).

Table 4.7-1 Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES			
	PRIMARY: Ultrasonic level transmitters	SECONDARY: Float Gauge	OPTION 1: Differential Pressure Level Transmitters	OPTION 2: Electromagnetic Gauging
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Tanks are fitted with ultrasonic level transmitters that provide local audible annunciation of a high level alarm as well as reporting the high level alarm to the control room. Operator is required to remain at fill station during filling operation.	Equipment is available.	Equipment is available.	Equipment is available.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Currently utilized.	Currently utilized.	Method is transferable.	Technology is transferable.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Since operators are required to remain at or near the tanks during the fill operation and since a high level condition will trigger a local audible alarm and a remote alarm in the control room, the scheme provides adequate level determination for prompt shut down of fueling operations.	Acceptable measurement accuracy.	Acceptable measurement accuracy.	Acceptable measurement accuracy.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	In service.	In service.	Newly installed system cost would be higher than in-place methods without providing any significant benefit.	Installed cost would be somewhat higher than in-place methods without providing any significant benefit.
AGE & CONDITION What is the age and condition of existing technology?	The gauges were installed during the construction of the tanks in 1996, 2007, and 2012.	The gauges were installed during the construction of the tanks in 1996, 2007, and 2012.	The technology is current and well proven.	The technology is current and proven.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.7-1 Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES			
	PRIMARY: Ultrasonic level transmitters	SECONDARY: Float Gauge	OPTION 1: Differential Pressure Level Transmitters	OPTION 2: Electromagnetic Gauging
COMPATIBILITY Is the technology compatible with existing operations?	Currently installed.	Currently installed.	Method is compatible.	The technology is compatible.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Currently installed.	Currently installed.	Method is compatible.	Installation is feasible.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Currently installed.	Currently installed.	There are no offsetting environmental impacts.	There are no offsetting environmental impacts.
BAT Summary: A triplicate gauging system provides accurate methods to determine liquid level. Gauges can be observed from the tank and in the Airport Fuel Facility control room.				

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.7-2 Off-Airport Fuel Facility Liquid Level Determination [18 AAC 75.065(k)(3) & (4) and 18 AAC 75.065(h)(1)(A)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES		
	EXISTING: Automatic level sensors with control room and tank digital displays	SECONDARY: Float Gauge	OPTION 1: Site Glass
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Tanks are fitted with automatic level sensors that provide both local and control room tank level digital displays, and high level alarms. Operator is required to remain at fill station during filling operation.	Equipment is available.	Equipment is available.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Currently installed.	Currently utilized.	Technology is transferable.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Redundant sensors with local and control room displays and alarms are an effective means of immediately determining the liquid level of each tank, especially provided that the liquid levels are closely monitored during transfers.	Acceptable measurement accuracy.	Method is effective, but would not provide a redundant system, like the currently installed system.
COST	Currently installed.	In service.	Initial installation would be an increased cost, but system maintenance would cost less than current system.
AGE & CONDITION What is the age and condition of existing technology?	Technology is original with tank purchase and 20+ years of age. The gauges are in good condition.	Technology is original with tank purchase and 20+ years of age. The gauges are in good condition.	Method is somewhat outdated.
COMPATIBILITY Is the technology compatible with existing operations?	Currently installed.	Currently installed.	Method is compatible.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Currently installed.	Currently installed.	Method is feasible.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Currently installed.	Currently installed.	Possible greater chance for leaks from site glass housing.
BAT Summary: A triplicate gauging system provides accurate methods to determine liquid level. Gauges can be observed from the tank and in the Off-Airport Fuel Facility control room.			

This page is intentionally blank.

4.8 Maintenance Procedures for Buried Steel Piping 18 AAC 75.080(b)

Per 18 AAC 75.080(b) the facility piping maintenance is in accordance with the corrosion control program designed by a corrosion engineer. The underground facility piping is maintained per the API 570 program for the Off-Airport Fuel Facility. Maintenance procedures for the hydrant distribution are described in the Hydrant Distribution Integrity Management Program. The Jet Fuel Pipeline maintenance procedures are described in the USDOT O&M manual for the pipeline. These maintenance procedures have been designed using the appropriate technology as decided by the third party experts who designed and evaluate those respective maintenance programs. These documents are considered the analysis of the technology and have been provided to the Alaska Department of Environmental Conservation.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

4.9 Protective Wrapping or Coating and Cathodic Protection for Buried Steel Piping

The following tables present the BAT analysis for protective coating and cathodic protection as identified in 18 AAC 75.080(k)(1), (l), or (m) and is completed per 18 AAC 75.425(e)(4)(A)(ii).

Table 4.9-1 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating [18 AAC 75.080(k)(1), (l), or (m)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:	
	Existing: Fusion Bonded Epoxy (FBE)	OPTION 1: Coal Tar Enamel
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Fusion Bonded Epoxy (FBE) is presently the most commonly installed coating in the pipeline industry. FBE provides a superior overall performance as discussed below in the "Effectiveness" section. The FBE coating has been applied to the pipe proposed for use in this project.	Although historically common in the industry, its use is being supplanted by FBE in the U.S. and it is harder to find applicators. It is inferior to FBE as discussed below in the "Effectiveness" section.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Commonly used in the pipeline industry. The pipe proposed for use in the project is already in Anchorage and the FBE coating was already factory applied.	Technology could not be applied to the pipeline because FBE coating has already been applied to the pipe.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Proven performance in both upland and offshore applications. Provides superior overall performance. Generally considered by industry experts as the best overall single layer coating on the market. There are multilayer coatings using FBE as a base coat that are rated slightly better. Relatively inexpensive. As stated the pipe has already been purchased with the FBE coating.	Based on information from pipeline industry experts, coal tar enamel coatings rate lower than FBE for factors such as soil stress resistance, adhesion, cathodic protection system shielding, cathodic protection requirements, handling and construction damage, quality of repairs, field joints, usability on bends, valves, and other components. The only advantages over FBE are that less surface preparation is required and it is easier to apply; factors that are more cost than performance related. Used primarily for offshore pipelines under concrete weight coatings and in other countries where environmental controls are less stringent.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?		Less cost than FBE
AGE & CONDITION What is the age and condition of existing technology?	The age is dependent upon the equipment, and ranges from less than 1 year to 14 years.	This is a new installation.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.9-1 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating [18 AAC 75.080(k)(1), (l), or (m)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES:	
	Existing: Fusion Bonded Epoxy (FBE)	OPTION 1: Coal Tar Enamel
COMPATIBILITY Is the technology compatible with existing operations?	This is a new installation.	This is a new installation.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	When an adequate cathodic protection system is provided, an FBE coated pipeline provides the maximum level of corrosion protection available. Even disbonded, FBE will rarely develop corrosion or pitting if adequate cathodic protection is provided.	Not as effective as FBE as discussed in the "Effectiveness" section above.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	No impact. After curing, FBE exhibits the best chemical stability of the options considered.	Coal tar enamel contains toxic substances that can be released even after curing.
BAT Summary: Existing technology represents BAT.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.9-2 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Coating for Pipe Weld Joints [18 AAC 75.080(k)(1), (l), or (m)]

BAT EVALUATION CRITERIA	ALTERNATIVE TECHNOLOGIES			
	EXISTING: Heat Shrink Sleeves	OPTION 1: Fusion Bonded Epoxy (FBE)	OPTION 2: Two Part Epoxy coating	OPTION 3: Polyethylene tape wrap
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	Heat shrinks are commonly used in pipeline construction and are considered to provide good corrosion protection. They are readily available from local vendors.	FBE coating of weld joints would be the preferred choice if the installation cost were reasonable. The equipment used for FBE field joints is specialized but commonly used on larger pipeline projects and could be shipped up from the lower 48	Two Part Epoxy Coatings do provide a superior level of corrosion protection, by themselves, than heat shrink sleeves. The two part epoxy coating is readily available.	Readily available. Commonly used during repairs to buried piping to replace small areas of damaged coating and to wrap bare joints. Is considered inferior to other joint coating systems.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Heat shrinks are the proposed choice for coating weld joints for the new pipeline.	Commonly used in the pipeline industry. Could be applied to pipeline.	Commonly used in the pipeline industry. Could be applied to pipeline.	Commonly used in the pipeline industry. Could be applied to the pipeline.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	Proven performance in both upland and offshore applications. Provides good corrosion protection and also is thicker than FBE and consequently provides superior resistance to impact damage. Compatible with factory applied FBE coating on the main line pipe. Does not provide the same level of corrosion protection as FBE or two part epoxy coatings.	Proven performance in both upland and offshore applications. Could provide a similar level of protection to weld joints as the FBE coating on the main line pipe if meticulously installed.	Proven performance in both upland and offshore applications. It is compatible with factory applied FBE coating to be used on the main line pipe. Does not provide higher level of corrosion protection than FBE coating but it is better than proposed heat shrink sleeves.	Proven performance in both upland and offshore applications. Provides similar level of protection to heat shrink sleeves if properly applied but is more difficult to properly apply.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

BAT EVALUATION CRITERIA	ALTERNATIVE TECHNOLOGIES			
	EXISTING: Heat Shrink Sleeves	OPTION 1: Fusion Bonded Epoxy (FBE)	OPTION 2: Two Part Epoxy coating	OPTION 3: Polyethylene tape wrap
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	Relatively inexpensive to purchase and install. Takes less time to install than other options.	Many times more expensive than heat shrink sleeves due to equipment cost for application and because it is very time consuming and would slow down pipeline installation considerably.	Much more expensive than heat shrink sleeves. Takes longer to apply and needs to cure prior to handling. Both factors increase labor costs for application.	Relatively inexpensive to purchase and install.
AGE & CONDITION What is the age and condition of existing technology?	The age of the heat shrink sleeves depends on the pipeline. All new and exposed coating for well joints has been determined to be in good condition.	This is a new installation.	This is a new installation.	This is a new installation.
COMPATIBILITY Is the technology compatible with existing operations?	This is a new installation.	This is a new installation.	This is a new installation.	This is a new installation.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Easiest to apply. Requires minimal training to achieve good results. Surface preparation required is limited to cleaning by hand or electric wire brush. Heat shrink sleeves were selected because they provide good corrosion protection when adequate cathodic protection exist and because of the increased application and pipeline installation cost that would be associated with using FBE for field joint coating.	Requires specialized training by factory representative to apply. Requires additional equipment and surface preparation. Provides corrosion protection superior to heat shrink sleeves. It has an extremely high cost, is difficult to field install properly, and when combined with the cathodic protection system does not provide a significantly higher level of corrosion protection than heat shrink sleeves.	The curing time limits application in the mud flats due to constraints imposed by tidal cycles. Curing time is increased by humidity and low temperatures. Cures very slowly below 45 degrees Fahrenheit. It is also much more expensive than the proposed heat shrink sleeves and combined with the cathodic protection system, does not provide a significantly higher level of corrosion protection.	Surface preparation requirement similar to that for heat shrinks. Requires greater care than heat shrinks to apply properly.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	Very little impact. Requires a heat source to apply and therefore a small amount of power consumption.	Requires a large electrical generator to power the heat induction ring. Also requires an air compressor and sand blasting equipment to prepare the metal surface.	Uncured components are considered hazardous. The quantities required for joint coating increase the likelihood of spills. About 40% of the pipeline route is in tidal mud flats wetlands.	No impact.
BAT Summary: Existing Technology represents BAT.				

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.9-3 Airport Fuel Facility and Off-Airport Fuel Facility Pipe and Jet Fuel Pipeline Protective Cathodic Protection [18 AAC 75.080(k)(1), (l), or (m)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	EXISTING: Installation of an induced current system with ground bed(s)	OPTION 1: Installation of sacrificial galvanic anodes
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	The technology is widely used in the oil and gas industry for protection of buried piping. It provides the best level of cathodic protection available on the market when properly maintained. The technology is available for use on the pipeline.	The technology is widely used in the oil and gas industry for protection of buried piping. It can provide a level of cathodic protection equal to impressed current systems when properly maintained. Commonly where electrical power is not readily available. The technology is available for use on the pipeline.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	The technology can be applied. The only requirement is a source of electrical power, which is not a problem in this case.	The technology could be used as an alternative to or in conjunction with an impressed current system if desired.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	The system is the most effective system available for prevention of corrosion leaks that would otherwise be caused by coating damage. This particular type of cathodic protection system is generally considered to provide the highest level of cathodic protection available because it can be fine tuned after installation to ensure a continuing high level of protection. Adjustments to the system can be made on an ongoing basis to adjust to conditions such as installation of nearby utilities. Another advantage of impressed current systems over sacrificial anode systems is that replacement of anodes and rectifier components can be done without excavating the line.	As effective as an induced current, but the sacrificial anodes are eventually used up over time. The typical life expectancy for galvanic anodes for onshore installations is about 10 years, requiring excavation of the pipeline to install new anodes. This would also be true if soil conditions are found to be different than those thought to exist when the sacrificial anodes are first installed or if there are changes to the CP current caused by installation or changes in cathodic protection of nearby structures. One advantage of galvanic anode systems is that they do not require a source of electrical power. This makes sacrificial anodes a good option for offshore pipelines or other pipelines where electrical power would not be easily available. The anodes also last an original cathodic protection system on the existing AFSC pipeline that is to be decommissioned used sacrificial anodes. An induced current system was added as an alternative to anode replacements when it was necessary to upgrade the cathodic protection due to deterioration of some of the anodes.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	Currently installed.	Installation cost would be about. However, the cost of replacing depleted anodes every 10 years or so would be extremely high because it would require excavation of the pipeline.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	EXISTING: Installation of an induced current system with ground bed(s)	OPTION 1: Installation of sacrificial galvanic anodes
AGE & CONDITION What is the age and condition of existing technology?	Cathodic protection age is dependent upon the facility and ranges from 1 year to 20+ years. The CP system is tested annually and kept in good condition.	There are sacrificial anodes on the existing AFSC pipeline that is to be decommissioned, that were installed when the line was built in 1962.
COMPATIBILITY Is the technology compatible with existing operations?	The technology is compatible with the pipeline coating.	The sacrificial anodes could be installed on the pipeline prior to burial if desired, but would be impractical to add as a post-installation system.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Operationally it is more feasible than the alternative because the system can be maintained without excavating the pipeline.	From an engineering standpoint the system is feasible. From an operational standpoint the system is more difficult to maintain because the only way to adjust the system following installation is to add new anodes. This requires the excavation of the pipeline.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	The electrical power consumption will be about 1 KW per year.	Periodic replacement of anodes would require excavation of the pipeline. This increases the likelihood of coating damage that could potentially cause a leak. Excavation and repair activities, particularly in environmentally sensitive areas, would cause some impact.
BAT SUMMARY: The induced current system is the best cathodic protection system for use on the pipeline because it can be maintained without excavation of the pipeline and also unlike a sacrificial anode, the current can be adjusted to account for unexpected soil conditions or changes caused by cathodic protection on nearby utilities.		

4.10 Corrosion Surveys for Buried Steel Piping

The following tables present the BAT identified in 18 AAC 75.425(e)(4)(A)(ii) the corrosion surveys. Table 4.10-1 describes the corrosion survey for the Jet Fuel Pipeline. Table 4.10-2 describes the corrosion survey completed by a corrosion expert for the Off-Airport and Airport Fuel Facility.

Table 4.10-1 Jet Fuel Pipeline Corrosion Survey

BAT Evaluation Criteria	Alternative Technologies	
	Primary: INTERNAL INSPECTION WITH UT OR MFL PIG	Secondary: EXPOSE PIPE AND DO VISUAL INSPECTION + MEASURE PIPEWALL THICKNESS ON AN EXPOSED SECTION:
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	The technology is now widely used by pipeline operators and is generally considered to be the best available technology for detecting corrosion in pipelines. The technology is available for use on the pipeline.	Technology is available.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Currently used.	Methodology could be applied to the pipeline. Method is better used as a secondary means of corrosion inspection and should only be used if a section of the line is exposed for maintenance or repairs or is exposed during excavation work for construction
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	It produces continuous pipe wall thickness measurements along the entire circumference and length of the pipeline and can therefore be used to identify the location of both external and internal pipeline corrosion. To the extent that corrosion can be identified before pipeline leaks form the technology will provide increased spill prevention.	Could be marginally effective. The problem is that it would be very difficult to determine if it is a statistically justifiable program. If corrosion is found in a test segment there would be no means of determining if or where additional corrosion may exist. Additionally, excavating buried utilities has inherent risk and definitely would increase the risk of coating damage during excavation and backfilling. A section of coating must be removed to perform the UT inspection and a field repair made. Field repaired coating does not provide the same level of protection as the factory applied pipe coating.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	About \$50,000 to \$75,000 per inspection, based on best available information. This does not include the costs of pig launching and receiving facilities.	Cost depends on number of sections required to be tested in order to have statistically valid test of system. Costs probably range from \$1,000 to \$2,000 for each test section.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

BAT Evaluation Criteria	Alternative Technologies	
	Primary: INTERNAL INSPECTION WITH UT OR MFL PIG	Secondary: EXPOSE PIPE AND DO VISUAL INSPECTION + MEASURE PIPEWALL THICKNESS ON AN EXPOSED SECTION:
AGE & CONDITION What is the age and condition of existing technology?	Method has been used primarily within the last 10 years.	Previously the only method for determining corrosion rates.
COMPATIBILITY Is the technology compatible with existing operations?	This technology is compatible with the pipeline.	This method is compatible with the pipeline.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	This is the best technology for corrosion inspection for the pipeline because of the effectiveness in pinpointing corrosion problems and other defects such as buckles and dents so that necessary repairs can be made before a leak actually occurs. There is no other method of inspection that can reveal more about the existing condition of the entire pipeline.	The method is feasible for the pipeline but not preferred due to the potential to damage the pipeline during excavation.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	There is a risk of spills occurring at pig launching and receiving facilities.	Possible damage to pipeline or coating when excavating to expose pipeline which could lead to corrosion of the pipeline and a subsequent leak.
BAT SUMMARY: Based on effectiveness in determining the extent and location of corrosion the primary technology for corrosion inspection is the periodic use of an MFL or UT pig. Subsequent to the use of the pig, excavation and visual inspection is utilized if the results of the pig indicated anomalies.		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Table 4.10-2 Off-Airport and Airport Fuel Facility Piping Cathodic Protection Survey [18 AAC 75.080(k)]

BAT EVALUATION CRITERIA	TECHNOLOGY ALTERNATIVES	
	CURRENT: Monthly test and annual inspection by qualified cathodic protection tester	OPTION: NONE IDENTIFIED
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	The monthly and annual testing and any necessary maintenance are performed in accordance with the most current version of NACE RP 0169s	The most current version of NACE represents best available technology.
TRANSFERABILITY Can the technology be applied to the applicant's operation?	Currently conducted.	Not applicable.
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	The surveys are effective at ensuring adequate cathodic protection.	Not applicable.
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	Minimal cost.	Not applicable.
AGE & CONDITION What is the age and condition of existing technology?	N/A	Not applicable.
COMPATIBILITY Is the technology compatible with existing operations?	Surveys are currently conducted.	Not applicable.
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	Surveys are currently conducted.	Not applicable.
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	There is no environmental impact.	Not applicable.
BAT Summary: The current cathodic protection survey is effective and the best technology for cathodic protection of the underground piping at Off-Airport Fuel Facility.		

This page intentionally blank.

4.11 Jet Fuel Pipeline Leak Detection

Table 4.10-1 Jet Fuel Pipeline Leak Detection

BAT EVALUATION CRITERIA	ALTERNATIVE TECHNOLOGIES
AVAILABILITY Is the technology the best in use in other similar situations and is the technology available for use by the applicant?	(b) (7)(F)
TRANSFERABILITY Can the technology be applied to the applicant's operation?	
EFFECTIVENESS Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits?	
COST What is the cost of achieving the technology considering the cost in relation to the remaining years of service of current technology in use by the applicant?	
AGE & CONDITION What is the age and condition of existing technology?	

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

BAT EVALUATION CRITERIA	ALTERNATIVE TECHNOLOGIES
COMPATIBILITY Is the technology compatible with existing operations?	(b) (7)(F)
FEASIBILITY What is the feasibility of this technology from an engineering and operational view?	
ENVIRONMENTAL IMPACTS Does the use of this technology impact the environment in a manner that offsets the technology's benefits?	
BAT Summary: The Jet Fuel pipel	

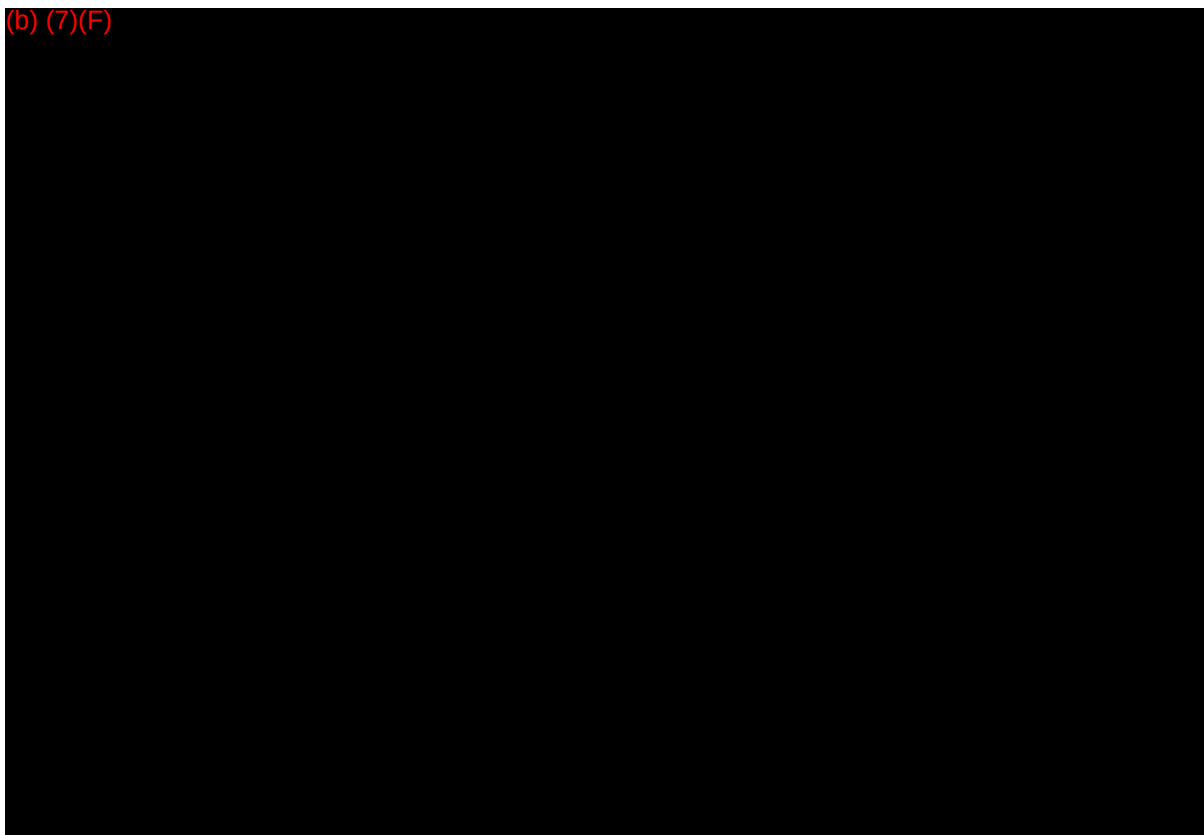
Part 5: Response Planning Standard

Part 5 was prepared in accordance with 18 AAC 75.425(e)(5), 18 AAC 75.445(n), and 40 CFR 112.120(h).

5.1 RPS Calculations for Off-Airport Fuel Facility

The volume of largest tank for Off-Airport Fuel Facility is (b) (7)(F). Prevention credits have been applied to this volume of Off-Airport Fuel Facility for alcohol and drug testing policies; sufficient impermeable secondary containment with a dike capable of holding the contents of the largest tank; and cathodic protection in place at Off-Airport Fuel Facility. The prevention credits reduce the RPS volume, and the adjusted RPS volume is calculated below. Based on the topography, soil types, conditions surrounding the facility and the distance to the Cook Inlet, it is estimated that (b) (7)(F) fuel reaches open water.

(b) (7)(F)



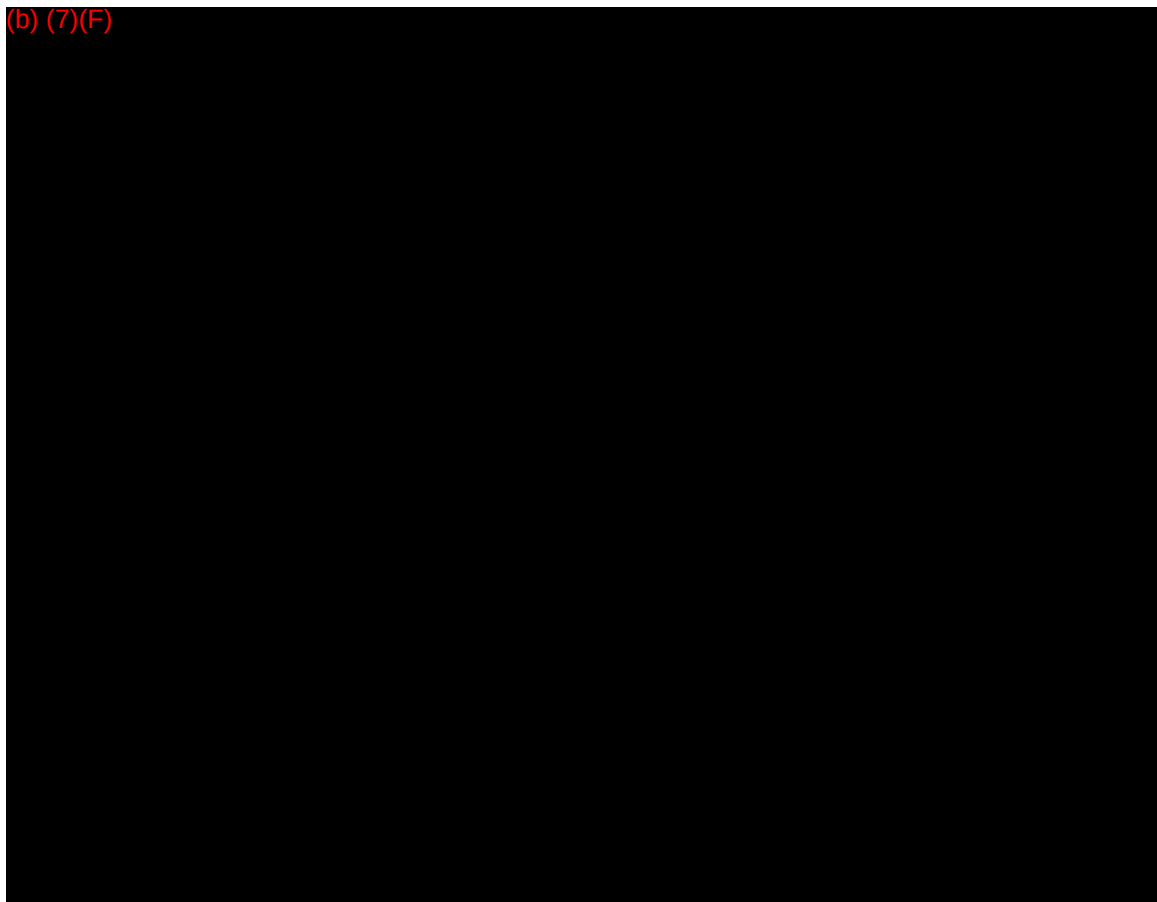
5.2 RPS Calculations for Airport Storage Facility

The volume of largest tank for the Airport Fuel Facility is (b) (7)(F). Prevention credits have been applied to this volume for alcohol and drug testing policies; impervious containment under each tank; sufficient impermeable secondary containment with a dike capable of holding the contents of the largest tank; and cathodic protection in place at

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

the Airport Fuel Facility. The prevention credits reduce the RPS volume, and the calculations are below. Based on the surrounding topography, the soil type, and the distance to the inlet it is estimated that oil will not reach the inlet.

(b) (7)(F)



5.3 Determination of PHMSA, DOT Worst Case Discharge for Jet Fuel Pipeline

There has not been a discharge from the AFSC Jet Fuel Pipeline since initiation. Pursuant to 49 CFR 194.105 the worst-case discharge (WCD) of the Jet Fuel Pipeline is the largest volume of the either the calculated volume of for a potential Jet Fuel Pipeline release or the breakout tank capacity with the prevention credits stipulated in 49 CFR 194.105 (b)(4).

The Jet Fuel Pipeline potential spill volumes were assessed by a qualified third party according to the California State Fire Marshall Report: "Hazardous Liquid Pipeline Risk Assessment. The spill volume analysis is included to the Appendix D of this Plan. The analysis was based on the following:

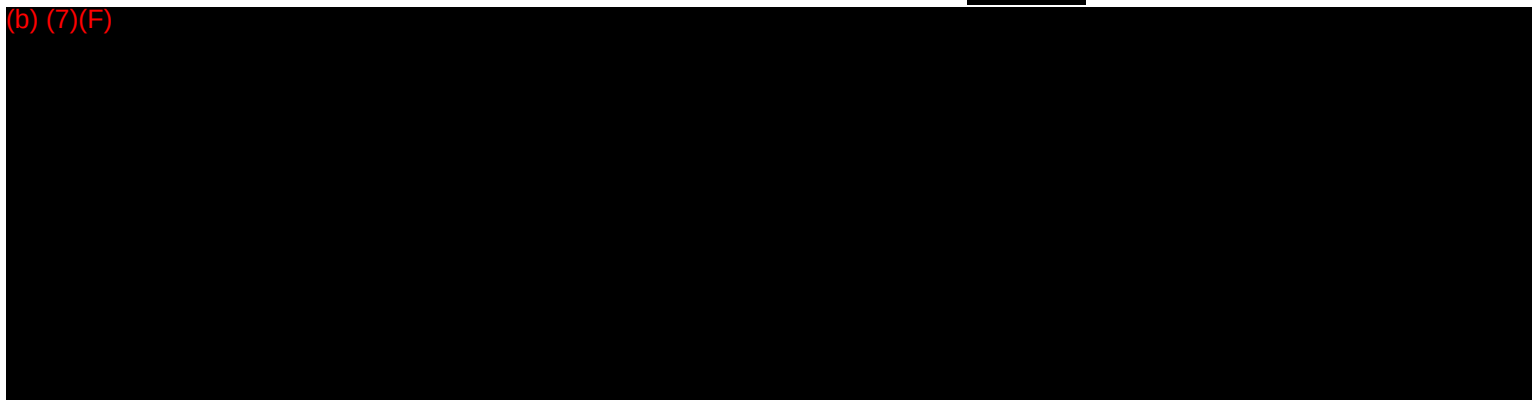
1. Length of time to detection,
2. System reaction time,
3. Valve close time and pipeline/fluid decompression, and

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

4. Pipeline drainage.

In addition to evaluating a leak at maximum pressure, the AFSC Jet Fuel Pipeline was evaluated at a static operational pressure, and both pressures were a pinhole leak and guillotine failure. The maximum calculated discharge volume is (b) (7)(F)

(b) (7)(F)



5.4 Determination of EPA Volume

The WCD planning volume for the AFSC facilities was calculated using the worksheet in Appendix D 40 CFR 112 (located in Appendix D of this plan). The tanks at Off-Airport Fuel Facility and the Airport Storage Facility are not manifolded together to operate as one unit and all tanks at both facilities have adequate secondary containment. Therefore, the worst case discharge planning volume is based on the capacity of the largest oil storage tank. The volume of the largest storage tank is (b) (7)(F).

5.5 EPA Volumes for Small and Medium Discharges

For small and medium discharges, the planning volumes are ≤ 50 barrels (2,100 gallons) for small discharge, and ≤ 857 barrels (36,000 gallons) or 10% of the WCD volumes, whichever is less, for a medium discharge. (b) (7)(F)
(b) (7)(F); therefore, the planning volume for medium discharge is 857 barrels.

5.6 USCG Average Most Probable and Maximum Most Probable Discharge

Per 33 CFR 154.1035(b)(2)(i) the WCD for the MRT facility is (b) (7)(F) the capacity of the largest tank. The average most probable discharge planning volume is ≤ 50 bbl or 1% of the worst case discharge ((b) (7)(F)) whichever is less. Therefore, for the AFSC MRT facility it is 50 bbl. The maximum most probably is 1,200 bbl or 10% of the worst case discharge (1(b) (7)(F)). Therefore the maximum most probable discharge planning volume is 1,200 bbl.

Appendix A: Regulatory Compliance

USCG Regulatory Cross-Reference

USCG Cross-Reference Table		
Note: This plan is formatted to comply with Alaska regulations at 18 AAC 75 Oil and Hazardous Substance Pollution Control Regulations. This table cross-references this plan to USCG regulations at 33 CFR Part 154.		
USCG Reference (33 CFR 154)	Description	AFSC Response Plan Section
1035(a)(1)	Name and Address	Introduction
1035(a)(2)	Physical Location	Introduction
1035(a)(3)	24-hour Contact	Introduction
1035(a)(4)	Table of Contents	Introduction
1035(a)(5)	Cross-Reference	This Section
1035(a)(6)	Record of Changes	Introduction
1035(b)	Notification Procedures	Section 1.1 and 1.2
1035(b)(1)(i)A & B	Emergency Contacts	Section 1.1 and Tables 1.2-1 and 1.2-2
1035(b)(1)(ii)	Spill Report Form	Section 1.2 and Figure 1.2-1 and 1.2-2
1035(b)(2)(i)	Discharge Volumes	Part 5
1035(b)(2)(ii)	Spill Mitigation	Section 1.6.1.1
1035(b)(2)(iii)	Equipment & Responsibilities	Section 1.1, 1.6, 3.3, 3.6
1035(b)(3)(i)	Initial Supervision	Section 1.1
1035(b)(3)(ii)	Qualified Individuals	Section 1.1, 3.3
1035(b)(3)(iii)	Incident Command	Section 3.3
1035(b)(3)(iv)	Response Contractor	Section 3.8
1035(b)(3)(v)	Spill Management Team	Table 1.2-1 and Section 3.3
1035(b)(4)(i)	Identify Sensitive Areas	Section 3.10, Figure 1.8-1 and Figure 1.6-3
1035(b)(4)(ii)	WCD Sensitive Areas	Section 3.10, Scenario 1

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

USCG Cross-Reference Table		
Note: This plan is formatted to comply with Alaska regulations at 18 AAC 75 Oil and Hazardous Substance Pollution Control Regulations. This table cross-references this plan to USCG regulations at 33 CFR Part 154.		
USCG Reference (33 CFR 154)	Description	AFSC Response Plan Section
		and Figure 1.6-1.
1035(b)(4)(iii)	WCD Protection of Sensitive Areas	Section 1.6.2.1 Scenario #1 and Section 3.10
1035(b)(5)	Disposal Plan	Section 1.6
1035(c)	Training and Exercises	Section 2.2.1 and Section 3.9
1035(c)(1)	Training Procedures	Section 2.2.1 and Section 3.9.2
1035(d)	Plan Review and Update	Introduction, Section 3.9.3
1035(e)(1)(i)	Facility Description	Section 1.8 and 3.1
1035(e)(1)(ii)	Size, type and number of vessel	Section 3.1
1035(e)(1)(iii)	First Valve	Figure 1.8-2
1035(e)(1)(iv)	MSDS Information	Section 1.3
1035(e)(1)(v)	Other Information: Hazard Evaluation & Spill History	Section 2.4, 2.5, 3.2 & Section 2.3
1035(e)(2)(i)	Contact Qualified Individuals	Section 1.2
1035(e)(2)(ii)	Contact Response Contractor	Section 1.2
1035(e)(2)(iii)	Contact Agencies	Section 1.2
1035(e)(3)(i)	Facility Response Personnel	Section 1.2
1035(e)(3)(ii)	Response Equipment List	Section 1.6 and 3.6
1035(e)(3)(iii)	Spill Response Contractor	Section 1.6 and 3.8
1035(e)(4)	Communications Plan	Section 1.4
1035(e)(5)	Health and Safety Plan	Section 1.3
1035(e)(6)	Acronyms	Appendix B

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

EPA Regulatory Cross-Reference

EPA Cross Reference Table		
Note: This plan is formatted to comply with Alaska regulations at 18 AAC 75 Oil and Hazardous Substance Pollution Control Regulations. This table cross-references this plan to EPA regulations at 40 CFR Part 112.		
EPA Reference (40 CFR 112)	Description	AFSC Response Plan Section
112.7(d)(1)	Statement of Corporate Commitment	Introduction
112.20(g)	EPA-Cross-Reference	Appendix A
112.20(h)(1)	Emergency Response Action Plan	Part 1 (Sections 1.1 through 1.8)
112.20(h)(1)(i)	Qualified Individuals	Section 1.1, 1.2, 3.3
112.20(h)(1)(ii)	Spill Notification List	Section 1.2
112.20(h)(1)(iii)	Reportable Spill Information	Section 1.2
112.20(h)(1)(iv)	Response Equipment & its Locations	Section 1.8 and 3.6
112.20(h)(1)(v)	Response Personnel Capabilities	Section 1.1, 3.3, 3.9
112.20(h)(1)(vii)	Evacuation Plans	Section 1.3, 1.8
112.20(h)(1)(viii)	Secure the Source	Section 1.6
112.20(h)(2)	Facility Information	Section 1.8, 3.1
112.20(h)(3)	Information about Emergency Responses	Section 1.1
112.20(h)(3)(i)	Identity of Private Personnel and Equipment	Section 3.8
112.20(h)(3)(ii)	Contracts	Section 3.8
112.20(h)(3)(iii)	Individuals/Organizations Contact List	Section 1.2
112.20(h)(3)(iv)	Reportable Spill Information	Section 1.2
112.20(h)(3)(v)	Response Personnel Capabilities	Section 1.1, 3.3, 3.9
112.20(h)(3)(vi)	Facility's Response Equipment	Section 1.8 and 3.6

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

EPA Cross Reference Table		
Note: This plan is formatted to comply with Alaska regulations at 18 AAC 75 Oil and Hazardous Substance Pollution Control Regulations. This table cross-references this plan to EPA regulations at 40 CFR Part 112.		
EPA Reference (40 CFR 112)	Description	AFSC Response Plan Section
112.20(h)(3)(vii)	Plans for Evacuation of Facility	Section 1.3 and 1.8
112.20(h)(3)(viii)	Diagram of Evacuation Routes	Section 1.8
112.20(h)(3)(ix)	Duties of the Qualified Individual	Section 1.1 and 3.3
112.20(h)(4)	Hazard Evaluation	Section 2.5 and 3.2
112.20(h)(5)	Response Planning Levels	Part 5
112.20(h)(6)	Discharge Detection Systems	Section 2.6
112.20(h)(7)	Plan Implementation	Part 1
112.20(h)(7)(i)	Response Actions to be Carried Out	Section 1.1, 1.6
112.20(h)(7)(ii)	Scenario	Section 1.6
112.20(h)(7)(iii)	Waste Disposal	Section 1.6
112.20(h)(7)(iv)	Adequate Containment and Drainage	Section 1.6
112.20(h)(8)	Drills/Exercises & Response Training	Section 3.9
112.20(h)(9)	Diagrams	Section 1.8
112.20(h)(10)	Security Systems	Section 2.2.3
112.20(h)(11)	Response Plan Cover Sheet	Introduction

RSPA Regulatory Cross-Reference

RSPA Cross-Reference Table		
Note: This plan is formatted to comply with Alaska regulations at 18 AAC 75 Oil and Hazardous Substance Pollution Control Regulations. This table cross-references this plan to RSPA regulations at 40 CFR Part 194.		
RSPA Reference (40 CFR 194)	Description	AFSC Response Plan Section
194.107(c)(i)	Information Summary	Introduction
194.107(c)(ii)	Notification Procedures	Section 1.2
194.107(c)(iii)	Spill Detection & Mitigation Procedures	Section 1.6 & 2.6
194.107(c)(iv)	OSRO Information	Section 3.8
194.107(c)(v)	Response Activities and Resources	Section 1.6 & 3.6; Chadux Oil Spill Response Manual
194.107(c)(vi)	Agency Contact Numbers	Section 1.2
194.107(c)(vii)	Training Procedures	Section 3.9
194.107(c)(viii)	Equipment Testing	Section 2.1, 3.6 & 3.9
194.107(c)(ix)	Drill types, schedule & procedures	Section 3.9
194.107(c)(x)	Plan review and update	Introduction, Section 3.9

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

Appendix B: Acronyms & Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
AFSC	Anchorage Fueling and Service Company
ARRT	Alaska Regional Response Team
AS	Alaska Statute
ASIG	Aircraft Service International Group
AST	Alaska State Troopers
Bbl	Barrel
BBASSI	BB Aviation Shared Services, Inc.
Bpd	Barrels per day
Bpm	Barrels per minute
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
EDRC	Estimated Daily Recovery Capacity
EDRR	Estimated Daily Recovery Rate
EHS	Extremely Hazardous Substance
EOC	Emergency Operations Center
EOP	Emergency Operation Plan
EPA	United States Environmental Protection Agency
ESD	Emergency Shut-Down
ETA	Estimated time of arrival
FAA	Federal Aviation Administration
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan
Gal	Gallon
Gpd	Gallons per day
Gpm	Gallons per minute
GRS	Geographic Response Strategy
Hazmat	Hazardous Materials
HSE	Health, Safety & Environment
HSPD	Homeland Security Presidential Directive

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

IC	Incident Commander
ICS	Incident Command System
IMT	Incident Management Team
JFO	Joint Field Office
JIC	Joint Information Center
LEPC	Local Emergency Planning Committee
LOSC	Local On-Scene Coordinator
MAC	Multi-Agency Coordination Group
MSD	Marine Safety Detachment (US Coast Guard unit)
MSDS	Material Safety Data Sheet
MTR	Marine Transportation Related
NCP	National Contingency Plan
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
NRP	National Response Plan
NRT	National Response Team
NWS	National Weather Service
ODPCP	Oil Discharge Prevention and Contingency Plan
O&M	Operations and Maintenance
OSC	On-Scene Coordinator
PIO	Public Information Officer
PL	Public Law
POA	Port of Anchorage
POAVY	Port of Anchorage Valve Yard
PPE	Personal Protective Equipment
QI	Qualified Individual
RAP	Response Action Plan
RMROL	Realistic Maximum Response Operating Limitation
RP	Responsible Party
RRT	Regional Response Team
SCADA	Supervisory Control and Data Acquisition
SCP	Subarea Contingency Plan
SOCT	Statement of Contractual Terms

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

SOP	Standard Operating Procedure
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention Control and Countermeasures
SSC	Scientific Support Coordinator
SSP	Standard Safety Programs
STAR	Spill Tactics for Alaska Responders
US	United States
USCG	United States Coast Guard
USDOT	United States Department of Transportation
VRP	Vessel Response Plan

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page is intentionally blank.

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Appendix C: Response Team Call-Out List

ASIG Spill Response Team				
Name	Response Role	Office	(b) (6)	Mobile
Qualified Individual				
Trent Carbaugh	Qualified Individual	249-4201		227-0882
Marc McCafferty	Alternate QI	249-4202		952-6505
Michael Farris	Alternate QI	249-4220		250-6155
Spill Management Team Members				
Blaine Anderson	Operations	249-4209		952-6623
Mark Bennett	Safety Officer	249-4223		
Weston Bennett	Logistics Section Chief	249-4204		301-2897
Jim Blair	Operations	249-4230		444-2904
Dave Colrud	Pipeline Locates	249-4241		230-5945
Ralph Comeau	Operations	249-4240		
Amber Deem	Planning Section Chief	249-4205		240-3137
Mike Kennell	Operations	249-4240		
Tom MacVeigh	Operations	249-4243		301-5158
Bert Mattingly	Admin. Section Chief	249-4203		602-4354
Robert Ney	Operations	249-4240		242-4719
Moe Rounds	Safety Officer	249-4222		
Mitch Rucker	Safety Officer	249-4227		360-0208
Jeremy Sonnetag	Operations	249-4240		972-835-0004
Spill Response Team Members				
Romeo Bacod	Field Response	248-5000		
Ric Bacod	Field Response	248-5000		317-0383
Steven Bell	Field Response	248-5000		830-1620
Richard Bello	Field Response	248-5000		
Bryan Banda	Field Response	248-5000		350-4328
Lloyd Banda	Field Response	248-5000		
Randy Christiansen	Field Response	248-5000		317-4394
David Cline	Field Response	248-5000		360-1582
Josh Comeau	Field Response	248-5000		317-6112
Mike Decarli	Field Response	248-5000		351-1676
Bruce Deruelle	Field Response	248-5000		632-9001
Dave Eimers	Field Response	248-5000		
Cassie Evans	Field Response	248-5000		830-6450
Justin Grimes	Field Response	248-5000		947-2089
Charles James	Field Response	248-5000		360-0497
Brett Larson	Field Response	248-5000		331-8875
Mark Lavallee	Field Response	248-5000		240-7834
Tim Lewis	Field Response	248-5000		
James Newsom	Field Response	248-5000		

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

ASIG Spill Response Team				
Name	Response Role	Office	(b) (6)	Mobile
Ferdinand Mendoza	Field Response	248-5000		
Danny Montgomery	Field Response	248-5000		317-8451
Karl Morgan	Field Response	248-5000		863-8332
Randy Price	Field Response	248-5000		
Ross Rademan	Field Response	248-5000		
Aaron Rathbone	Field Response	248-5000		952-9945
Kyle Sattner	Field Response	248-5000		317-9144
Enrico Sy	Field Response	248-5000		444-6254
Mike Tubbs	Field Response	248-5000		
*Indicates outside Anchorage.				

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Appendix D: Worst Case Discharge Planning

WCD EPA Worksheet

Attachment E-1 -- Worksheet to Plan Volume of Response Resources for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D)

(b) (7)
(F)

(A)

Step (B) Oil Group¹ (Table 3 and section 1.2 of this appendix)

1

Step (C) Operating Area (choose one)

X

Near
shore/Inla
nd Great
Lakes

or Rivers
and
Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to
Natural Dissipation

80

(D1)

Percent Recovered
Floating Oil

20

(D2)

Percent
Oil Onshore

10

(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2)} \times \text{Step (A)}}{100}$

100

(b) (7)(F)

(E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3)} \times \text{Step (A)}}{100}$

100

(b) (7)(F)

(E2)

Step (F) Emulsification Factor

(Table 3 of this appendix)

1.0

(F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor

(Table 4 of this appendix)

Tier 1

0.15

(G1)

Tier 2

0.25

(G2)

Tier 3

0.40

(G3)

¹ A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Attachment E-1 (continued) -- Worksheet to Plan Volume of Response Resources for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
(b) (7)(E)		
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels)

(b) (7)(F)

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area (Table 5 of this appendix) (Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
10,000	20,000	40,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
0	0	0
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

AFSC Pipeline Project Spill Volume Analysis

AFSC Crosstown Pipeline Project

Spill Volumes Analysis

Submitted to

***CONAM Construction Company
Anchorage, Alaska***

Submitted by

Baker



***Michael Baker Jr., Inc.
Anchorage, Alaska***

January, 1998

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

Table of Contents

Executive Summary	3
1.0 Introduction.....	4
2.0 Pipeline Description.....	4
3.0 Pipeline Leak Scenarios.....	4
4.0 Spill Volume Determination.....	5
4.1 Jet Fuel Spill Volume Prior to Leak Detection	6
4.2 Jet Fuel Spill Volume During Reaction	7
4.3 Jet Fuel Spill Volume During Valve Closure and Pipeline Shutdown.....	8
4.4 Jet Fuel Spill Volume Due to Pipeline Draindown	9
4.5 Jet Fuel Spill Volume Summary	10
5.0 Summary and Conclusion.....	11

Figures

Figure 1 – Elevation for Leak at Line Marker 8350'

Figure 2 – Elevation for Leak at Line Marker 18,100'

Appendix:

Elevation & Leak Drawings
Calculation Spreadsheets

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

Executive Summary

The volumes of jet fuel from a pipeline leak are evaluated and compared using the methodology outline by the California State Fire Marshall Report: "Hazardous Liquid Pipeline Risk Assessment." Two types of leaks are evaluated: a pinhole leak and a guillotine failure. These are described in Section 3.0.

The four contributing components to pipeline spillage considered in the evaluation are:

1. Jet fuel spilled during length of time to detection.
2. Jet fuel spilled during system reaction time.
3. Jet fuel spilled during valve closure time and pipeline/fluid decompression.
4. Jet fuel spilled during pipeline draindown.

The pinhole leak case is considered the more likely spill scenario. Four classes of pinhole leaks are analyzed:

1. Leaks with release rates below the static leak detection limit.
2. Leaks with release rates above the static leak detection limit.
3. Leaks with release rates below the dynamic leak detection limit.
4. Leaks with release rates above the dynamic leak detection limit.

The largest component of spill volume for all pinhole leak scenarios other than a spill with a leak rate below the static leak detection threshold is jet fuel spilled during pipeline drainage.

The guillotine failure is considered an extremely unlikely scenario. For this case, the last spill component, jet fuel spilled during draindown, is the largest component contributing to total projected spill volume by an order of magnitude over any other component. "Sags" in the pipeline minimize the volume of jet fuel spilled by effectively blocking jet fuel in "pools" in the pipeline on the opposite side of the sags. A "sag" works much like a hydraulic trap to prevent air from entering the portion of the pipe away from the leak.

It is concluded that the pipeline "sags" will minimize spill volumes during spill events. There are numerous natural dips or depressions along the mudflats portion of the pipeline that would minimize the volume of any spill that might occur.

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

1.0 Introduction

The purpose of this study is to investigate and determine the volume of jet fuel spill for the condition of a pipeline leak. This study concentrates on leaks occurring in the mud flats crossing section of the pipeline. Two leak locations are evaluated at Line Marker (LM) 8350' and LM 18,100'. These locations include the lowest elevation point along the pipeline, 4' at LM 8350' and the lowest elevation in the longest draining portion of the pipeline, 5' at LM 18,100'. These locations are expected to yield a worst case spill scenario from a "volume" standpoint.

2.0 Pipeline Description

The crosstown pipeline is routed below ground across the mud flats between Ship Creek and Pt. Woronzof. The pipeline is fabricated using 12-inch diameter line pipe. The pipe wall thickness of the mud flats crossing portion is 0.500 inches. The remainder of the pipeline which is located on higher ground has a pipe wall thickness of 0.375 inches.

The liquid transported by the pipeline is Aviation Turbine Kerosene – Jet Fuel "A". The fuel properties used for this study are a Specific Gravity of 0.81, Viscosity of 5 centiStokes (cSt), and a vapor pressure of 2 psia @ 100°F. The vapor pressure of the fuel will be lower at its operating temperature in the 30° to 40°F range. The low vapor pressure contributes to the vapor locking action of pipeline sags in reducing the amount of fuel that drains during a leak event.

3.0 Pipeline Leak Scenarios

This report conservatively assumes that any pipeline failure mechanisms would result in either:

1. A pinhole leak below the static leak detection system limit, or
2. A pinhole leak above the static leak detection system limit, or
3. A pinhole leak below the dynamic leak detection system limit, or
4. A pinhole leak above the dynamic leak detection system limit, or
5. A guillotine failure.

The pinhole leak represents the maximum risk from a difficulty of detection. The guillotine failure represents the maximum spill volume per unit time. The evaluation and comparison of both options spans the range of risk for the pipeline. Both cases are investigated for the two flow rates in this study.

Pinhole leaks can range in size from a true pinhole, perhaps caused by weld porosity or corrosion pitting, to a cracked weld or leaking valve fitting. As the name implies, this

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

type of leak is often very small and usually very difficult to detect. As a result they can exist until the threshold of the leak detection system is crossed or they are visually discovered. This can result in jet fuel releases significantly greater than for any other type of leak. However, the static leak detection system that will be used minimizes the spill volumes for this type of leak.

Guillotine cuts, visualized as the complete severing of a pipeline, can result in fairly large volumes of jet fuel spilled. This type of leak is a catastrophic failure and can be caused by human activity such as construction accidents, pipe rupture due to overpressure, or pipe failure due to defects in the material or earth movement due to seismic events.

The potential for catastrophic failure due to human activity on the mud flats is low since the pipeline is routed cross-country; not adjacent to any roads or work sites. The risk of failure due to overpressure is also low due to the design safety factors incorporated into the material and structural design. Pressure surges are the likely source of overpressure and they have been accounted for in the design of the line and the various support systems. Pipe failure due to defects in the material, requires that a manufacturing or construction defect occur simultaneously with high pipe stress. The intent of hydrotesting is to identify these flaws since the maximum operating stresses are less than the hydrotest stresses.

The last possible cause of a guillotine failure, seismic effects on the pipeline, is discussed in another study.

While the probability of catastrophic failure is remote, the nature of catastrophic pipeline failures allows them to be quickly detected by the leak detection system.

4. Spill Volume Determination

In the event of a pipeline failure, the amount of jet fuel spilled is the sum of several components. This report uses component descriptions similar to those given in the California State Fire Marshall Report "Hazardous Liquid Pipeline Risk Assessment". They are as follows:

1. Length of time to detection,
2. System reaction time,
3. Valve close time and pipeline/fluid decompression, and
4. Pipeline drainage.

The major contributor to the volume of jet fuel spilled due to a catastrophic pipeline failure is the pipeline depressuring and pipeline drainage. Due to the nature of the failure, the volume spilled prior to detection would be relatively small. On the other hand, the major contributor to the volume of jet fuel spilled due to a pinhole leak is the length of

AFSC Croastown Pipeline Project: Jet Fuel Spill Volumes Analysis

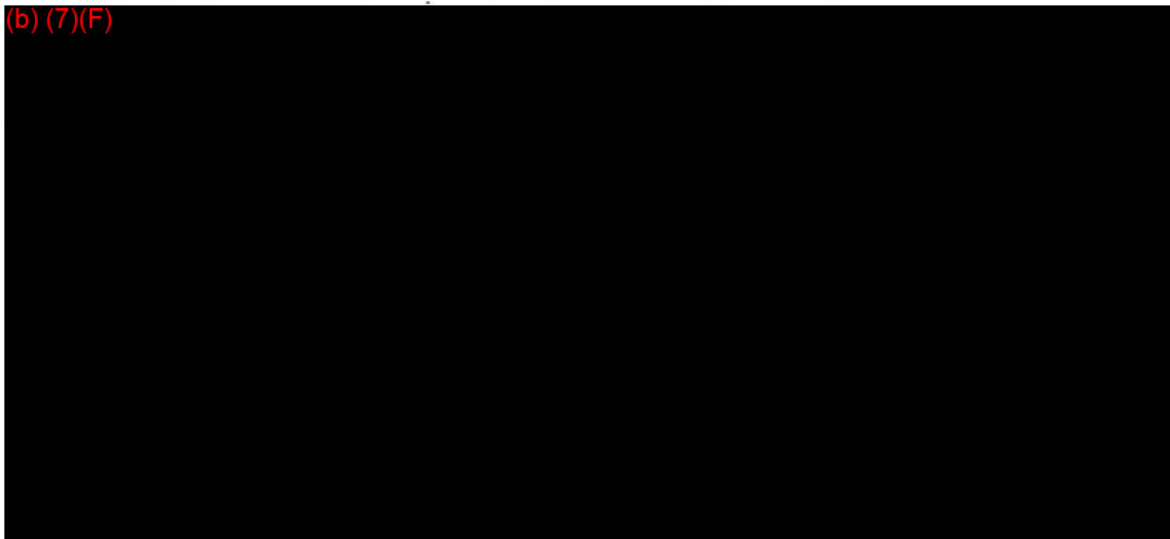
time to detection, since the very low leak rates can be lower than detection threshold of the leak detection system.

The potential leak scenarios have been modeled with the commercial software package, NATASHA (Network Algorithm for Transient And Steady Hydraulic Analysis) and Microsoft Excel. Various leak scenarios, including reaction times and the potential leak scenarios, were modeled using the software.

4.1 Jet Fuel Spill Volume Prior to Leak Detection

The length of time to detection is dependent on the sensitivity and detection threshold of the detection system and the spill flow rate. As a result, dependence on the leak detection system alone could allow pinhole leaks to go undetected for days. Visual inspections play a major role in detection of very small leaks. The route across the mud flats will assist visual detection. The fuel is lighter than water and will rise to the top of the mud flats displaying a visible sheen that would indicate a leak.

(b) (7)(F)



Previous studies of leak detection systems have used a 0.35% of flow dynamic leak detection limit. With a 0.35% of flow leak detection level the system's dynamic leak detection threshold for a pinhole leak is approximately 4.1 gallons per minute or 140 bbls per day for a flowrate of 40,000 BPD. In comparison, any leak above the detection thresholds would be quickly detected resulting in a lower volume of jet fuel spilled before detection.

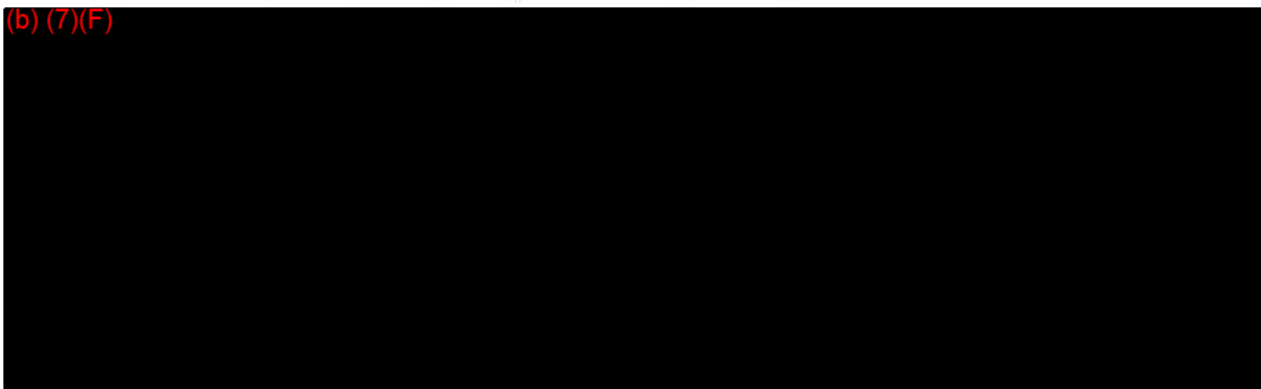
AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

**Volume of Jet Fuel Spilled Before Detection
(bbls)**

	Leak Location	
	<i>LM 8350'</i>	<i>LM 18,100'</i>
40,000 BPD Flowrate		
Pinhole under Static Threshold	111	111
Pinhole over Static Threshold	5.4	5.4
Pinhole under Dynamic Threshold	139	139
Pinhole over Dynamic Threshold	0.10	0.10
Catastrophic Failure	16.9	16.9
68,600 BPD Flowrate		
Pinhole under Static Threshold	111	111
Pinhole over Static Threshold	5.4	5.4
Pinhole under Dynamic Threshold	239	239
Pinhole over Dynamic Threshold	0.17	0.17
Catastrophic Failure	27.2	27.2

4.2 Jet Fuel Spill Volume During System Reaction

(b) (7)(F)



AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

**Volume of Jet Fuel Spilled During System Reaction
(bbls)**

	Leak Location	
	<i>LM 8350'</i>	<i>LM 18,100'</i>
40,000 BPD Flowrate		
Pinhole under Static Threshold	0.00	0.00
Pinhole over Static Threshold	0.00	0.00
Pinhole under Dynamic Threshold	0.00	0.00
Pinhole over Dynamic Threshold	0.00	0.00
Catastrophic Failure	0.90	0.90
68,600 BPD Flowrate		
Pinhole under Static Threshold	0.00	0.00
Pinhole over Static Threshold	0.00	0.00
Pinhole under Dynamic Threshold	0.01	0.01
Pinhole over Dynamic Threshold	0.01	0.01
Catastrophic Failure	1.60	1.60

4.3 Jet Fuel Spill Volume During Valve Closure and Pipeline Depressurizing

The major contributor to the volume of jet fuel spilled due to a pinhole leak is the amount spilled before detection. After a leak is detected the pipeline can be quickly shutdown and depressured thus eliminating the motive force for the spill. As noted previously the pump runtime is a function of the system response time.

(b) (7)(F)

There are two components to the volume of jet fuel spilled due to a pipeline depressuring to atmospheric pressure. They are the elasticity of the pipeline and the compressibility of the jet fuel in the pipeline. The pipeline elasticity portion is comprised of hoop stress expansion and longitudinal expansion, both due to internal pressure.

(b) (7)(F)

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

is extra fluid in the pipeline due to slight compression of the fluid and small expansion of the pipeline itself from the internal liquid pressure).

This study assumes that the entire line pack escapes during this phase for pinhole leaks. For guillotine cuts the line pack escapes immediately after the rupture during the time to detection phase.

**Volume of Jet Fuel Spilled During Valve Closure and Pipeline Depressuring
(bbls)**

	Leak Location	
	LM 8350'	LM 18,100'
40,000 BPD Flowrate		
Pinhole under Static Threshold	3.06	3.06
Pinhole over Static Threshold	3.06	3.06
Pinhole under Dynamic Threshold	3.07	3.07
Pinhole over Dynamic Threshold	3.07	3.07
Catastrophic Failure	13.89	13.89
68,600 BPD Flowrate		
Pinhole under Static Threshold	3.06	3.06
Pinhole over Static Threshold	3.06	3.06
Pinhole under Dynamic Threshold	3.35	3.35
Pinhole over Dynamic Threshold	3.35	3.35
Catastrophic Failure	23.8	23.8

4.4 Jet Fuel Spill Volume Due to Pipeline Draindown

Pipeline drainage can be the largest contributor to total pipeline spill volumes. The purpose of isolation block valves is to limit the volume of jet fuel spilled due to drainage. However, their effectiveness depends on the valve close time. Actuated block valves are very effective in reducing the volume due to drainage for large leaks. However, pipeline drainage contributes little to the total spill volume associated with pinhole leaks.

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

**Volume of Jet Fuel Spilled Due to Pipeline Drainage
(bbls)**

	Leak Location	
	<i>LM 8350'</i>	<i>LM 18,100'</i>
40,000 BPD Flowrate		
Pinhole under Static Threshold	13.65	13.65
Pinhole over Static Threshold	13.85	13.85
Pinhole under Dynamic Threshold	358.57	358.57
Pinhole over Dynamic Threshold	363.60	363.60
Catastrophic Failure	443	684
68,600 BPD Flowrate		
Pinhole under Static Threshold	13.65	13.65
Pinhole over Static Threshold	13.85	13.85
Pinhole under Dynamic Threshold	443.00	537.00
Pinhole over Dynamic Threshold	443.00	543.16
Catastrophic Failure	443	684

4.5 Jet Fuel Spill Volume Summary

The total volume of jet fuel spilled in all the scenarios is the sum of the components identified and is shown in the table that follows.

**Total Volume of Jet Fuel Spilled
(bbls)**

	Leak Location	
	<i>LM 8350'</i>	<i>LM 18,100'</i>
40,000 BPD Flowrate		
Pinhole under Static Threshold	128	128
Pinhole over Static Threshold	22	22
Pinhole under Dynamic Threshold	501	501
Pinhole over Dynamic Threshold	367	367
Catastrophic Failure	475	716
68,600 BPD Flowrate		
Pinhole under Static Threshold	128	128
Pinhole over Static Threshold	22	22
Pinhole under Dynamic Threshold	685	779
Pinhole over Dynamic Threshold	447	547
Catastrophic Failure	496	737

AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

5.0 Summary and Conclusions

The four major components that contribute to spill volume are time to detection, response, pipeline depressurization, and pipeline drainage. These have been evaluated for a 40,000 BPD and a 68,600 BPD flowrate. This study evaluated leak volumes associated with pinhole and catastrophic leaks for two different flow rates at two different locations along the pipeline. The leak volumes under the static leak detection case do not change with flowrate, since the detection method uses a non-flowing, pressurized pipeline. For the 40,000 BPD case the pinhole leaks in the dynamic leak detection method are the same for both locations because the line does not drain to its lowest before the line was assumed to be patched. The 68,600 BPD case does reach a maximum draindown point for pinhole leaks at LM 8350', which is shown by the lower leak volumes at this point. A guillotine break at LM 18,100' will result in larger leak volumes regardless of the flowrate.

The size of the pinhole that will allow a leak larger than the static detection system threshold of 5.4 BPD was calculated using a method described in Crane Technical Paper 410. The pinhole size calculated by this method is only 28 thousandths of an inch (0.028") in diameter. Pinhole sizes for all leak scenarios are shown in the calculation sheets in the Appendix.

The pipeline elevation "sags" will reduce spill volumes over a completely level pipeline during a leak. Additional "sags" will further reduce the spill volumes calculated in this report. The survey data along the pipeline route used for this report is incomplete and aerial photos indicate that more "sags" exist than were modeled in this report. The elevation change in each dip should be at least 1-1/2 pipeline diameters below the normal grade of the pipeline to ensure that the sag will not allow air to seep past in a leak situation.

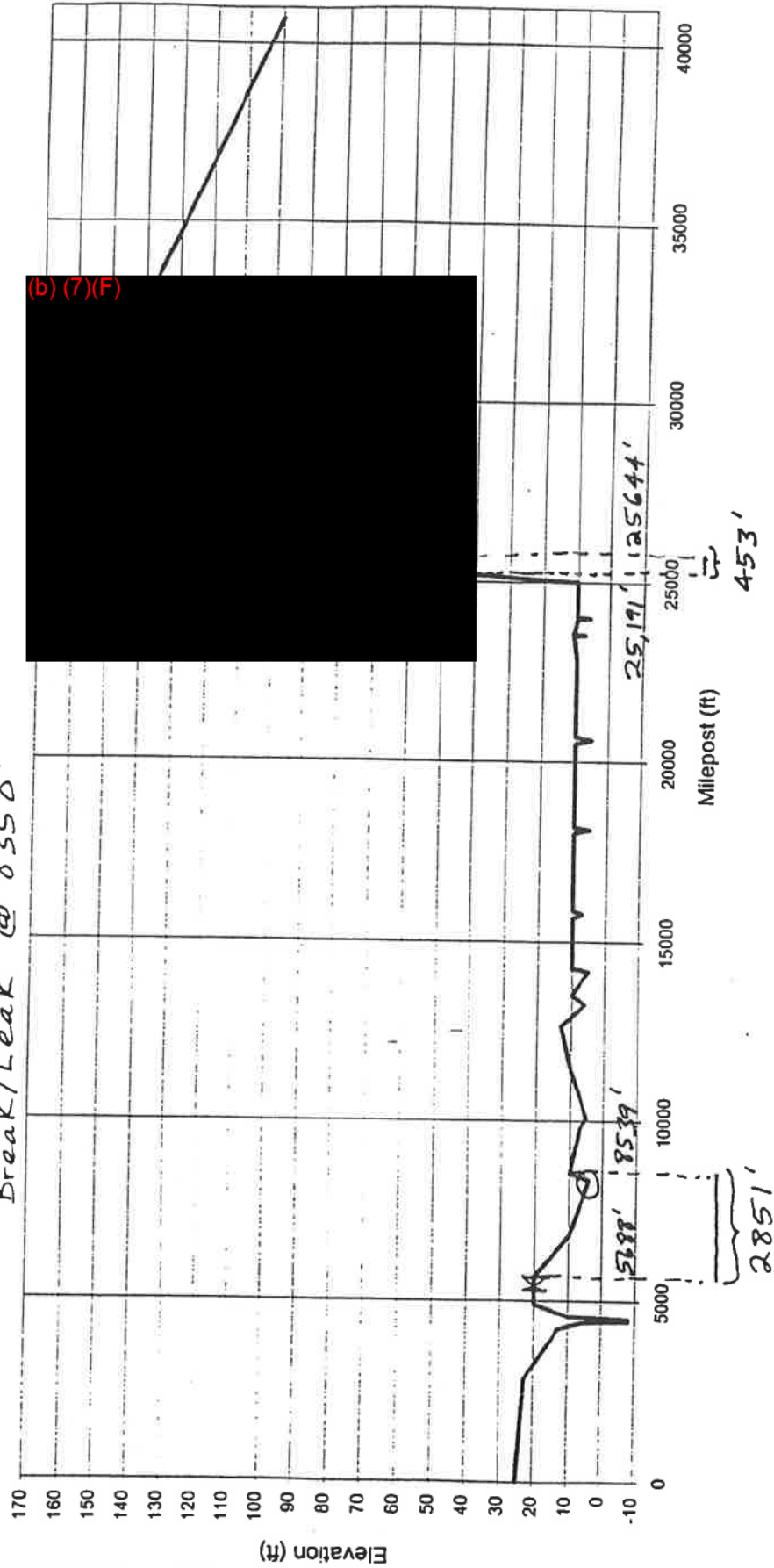
AFSC Crosstown Pipeline Project: Jet Fuel Spill Volumes Analysis

APPENDIX

Elevation & Leak Location Drawings
Calculation Spreadsheets

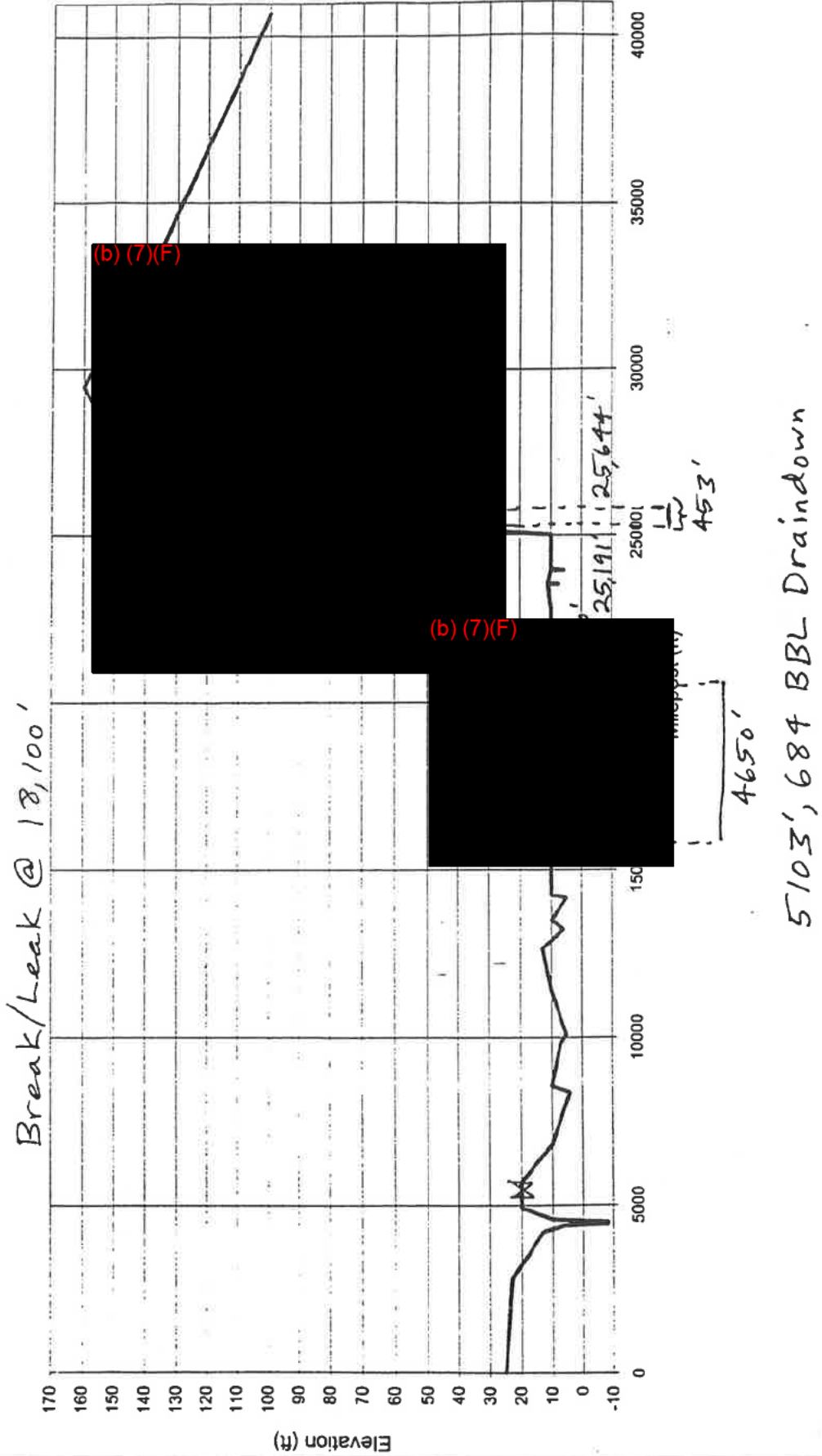
Figure 1: Elevation Profile for CONAM Crosstown Pipeline

Break/Leak @ 8350'



3304', 443 BBL Draindown

Figure 2: Elevation Profile for CONAM Crosstown Pipeline



S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 1
 Drawing No.

Line Configuration: Leak is just below threshold of static leak detection system.

Scenario: Leak is detected during visual surveillance.

Jet Fuel flowrate is 40,000 bpd, threshold is 9.4 gph (5.4 BPD).

Leak Flowrate: 5.3 bbl/day

Leak Flowrate: 0.000061 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
Detection Time (weeks):	3	3
(b) (7)(F)		
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.0279	0.0279
Time to Cap Leak (days):	7	7
Maximum Drindown Volume (bbl)	443	684

	LM 8,350'		LM 18,100'	
	Event Duration seconds	Volume of Leak BBL	Event Duration seconds	Volume of Leak BBL
Time to Detect Leak	1,814,400	111.3	1,814,400	111.3
(b) (7)(F)				
Drainage	604770	13.65	604770	13.65
Total Volume Leaked (bbl):		128		128

Calculations:

$$\text{Time to Detect Leak Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Reaction Time Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Valve Closure Time \& Line Pack Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPavg/S.G.}) \times \text{time} / 3600 + \text{Line Pack vol.}$$

$$\text{Drainage Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPstab/S.G.}) \times \text{time} / 3600$$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 2
 Drawing No.

Line Configuration: Leak is just above threshold of static leak detection system.

Scenario: Leak is detected during daily test.

Jet Fuel flowrate is 40,000 bpd, threshold is 9.4 gph (5.4 BPD).

Leak Flowrate: 5.5 bbl/day

Leak Flowrate: 0.000064 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
Detection Time (hours):	24	24
(b) (7)(F)		
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.0281	0.0281
Time to Cap Leak (days):	7	7
Maximum Draindown Volume (bbl)	443	684

	LM 8,350'		LM 18,100'	
	Event Duration seconds	Volume of Leak BBL	Event Duration seconds	Volume of Leak BBL
Time to Detect Leak	86400	5.50	86400	5.50
(b) (7)(F)				
Drainage	604770	13.85	604770	13.85
Total Volume Leaked (bbl):		22		22

Calculations:

$$\text{Time to Detect Leak Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Reaction Time Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Valve Closure Time \& Line Pack Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPavg/S.G.}) \times \text{time} / 3600 + \text{Line Pack vol.}$$

$$\text{Drainage Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPstab/S.G.}) \times \text{time} / 3600$$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002

Baker

Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Computed SJT Checked Date Jan-98 Sheet No. 3
 Drawing No.

Line Configuration: Leak is just below threshold of dynamic leak detection system.

Scenario: Leak is detected during daily test.

Jet Fuel flowrate is 40,000 bpd, threshold is 0.35% of flowrate.

Leak Flowrate: 139 bbl/day

Leak Flowrate: 0.001609 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
Detection Time (hours):	24	24
(b) (7)(F)		
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.143	0.143
Time to Cap Leak (days):	7	7
Maximum Draindown Volume (bbl)	443	684

	LM 8,350'		LM 18,100'	
	Event Duration seconds	Volume of Leak BBL	Event Duration seconds	Volume of Leak BBL
Time to Detect Leak	86400	139	86400	139
(b) (7)(F)				
Drainage	604770	358.57	604770	358.57
Total Volume Leaked (bbl):	501		501	

Calculations:

$$\text{Time to Detect Leak Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Reaction Time Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Valve Closure Time \& Line Pack Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(dP_{\text{avg}}/S.G.) \times \text{time} / 3600 + \text{Line Pack vol.}$$

$$\text{Drainage Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(dP_{\text{stab}}/S.G.) \times \text{time} / 3600$$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 4
 Drawing No.

Line Configuration: Leak is just above threshold of dynamic leak detection system.

Scenario: Leak is detected during normal operation.

Jet Fuel flowrate is 40,000 bpd, threshold is 0.35% of flowrate.

Leak Flowrate: 141 bbl/day

Leak Flowrate: 0.001632 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
(b) (7)(F)		
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.144	0.144
Time to Cap Leak (days):	7	7
Maximum Draindown Volume (bbl)	443	684

LM 8,350'		LM 18,100'	
Event Duration	Volume of Leak	Event Duration	Volume of Leak
seconds	BBL	seconds	BBL

(b) (7)(F)

Drainage	604770	363.60	604770	363.60
Total Volume Leaked (bbl):	367		367	

Calculations:

$$\text{Time to Detect Leak Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Reaction Time Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Valve Closure Time \& Line Pack Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPavg/S.G.}) \times \text{time} / 3600 + \text{Line Pack vol.}$$

$$\text{Drainage Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(\text{dPstab/S.G.}) \times \text{time} / 3600$$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 5
 Drawing No.

Line Configuration: Leak is Guillotine Cut.

Scenario: Leak is detected during normal operation.

Jet Fuel flowrate is 40,000 bpd.

Leak Flowrate: 40000 bbl/day

Leak Flowrate: 0.462963 bbl/second

(b) (7)(F)

LM 8350' LM 18100'

(b) (7)(F)

Line Pack Volume (bbl):	3.06	3.06
Draindown Vol. (bbl):	443	684

LM 8,350'		LM 18,100'	
Event Duration	Volume of Leak	Event Duration	Volume of Leak
seconds	BBL	seconds	BBL

(b) (7)(F)

Drainage	**	443	**	684
Total Volume of Leak (bbl):		475		716

Calculations:

Time to Detect Leak & Line Pack Vol = Qleak*time + Line Pack Vol.

Reaction Time Vol = Qleak*time

Valve Closure Time Vol = Qleak*time

Drainage Vol is calculated separately

*Line Pack is assumed to completely leak out of the guillotine cut immediately after leak starts.

**Drain down is assumed total before response crew can cap break ends.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 6
 Drawing No.

Line Configuration: Leak is just below threshold of dynamic leak detection system.

Scenario: Leak is detected during daily test using static leak detection system.

Jet Fuel flowrate is 68,600 bpd, threshold is 0.35% of flowrate.

Leak Flowrate: 239 bbl/day

Leak Flowrate: 0.002766 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
Detection Time (hours):	24	24
Depressure Time (sec):	30	30
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.175	0.175
Time to Cap Leak (days):	7	7
Maximum Draindown Volume (bbl)	443	684

LM 8,350'		LM 18,100'	
Event Duration	Volume of Leak	Event Duration	Volume of Leak
seconds	BBL	seconds	BBL

(b) (7)(F)

Drainage	604770	443.00	604770
			537.00
Total Volume Leaked (bbl):	685		779

Calculations:

$$\text{Time to Detect Leak Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Reaction Time Vol} = Q_{\text{leak}} \times \text{time}$$

$$\text{Valve Closure Time \& Line Pack Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(dP_{\text{avg}}/S.G.) \times \text{time}/3600 + \text{Line Pack vol.}$$

$$\text{Drainage Vol} = 25.5676 \times \text{dia}^2 \times \text{SQRT}(dP_{\text{stab}}/S.G.) \times \text{time}/3600$$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 7 Drawing No.

Line Configuration: Leak is just above threshold of dynamic leak detection system.

Scenario: Leak is detected during normal operation.

Jet Fuel flowrate is 68,600 bpd, threshold is 0.35% of flowrate.

Leak Flowrate: 241 bbl/day

Leak Flowrate: 0.002789 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
(b) (7)(F)		
Pressure After Shutdown (psig):	13.5	13.5
Specific Gravity of Fuel Oil:	0.81	0.81
Diameter of Leak Hole (inches):	0.176	0.176
Time to Cap Leak (days):	7	7
Maximum Draindown Volume (bbl)	443	684

	LM 8,350'		LM 18,100'	
	Event Duration	Volume of Leak	Event Duration	Volume of Leak
	seconds	BBL	seconds	BBL
(b) (7)(F)				
Drainage	604770	443.00	604770	543.16
Total Volume Leaked (bbl):		447		547

Calculations:

Time to Detect Leak Vol = Qleak*time

Reaction Time Vol = Qleak*time

Valve Closure Time & Line Pack Vol = $25.5676 \cdot \text{dia}^2 \cdot \text{SQRT}(\text{dPavg/S.G.}) \cdot \text{time} / 3600$ + Line Pack vol.

Drainage Vol = $25.5676 \cdot \text{dia}^2 \cdot \text{SQRT}(\text{dPstab/S.G.}) \cdot \text{time} / 3600$

* Assume Line Pack between valves escapes completely plus leak during valve closure duration.

S.O. No. 23240-002-0000-00002
 Subject: CONAM - AFSC Crosstown Jet Fuel Pipeline
 Spill Volume Calculations

Baker

Computed SJT Checked Date Jan-98 Sheet No. 8
 Drawing No.

Line Configuration: Leak is Guillotine Cut.

Scenario: Leak is detected during normal operation.

Jet Fuel flowrate is 68,600 bpd.

Leak Flowrate: 68600 bbl/day

Leak Flowrate: 0.793981 bbl/second

(b) (7)(F)

	LM 8350'	LM 18100'
(b) (7)(F)		
Line Pack Volume (bbl):	3.3	3.3
Draindown Vol. (bbl):	443	684

LM 8,350'		LM 18,100'	
Event Duration seconds	Volume of Leak BBL	Event Duration seconds	Volume of Leak BBL
2	1.6	2	1.6
**	443	**	684
of Leak (bbl):	496		737

Calculations:

Time to Detect Leak & Line Pack Vol = Qleak*time + Line Pack Vol.

Reaction Time Vol = Qleak*time

Valve Closure Time Vol = Qleak*time

Drainage Vol is calculated separately

*Line Pack is assumed to completely leak out of the guillotine cut immediately after leak starts.

**Drain down is assumed total before response crew can cap break ends.

Appendix E: Qualified Individual Memorandum of Authority

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Appendix F: Site Safety Plan Form

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

This page intentionally blank.


AIRCRAFT SERVICE INTERNATIONAL GROUP™

Site Safety Plan

Incident Name:		Date		Prepared By	
		Time			
Operational Period		Entry Team		Safety Officer	

Site Summary

Site Map: Include work zones, location of hazards, security perimeter, decontamination area, evacuation routes, assembly point, and direction of North.



AIRCRAFT SERVICE INTERNATIONAL GROUP™

Site Safety Plan

Physical Hazards			
☐	Heat Stress	☐	Electrical/Hot Work
☐	Cold Stress	☐	Biological (wildlife, insects)
☐	Fire/explosion	☐	Ergonomic
☐	Slip, trip, fall	☐	Confined Space
☐	Kinetic (vehicles, powered tools, overhead)	☐	Other:

Agent Hazards				
Spilled Material	Air Monitoring Results		Action Level	Health Effects and Symptoms
Jet A	O ₂		<19.5% or > 23.5%	Acute Effects • Contact is mildly irritating to eyes and skin. Prolonged exposure to skin may become severely irritating. • Inhalation may cause nausea, headache and sedation. • Ingestion may be irritating to intestines. may be aspirated into lungs if swallowed, which may result in pulmonary edema and chemical pneumonitis. Subchronic and Chronic Effects • May cause blood changes possibly leading to aplastic anemia. • May cause liver damage. Other Effects • Jet A Fuel contains trace benzene, which is a known carcinogen. Adverse health effects attributed to benzene are not known to occur in humans exposed to jet fuels
	%LEL		> 3%	
	H ₂ S		≥ 10ppm	
	CO			
Other				


AIRCRAFT SERVICE INTERNATIONAL GROUP™

Site Safety Plan

☐ **CONTINUED AIR MONITORING:** Air monitoring will be performed initially and periodically as needed in the breathing zone of the workers using a multi gas meter. The site will be evacuated and workers will not enter if the breathing zone is above an action level. Check if continued air monitoring is required.

☐ **SITE ZONES ESTABLISHED (IF SO ATTACH SITE MAP)**

☐ **PERSONAL PROTECTION REQUIRED:** See checked items below for each task

Task:		
☐ <u>Ventilation:</u> Adequate ventilation should be used to decrease vapor concentrations to below recommended maximum exposure levels.	☐ Hard hat ☐ Safety Glasses ☐ Ear plugs/muffs ☐ Safety vest ☐ Coveralls	☐ Tyvek ☐ Work gloves ☐ Fuel resistant gloves ☐ Work boots ☐ Overboots
Task:		
☐ <u>Ventilation:</u> Adequate ventilation should be used to decrease vapor concentrations to below recommended maximum exposure levels.	☐ Hard hat ☐ Safety Glasses ☐ Ear plugs/muffs ☐ Safety vest ☐ Coveralls	☐ Tyvek ☐ Work gloves ☐ Fuel resistant gloves ☐ Work boots ☐ Overboots


AIRCRAFT SERVICE INTERNATIONAL GROUP™

Site Safety Plan

Task:		
☐ <u>Ventilation:</u> Adequate ventilation should be used to decrease vapor concentrations to below recommended maximum exposure levels.	☐ Hard hat ☐ Safety Glasses ☐ Ear plugs/muffs ☐ Safety vest ☐ Coveralls	☐ Tyvek ☐ Work gloves ☐ Fuel resistant gloves ☐ Work boots ☐ Overboots
Task:		
☐ <u>Ventilation:</u> Adequate ventilation should be used to decrease vapor concentrations to below recommended maximum exposure levels.	☐ Hard hat ☐ Safety Glasses ☐ Ear plugs/muffs ☐ Safety vest ☐ Coveralls	☐ Tyvek ☐ Work gloves ☐ Fuel resistant gloves ☐ Work boots ☐ Overboots
Task:		
☐ <u>Ventilation:</u> Adequate ventilation should be used to decrease vapor concentrations to below recommended maximum exposure levels.	☐ Hard hat ☐ Safety Glasses ☐ Ear plugs/muffs ☐ Safety vest ☐ Coveralls	☐ Tyvek ☐ Work gloves ☐ Fuel resistant gloves ☐ Work boots ☐ Overboots



AIRCRAFT SERVICE INTERNATIONAL GROUP™

Site Safety Plan

☐ **DECONTAMINATION REQUIRED:**

☐ Wipe down

☐ Disposable PPE

☐ Other

1. _____

2. _____

☐ **TRAINING REQUIRED:** First responders, defined as the persons taking no further action beyond the notification of the proper authorities of the release, must have eight hours of training or sufficient experience. A person assuming a more aggressive role of approaching the point of release in order to plug, patch, or otherwise stop the release of fuel must have at least 24 hours of Hazardous Waste Operations and Emergency Response (HAZWOPER) Training. All members of the ASIG Incident Management Team have received HAZWOPER and maintain HAZWOPER certification through 8-hour annual refresher training.

☐ **CONTINGENCY PLAN:** _____

EMERGENCY NUMBERS:

Ambulance 911

Providence Hospital 562-2211

Alaska Regional Hospital (24 hour emergency) 264-1222



AIRCRAFT SERVICE INTERNATIONAL GROUP

Site Safety Plan

Signature Page

Prepared By: _____

Briefing time and date: _____

Print Name

Signature

Appendix G: ASIG Spill Trailer Inventories, Chadux Inventory, and Emerald Alaska Inventory

AFSC/Aircraft Service International Group
 Locked and Stored at Airport Storage Facility
SPILL RESPONSE TRAILER INVENTORY

INVENTORIED BY: _____

DATE: _____

	OK	REPLACE
TEAM 2 BOX 1: Exclusionary Booming Team Box		
1 De-con kit		
8 2' stakes		
1 4# sledge hammer		
50 absorbent pads		
1 spade shovel		
24 sand bags		
Tide book		
Tape red & yellow (cloth type)		
1 pair of heavy rubber gloves		
1 pliers (clines)		
1 Utility Knife with extra blades		
1 Flash light with batteries		
TEAM 2 BOX 2		
2 PPE kits		
2 hard hats		
3 rolls of traffic tape		
1 box towel wipes		
1 Nylon rope 100'		
Tide book		
Tape red & yellow (cloth type)		
1 pair of heavy rubber gloves		
1 pliers (clines)		
1 Utility Knife with extra blades		
1 Flash light with batteries		
TEAM 3 BOX 1: Mudflats Response Group		
1 De-con kit		
8 2' stakes		
1 4# sledge hammer		
50 absorbent pads		
1 spade shovel		
24 sand bags		
Tide book		
Tape red & yellow (cloth type)		
1 pair of heavy rubber gloves		
1 pliers (clines)		
1 Utility Knife with extra blades		
1 Flash light with batteries		

TEAM 3 BOX 2		
2 PPE kits		
2 hard hats		
3 rolls of traffic tape		
1 box towel wipes		
1 Nylon rope 100'		
Tide book		
Tape red & yellow (cloth type)		
1 pair of heavy rubber gloves		
1 pliers (clines)		
1 Utility Knife with extra blades		
1 Flash light with batteries		
4 HOSES 2"		
1-12" PLEDGE PIPE REPAIR KIT		
4 LONG HANDLED SHOVELS		
2 SHORT HANDLED SHOVELS		
4 PPE KITS		
6 TRAFFIC CONES		
1-6' LADDER		
30 2'X8'X1/2" WOODEN PLANKS		
40' ABSORBENT BOOM		
1 FIRE EXTINGUISHER		
1 CO2 FIRE EXTINGUISHER		
12' X 100' REINFORCED PLASTIC		
1 PAIR OF BOLT CUTTER		
1 TOOL KIT ASSORTED TOOLS		
10-6' STEEL POST		
1 POST DIVER		
100' RIVER BOOM		
4 DUCK BILLED ANCHORS		
CHAINS AND ROPE FOR ANCHORS CHAINS TENSIONER		
CULVERT 4' X 8'		
2 ICE CHIPPERS		
1 DOZ. SAND BAGS		
1 ROLL REINFORCED VISQUEEN (50FT.)		
T POST DRIVER		
FLOURESCENT TAPE (8 ROLLS)		
FIRST AID KIT		
T POST (12)		
BOOTS		
GLOVES		
REBAR STAKES (1 DOZ)		
4 EACH PIECES OF 4"X10' PLASTIC SEWER PIPE		

Note: Please report any discrepancies with gear, inventory, condition, or need for additional equipment to Amber Deem, 249-4205.

Comments:

AFSC / Aircraft Service International Group

Plant 1 / Monthly Inspection and Inventory Sheet

Emergency Spill Equipment

QTY	ITEMS	ON SITE	REMARKS (Make entry on condition or if missing)
1	ROPE MOP SKIMMER WITH 150' OF 4" ROPE AND GENERATOR (7 GPM)		
1	FLOATING WEIR OIL SKIMMER (KAISER AG-OLEA)		
1	PORTABLE 3" 360 GPM TRASH PUMP		
1	200 feet of 2" HOSE		
1	40' SORBENT BOOM (8" DIAMETER)		
1	300' SORBENT SWEEPS (19"X100'X3/8")		
3	BUNDLES OF SORBENT PADS (18"X18"X3/8")		
2	100' ROLLS CHICKEN WIRE		
2	500' ROLLS 16-GAGE WIRE		
3	PLIERS-WIRE CUTTERS		
1	ROLL HEAVY TWINE		
5	32-GALLON PLASTIC CONTAINERS		
10	6' STEEL STAKES		
24	18" WOODEN STAKES		
2	ROLLS VISQUEEN		
12	ROLLS GARBAGE BAGS		
2	4' X 8' X 1/2" PLYWOOD BOARDS		
4	FLASHER WARNING LIGHTS		
2	LARGE FLASHLIGHTS		
2	SETS CHEST WADERS		
6	HARDHATS		
1	CAMERA WITH FILM (OPS CTR)		
1	FIRST AID KIT		
6	LIFE VESTS		
3	TRAFFIC VESTS		
1	PITCHFORK		
3	ROUND NOSE SHOVELS		
1	SQUARE NOSE SHOVEL		
3	RAKES		
1	3 lb. SLEDGE HAMMER		
1	BATTERY OPERATED BULLHORN		
1	HAND HELD PORTABLE RADIO-MOTOROLA		
1	POST/POLE/STAKE DRIVER		
	ASSORTED HAND AND SHOP TOOLS		

INSPECTED BY: _____

DATE: _____

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Anchorage INVENTORY OF OIL SPILL RESPONSE RESOURCES

Point of Contact: John LeClair
Response Manager
907.348.2365
Alaska Chadux Corporation

ANCHORAGE EQUIPMENT

SORBENT MATERIAL

Absorbent boom	5120	40' per bale
Sorbent pads	112 bales	
Absorbent sweep	4400 ft	100' per bale
Viscous sweep	2800 ft	50' per box

ANCHOR PACKAGES

Anchor packages	20	7 x 22#, 9 x 40#, 4 x 60#
Fast water anchor kit	2	20 individual sand anchors

CONTAINMENT BOOM

Fast water boom	4900 ft	
20 - 26 inch harbor boom	14500 ft	An additional 800' in Whittier
30 inch harbor boom	1000 ft	
44 inch inflatable boom	600 ft	
NOFI Harbor Buster	1	
Shore seal boom	300 ft	

SKIMMERS

Lamor 30 brush skimmer	1	
Lamor 12 brush skimmer	2	
Vikoma 12k skimmer	0	
Manta Ray skimmer	4	
Rope mop, diesel	3	
Rope mop, electric	1	
Desmi Mini Max weir skimmer	1	
Elastec TD-118 grooved drum skimmer	2	
Rovac vacuum unit	1	
Skimpak 18300	2	

PUMPS AND ASSOCIATED ITEMS

Centrifugal pump	6	3 inch
Diaphragm pump	7	3 inch
Peristaltic pump	2	2 inch
DOP 160	1	Viscous oil pumping system
Hose kits	8	6 x 3" / 2 x 2"
Fueling kit	1	

TEMPORARY STORAGE

Land bladder, 20,000 gallons	6	
Land bladder, 10,000 gallons	4	
Land bladder, 2500 gallons	2	
Land bladder, 1000 gallons	1	Wildlife trailer
Fish tote bladders, 200 gallons	6	
Fast tank, 2400 gallons	9	
Fast tank, 1585 gallons	2	
Towable bladder, 6635 gallons	1	
Towable bladder, 6800 gallons	1	
Towable bladder, 5000 gallons	2	
Overpack drums, 85 gallon	32	

VEHICLES AND TRAILERS

Flatbed crane truck	1	
Flatbed truck	1	

7/21/2011

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Pickup truck	1	
Forklift	1	5000 pound capacity
Flatbed trailers	4	
Command post trailer	1	
Office trailer	1	
Wildlife trailer	1	
Rapid response trailer	1	
ATV	1	
VESSELS		
Landing craft	1	28 foot
Landing craft (based in Whittier)	1	41 foot
Work boats	3	18 to 22 foot
Inflatable boat	1	18 foot
SAFETY		
PPE kit	5	6 man kits
Respirator kit (APR 1/2 mask)	3	6 man kits
Exposure suits	56	
Survival suits	11	
Portable shelter	4	
CLEAN UP, DECON, AND DISPOSAL		
Personnel decon kit	2	
Equipment decon kit	1	
Beach cleaning kit	1	
Oily waste bags (box of 100)	56	
Visqueen (100 foot roll)	15	
Visqueen, reinforced (100 foot roll)	8	
Decon berm (8' x 8')	4	
Decon berm (8' x 4')	8	
Decon berm (16' x 19')	1	
Decon berm (42' x 42')	4	
Decon berm (15' x 48')	1	
Decon berm (28' x 35')	4	
Decon berm (12' x 21')	4	
Smart ash burner	2	
Oil water separator	2	
Beach deluge kit	2	
Pressure washer	3	
ELECTRONICS		
VHF marine radio repeater and base unit	1	
Handheld VHF marine radios	57	
Satellite phone	1	
Computer push packages	3	Computer + printer + network
Camera, digital	2	
Handheld GPS	8	
Four gas air monitor	1	Oxygen, %LEL, CO, Hydrogen Sulfide
Four gas air monitor + PID	1	Oxygen, %LEL, CO, Hydrogen Sulfide
Draeger CMS air monitor	1	Benzene, hydrocarbons
Colorimetric tube air monitor	1	Benzene, hydrocarbons
WILDLIFE		
Bird capture kit	4	
Otter capture kit	4	
Otter pens	3	
Hazing kit	1	
Field hazing kit	2	
Propane cannon	3	
Rodent prevention kit	0	
MISCELLANEOUS		
Generator	5	
Air compressor	2	

7/21/2011

 Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Boom vane (1/2 meter)	2	
Diesel portable heater	4	
SCAT kit	1	
Office kit	3	
Insulated exploration support conex	3	1 x 20' and 2 x 24'
20 foot storage conex	11	
40 foot storage conex	5	
Chainsaw kit	4	
Weedburner	4	

7/21/2011

3

Facility Response Plan/Oil Discharge Prevention and Contingency Plan

EAI Equipment Inventory



Spill Response Equipment

Booms and absorbents

- (1,500ft.) of 21" contractor boom
- (1,000ft) of 6" sausage boom
- (300) bundles of 100 count absorbent pads

Boats

- 1-27ft Cabin Cruiser / twin 115 OB
- 1-18ft Hewescraft Semi V hull Skiff
- 1-14ft Smoker craft Sea Skiff

Recovery equipment and pumps

- **5-80 barrel 100gpm Vac-trucks**
- **2-130 barrel 100gpm Vac-trailer**
- **1-150 barrel 200gpm Vac-trailer**
- 1-double 3" Weldin diaphragm pump
- 1-3" Weldin diaphragm pump
- 1-2" Weldin diaphragm pump
- 1- 3" Yanmar diesel trash pump
- 1,000ft of 3"/2" petroleum rated hose

Portable tanks and roll-off boxes

- 1 -12,000 gallon portable tank
- 1 - 4,500 gallon portable tank
- 4 - 7600 gallon portable ISO tanks
- 2 - Fruehoff tanker trailers (10,500 / 8,000 gallon)
- 8 - 20 cubic yard roll-off boxes

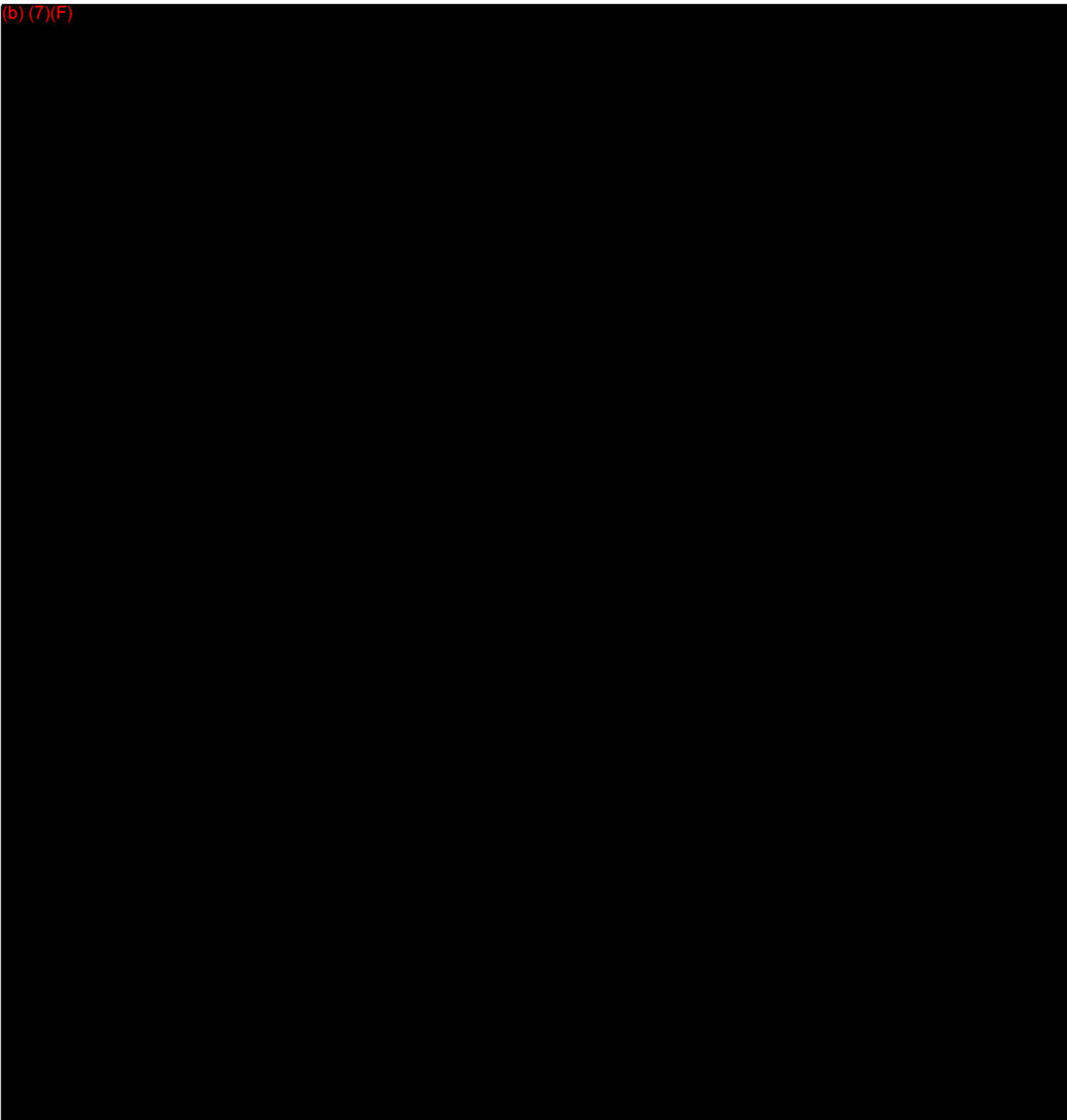
All of our equipment is staged and is spill-response ready at Emeralds Viking Drive facility in Anchorage. Emerald maintains over 30 full time HAZWOPER trained Emergency Responders.

Used Oil & Antifreeze Recycling • Industrial Fuel Blending • Wastewater Treatment • Tank Cleaning • Hazardous Waste Environmental Services

800 East Ship Creek Avenue • Anchorage, Alaska 99501 • (907) 258-1558 • Fax (907) 258-3049 • Toll Free (877) 375-5040

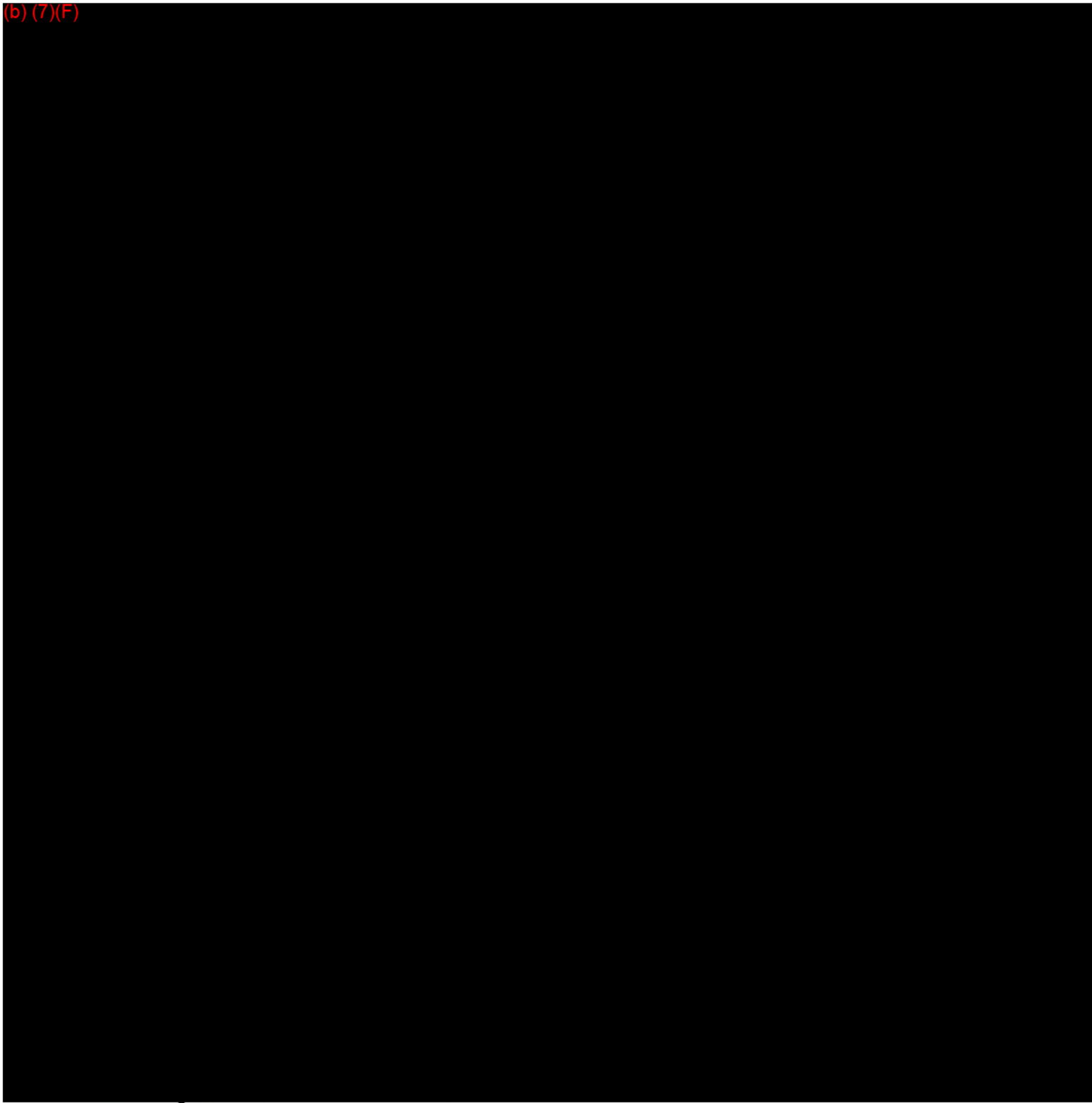
Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

(b) (7)(F)



Facility Response Plan/Oil Discharge Prevention and Contingency Plan

Secondary Containment

The original tanks are located within an earthen dike secondary containment, with a total volume of approximately (b) (7)(F). The secondary containment was originally constructed in 1996 and expanded in 2007 for the two tank expansion (1000-series containment area). A new, completely segregated secondary containment system was constructed directly adjacent to the existing six (6) tanks, installed in 2012, of the same earthen dike construction with a total volume of (b) (7)(F) (2000-series containment area). Both secondary containments have an XR-5 (30 mm) geomembrane liner that encompasses the entire area within the earthen dike; under the tanks and to the full height of the earthen berm. Both containment area liners have welded seams which have been integrity tested before the tanks were covered. The tanks rest on perimeter concrete ringwall foundations built on top of continuous two feet deep gravel fill on top of the containment liner. Both new and existing tanks have an additional second liner installed under each tank floor, which extends up the sides and to the top of the interior of each concrete wall.

Each secondary containment area drains to a separate, dedicated 10,000 gallon OWS that has a 4,000 gallon oil storage capacity. The discharge of both the OWSs is to a storm drain system which is the major conduit from the airport. The valve before the OWS is normally closed and is locked. The valve is manually operated, and water accumulations are only drained when there is no fuel or fuel sheen observable in the catch basins. All discharges comply with the NPDES permit MSGP AKR05CD73/APDES AKR5000.

Due to the design of the 1000-series containment area water does not accumulate above the soil surface. Therefore, the water accumulations will be checked periodically in the catch basins and drained as necessary.

Truck Loading/Unloading Area

Outside of the tank secondary containment berm are three buildings; Fire Foam, Pump house, and Filter building. In front of the pump house is a truck-loading apron. Beneath the entire footprint of the Pump house, Filter Building and apron is another liner of the same geotextile material. The truck loading/unloading area is concrete and sloped so that fuel spill would be entirely contained on the pad. The volume of the concrete pad fueling apron is 10,000 gallons. The drainage for this containment area is through the 10,000 gallon OWS for the original secondary containment area and the OWS draining procedures are described above.

Facility Piping

The aboveground facility piping at Airport Fuel Facility is defined as the piping downstream of the tie-in flange from the Jet Fuel Pipeline, the branch connection from the Tesoro Pipeline, and the tie-in flange to the underground airport hydrant system. The Airport Fuel Facility piping is carbon steel and consists of main distribution lines, filter train line, and pump house lines. The piping is located in secondary containment. The piping, installed in 1996 with additions in 2007 and 2012, was designed in accordance with ASME B31.3 Process piping, and constructed to ANSI Class 150 requirements. The piping inventory and inspection dates are shown in Table 3.1-2.