Alaska Department of Environmental Conservation
Division of Spill Prevention and Response

Prevention, Preparedness, and Response Program

Oil Discharge Prevention and Contingency Plan Application Package and Review Guidance Document

Revision 1

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LIST OF ACRONYMS

AAC	Alaska Administrative Code
ACS	Alaska Clean Seas
ADF&G	Alaska Department of Fish and Game
DNR	Alaska Department of Natural Resources
AIMS	Alaska Incident Management System
AOGCC	Alaska Oil and Gas Conservation Commission
AOPC	areas of public concern
API	American Petroleum Institute
ARRT	Alaska Regional Response Team
AS	Alaska Statute
ASME	American Society of Mechanical Engineers
BAT	best available technology
bbl/hr	barrels per hour
bbls	barrels
BOP	blowout preventer
CFR	Code of Federal Regulations
department	Alaska Department of Environmental Conservation
ESA	environmentally sensitive area
GOR	gas-to-oil ratio
GRS	geographic response strategies
ICS	Incident Command System
IMT	incident management team
LOSC	local on-scene coordinator
N/A	not applicable
NACE	National Association of Corrosion Engineers
OSRO	oil spill removal organization
plan	oil discharge prevention and contingency plan
PPRP	Prevention, Preparedness, and Response Program
PRAC	primary response action contractor
RCAC	regional citizens' advisory councils
RFAI	request for additional information

RMOD	realistic maximum oil discharge
RMROL	realistic maximum response operating limitations
RPS	response planning standard
STAR	Spill Tactics for Alaska Responders
STI	Steel Tank Institute
SUS	Saybolt Universal System
UC	Unified Command
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency

INTRODUCTION

Under Alaska Statutes (AS) 46.04.030 and 46.04.055(f)-(k), a person may not operate a regulated oil facility, vessel, or railroad tank car within the lands or waters of the state unless they hold an oil discharge prevention and contingency plan (plan) that has been approved by the Alaska Department of Environmental Conservation (department) and they are in compliance with that plan. Regulations in Title 18, Chapter 75 of the Alaska Administrative Code (18 AAC 75) govern the contents of such plans and set forth the application and approval requirements.

Significant expertise and best professional judgment must be used when preparing and reviewing a plan, due to the substantial differences in the type, size, and location of regulated facilities and vessels in Alaska. This guidance document is intended to assist the department's plan reviewers in evaluating the plans in a fair and consistent manner.

This guidance includes references to applicable sections of Alaska law, and are meant to be used in conjunction with the Alaska statutes and Chapter 75 of the department regulations which are available on the department's website at: http://dec.alaska.gov/spar/regulations.htm. This guidance contains information beyond the statutes and regulations that may aid in the preparation and review of a plan, including standard application procedures, review schedules, and evaluation criteria.

This document cannot cover every issue or concern that may be encountered during the preparation or review of a plan. Although similar information is required for every operation, plans vary in the level of detail required according to the individual characteristics of the covered facility or vessel. Questions about plan requirements for a particular operation must be directed to the appropriate department personnel (see Chapter 1, Section 2, page 3).

The regulations under 18 AAC 75.425(c) requires that the plan be presented in the order shown in 18 AAC 75.425(e) or include a cross-reference table that directs the reader to the appropriate information. All applicants are strongly encouraged to follow the format and order presented in the regulations as closely as possible. This guidance document follows a simple and easy-to-use numbering system for this information, which closely follows the order set forth in the regulations. Use of the information numbering system presented in Chapter 3 of this guidance document is highly recommended especially to those planning to submit a new or significantly amended plan and will result in a more effective and efficient department review. Please note that some sections will not be applicable to every plan.

Regulation Structure

Reading and understanding state regulations can be confusing, even for regulators. The layout and structure of state regulations is controlled by the "Drafting Manual for Administrative Regulations," published by the Department of Law, which has fairly strict rules governing how regulations are written and organized. The following diagram shows how state regulations are laid out.

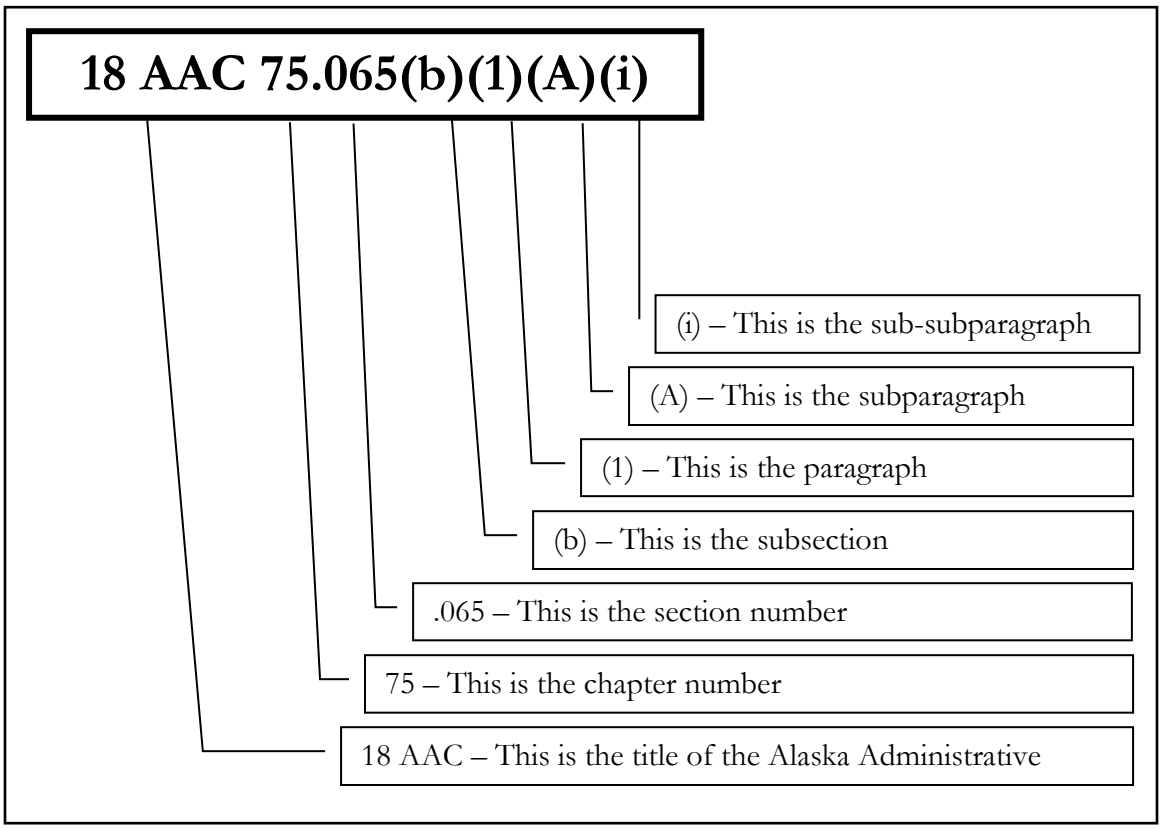

FIGURE 1: STRUCTURE OF ALASKA STATE REGULATIONS

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CHAPTER 1 APPLICABILITY AND GENERAL INFORMATION

The following information identifies who is required to submit an application for approval of a plan based on the proposed or existing operations conducted at a facility. A "regulated facility" is one that is required to have a plan under the applicability criteria presented below.

SECTION 1 APPLICABILITY

Applicability criteria and general requirements are found in Alaska Statutes (AS) Title 46, Chapter 4 (AS 46.04.030, AS 46.04.055, or as exempted under AS 46.04.050). A person may not operate a regulated oil facility, vessel, or railroad tank car within the lands or waters of the state unless they hold a plan that has been approved by the department and they are in compliance with that plan. Regulations in Title 18, Chapter 75 of the Alaska Administrative Code (18 AAC 75) govern the contents of such a plan and set forth the submission and approval requirements. Violators are subject to civil, criminal, and administrative penalties (AS 46.03.760, AS 46.03.790, and AS 46.03.761).

The following operations are subject to these requirements:

1. Oil tank vessels and barges that carry oil as cargo in bulk, regardless of volume;
2. Crude oil transmission pipelines;
3. Onshore or offshore oil production or exploration facilities;
4. Oil terminal or storage facilities (including refineries) that store:
   - 5,000 barrels (bbls) (210,000 gallons) or more of crude oil; or
   - 10,000 bbls (420,000 gallons) or more of noncrude (refined) oil;
5. Self-propelled nontank vessels of over 400 gross registered tons (not addressed in this guidance document); and
6. Railroad tank cars used to transport oil in bulk as cargo.

Unless otherwise noted, the terms "facilities", "vessels", and "operations," as used in this guidance document, refer only to the regulated operations described above.

The following operations are specifically exempt from the requirements of AS 46.04.030 and 18 AAC 75.

1. Facilities and vessels engaged solely in the production, storage, or transportation of liquefied natural gas or liquefied petroleum gas;
2. Facilities and vessels engaged solely in the production, storage, or transfer of substances not derived from petroleum or its by-products, such as fish and vegetable oils or methanol;
3. Oil terminal facilities with an effective storage capacity of less than 5,000 bbls of crude oil or less than 10,000 bbls of noncrude oil;
4. Natural gas production facilities and natural gas terminal facilities[1]; and
5. Natural gas exploration facility if the Alaska Oil and Gas Conservation Commission (AOGCC) has determined under AS 31.05.030(l) that evidence obtained through evaluation demonstrates with reasonable certainty that all of the wells at a natural gas exploration facility will not penetrate a formation capable of flowing oil to the ground surface.

For regulated facilities, the following persons must submit applications under 18 AAC 75:

1. Owner or operator of an oil terminal facility, including refineries;
2. Charterer, operator, owner, or other person with primary operational control[2] of a tank vessel, or barge;
3. Lease holder or operator of an exploration or production facility, whether mobile or fixed;
4. Lease holder or operator of a crude oil pipeline; and
5. The railroad responsible for transporting the railroad tank car.

Definitions of these facilities are included in AS 46.04.900 or 18 AAC 75.990. Applicants should be familiar with these and other definitions that apply to regulated facilities and their operations.

[1] If the facility has a storage capacity to store 5,000 bbls or more of crude oil or 10,000 bbls or more of noncrude oil it is considered an oil terminal and needs a plan. See AS 46.04.050(b) for further information.

[2]"Primary operational control" may be established for the purpose of holding and implementing a plan through a binding agreement between the party wishing to establish control and the vessel owner, operator or charterer. Contact department staff (see Chapter 1, section 2.1) for details on the requirements for establishing primary operational control.

SECTION 2 GENERAL INFORMATION

2.1 PREVENTION, PREPAREDNESS, AND RESPONSE PROGRAM ORGANIZATION AND CONTACT INFORMATION

The Prevention, Preparedness, and Response Program (PPRP) is part of the department's Division of Spill Prevention and Response. PPRP's mission is to protect public health, safety and the environment by preventing and mitigating the effects of oil and hazardous substance releases and ensuring their cleanup. The PPRP is organized by region, and all plans are reviewed by the appropriate regional staff. The PPR contact information is here: http://dec.alaska.gov/spar/ppr/contacts.htm

2.2 PROOF OF FINANCIAL RESPONSIBILITY [18 AAC 75.205 – 18 AAC 75.290]

Alaska law requires the owner or operator of a regulated facility, vessel, or operation to demonstrate proof of financial responsibility in a prescribed amount, regardless if the facility, vessel, or operation is required to maintain an approved plan. All operators who are required to have approved plans must also have approved proof of financial responsibility in accordance with Alaska state law.

AS 46.04.040 and 46.04.055 require proof of an owner or operator's ability to respond in damages for claims resulting from an oil discharge. The statutes and their governing regulations in 18 AAC 75, Article 2, provides standards for proof of financial responsibility that differ from federal requirements.

Proof of financial responsibility application must be completed and received by the department:

1. At least 30 days prior to operation in Alaska of an oil terminal, pipeline, offshore facility, onshore exploration or production facility, refinery, tank vessel, oil barge, or railroad tank car; and
2. 15 days prior to a nontank vessel's entry into Alaska waters.

Contact information and financial responsibility forms are available on the PPRP Financial Responsibility and Prevention Initiative Section website at http://dec.alaska.gov/spar/PPR/fr/index.htm.

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CHAPTER 2 APPLICATION, REVIEW, AND APPROVAL PROCESS

TABLE 2-1: CROSS-REFERENCE OF APPLICATION REQUIREMENTS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
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New plans	18 AAC 75.410	8
Plan renewals	18 AAC 75.420	8
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SECTION 3: REVIEW AND APPROVAL PROCESS FOR NEW PLANS, PLAN RENEWALS, AND MAJOR PLAN AMENDMENTS		
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Application Package Completeness Determination	18 AAC 75.455(e), 18 AAC 75.459	16
Department Decision on Plans	18 AAC 75.460	16
Proof of Approved Plan	18 AAC 75.465	17
Failure to Comply	18 AAC 75.490	18
SECTION 4: APPLICATION FORMS		

This chapter describes the application and review procedures for a new plan and renewal of, or amendments to, existing plans. This process applies to projects located on the lands and waters of the State of Alaska. If the project is located on the Outer Continental Shelf, the applicant should contact the department for an explanation of the review process.

SECTION 1 APPLICATION PACKAGE REQUIREMENTS AND SUBMITTAL PROCEDURES
[18 AAC 75.408]

1.1 GENERAL

An application package for approval of a plan consists of a completed application form, copies of the plan, and supporting documentation as requested by the department (the application form and instructions are included in Appendix G, and are available on the department's website at http://dec.alaska.gov/spar/guidance.htm and must be submitted in accordance with 18 AAC 75.408). With the exception of the routine plan update, the application package is only submitted to the department initially. The applicant may submit a cover letter that summarizes changes to the plan and proposed additions, revisions, and deletions should be identified in the plan as applicable. The department may also request a summary of changes in a table format. The number of copies submitted for the initial application package and subsequent responses will be determined by the department.

The format for application packages submitted after will be electronic, paper, or both – as determined by the department. The department's plan reviewer will make the format determination after surveying the needs of the department and review participants. An electronic version must always be submitted to the department so it can be posted on the department's website. Refer to the process below for submitting electronic documents.

Electronic Application Package Submittals

The applicant saves each application package document as a searchable Portable Document Format (PDF) file. The document must be less than 100MB (megabytes) in size. Plans or supporting documents larger than this will need to be saved as separate volumes that are each smaller than 100MB.
1) The applicant submits the application package to the plan reviewer

a. Via email if the file is less than 19MB; or
b. On a CD-ROM or DVD or uploaded via State of Alaska ZendTo[1] – https://drop.state.ak.us (use Internet Explorer or Mozilla Firefox) – if the file is 19MB or larger.

[1] For help with ZendTo, refer to the "About Alaska ZendTo" which can be accessed from the bottom bar of the webpage: https://drop.state.ak.us

The department works with designated reviewers to find out if they need a format other than accessing the documents from the department's website. The department will direct the applicant to provide the plan either by CD ROM, DVD, or paper as needed. Guidance for plan holders can be found on the department's Apply for a Contingency Plan page: http://dec.alaska.gov/spar/ppr/docs/application-package-electronic-submittal.pdf.

1.2 NEW PLANS AND PLAN RENEWALS – PRE-APPLICATION NOTIFICATION AND CONSULTATION [18 AAC 75.405]

At least 60 days prior to the submission of a new or renewal plan application package, the applicant is required to notify the department in writing (this includes email and facsimile submissions) of its intent. The department will determine the number of copies of the plan that the applicant will be required to submit with the application package after the notice of intent to submit has been received.

Applicants are required to consult with the department at least 30 days prior to submitting the application. Consultation is beneficial during the pre-application period because it helps the applicant ensure submission of the appropriate information on the first attempt, thus avoiding potential oversights and multiple requests for additional information from the department. The meeting provides the opportunity to discuss the contents of the application package, the facility or vessel operations, general requirements for the plan, and, if a renewal application, any change to the regulations or facility or vessel(s) since approval of the current plan. Chapter 1, Section 2, includes department contact information.

Department plan review staff will provide plan review schedules, distribution information, and other relevant information at the pre-application meeting. Plan reviewers will discuss sufficiency requirements with the applicant in the pre-application meeting. The applicant and plan reviewer should discuss the timeline and expected submittal dates during this meeting.

1.3 NEW PLANS [18 AAC 75.410]

Application packages must be submitted at least 180 days before the proposed start of operations.

1.4 PLAN RENEWALS [18 AAC 75.420]

The department's approval of a plan is for five years or as specified in the approval letter and certificate and a plan holder must apply for renewal of plan approval prior to expiration. Renewal applications[1] must be submitted at least 180 days (or by the date stated in the plan approval letter) prior to expiration of the existing plan.

1.5 OWNER OR OPERATOR CHANGES [18 AAC 75.414]

A change in the owner, operator, or name of the owner or operator of a facility or operation requires that the new owner or operator submit an application package as a plan amendment under 18 AAC 75.415. Once submitted, the changes will be classified as major or minor according to the criteria listed in 18 AAC 75.415(a)(1) – (5).

1.6 PLAN AMENDMENTS [18 AAC 75.415]

Once the department approves a plan, amendments may be required to keep information current in the plan. Under 18 AAC 75.415(a), plan holders are required to obtain department approval prior to a change in an approved plan unless it is a routine plan update. Plan amendments fall into one of four categories: 1) routine plan update, 2) vessel addition, 3) minor amendment, and 4) major amendment. Subsequent sections further describe these categories.

[1] Department regulations state that if there are no changes to an existing plan when it is renewed, a copy of the original plan is not required for the application submittal unless requested.

1.7 ROUTINE PLAN UPDATE [18 AAC 75.415(b)]

Routine plan updates must be submitted to the department and other plan recipients no later than five days after the date of the change. The following changes are considered a routine plan update:

1) Removing a vessel from the list of vessels operating under an approved plan if the removed vessel is not included in the Response Action Plan under 18 AAC 75.425(e)(1); and

2) Changes to the names, addresses, and/or telephone numbers of spill command and spill response personnel.

1.8 VESSEL ADDITIONS [18 AAC 75.415(c)]

An amendment to add a vessel to a tank vessel plan for a single voyage (spot charter) must be submitted at least five working days before the vessel enters state waters. The department has developed a "Spot Charter Checklist" for applicants; the checklist is available on the department website at:
http://dec.alaska.gov/spar/PPR/docs/ApplicationForApprovalofanOilDischargePreventionandContingecyPlan.pdf

1.9 MINOR AMENDMENTS [18 AAC 75.415(a), (f), (g), (h)]

Minor amendments are proposed changes that are not routine plan updates or vessel additions and that do not involve one of the factors described in 18 AAC 75.415(a)(1) – (5).

1.10 MAJOR AMENDMENTS [18 AAC 75.415(a), (f), (g)]

Plan amendments that incorporates one or more of the following will be reviewed as a major amendment:

1) An increase to the response planning standard volume that exceeds the response capabilities of the plan holder;

2) A change that affects the response scenarios (e.g. location, receiving environment, operating season);

3) Expansion of the operations outside of the current operational area;

4) a change to the amount or quality of prevention, response resources, or training that reduces the existing level of prevention or response capabilities; or

5) a change that requires an increase in prevention, response resources, or training.

SECTION 2 REVIEW AND APPROVAL PROCESS FOR ROUTINE UPDATES, VESSEL ADDITIONS, AND MINOR PLAN AMENDMENTS

This section describes the review and approval process for routine plan updates, vessel additions, and minor plan amendments.

2.1 ROUTINE PLAN UPDATES [18 AAC 75.415(b)]

The department will review the changes and issue a letter acknowledging receipt of the routine plan update and its incorporation into the plan. If the department determines a routine plan update submitted by a plan holder should be processed as a vessel addition, minor amendment, or major amendment, the department will notify the plan holder immediately.

2.2 VESSEL ADDITIONS [18 AAC 75.415(c)]

The department reviews vessel addition amendments under 18 AAC 75.415(c) for tank vessel plans. The department will issue a written decision within five working days of receiving the vessel addition amendment unless the department determines the addition is a major amendment[1]. If the department determines a vessel addition amendment is incomplete, the amendment approval may not occur within five working days, thereby prohibiting vessel operation in state waters until the information is complete, and the department approves the amendment.

2.3 MINOR AMENDMENTS [18 AAC 75.415(a), (f), (g), (h)]

The department will notify the plan holder not later than 10 working days after receipt of the application package if it will be reviewed as a minor amendment. The department must issue a decision letter, or formally request additional information or clarification, within 30 days of receiving

[1] Major amendments are reviewed under 18 AAC 75.455

the amendment application package. No later than 30 days after approval, the plan holder will distribute copies of minor amendments in accordance with 18 AAC 75.408(c). The department will notify recipients that the approved amended plan is available on the department's website.

SECTION 3 REVIEW AND APPROVAL PROCESS FOR NEW PLANS, PLAN RENEWALS, AND MAJOR PLAN AMENDMENTS [18 AAC 75.455]

This section describes the application package review and approval process for new plans, plan renewals, and major plan amendments. Figure 2-1 illustrates this process. It reflects the regulatory requirements and steps necessary for the review and approval of a typical application. The timeline to complete the review process is variable.

Plan Review Major Milestones
For New Plans, Plan Renewals, and Major Amendments

1. Applicant notifies DEC of intent to submit application package (package) at least **60 days** prior to submittal.

2. Pre-application consultation with DEC at least 30 days prior to submittal.

3. Application package[1] submitted.

4. DEC determines if package is sufficient for review within 7 working days of submittal.[2]

5. When package is sufficient for review, DEC notifies the applicant in writing and directs the applicant to publish a public notice and distribute the package[1] to review participants[3].

6. Public notice published and package distributed to review participants before Day 1 of public comment period.

7. 30 day public comment period (up to 45 days if the department determines the need). Public requests for additional information (RFAI) due by end of comment period.

8a. If an RFAI is needed, DEC sends out pending RFAI notice to applicant at end of comment period. Copy review participants[3].

8b. RFAI sent to applicant within 90 days of end of comment period. DEC may set a deadline for the applicant's response to the RFAI.

8c. Applicant responds to RFAI[4].

8d. The public comment period is extended a minimum of 10 days for the additional information received from the applicant.

9. DEC determines package is complete within 7 working days of end of public comment period.

10. DEC will approve, approve with conditions, or disapprove a plan within 65 days of determining a package is complete.

11. Approved plans are issued an approval letter, certificate, and summary of basis for decision. Plan usually valid for 5 years.

12. Plan holder publishes the final version of the plan and provides it[2] to DEC and review participants[3].

Footnotes:
[1] All plans must be submitted in the format specified by the department (paper, electronic, or both. Other electronic forms such as a DVD may be specified); proposed and final versions will be posted on the department's website.
[2] If the plan is determined to be insufficient for review, the applicant is notified in writing. The applicant must update and re-submit the plan. When a sufficient plan is accepted, the process re-starts at step 5.
[3] Review participants are DNR, DF&G, RCACs, and other persons designated by the department.
[4] If the response to a RFAI is not adequate, the applicant updates the plan as specified and re-submits the RFAI. This process may occur more than one time. When the RFAI's are sufficient the process re-starts at step 8d.

Figure 2-1 Plan Review Timeline

3.1 SUFFICIENCY REVIEW

Within seven working days after receiving the application package, the department will make a decision if the application package is sufficient for review. "Sufficient for review" is defined in 18 AAC 75.990(195).

If the application package is determined to be insufficient for review, the department will identify the portions of the plan requiring more information and communicate its determination to the applicant in a letter. Because only the department has received the application package, the communication and subsequent revisions are between the applicant and the department. Once the department receives the necessary information, the department will make a sufficiency determination within seven working days.

After an application package has been determined sufficient for review, the department will notify the applicant in writing, direct the applicant to provide copies of the application package to reviewers, set the public comment period, and send a letter with the public comment period information to the applicant, the parties specified in 18 AAC 75.408(c)(4), and other persons who have made a written request for information. The letter will include the dates for the publication of the public notice and the start date of the 30-day public comment period (if the package is unusually complex, the public comment period may be extended to 45 days); the deadline for requests for additional information (RFAIs), which is the end of the public comment period; a list of the reviewers for the application package; the locations where a public review copy of the application package will need to be available; and the end date of the public comment period. A public notice prepared by the department will also be included with the letter to the applicant[1].

3.2 PUBLIC NOTICE [18 AAC 75.455(b)(5)]

The department prepares the public notice in the manner described in 18 AAC 455(b)(5) and includes information on the nature and the location of the proposed activity; a statement that a person may submit comments on the application package by filing written comments with the department before the published comment deadline; the location(s) where copies of the application package are available for public review; and the schedule for public review, including the deadline for RFAIs. A statement that the application package is available on the department's website will also be included in the public notice.

[1] Note: the department may send two separate letters for sufficiency and publication if needed. For purposes of this guidance document, we will assume a single letter is written.

After the department notifies the applicant that the application package is sufficient for review, the applicant makes arrangements with one or more newspapers of general circulation within the area or areas of operation to publish the notice (the department will determine the newspapers) and notifies the department of the publication date. The plan reviewer works with the Commissioner's Office to have the notice published on the department's and state's public notice websites for the appropriate dates. The department may require publication in other media it considers appropriate to achieve sufficient public notice. The applicant is responsible for the cost of publication and must provide an affidavit or other proof of publication to the department. The published notice must appear one time in each newspaper on or before the first day (Day 1) of the public comment period (typically, this is 30 days; however, if the package is unusually complex, the public comment period may be extended to 45 days). Proof of publication must be provided to the department in the form of an affidavit from the newspaper(s) where the notice was printed. It may be provided after the start of the review; however, if the notice was published after Day 1, the public review period and RFAI deadlines will be extended.

The applicant should be aware of publication dates and deadlines for public notice submittals. Some regional newspapers do not publish daily, and some require a week or more in advance of publication to insert the notice.

3.3 PUBLIC REVIEW COPIES [18 AAC 75.455(b)(1)-(2)]

The department will identify all reviewers in the letter notifying the applicant that the application package is sufficient for review. The letter directs the applicant to provide copies of the application package to the reviewers identified in the letter. The letter will also indicate the number of copies for each reviewer and additional locations where the application package will be sent for public review, such as local libraries or public offices. These reviewers and locations will be determined during the pre-application notification meeting. The applicant is responsible for providing the copies by Day 1 of the public review period. The department advises the applicant to keep documentation of the date sent and proof of receipt of distribution.

3.4 PUBLIC REVIEW [18 AAC 75.455(b)(3)]

Members of the public, agencies, and other designated persons have the opportunity to comment on application packages reviewed under 18 AAC 75.455. As stated in subsection 3.5, RFAIs from the

public will be received until the end of the public comment period (typically, this is 30 days; however, if the package is unusually complex, the public comment period may be extended to 45 days). The department communicates this date in the letter notifying the applicant that the application package is sufficient for review and in the public notice.

The department will consider public RFAIs; if the department determines additional information is needed to review the plan, the department will issue an RFAI to the applicant and extend the public comment period to review the new information.

If additional information is not necessary to evaluate the application package, the department will make a determination whether the application package is complete within seven working days after the public comment period ends.

3.5 REQUEST FOR ADDITIONAL INFORMATION [18 AAC 75.455(d)-(k)]

After the application package has been determined sufficient for review, the department reviews the plan and considers agency and public RFAI requests. If additional information is needed to review the plan, the department will issue an RFAI letter to the applicant at least 90 days after the end of the initial public comment period. The letter will include the department's requests and any agency or public requests it agrees are necessary. The department may set a deadline for the submittal of additional information.

The applicant must respond to the RFAI and provide the requested information and, if requested, an explanation to the comments. The response to the RFAI must include revised pages to the plan as needed.

To expedite the review process, all proposed additions, revisions, and deletions should be identified in the plan as applicable. The department may also request a summary of changes in a table format. When submitting an RFAI response, it is helpful to plan reviewers to submit only the pages that have been changed. All proposed additions, revisions, and deletions must be identified in the plan.

Once the department determines the RFAI response is adequate the department will extend the public comment period by 10 days and notify the applicant and all reviewers (including public reviewers who requested a copy of or access to the plan) of the extended comment period. The applicant will distribute the RFAI response to the same reviewers and locations as the original plan distribution. The extended review will not start until the department has confirmed distribution of the RFAI responses.

It is possible that the department will determine that the RFAI response submitted by the applicant is inadequate, or a response or additional changes may bring up other questions pertaining to the plan. When this occurs, the department is not able to determine that the plan is complete, and it will notify the applicant that an additional RFAI is necessary. This process may occur as many times as the department deems necessary.

3.6 APPLICATION PACKAGE COMPLETENESS DETERMINATION [18 AAC 75.455(e), 18 AAC 75.459]

The department will make a determination as to whether the application package is complete within seven days of the end of the public comment period if no RFAI was needed or the end of the public comment period extension if an RFAI was needed.

The applicant should be aware that the department is unable to discuss the plan with the applicant after the department has determined the application package is complete and prior to issuing the decision. However, the applicant may request a preissuance conference with the department at any time prior to the issuance of the decision, under 18 AAC 75.459 The department will grant a preissuance conference[1] upon request from the applicant if the applicant demonstrates the conference will materially aid the department in reaching its decision.

3.7 DEPARTMENT DECISION ON PLANS [18 AAC 75.460]

Once the department has reviewed the plan in accordance with 18 AAC 75.455 and considered all agency and public comments, as described in subsection 3.6, the department will approve, approve with conditions, or disapprove an application package. Once a decision has been made, the department will provide a decision letter, summary of the basis for the decision, and certificate (if the plan has been approved). The letter requires the plan holder to provide copies of the approved plan in accordance with 18 AAC 75.408 no later than 30 days after approval. The department will send a notice by electronic mail to the parties specified in 18 AAC 75.408(c)(4) that the document is available on the department's website.

Any person who submitted comments on the application package by the close of the public comment periods may request an informal review within 15 days of the department's decision or may request an adjudicatory hearing within 30 days of the department's decision. Informal review requests are delivered to the SPAR Director and should also be sent to the person who signed the plan approval

[1] This is a recorded meeting that provides an opportunity to discuss a variety of issues including advising the applicant of the contents of the summary of basis for the decision and draft conditions of approval and to ensure the condition deadlines are achievable.

in accordance with 18 AAC 15.185. An adjudicatory hearing request must be submitted to the department's Commissioner in accordance with 18 AAC 15.195 – 18 AAC 15.340, and it must be served on the person signing the approval decision.

Plan approval is valid for a term of five years from the date of issue unless the department specifies a shorter time period in the approval letter and certificate. The applicant is encouraged to place the certificate of approval in the front of the approved plan.

3.8 PROOF OF APPROVED PLAN [18 AAC 75.465]

Prior to the transfer of oil to or from an oil terminal facility, and in accordance with 18 AAC 75.465, the operator of a vessel, barge, or railroad tank car must produce proof of the approved plan or nontank vessel plan for the operation. The original certificate, or true photocopy of the original certificate, must be available for inspection by the oil terminal owner or operator.

The operator of the vessel, barge, or railroad tank car must certify on a contingency plan verification log supplied by the department and maintained by the owner or operator of the oil terminal facility that a copy of the response action and prevention plan sections of the plan, or certificate of approval, are onboard the vessel or barge or is available from the operator of the railroad tank car. Appendix G includes a copy of the log, which is available on the department's website at http://dec.alaska.gov/spar/guidance.htm .

The owner or operator of the oil terminal facility will also certify on the same verification log that the vessel or barge complies with the above-mentioned proof of approval.

The oil terminal facility personnel are required to submit the log via personal delivery, facsimile transmission, or electronic mail transmission to the department each month, no later than the first five business days of the following month. Should the operator of a vessel or railroad tank car not comply with the proof of approval requirements above, the terminal operator is obligated to report the failure to the department.

3.9 FAILURE TO COMPLY [18 AAC 75.490]

If a plan holder fails to comply with commitments of an approved plan, including the conditions of approval that may have been part of the department's approval decision, demonstrates an inability to maintain continuous access to the quality or quantity of resources identified in the plan, fails to respond with those resources in the shortest possible time if a discharge occurs, or is in any other way

subject to the terms of AS 46.04.030(f)(1) – (4), the department may take one or more of the following actions:

1. Revoke the approval of the plan after notice and opportunity for the plan holder to request an adjudicatory hearing under 18 AAC 15.195 – 18 AAC 15.340;

2. Suspend its approval of the plan after notice and opportunity for the plan holder to request an adjudicatory hearing under 18 AAC 15.195 – 18 AAC 15.340, stating the conditions under which the department will reinstate the approval and allow operations to resume;

3. Order the plan holder to file an application to amend the plan within a specified time under 18 AAC 75.415. If a plan holder fails to apply for an amendment, the department may revoke the approval of the plan after notice and opportunity for the plan holder to request an adjudicatory hearing under 18 AAC 15.195 – 18 AAC 15.340; and/or

4. Take other necessary action to correct the failure to comply.

CHAPTER 3 PLAN CONTENTS

TABLE 3-1: CROSS-REFERENCE OF CONTENTS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
SECTION 1: PLAN FORMAT		
Cross-Referencing for Alternate Formats	18 AAC 75.425(d)(4)	23
SECTION 2: PLAN CONTENTS		
Part 1: Response Action Plan	18 AAC 75.425(e)(1)	26
Part 2: Prevention Plan	18 AAC 75.425(e)(2)	48
Part 3: Supplemental Information	18 AAC 75.425(e)(3)	75
Part 4: Best Available Technology	18 AAC 425(e)(4)	97
Part 5: Response Planning Standard	18 AAC 425(e)(5); 18 AAC 75.430 – 18 AAC 75.442	100

Under Alaska law, a plan must contain the information set forth in 18 AAC 75.425. The arrangement of Chapter 3 follows the plan content order presented in 18 AAC 75.425.

Because of the diversity in size, type, and location of regulated facilities and vessels, each applicant has the flexibility and responsibility to determine the best means of complying with the spill prevention and response planning requirements. Therefore, applicants exercise considerable judgment in the preparation of a plan. Regardless of the facility, all plans must be in a form that is usable as a working plan for oil spill prevention, control, cleanup and disposal [18 AAC 75.425(a)].

SECTION 1 PLAN FORMAT

Section 2, *Plan Contents*, in this chapter, generally follows the format presented in the regulations, and further explains or describes each requirement. This recommended format provides a logical arrangement of information according to its purpose. Submitting a plan in this format provides a usable document for the applicant and may result in a shorter and easier review by the department.

18 AAC 75.425(a) – (d) contains general provisions and requirements. Figure 3-1 illustrates plan content and format. The plan consists of five parts and contains the information described in 18 AAC 75.425(e)(1)-(5):

1. **Part 1, Response Action Plan** [18 AAC 75. 425(e)(1)] is used as an operational document during a response. It contains an emergency action checklist for first responders to follow to notify authorities of a spill, activate a response, implement initial safety measures, and take steps to stop the release. The other portions of the Response Action Plan describe the planned response strategy using the equipment, personnel, and resources available to the applicant. An actual spill is not likely to match precisely the scenarios presented in the plan; however,

sufficient information must be included in the Response Action Plan to allow for appropriate decisions for the circumstances.

2. **Part 2, Prevention Plan** [18 AAC 75.425(e)(2)] describes measures in place to prevent or reduce the risk of spills from the operation. This part of the plan includes a description of the pertinent spill prevention programs and equipment at the regulated facility, vessel, or operation. Part 2 includes a detailed description of how the applicant meets the requirements of spill prevention measures found in 18 AAC 75.005 – 18 AAC 75.085.

3. **Part 3, Supplemental Information** [18 AAC 75.425(e)(3)] provides supporting information and additional detail necessary to determine the plan's compliance with state requirements. This part includes a description of realistic maximum response operating limitations (RMROL), protection of environmentally sensitive areas (ESAs) and areas of public concern (AOPC), location and inventories of response equipment, statements of contractual terms if response action contractors are utilized, and other information needed to verify the existence of and access to the resources described in the plan.

4. **Part 4, Best Available Technology (BAT) Review** [18 AAC 75.425(e)(4)] includes identification and analysis of technologies applicable to the applicant's operation that are not subject to response planning or regulatory performance standards. At a minimum, Part 4 includes multipart analyses of communications, source control, trajectory analysis and forecasts, and wildlife capture, treatment, and release programs, in addition to facility or vessel specific requirements. Unless application of a state requirement would be preempted by federal law, the plan must provide for the use of BAT consistent with applicable criteria in 18 AAC 75.445(k).

5. **Part 5, Response Planning Standard (RPS)** [18 AAC 425(e)(5)] provides the calculation(s) of applicable RPS in 18 AAC 75.430 – 18 AAC 75.442, including a detailed basis for the calculation of reductions, if any, to be applied to the RPS volume.

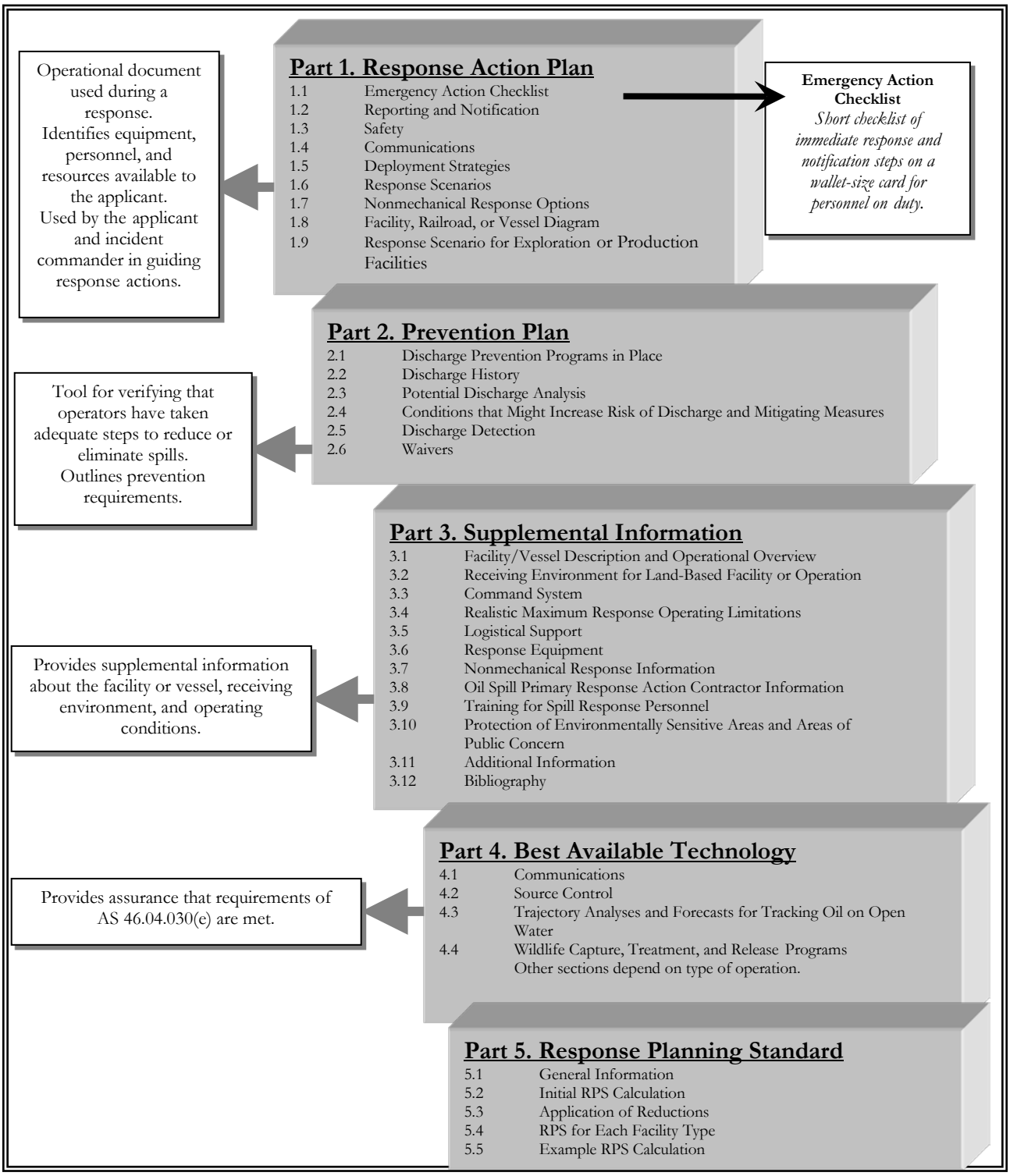

FIGURE 3-1: PLAN CONTENTS

1.1 CROSS-REFERENCING FOR ALTERNATE FORMATS

Applicants are strongly encouraged to follow the general format and order presented in 18 AAC 75.425 and these guidelines. Following this format improves the efficiency of the review process and ability of contract or agency responders to find information in a timely manner due to familiarity. However, 18 AAC 75.425(d)(4) allows a plan not presented in the order shown in 18 AAC 75.425(e) to include a cross-reference table that directs the reader to the appropriate information.

A cross-reference table follows the order presented in the regulations, with each section referenced by number, and direct the reader to the specific information required. An example layout is shown in figure 3-2.

SECTION		PAGE
(1)	RESPONSE ACTION PLAN	
	(A) Emergency Action Checklist	1
	(B) Reporting and Notification	19
	(C) Safety	5
	(D) Communications	14
	(E) Deployment Strategies	8

FIGURE 3-2: SAMPLE LAYOUT OF CROSS-REFERENCED INFORMATION

The cross-reference table is as detailed as necessary to ensure that the plan addresses each specific requirement applicable to the operation. For example, if government agency contact numbers required under *Reporting and Notification* in the regulations [18 AAC 75.425(e)(1)(B)(ii)], cannot be found on page 19 of the plan as illustrated in line (B) in the above example, the cross-reference table should be further broken down as shown in figure 3-3.

SECTION	PAGE
(1) RESPONSE ACTION PLAN	
(A) Emergency Action Checklist	1
(B) Reporting and Notification:	
(i) Facility Personnel	19
(ii) Government Agencies	20
(C) Safety	5
(D) Communications	14
(E) Deployment Strategies	8

FIGURE 3-3: SAMPLE LAYOUT OF CROSS-REFERENCED REPORTING AND NOTIFICATION INFORMATION

The goal is to ensure that the reader can locate specific information, while still allowing the applicant the flexibility to use the plan format best suited to the specific operation.

Regardless of which format the plan follows, cross-referencing within the plan can be a valuable tool to eliminate redundancy and reduce the size of a plan. For example, background information that relates to several sections of the plan can be appropriately placed in Part 3, *Supplemental Information*, and cross-referenced to the applicable sections. As long as it is not excessively used, cross-referencing can aid in the prompt location of specific information in a plan and increase the plan's usability.

Applicants are encouraged to discuss the plan format requirements with the department during the pre-application consultation meeting prior to the submission of a new or significantly amended plan.

SECTION 2 PLAN CONTENTS

TABLE 3-2: CROSS REFERENCE OF RESPONSE ACTION PLAN COMPONENTS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
PART 1: RESPONSE ACTION PLAN		
Emergency Action Checklist	18 AAC 75.425(e)(1)(A)	26
Reporting and Notification	18 AAC 75.425(e)(1)(B)	27
Safety	18 AAC 75.425(e)(1)(C)	28
Communications	18 AAC 75.425(e)(1)(D)	29
Deployment Strategies	18 AAC 75.425(e)(1)(E) 18 AAC 75.445(c)	30
Transportation to the Spill Site	18 AAC 75.425(e)(1)(E)(i)	30
Response Action Contractor Mobilization	18 AAC 75.425(e)(1)(E)(ii)	31
Response Scenarios	18 AAC 75.425(e)(1)(F) 18 AAC 75.445(d) 18 AAC 75.445(d)	31
Procedures to Stop the Discharge	18 AAC 75.425(e)(1)(F)(i) 18 AAC 75.445(d)(1)	32
Fire Prevention and Control	18 AAC 75.425(e)(1)(F)(ii)	33
Discharge Tracking and Forecasting of Shoreline Contact	18 AAC 75.425(e)(1)(F)(iv) 18 AAC 75.445(d)(3)	33
Protection of Environmentally Sensitive Areas and Areas of Public Concern	18 AAC 75.425(e)(1)(F)(v) 18 AAC 75.445(d)(4)	33
Containment and Control Strategies	18 AAC 75.425(e)(1)(F)(vi) 18 AAC 75.445(d)(5)	33
Recovery Strategies	18 AAC 75.425(e)(1)(F)(vii) 18 AAC 75.445(d)(5)	34
Damaged Tank Transfer and Storage	18 AAC 75.425(e)(1)(F)(viii) 18 AAC 75.445(d)(6)	35
Transfer and Storage of Oil	18 AAC 75.425(e)(1)(F)(viii) 18 AAC 75.455(d)(6)	36
Recovered Oil and Oily Water Transfer and Storage	18 AAC 75.425(e)(1)(F)(ix) 18 AAC 75.445(d)(7)	37
Temporary Storage and Ultimate Disposal	18 AAC 75.425(e)(1)(F)(x) 18 AAC 75.445(d)(7)	37
Wildlife Protection	18 AAC 75.425(e)(1)(F)(xi)	38
Shoreline Cleanup Plan	18 AAC 75.425(e)(1)(F)(xii)	39
On-Water Response Strategy Considerations for Noncrude Oil Operations	18 AAC 75.425(e)(1)(E)(ii)	40
Nonmechanical Response Options	18 AAC 75.425(e)(1)(G)	41
Facility, Railroad or Vessel Diagram	18 AAC 75.425(e)(1)(H)	41
Plan Response Scenario for Exploration or Production Facilities	18 AAC 75.425(e)(1)(I) 18 AAC 75.445(d)(2)	43

Referencing Supporting Documents

A plan holder may choose to reference supporting documents (e.g. operational procedures, Primary Response Action Contractor (PRAC) technical manuals) rather than include the information directly in the plan. These documents are not always subject to public review and the department will not require a plan holder to make the documents available for public review unless the information is essential to demonstrating the plan holder's ability to conform with statutes and regulations.

Regardless of a document's public review status, the department is still able to review it. If a plan holder relies on a reference document to demonstrate compliance with statutes and/or regulations rather than include the necessary information directly in the plan, the department can request changes to said document. If changes to the document cannot be made by the applicant (e.g., if the applicant isn't the author of the document), then the required information will need to be included in the plan.

PART 1 RESPONSE ACTION PLAN

1.1 EMERGENCY ACTION CHECKLIST [18 AAC 75.425(e)(1)(A)]

The plan contains an emergency action checklist, which describes the sequence of initial notification and response actions. The checklist should be removable and easily duplicated so that it can serve as an emergency response guide for response personnel.

The department recommends providing a condensed emergency checklist on a wallet-sized card or other suitable format to the appropriate company personnel for reference while on duty.

The emergency action checklist describes the immediate and essential steps taken in the event of a discharge, including the following information:

1. The immediate actions taken in the event of a spill (e.g., safety procedures, initial containment and control measures, mobilization of response, etc.);

2. The name, title, and 24-hour telephone numbers of the primary company contact person in the event of a spill. Alternate names, titles and phone numbers should be listed as needed to ensure that someone with appropriate authority can be promptly located and alerted of a spill at all times; and

3. Emergency phone numbers for the appropriate state, federal, and local agencies that require notification in the event of a spill, including as applicable:
    a. The department,
    b. The U.S. Coast Guard (USCG),
    c. The National Response Center, and
    d. Local fire marshal and/or police department.

The following sections of the Response Action Plan expand on and supplement the brief instructions contained in the emergency action checklist, and provide sufficient detail to clearly guide responders in an emergency event.

1.2 REPORTING AND NOTIFICATION [18 AAC 75.425(e)(1)(B)]

This section of the plan describes the spill reporting procedures and notification requirements for both within the company and to agencies and stakeholders. Notification requirements may vary by location within the state, and reporting requirements differ depending on the size and receiving environment of the spill. The department spill reporting form is included to illustrate the type of information that must be initially gathered and reported and can be found in Appendix A of this document and on the department's website at: http://dec.alaska.gov/spar/PPR/docs/ADEC%20Spill%20Notification%20Form_rev06162014.pdf. The operator may use this form as its spill reporting form or one of their choosing that includes the information listed in 18 AAC 75.300(f). Written follow-up reports may be required. Spill reporting requirements are provided in 18 AAC 75.300.

Company personnel responsible for making the required notifications are clearly identified by name and/or title, and telephone number. Alternates are listed as needed to ensure that the responsibility for notification is clear at all times.

This section provides telephone numbers for facility or vessel personnel responsible for reporting the discharge, including 24-hour emergency numbers. Telephone numbers for government agencies to be notified in the event of a spill are listed. Local office contacts and numbers are given when appropriate. Office and mobile phone and fax numbers are listed for both primary and secondary contacts if possible. This section also includes notification procedures and contact numbers for other groups who may be affected by the spill, or who may be called on to provide information or expertise during the spill response. These groups may include:

1. PRAC or other responders on contract;

2. RCACs;
3. Fishermen, guides, and tourism organizations;
4. Regional Native corporations;
5. Hatchery or aquaculture facility operators;
6. Land or other resource owners; or
7. Public interest groups.

Additional notifications may be required by certain landowners, or under certain lease stipulations. The plan typically describes these special situations or arrangements.

Applicants are encouraged to verify agency and stakeholder contact information annually to ensure the correct contact information is in the plan.

1.3 SAFETY [18 AAC 75.425(e)(1)(C)]

The plan describes the facility, vessel, or operation safety officer's duties in the event of a spill and includes the safety officer's name and/or title and contact number.

The Occupational Safety and Health Administration [29 CFR 1910.120(a)(1)] requires cleanup and emergency response operations to have a site-specific safety and health plan addressing the safety and health hazards of each phase of site operation. The tactics described in the site-specific plan can be used as the basis for developing an incident-specific safety plan to guide response to a spill. This section of the plan describes the procedures for developing and implementing an incident-specific plan to guide response in accordance with applicable state and federal standards as outlined in Table 3-3.

TABLE 3-3: FEDERAL AND STATE SAFETY REGULATIONS

FEDERAL	Title 29 Code of Federal Regulations (CFR) Part 1910, Occupational Safety & Health Standards
	29 CFR 1904, Record Keeping and Reporting Occupational Illnesses
	29 CFR 1910.120, Hazardous Waste Operations and Emergency Response
	29 CFR 1910.132-37 Subpart 1, Personal Protective Equipment
	29 CFR 1910.38-39, Employee Emergency Action Plans and Fire Prevention Plan
	29 CFR 1910.1200, Hazard Communication Standards
STATE OF ALASKA	Alaska Department of Labor and Workforce Development, Labor Standards and Safety, Alaska Occupational Safety & Health Standards (8 AAC 61.1010 - 1190):

1.4 COMMUNICATIONS [18 AAC 75.425(e)(1)(D)]

Efficient communications are a top priority in the development and implementation of an effective spill response. Although the scope of a communications system will vary according to the size and complexity of a spill response, this section of the plan demonstrates standard procedures to initiate and maintain a level of field communications sufficient to deal with a spill of the applicable RPS volume.

Communications system procedures and characteristics include, as applicable:

1. The establishment of radio communications between base stations and field units as necessary to cover the potential area of operation;

2. Assigned channels or frequencies for each component of the response, as applicable (e.g., air operations, vessel operations, shoreline cleanup crews, etc.);

3. Methods for expanding the communications system in the event of a major spill; and

4. Backup systems in place.

Additional information on the amount, location, and maintenance of communications equipment is included in plan Part 3, Section 3.6 Response Equipment.

1.5 DEPLOYMENT STRATEGIES [18 AAC 75.425(e)(1)(E), AND 18 AAC 75.445(c)]

When an oil spill takes place, many decisions and actions must be made in the early minutes and hours of a response. The plan describes mobilization and deployment strategies to demonstrate the applicant's ability to respond to a spill of the specified volume within the specified timeframe as set forth in the applicable RPS. Response strategies need to take into account seasonal variations and local conditions such as tidal variations or tundra conditions.

An applicant should not confuse mobilization time with deployment time. For example, when a spill occurs, recovery equipment may have to be transported from a storage depot located at a distance from the spill site. The amount of time it takes the equipment and response personnel to reach the spill site is the mobilization time. Once the equipment is on site, it must be properly configured within the confines of the spill before it can begin to recover oil. Part 1, Section 1.5 addresses this deployment time.

As required by 18 AAC 75.445(c), the plan demonstrates through the scenario that the personnel and resources are sufficient to meet the applicable RPS and that these resources can be mobilized and deployed within timeframes set in the RPS regulations.

Sufficient planning information allows a reasonable determination of the time necessary to implement a full-scale response under the assumed conditions.

1.5.1 TRANSPORTATION TO THE SPILL SITE [18 AAC 75.425(e)(1)(E)(i)]

The plan describes procedures for prompt mobilization of personnel and equipment necessary to contain, control, and clean up the spill, and the timetable for activation of each of the main pieces of equipment.

The plan identifies the specific procedures for transporting personnel and equipment to the spill site. Alternative measures are also identified, taking into account weather conditions, safety, or other variables. Response equipment not on site should be stored and maintained in a manner that allows prompt and efficient loading for transport at all times.

Continual assessment of the situation and evaluation of the need for additional equipment and personnel should be made hourly during the initial stages of the response. The ability to mobilize and transport additional equipment or personnel to the spill site in a timely manner as a result of such assessment should be demonstrated.

1.5.2 RESPONSE ACTION CONTRACTOR MOBILIZATION [18 AAC 75.425(e)(1)(E)(ii)]

If the planned response relies on the services of one or more response action contractors, the plan describes the procedures for notifying and mobilizing each contractor. Contact numbers for each contractor are given (this information may be cross-referenced to Part 1, Section 1.2 above).

The plan describes the immediate and ongoing response actions that onsite personnel will perform until implementation of services of a response action contractor, if applicable. The plan also describes procedures and timetables for transfer of any response duties to the contractor. The plan identifies, as applicable, the threshold volume and/or type of spill that would trigger the involvement of one or more contractors.

1.6 RESPONSE SCENARIOS [18 AAC 75.425(e)(1)(F), AND 18 AAC 75.445]

This section of the plan includes, at a minimum, a scenario which demonstrates the ability to effectively respond to a discharge of the applicable RPS volume within the required timeframes (see Part 5 of this Chapter). An RPS is an established spill volume and specified timeframe applicable to response planning for each class of regulated operations established by the State of Alaska. The information contained in this scenario must also be usable as a general guide for a discharge of any size. Additional response strategies are included as necessary to demonstrate alternative strategies for anticipated receiving environments and conditions, including time of year, spills of varying source and size, and weather limitations.

Each RPS scenario in the plan identifies the following:

1. Spill location, time of year and time of day;
2. Source and cause of spill;
3. Quantity and type of oil spilled;
4. Relevant environmental conditions (e.g. weather, sea state, visibility);
5. Spill trajectory;
6. Timeline for response actions.

Each scenario includes a discussion of the steps taken under the Response Action Plan (emergency actions, reporting and notification, safety procedures, etc.). This information may be presented only

once if the same actions apply to all of the scenarios in the plan. Scenarios required by this section may be used as the means for describing the specific procedures to meet the requirements of subsections 1.6.1 – 1.6.12 below.

Response strategies illustrate the deployment, initiation, and continuation of operations, (i.e., the configuration and manner in which containment, recovery, transfer, storage and lightering equipment will be set up and employed to conduct and maintain an effective response). In addition to narrative description, a diagram(s) can be helpful. Applicants may use example diagrams from the *Spill Tactics for Alaska Responders* (STAR) manual, referenced in Chapter 4, if the tactics are appropriate. The STAR manual is available on the department's website at http://dec.alaska.gov/spar/PPR/star/docs.htm.

During the pre-application consultation, the applicant and the plan reviewer will discuss the number and type of RPS scenarios and response strategies to be included in the plan. The number of spill response scenarios depends on the siting and layout of the facility, the scope of operations, route of vessels, potential spill sources and locations, and other factors. A scenario for the full RPS volume is required to demonstrate that the operator has planned to respond to a spill of the appropriate RPS volume. In order to determine compliance with the RPS, the scenario describes and justifies the assumptions made in demonstrating response capability.

A description of additional requirements for crude oil exploration and production facilities for scenario development is in Part 1, Section 1.9.

1.6.1 PROCEDURES TO STOP THE DISCHARGE [18 AAC 75.425(e)(1)(F)(i), AND 18 AAC 75.445(d)(1)]

The scenario describes procedures that will be used to control or stop the discharge at its source and prevent its further spread within the shortest possible time. Such procedures include:

1. If safety permits, emergency measures that could be taken to reduce or stop the flow of oil from the facility, vessel, or operation (e.g., temporary patching or blocking, valve shutoff, well capping, rerouting of oil, etc.); and

2. Follow-up actions taken to stabilize the situation and prevent a further release of oil (e.g., transfer pumping, containment booming, lightering, temporary storage, etc.).

1.6.2 FIRE PREVENTION AND CONTROL [18 AAC 75.425(e)(1)(F)(ii)]

This section describes relevant fire prevention and control procedures used during a spill response, including shutdown of electrical power, use of intrinsically safe communications equipment, non-

sparking tools, etc. Detailed explanations are provided in Part 1, Sections 1.1, *Emergency Actions* and 1.3, *Safety*. These sections may be referenced as appropriate to provide this information.

This section may reference the facility or vessel diagram in Section 1.8, *Facility or Vessel Diagram*, which includes the location of fire suppression equipment, main power shutoff switches, and any other relevant information. Other relevant fire control plans may be referenced as appropriate. All fire control plans must be compatible with applicable fire codes and industry standards. It is the plan holder's responsibility to have the plan reviewed by the appropriate official such as the local fire chief or the fire marshal.

1.6.3 DISCHARGE TRACKING AND FORECASTING OF SHORELINE CONTACT [18 AAC 75.425(e)(1)(F)(iv) AND 18 AAC 75.445(d)(3)]

This section describes procedures for real-time surveillance and tracking of discharged oil on open water, if applicable, including aerial surveillance, radio tracking and buoy deployment, as appropriate.

Procedures to forecast potential shoreline impacts from an on-water spill, or a spill at an on-shore facility that could migrate to open water, are included. Shoreline impact forecasts are based on a "worst case" scenario and analysis of potential impacts to resources and/or shorelines from an RPS spill (further explanation provided in Part 5). Local sources of knowledge (e.g., pilots, fishermen, commercial shippers) whose expertise might assist in forecasting spill impact areas may be consulted while developing this analysis. Discharge tracking and surveillance used in the scenario corresponds with Part 4, *Best Available Technology*. Background information, if required, is included in Part 3, Section 3.11, *Additional Information* along with a list of the appropriate reference materials in Part 3, Section 3.12, *Bibliography*.

1.6.4 PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS AND AREAS OF PUBLIC CONCERN [18 AAC 75.425(e)(1)(F)(v), AND 18 AAC 75.445(d)(4)]

This section describes procedures for protecting ESAs and AOPCs at risk from a spill of the applicable RPS volume and contains essential information necessary to protect the most significant and immediately threatened areas. The RPS scenario must include site specific strategies for protection of ESAs and AOPCs within their trajectories as identified in Part 3, Section 3.10 of the plan. Just as the department has the authority to require additional scenarios to be included in the plan, it has the authority to require when appropriate that those additional scenarios include a demonstration of the ability to exclude discharged oil from the identified ESAs and AOPCs. In other words, if the department's plan reviewer determines that multiple scenarios are required, they must also determine whether the scenario must include specific strategies and tactics to exclude oil

from downstream ESAs and AOPCs. Land based facilities must describe specific strategies for protection of groundwater and public water supplies. The assessment of risk is based on the potential routes of an RPS-volume discharge. Additional information (further described below) should be contained in Part 3, Section 3.10 of the plan.

Applicants can get assistance from state and federal resource agencies to identify priority protection areas, which are summarized in the plan. AOPCs as defined in 18 AAC 75.990(5) include areas of unique cultural value or historical significance; areas of substantial public residential or public value or opportunity (i.e., water intakes and recreational beaches); areas where concentrations of terrestrial or marine mammals or bird populations primarily dependent on the marine environment are located (i.e., bird nesting areas and rookeries); etc. The applicant should have maps and charts of critical areas in the proximity of the operation for reference in the event of a spill. Part 3, Section 3.10 identifies and briefly describes these areas, and lists the appropriate maps and other reference materials[1].

1.6.5 CONTAINMENT AND CONTROL STRATEGIES [18 AAC 75.425(e)(1)(F)(vi)AND 18 AAC 75.445(d)(5)]

The scenario presents containment and control strategies to deal with the RPS volume applicable to the facility or vessel. For spills to land, these strategies may include the construction of emergency dikes or berms, diversion to a sacrificial area, or other measures. For spills to water, this section describes boom configuration and deployment and other applicable containment and control methods. Strategies are specific to the response scenarios, and include appropriate response techniques to deal with potential discharges. The applicant should incorporate the containment and control tactics by reference from the PRAC's technical manual[2] if the applicant has a contract with or is a member of a PRAC.

Containment and control actions must be sufficient to allow the recovery rates needed to meet the RPS as described in subsection 1.6.7, *Recovery Strategies*. The configuration, deployment and maintenance of containment booms must be attainable within the RMROL described in Part 3, Section 3.4 and provide for optimum encounter rates and throughput efficiencies.

Containment strategies account for variables in the type of oil, size of spill (up to the RPS volume), weather, sea conditions, time of year, time of day, and any other applicable circumstances that may affect the type of response. The scenario may include charts and diagrams showing specific

[1] See Chapter 4 for information about Geographic Response Strategies.

[2] See "Technical Manuals" Referencing Them in Your Plan. http://dec.alaska.gov/spar/PPR/marine-vessels/docs/cplan-technical-manual-guidance.pdf

configurations of equipment (e.g. containment boom) required in varying conditions in order to meet the specific needs of a response at the facility, vessel, or operation.

Use of nonmechanical[1] response technologies (in situ burning and dispersants) to meet the response planning requirements of this section is not allowed.

1.6.7 RECOVERY STRATEGIES [18 AAC 75.425(e)(1)(F)(vii) AND 18 AAC 75.445(d)(5)]

The scenario includes specific mechanical recovery strategies, such as pumping, skimming, or removal by absorption, using equipment owned or under contract to the applicant to demonstrate the ability to effectively respond to the RPS. Response strategies should be designed to achieve maximum encounter rates and throughput efficiencies for the recovery equipment. The applicant should incorporate the recovery strategies by reference from the PRAC's tactics manual if the applicant has a contract with or is a member of a PRAC.

For an RPS discharge from a vessel or water-based facility, or an RPS discharge from a land-based facility that has the potential for reaching open water, the scenario describes deployment, configuration and operation of on-water recovery equipment. The scenario also demonstrates the availability of sufficient resources to deal with the entire RPS volume on water from a vessel or water-based operation, as well as the potential on-water portion of an RPS spill from a land-based facility.

See Appendix B, *Determining the Adequacy of Mechanical Recovery Capability*, for more information on designing a recovery system that meets the applicable RPS.

The scenario should account for the following factors and their potential impact, if any, on the efficiency of oil recovery efforts on both land and water:

1. Mobilization and response times for equipment and personnel;

2. The efficiency[2] of the identified recovery equipment (provided in subsection 3.6.3);

3. The planned number of hours of operation of the recovery equipment per 24-hour period, including allowance for change-out, maintenance, and repair;

[1] Subject to specific requirements and department review, voluntary ignition of a well blowout may be considered when determining the RPS for exploration or production facilities per 18 AAC 75.434(g). This is distinct from using nonmechanical response methods to respond to the RPS volume.

[2] See Appendix B for determining the adequacy of mechanical recovery capability.

4. The maximum weather conditions, sea states, ice conditions, etc. in which the recovery equipment can operate, as applicable (discussed in Section 3.4);

5. Potential oil thicknesses, including changes in thickness and spreading during the scenario timeframe; and

6. The presence of debris which may reduce skimmer efficiency and hinder recovery efforts.

The equipment must be appropriate for the type of oil recovered and the range of expected conditions. For example, information on boom, skimmers, or sorbents must demonstrate their availability, compatibility with the spilled oil, method of application, and procedures for retrieval of oil and reuse; information on pumps must demonstrate compatibility with the spilled oil, etc.

1.6.8 DAMAGED TANK TRANSFER AND STORAGE [18 AAC 75.425(e)(1)(F)(viii) AND 18 AAC 75.445(d)(6)]

The scenario describes procedures for the transfer and storage of oil from damaged tanks or undamaged tanks which may be at risk of discharging additional oil in the shortest time safely achievable. The scenario demonstrates sufficient storage and transfer capability.

The scenario demonstrates compatibility of pumps for transferring or off-loading oil with the type of oil, and hoses and couplings are compatible between recovery, transfer, and storage equipment.

1.6.9 RECOVERED OIL AND OILY WATER TRANSFER AND STORAGE [18 AAC 75.425(e)(1)(F)(ix) AND , 18 AAC 75.445(d)(7)]

The response strategy describes procedures for transfer and storage of the recovered oil and oil-water mixture, and methods for estimating the amount of recovered fluids. This section illustrates how transfer and storage operations integrate with oil containment and recovery. The response strategy identifies adequate emergency storage arrangements to allow the response to meet the RPS unhindered by storage concerns. See also Appendix C, *Determining the Adequacy of Transfer and Storage Capability*.

For on-water recovery, the response strategy describes procedures for offloading and transfer of oil and oil-water mixture from recovery equipment to barges or other on-water containers and from these containers to shore-side storage. For on-land recovery, the response strategy describes procedures for transfer of oil from onsite temporary storage such as fast tanks and vacuum trucks to more secure storage such as regulated storage tanks or tanker trucks.

The strategy describes methods to estimate the amount of recovered oil. When appropriate, the recovered fluids estimate includes water as well as oil to plan for adequate storage.

Aboveground storage tanks at fixed facilities that are used for emergency oil storage of recovered oily wastes must remain structurally sound and be located within secondary containment. The plan describes the actions taken to ensure that these tanks do not leak. The plan specifies the maximum length of time for expected use of the emergency storage tanks. Such tanks are clearly marked and disconnected from other appurtenances. The words, "OUT OF SERVICE – EMERGENCY USE ONLY" are clearly stenciled on the outer shell in contrasting lettering larger than 10 inches in height.

1.6.10 TEMPORARY STORAGE AND ULTIMATE DISPOSAL FOR OILY AND SOLID WASTE [18 AAC 75.425(e)(1)(F)(x) AND 18 AAC 75.445(d)(7)]

The response strategy identifies adequate temporary storage and ultimate disposal for oil contaminated materials, oily waste, and sanitary and solid waste recovered from and generated during a spill of the RPS volume.

Storage procedures must take into account the following factors:

1. The nature of the anticipated debris;

2. Identified storage sites and their capacities;

3. Security at storage sites;

4. Means of protecting groundwater and controlling contamination from the storage sites, including specifications of liner materials used;

5. Procedures and timetables for the transfer of material from temporary to permanent storage or disposal, including adequate consideration of hazardous waste requirements (see 18 AAC 62.020, *Identification of hazardous waste* and 40 CFR 262.11, *Hazardous waste determination*) and the estimated time that recovered wastes would be stored;

6. Human resources needed;

7. Permits required.

Disposal options identify appropriate resources, and might include the following procedures:

1. Recovery of oil from oily wastes for re-use through separation, emulsion breaking, or washing or extraction procedures;

2. Bioremediation, if suitable for the type of soils contaminated with oil and environmental conditions encountered;

3. Heat treatment, landfarming, incineration, or landfilling (permits required).

If the applicant plans to ship oily wastes out-of-state, the response strategy presents options for transportation and testing that may be required.

This section addresses non-oily waste disposal, such as sewage and domestic refuse generated during a spill response, as applicable.

1.6.11 WILDLIFE PROTECTION [18 AAC 75.425(e)(1)(F)(xi)]

This section describes strategies for the protection of wildlife, as applicable.

Applicants and reviewers should consult the *Alaska Federal and State Preparedness Plan for Response to Oil and Hazardous Substances Discharges and Releases* (the Unified Plan), Annex G, *Wildlife Protection Guidelines for Alaska for aid in developing a wildlife protection strategy*. This document is available on the department's website at: http://dec.alaska.gov/spar/PPR/plans/uc.htm.

This section identifies mammals, birds, and fish in the area of operations. It also identifies species for protection priority that are particularly rare or are sensitive to an oil discharge. The plan considers seasonal variations in designing appropriate wildlife protection strategies. ADF&G may provide further information on wildlife protection and permit requirements.

The objectives of wildlife rescue and rehabilitation programs are to minimize loss of wildlife and disruption to the biological community, and to rehabilitate wildlife consistent with humane practices. The plan addresses strategies for wildlife protection noted in Table 3-4.

TABLE 3-4: WILDLIFE PROTECTION STRATEGIES

Minimizing wildlife contamination	Protection strategies identify hazing procedures to keep wildlife from contaminated areas; spawning or high-use areas that receive priority protection are noted; physical barriers to exclude wildlife are described; and activities are designed to limit disruption to wildlife.

Rescuing and rehabilitating injured or contaminated animals	Identify personnel who would be responsible for coordinating with the appropriate agencies; identify equipment and resources available for rehabilitation work; identify wildlife experts from the private and public sectors to provide assistance or advice.
Recovering and disposing of dead animals	Discuss procedures for the timely recovery of dead animals to prevent further contamination through scavengers; these procedures are subject to appropriate agency supervision.

1.6.12 SHORELINE CLEANUP PLAN [18 AAC 75.425(e)(1)(F)(xii)]

The response strategy describes shoreline cleanup methods for water-based operations and those land-based facilities at risk of a discharge to open water. A detailed shoreline cleanup plan is usually not required for vessels carrying noncrude oil if adequate exclusionary booming (considering tides and currents) has been demonstrated to the department's satisfaction. Plans for vessels carrying crude oil do require a detailed shoreline cleanup plan.

If a detailed shoreline cleanup plan is required, it is included and discusses personnel, equipment, applicable strategies and best available techniques for cleaning shorelines in the anticipated area of impact, including the following components:

1. Identification of a shoreline cleanup assessment team (SCAT), consisting of representatives of federal, state, and local interest groups, and the applicant. The team selects the appropriate cleanup strategies, gains consensus, and makes recommendations to the Incident Commander;

2. Training in shoreline cleanup and the operation of cleanup equipment for designated personnel;

3. An analysis of available cleanup and restoration methods and techniques and the positive and negative points of each method. Techniques for consideration include cold water deluge, solvents, dispersants, detergents, sandblasting, steam cleaning, manual removal, and bioremediation. Some of these techniques require additional approvals and authorization by the state on-scene coordinator. The analysis considers seasonal and topographical variations;

4. The effects of cleanup techniques on the original shoreline and subtidal biota, and the prospects for restoration after cleanup is completed;

5. A description of shoreline cleanup equipment in the applicant's inventory or under contract, and identification of methods and facilities to collect, store, and dispose of oily wastes resulting from shoreline cleanup operations.

1.6.13 ON-WATER RESPONSE STRATEGY CONSIDERATIONS FOR NONCRUDE OIL OPERATIONS

Noncrude oil varies considerably in its persistence in the environment. Three general categories describe noncrude oil, as follows:

1. Heavy: Oil with a specific gravity of > .90 at 15 degrees C. (Examples: diesel #4, #5, #6, bunker, and residual fuel oils);
2. Medium: Oil with a specific gravity of .80 to < .90 at 15 degrees C. (Examples: diesel #1 and #2 fuel oils, Jet fuel, and kerosene.);
3. Light: Oil with a specific gravity of < .80 at 15 degrees C. (Examples: gasoline and naphtha).

Under certain conditions, "medium" and "light" oils disperse into the water column and/or evaporate over several days' time. Although demonstration of access within 48 hours to recovery and disposal resources sufficient to clean up the entire on-water RPS volume in the shortest possible time is required, all noncrude (refined) product operators must plan to initiate and sustain the recovery effort immediately (i.e., without any unnecessary delay) as soon as a spill to open water is detected. This is especially important in a response to spills of medium and light oils. If a response action contractor's resources are being utilized, additional onsite equipment may be required to meet this planning goal [see 18 AAC 75.425(e)(1)(E)(ii) and Part 1, *Response Action Plan*, subsection 1.5.2, *Response Action Contractor Mobilization*].

1.7 NONMECHANICAL RESPONSE OPTIONS [18 AAC 75.425(e)(1)(G)]

The department evaluates the ability of an applicant to meet the appropriate RPS by considering mechanical response capability (i.e., booms, skimmers, pumps, and other oil recovery resources) only. The applicant is not required to plan for nonmechanical response; however, this section of the plan describes nonmechanical response procedures if proposed as an option.

The plan describes procedures to initiate nonmechanical response, and available equipment and resources; it also provides contact numbers for contractors, if used. The applicant must provide the department with the basis for determining the conditions or circumstances when nonmechanical response options will be used, as well as how the nonmechanical response options will be implemented, including a description of necessary equipment and personnel.

Approval by the department and the ARRT is necessary for both in situ burning and dispersant use. Part 3, *Supplemental Information,* Section 3.7, *Nonmechanical Response Information* discusses additional requirements and background information. When proposing in situ burning, it is helpful for the applicant to incorporate by reference the most recent version of the *In Situ Burning Guidelines for Alaska* in this section. The guidelines are available on the department's website at http://www.dec.state.ak.us/spar/perp/docs/ISB-Rev1(Final-August%202008).pdf.

1.8 FACILITY, RAILROAD, OR VESSEL DIAGRAM [18 AAC 75.425(e)(1)(H)]

The facility or vessel diagram illustrates the facility and area components described in Parts 1 and 2 of the plan, and the diagram clearly indicates those items pertinent to the prevention of, and response to, potential spills. The following sections contain some examples of information to be included for each class of regulated operation.

The diagram presents the information necessary to guide responders. Cross-references to Part 3, Section 3.1, *Facility Description and Operational Overview*, will reduce the size of this section. Cross-references are used for detailed narrative information or supporting documents.

1.8.1 TERMINAL FACILITIES; EXPLORATION, PRODUCTION, AND REFINERY FACILITIES; AND CRUDE OIL TRANSMISSION PIPELINE FACILITIES

Plan drawings or aerial photographs of the facility showing its general layout, topography (including the surrounding area), terrain, bathymetry of adjacent water bodies, other hydrologic or marine features, nearby facilities, mooring and docking areas, roads, air access points, and other information pertinent to spill response are included. Plan drawings indicate distances and gradients to surface water and should be to scale.

Plan drawings and aerial photographs also indicate locations of major equipment, piping, storage, etc. Fire equipment locations, emergency shutoffs, etc. are marked. Drawings and photographs also indicate major components and storage areas for spill response equipment located at the facility.

Line diagrams for facility oil piping, pumping, and processes are included, and the collection, treatment, and disposal of waste oils from vessels, slops, oil collected from drip pans, overfills and spills of oil cargo illustrated as applicable. The drawings or photographs indicate which sections of the facility are above and which sections are below ground.

Specific narrative information on oil storage, including the location, type, capacity, and contents of each tank; oil piping routes; pumping, transfer, and loading systems; check and remote valves;

collection and drainage of incidental spills; and other relevant aspects of the operation are included in Part 3, Section 3.1 and referenced here as appropriate.

For on-water exploration facilities, plans include elevation views from at least two sides and indicate mooring and docking areas. Plans for all decks are included.

For crude oil transmission pipeline facilities, plan drawings or aerial photographs include the route of the pipeline, and topography, terrain and natural features indicated. The drawings or photographs indicate which sections of the pipeline are above and which are below ground, and the distances above and below ground. The drawings or photographs also provide the location of pumping stations, valves and other features as measured from either end of the pipeline.

Plan drawings show the endpoints of the crude oil transmission pipeline, along with line separations, termination gear, and nearby mooring and docking areas. This section includes drawings or diagrams of pump stations, check valves, remote gate valves, stubs and any other features that may be important during a rupture, leak or shut down.

1.8.2 RAILROAD TANK CAR OR LOCOMOTIVE

A diagram is included for each distinct type of railroad tank car or locomotive showing locations of fuel and lubrication systems. Each diagram illustrates locations of oil storage tanks, piping and valves.

1.8.3 CRUDE AND NONCRUDE VESSELS AND BARGES

Plan drawings or aerial photographs of the layout of the vessel or barge are included. Tank configuration, cargo and ballast piping, towing equipment, drip pan piping, deck drainage, on-board oily ballast treatment, such as the oil water separator, waste oil handling, fire suppression equipment, winches, containment structures and equipment, and other specific components are noted. Plan drawings show the location of major components of spill response equipment carried on board.

Line diagrams for oil and ballast piping, pumping, and processes are included, and the collection, treatment, and disposal of waste oils from vessels, slops, oil collected from drip pans, overfills and spills of oil cargo illustrated as applicable.

Specific narrative information on oil storage, including the location, type, capacity, and contents of each tank; oil piping routes; pumping, transfer, and loading systems; check and remote valves; collection and drainage of incidental spills; and other relevant aspects of the operation are included in Part 3, Section 3.1 and referenced here as appropriate.

For vessels routinely operating at Alaskan ports, a copy of the vessel's most recent U.S., Canadian Coast Guard or other flag state or classification society inspection documentation may be included.

1.9 PLAN RESPONSE SCENARIO FOR EXPLORATION OR PRODUCTION FACILITIES [18 AAC 75.425(e)(1)(I) AND 18 AAC 75.445(d)(2)]

Exploration and production facilities have specific response scenario requirements in addition to those listed in 18 AAC 75.425(e)(1)(F) and described in subsection 1.6, *Response Scenarios*. For facilities with multiple exploration/production wells or pipelines, the RPS volume is established for the well or portion of the pipeline with the largest potential spill volume. The RPS scenario is written for that location. It should be noted that this is not necessarily the location that is most difficult to respond to or with the highest sensitivity.

1.9.1 WELL BLOWOUT CONTROL

For exploration or production facilities, the primary method of well control utilizes drilling fluids to overbalance formation pressure. Secondary methods typically include blowout preventers (BOPs). Once a blowout has occurred, measures taken to regain well control may include surface control measures, BOP activation, or drilling a relief well.

The scenario for an exploration or production facility illustrates the methods, equipment, logistics, and associated timeframes for mobilization and deployment employed to control a well blowout. Although the plan must demonstrate control of a well blowout within 15 days pursuant to 18 AAC 75.425(e)(1)(I), this information does not need to be in the RPS scenario and can be included in a separate section. For a well blowout scenario, the trajectory information describes the deposition modeling, including the volume of oil that falls within designated recovery zones during certain periods. Well blowout modeling is described below in section 1.9.2, *Blowout Plume Modeling*. The spill trajectory for the on-water RPS should be based on realistic currents and appropriate NOAA GNOME or other modeling.

Exploration or production facilities must maintain a separate blowout contingency plan. The blowout contingency plan is not part of the plan application package required under 18 AAC 75.408, but must be made available to the department prior to plan approval and for inspection upon request under 18 AAC 75.480. The department's review can be performed at the plan holder's office if the document contains confidential information the plan holder does not want made available to the public. The department may consult with AOGCC or other agencies to determine the adequacy of the planned methods, equipment, logistics, and timeframes for the control of a well blowout. The applicant must certify in the plan that a separate blowout contingency plan is maintained at the facility.

1.9.2 BLOWOUT PLUME MODELING

In order to satisfy the blowout scenario requirements, an applicant models a blowout using site-specific inputs. The first two steps in the modeling process are the following:

1. Model the blowout plume in order to project the dimensions of the blowout plume;

2. Acquire site-specific wind data in order to project where the blowout plume will be deposited.

A surface oil and gas well blowout discharges oil into the atmosphere. The location where the oil falls (the fallout plume) depends on many factors such as the characteristics of the reservoir, wind speed, oil droplet size, and the size of the well pipe.

18 AAC 75.425(e)(1)(I) provides that an applicant "may use for development of a response scenario the July 1997 S. L. Ross deposition model for surface oil well blowouts, or another oil deposition model approved by the department for surface oil well blowouts." The use of the S.L. Ross model (1997) is not mandated, it is merely a model that has been vetted and approved. The applicant may use another oil deposition model if it is approved by the department.

There are three inputs to the S. L. Ross model:

1. Diameter of the pipe (4-inch or 6.3-inch inner diameter);

2. Daily oil flow (in bbls of oil per day); and

3. Gas-to-oil ratio (GOR), in standard cubic feet per barrel).

The daily oil flow rate is based on the RPS volume described in Part 5, Section 5.4.3, *RPS for Exploration and Production Facilities*. The output from the model is the dimensions of the blowout plume. The dimensions (width and length) are in meters. The deposition is described in the scenario trajectory information, including the volume of oil that falls within designated recovery zones during certain periods.

A special note about evaporation:

The S.L. Ross model assumes that 10 percent of oil discharged from a blowout will be in particles so small (50 micrometers or less) that the particles do not fall to the ground but are held aloft by atmospheric turbulence. Other models make similar assumptions, resulting in a portion of the discharged oil evaporating or held aloft. This does <u>not</u> negate the requirement that the applicant have

the equipment and the capability to meet 100 percent of the RPS volume, as required in 18 AAC 75.425(e)(1)(F) and 18 AAC 75.445(g)(1).

The most common method of demonstrating 100 percent mechanical recovery in the blowout scenario is to re-deposit the 10 percent that is projected to stay aloft. By re-depositing this volume, the applicant is able to use the S.L. Ross model to project blowout plume dimensions and set the stage to demonstrate 100 percent mechanical recovery.

Site-specific wind data determines the number and location of the blowout plumes. National Weather Service data or local weather records are appropriate sources to determine wind data of duration sufficient to determine a reasonable average. There are numerous publicly available sources for wind data see http://www.wcc.nrcs.usda.gov/climate/windrose.html.

A wind rose depicts wind data. By definition, a wind rose is a polar coordinate plot designed to show the distribution of wind directions and speeds at a given location over a considerable period. The distance from the origin is proportional to the probability of the wind direction being at the given angle, measured in 16 cardinal compass points. A wind rose typically illustrates the wind speeds for each direction in different colors (see Figure 3-4).

The plan presents the wind roses for summer (May through October) and winter (November through April) conditions. This is updated at each plan renewal.

The number of "predominant wind directions" determines the number and location of the blowout plumes. In other words, each of the wind directions that occur greater than 10 percent of the time will have a blowout plume footprint extending in that direction.

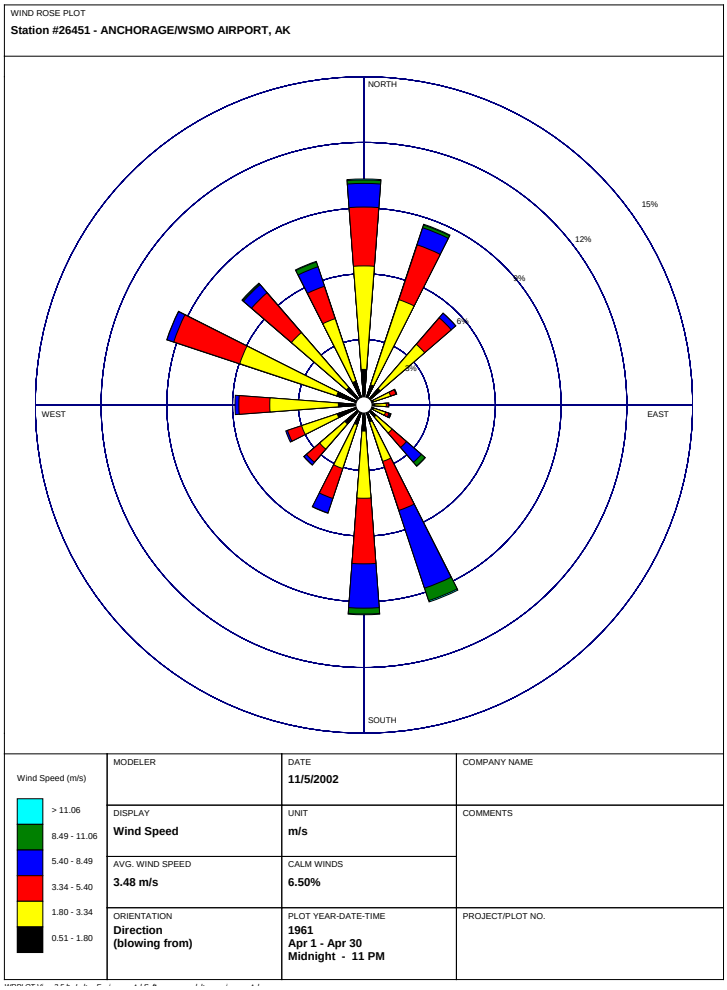

FIGURE 3-4: TYPICAL WIND ROSE

Source: http://www.wcc.nrcs.usda.gov/ftpref/downloads/climate/windrose/alaska/anchorage/

1.6.6 BARGE AND VESSEL SCENARIOS

See "Plan Scenario Template" available on-line here:
http://dec.alaska.gov/spar/ppr/apply_contingency_plan.htm

PART 2 PREVENTION PLAN

TABLE 3-5: TABLE OF PREVENTION PLAN REQUIREMENTS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
PART 2: PREVENTION PLAN		
Discharge Prevention Programs In Place	18 AAC 75.425(e)(2)(A)	50
Discharge Prevention Programs Applicable to all Facilities	18 AAC 75.020 18 AAC 75.425(e)(2)(A)(i)	50
Discharge Prevention Training Programs and Record Keeping	18 AAC 75.020 AND 75.425(e)(2)(A)(i)	50
Substance Abuse and Medical Monitoring Programs	18 AAC 75.007(e) 18 AAC 75.425(e)(2)(A)(ii)	51
Security and Surveillance Program	18 AAC 75.007(f) 18 AAC 75.425(e)(2)(A)(ii)	52
Transfer Procedures	18 AAC 75.025	52
Requirements for Laden Tank Vessels and Laden oil Barges	18 AAC 75.027 18 AAC 75.037	54
Operating Requirements for Exploration and Production Facilities	18 AAC 75.045	55
Flow Lines at Production Facilities	18 AAC 75.047	57
Crude Oil Transmission Pipelines	18 AAC 75.055(a)	58
Aboveground Oil Storage Tanks	18 AAC 75.065, 066, 425(e)(3)(A)(i) AND 425(e)(3)(A)(ii)	59
Field-Constructed Aboveground Oil Storage Tanks	18 AAC 75.065	61
Shop-Fabricated Aboveground Oil Storage Tanks	18 AAC 75.066	63
Secondary Containment Areas For Aboveground Oil Storage Tanks and Loading and Unloading Areas	18 AAC 75.075	65
Requirements for Facility Oil Piping	18 AAC 75.080	68
Railroad Tank Car and Operations by Rail	18 AAC 75.085	70
Discharge History	18 AAC 75.425(e)(2)(B)	70
Potential Discharge Analysis	18 AAC 75.425(e)(2)(C)	70
Conditions that Might Increase Risk of Discharge and Mitigating Measures	18 AAC 75.425(e)(2)(D)	71
Discharge Detection	18 AAC 75.425(e)(2)(E)	71
Discharge Detection for Laden Tank Vessels and Laden Oil Barges	18 AAC 75.027(d) AND 18 AAC 75.037(d)	72
Discharge Detection for Flow Lines at Production Facilities	18 AAC 75.047(d)(1)	72
Discharge Detection for Crude Oil Transmission Pipelines	18 AAC 75.055(a)	72
Discharge Detection for Aboveground Oil Storage Tanks	18 AAC 75.065(h)(1) 18 AAC 75.065(i)(4) 18 AAC 75.065(j)(4)(a)	73
Discharge Detection for Facility Oil Piping	18 AAC 75.080(n)	73
Documentation of Waivers, Alternate Compliance Schedules, and Conditions of Plan Approval	18 AAC 75.425(e)(2)(F)	73
Waivers	18 AAC 75.015	74

Part 2, the Prevention Plan, verifies that appropriate measures are in place to reduce the risk or size of an oil spill at the regulated operation. This part of the plan demonstrates compliance with the applicable requirements of 18 AAC 75, Article 1 (18 AAC 75.005 – 18 AAC 75.085). Familiarity with the appropriate provisions of both Article 1 and Article 4 is necessary to prepare a prevention plan that complies with state requirements. This section provides references to both parts of the regulations.

Approval of the prevention plan is the first step in determining compliance with the applicable requirements. Approval indicates that, in the department's judgment, the applicant has undertaken adequate planning to prevent likely spills, and standard operating procedures at the operation meet or exceed accepted industry standards and applicable state regulations. Verification of the operator's ability to prevent spills is an ongoing process, involving both facility and vessel inspections, record audits, and the investigation of actual spills at the operation by the department. Approval does not relieve the applicant of the need to periodically assess the spill prevention program, and take additional measures in response to improvements in technology or a better understanding of the causes or circumstances of spills at the operation.

In general, the prevention requirements in Article 1 are performance-oriented, rather than prescriptive. This approach, while allowing flexibility, places the responsibility on the applicant to determine and implement the best means of preventing spills from the specific operation. The applicant must therefore demonstrate to the department's satisfaction that the particular requirement has been met; for example, by justifying a choice of secondary containment lining materials and design, deciding whether local soil conditions warrant cathodic protection, or determining the adequacy of training or security measures.

Certification of the prevention plan by a registered Alaska professional engineer is not required under the regulations, but is encouraged. A licensed professional engineer or corrosion expert's certification of such key elements as secondary containment, corrosion protection, and leak detection systems is evidence of sound practices. Specific requirements (e.g., oil storage tank inspections conducted in accordance with American Petroleum Institute [API] Standard 653) necessitate the use of an authorized inspector.

The applicant may submit the prevention plan as a separate volume.

The following sections discuss the specific requirements of 18 AAC 75.425(e)(2)(A) – (F), and are presented in the order given in the regulations. Each section heading references the appropriate Article 1 and Article 4 prevention regulations.

DISCHARGE PREVENTION PROGRAMS IN PLACE [18 AAC 75.425(e)(2)(A)]

The best means for preventing spills, including human factors such as training, substance abuse prevention, medical monitoring, and security, may vary greatly from operation to operation. The applicant must take spill history and other factors into account when designing a prevention program that addresses the specific areas and situations encountered at the facility or on or near the vessel. The plan must address, at a minimum, the items listed in the following sub-sections. Additional measures may be required if warranted.

2.1 DISCHARGE PREVENTION PROGRAMS APPLICABLE TO ALL FACILITIES

2.1.1 DISCHARGE PREVENTION TRAINING PROGRAMS AND RECORD KEEPING [18 AAC 75.020 AND 18 AAC 75. 425(e)(2)(A)(i)]

The plan demonstrates that individuals with job duties directly involving inspection, maintenance, or operation of oil storage and transfer equipment regulated under 18 AAC 75.005 – 18 AAC 75.085 are appropriately and regularly trained in company and state spill prevention measures as appropriate to the position. The prevention training plan is not required to be included in the plan, but it must be sufficiently described to demonstrate compliance with 18 AAC 75.020(a) – (c). Placing the key positions and applicable training requirements described below into tabular format is encouraged by the department.

A description of the prevention training program must be in the plan and include, at a minimum, the following aspects of spill prevention:

1. A brief job description for each position with regular duties that may affect the risk or size of an oil spill, and the training and level of knowledge appropriate to that position;

2. The means of achieving the identified training objectives, including training subjects, schedules, frequency (initial training upon hire and annual refresher training is recommended), and type (classroom, online, on-the-job, etc.); and

3. A description of any licenses, certifications, or other prerequisites needed to hold a particular job.

Training records must be prepared and maintained in a retrievable format and kept in accordance with the requirements of 18 AAC 75.020(e). One of the following methods achieves documentation or verification of completion of required spill prevention training:

1. A statement, signed and dated by each participant, listing the course or program content;

2. Shipboard records verified by the vessel master; or

3. Computerized records verified by the owner or operator.

Records to document training, inspections, tests, maintenance, and repairs required by 18 AAC 75.005 – 18 AAC 75.085 must be kept for at least five years and provided to the department upon request.

2.1.2 SUBSTANCE ABUSE AND MEDICAL MONITORING PROGRAMS [18 AAC 75.007(e) AND 18 AAC 75. 425(e)(2)(A)(ii)]

It is the applicant's responsibility to take all appropriate measures to ensure that personnel responsible for any activity that might result in a spill are free from substance abuse or medical conditions that impair their ability to do their job. Federal requirements for Department of Transportation operations including railroads (49 CFR Part 219, *Control of alcohol and drug use*), pipelines (49 CFR Part 199, *Drug and alcohol testing*), and vessels regulated under the Department of Homeland Security, USCG (46 CFR Part 16, *Chemical testing*) may be referenced as applicable.

At a minimum, a description of the substance abuse program in place at the operation includes:

1. The positions required to participate;

2. The type of program (random, scheduled, combination, etc.);

3. The nature of the test or tests performed;

4. The frequency of testing; and

5. The total number of tests per employee per year.

The department recommends random testing programs or a combination of random and scheduled programs over entirely scheduled programs. If a plan holder conducts an entirely scheduled program, then an increase in the annual percentage and frequency of employees tested needs to occur. A program that is solely incident-initiated does not meet this requirement.

A description of the medical-monitoring program must include:

1. The positions required to participate;

2. The physical conditions and/or abilities screened for (vision, hearing, coordination, etc.);

3. Methods used to determine physical status and/or abilities (medical examination, observation, performance tests, etc.); and

4. Frequency of testing and monitoring.

Legal limitations must be considered when designing, instituting and evaluating substance abuse and medical-monitoring programs. They do not, however, justify a program that fails to meet regulatory requirements.

2.1.3 SECURITY AND SURVEILLANCE PROGRAM [18 AAC 75.007(f) AND 18 AAC 75. 425(e)(2)(A)(iii)]

The applicant is responsible for providing security measures and surveillance appropriate to each component of the operation by controlling access to property, facilities, vessels, and operations to keep out vandals, saboteurs, or other unauthorized visitors who could increase the probability of a spill. At a minimum, provide the following security information:

1. A description of security measures, including gates, fences, lighting, surveillance, etc;

2. Procedures for controlling access to the site.

The adequacy of security measures are weighed against the relative risk of vandalism, sabotage, etc. for each operation. Remote facilities and operations may require less extensive measures than those in highly-populated areas or those with strategic value. The plan should include a discussion of measures for increasing security upon indication of need (for example, in the event of a threat or evidence of tampering).

2.1.4 TRANSFER PROCEDURES [18 AAC 75.025]

The plan describes all appropriate precautions taken to reduce the risk or size of a spill during an oil transfer between an oil terminal facility and a railroad tank car, tank truck, tank vessel, oil barge or movement of oil within an oil terminal facility by means of pumping, gravity or displacement. Transfer procedures to prevent oil spills should include:

1. A pre-transfer conference which includes review of transfer procedures, verification of oil levels and volumes, and inspection of key transfer components such as valves, hoses, piping and pumps; a checklist for this activity is recommended;

2. Standard hookup, start-up, and shutdown procedures, including all appropriate spill prevention measures;

3. If appropriate, reduced rates of loading at the beginning and end of a transfer;

4. A statement that each person involved in a transfer is capable of clearly communicating orders to stop a transfer at any time; and

5. A positive means to stop a transfer in the shortest possible time consistent with the best commercially available technology.

For transfers to or from an area not protected by secondary containment, check all valves in the transfer system to ensure they are in the correct position, and that all manifolds not in use are blank flanged or capped. Where feasible, inspect for damage or defects all piping and hoses used in the transfer before and at least once during each transfer.

In addition to the described procedures and unless technically unfeasible to do so, deploy an oil containment boom appropriate for local conditions in an effective manner around a tank vessel or oil barge during a transfer of crude oil, other persistent products, and oily ballast water. The boom should have sufficient skirt depth to contain spilled oil and adequate room for recovery equipment to operate inside the boom (in most cases this requires a minimum boom length equal to three times the length of the vessel, however, there are times that this is not adequate and four times the length of the vessel is required). In accordance with 18 AAC 75.025(i), deployment of an oil containment boom is technically unfeasible if;

1. Expected tidal currents and other local environmental conditions preclude the effective configuration and operation of the oil containment boom due to entrainment or splash over; or

2. The physical facility layout precludes the effective configuration of the oil containment boom around the tank vessel or oil barge.

Operators with an approved USCG Operations Manual that includes all of the information above may incorporate that document to satisfy this requirement (see 46 CFR 109.121, *Operating manual*). This

information may also be cross-referenced to Part 3, subsection 3.1.5, *Transfer Procedures* for general transfer information as appropriate.

For vessels, federal law requires a loading manual which meets the requirements of 46 CFR 45. 109.227 (vessel trim and stability). Information from the loading manual may be useful in demonstrating compliance with some of the pertinent requirements.

2.1.5 REQUIREMENTS FOR LADEN TANK VESSELS AND OIL BARGES [18 AAC 75.027 AND 18 AAC 75.037]

The plan demonstrates that the tank vessel or oil barge:

1. Carries or has access to sufficient oil transfer equipment to lighter the volume of the largest cargo tank to and from other vessels within 24 hours;

2. Has an oil spill prevention and response officer on board; this person is responsible for training and drilling the crew on state and federal oil pollution prevention and response requirements; and

3. Has a person fluent in English and the master's language immediately available when underway in state waters, if the master is not fluent in English.

Authorities, other than the state, require inspection and maintenance of vessels and barges. Voluntary measures often supplement these requirements and the applicant may choose to include those measures in the plan. Tank vessel and oil barge plans include a brief description and schedule of structural integrity inspections and maintenance programs; the plan must identify who performs the inspections and maintenance, which activities are required by the USCG, other flag state authority, an insurer or classification society, and which are voluntary.

Tank vessel plans describe:

1. Measures in place that allow prompt detection of an oil discharge, including visual lookouts, sounding cargo tanks after a grounding, collision, or allision, and where technically feasible, electronic leak detection systems;

2. The means for rapidly attaching an emergency towing line to a tow vessel commonly available in the area of operation; while in state waters, towing line must be made up and prepared for rapid deployment to a towing vessel; the tow line must be fitted to allow tow vessels commonly available in the area of operation to take the vessel in tow rapidly; for vessels operating at the

oil loading terminal at Valdez, the Prince William Sound towing package may be used instead; and

3. If an escort system is used, a description of that system, which includes:
    1. escort proximity maintained for immediate assistance to the escorted vessel;
    2. operating speeds;
    3. area of escort; and
    4. the escort vessel's relative ability to stop, turn and tow loaded tank vessels under prevailing wind, sea and current conditions.

Oil Barge plans describe:

1. Measures in place that allow prompt detection of an oil discharge, including visual inspections of the barge and the area around it and sounding cargo tanks after a grounding, collision, or allusion;

2. Towing equipment inspections (scheduled for every two months with the results and any repairs recorded); and

3. The means of reliably recovering a barge that breaks free of its towing vessel including the capability of being used by other vessels if the towing vessel is lost or incapacitated.

This subsection provides information supporting any reductions to the RPS volume for a crude oil tank vessel or barge with hydrostatic loading or an escort vessel system [18 AAC 75.438(d)]. In order to receive the appropriate credit for the escort vessel system, the system must meet the applicable requirements regarding duration of escort service and escort vessel capability, speed and on-board equipment.

2.1.6 OPERATING REQUIREMENTS FOR EXPLORATION AND PRODUCTION FACILITIES [18 AAC 75.045]

This section of the plan describes the means used by an applicant for an exploration or production facility to collect and store oil produced during a formation flow test or other drilling operation in a manner that prevents an oil discharge.

At a minimum, exploration or production facilities provide containment and collection devices such as drip pans and curbs for offshore exploration and production well and wellhead sumps located

onshore or on artificial island or ice islands. For wells drilled and completed after December 30, 2008, wellhead sumps are designed and installed to be sufficiently impermeable.

When using a marine structure, which is defined in 18 AAC 75.990(175) as an assembly permanently or temporarily attached to the seabed, including mobile offshore drilling units (MODU), prefabricated offshore platforms, and artificial islands, the plan includes:

1. The method of inspection, schedule and reporting, after installation and before drilling or production begins, for fatigue and structural integrity as required by 30 CFR Part 250, Subpart I;

2. A description or diagram locating closure valves and pipelines leaving the marine structure, and actions taken in the event of a discharge or other emergency for both manual and remote shutdown; and

3. A description of secondary containment and adequate capacity for oil storage for marine structures used for oil production (other than an artificial island) including a description of sufficiently impermeable decking with catch tanks or other devises adequate to contain, collect and divert spilled oil.

The applicant submits a report, separate from the plan that describes the inspection of a marine structure and resulting corrective actions.

A plan for an exploration facility includes descriptions of compliance with discharge prevention requirements for aboveground oil storage tanks (subsection 2.1.9, *Aboveground Oil Storage Tanks*) and associated secondary containment (subsection 2.1.17, *Secondary Containment Areas for Aboveground Oil Storage Tank and Loading and Unloading Areas*) and facility oil piping (subsection 2.1.18, *Requirements for Facility Oil Piping*).

A plan for a production facility also describes compliance with discharge prevention requirements for flow lines (subsection 2.1.7, *Flow Lines at Production Facilities*), crude oil transmission pipelines (subsection 2.1.8, *Crude Oil Transmission Pipelines*), aboveground oil storage tanks (subsections 2.1.9, *Aboveground Oil Storage Tanks*) and associated secondary containment (subsection 2.1.17, *Secondary Containment Areas for Aboveground Oil Storage Tank and Loading and Unloading Areas*) and facility oil piping (subsection 2.1.18, *Requirements for Facility Oil Piping*).

2.1.7 FLOW LINES AT PRODUCTION FACILITIES [18 AAC 75.047]

Flow lines are defined as pipelines and associated fittings, including valves, elbows, joints, flanges, pumps, and flexible connectors used to transport oil between a well pad or marine structure used for oil production and the interconnection point with a transmission pipeline [18 AAC 75.990(173)]. A production facility plan provides the following information for flow lines:

1. Design and construction standard used and installation date: for flow lines placed in service after December 30, 2008, the design and construction must be consistent with American Society of Mechanical Engineers (ASME) Standard ASME B31.4-2002, ASME B31.8-2003, or another equivalent and nationally recognized standard approved by the department;

2. Measures for controlling corrosion including at a minimum:

   a. A corrosion monitoring control program consistent with Chapter VIII of ASME B31.4-2002,

   b. External corrosion control of buried or submerged flow lines consistent with National Association of Corrosion Engineers (NACE) Standard RP0169-2002,

   c. External corrosion control of aboveground flow lines by applying a protective coating, use of corrosion-resistant alloys, or another method approved by the department (unless the applicant can demonstrate that the anticipated extent of corrosion will not affect fitness for service), and

   d. A program to minimize internal corrosion;

3. Installation and maintenance of line markers over each onshore flow line at each road crossing and 1-mile intervals; buried flow lines are properly located; and

4. Aboveground flow line supports are consistent with ASME 31.4-2002.

Flow lines have a leak detection system, or, alternatively, are in a preventative maintenance program as described below.

1. The entire circumference is completely contained, with a leak detection system in the interstitial space; or

2. In a preventative maintenance program that ensures continued operational reliability of flow line system components; he plan holder maintains written, detailed plans and procedures for preventative maintenance and corrosion control and monitoring programs consistent with

appropriate industry standards below; the plans and procedures provide for reviewing proposed changes in operating conditions to evaluate potential impact on pipe integrity, and provide for establishing procedures to analyze all spills for determining the cause and to minimize the possibility of recurrence; plan holders maintain the flow lines in conformance with these plans and procedures, and modify and review them from time to time as experience dictates and changes in operating conditions require;

a. For submerged flow lines, ASME B31.4-2002;

b. For buried flow lines, ASME B31.4-2002;

c. For aboveground flow lines, as appropriate, consistent with API 570, or ASME B31.4-2002; and

d. For all flow lines, procedures to review proposed changes in operations to evaluate potential impacts on pipe integrity.

The plan describes the leak detection system or preventative maintenance program and verifies compliance with requirements of by documenting the items discussed below. This documentation is not required to be submitted with the prevention plan but copies must be kept for at least five years and submitted to the department upon request [18 AAC 75.020(e)].

1. For corrosion control measures, document the date and location of inspections and tests; evaluation of weight loss coupons, electrical resistance probes, corrosion inspections; analysis of chemical optimization; analysis of corrosion trends, and description of repair activities;

2. For a preventative maintenance program, document procedures for program implementation; dates and locations of inspections and tests, analysis of pipewall thickness measurements and remaining life calculations; and internal audit procedures of the program.

2.1.8 CRUDE OIL TRANSMISSION PIPELINES [18 AAC 75.055(a)]

Prevention plans for crude oil transmission pipelines describe methods for promptly detecting a leak and stopping the incoming flow of oil within one hour after detection of a discharge. Staff in the Integrity and Engineering Unit (IEU) will assist department plan review staff with evaluation of whether it is technically feasible to detect a leak of one percent of a pipeline's daily throughput as required by regulation. For crude oil transmission pipeline facilities with aboveground oil storage tanks, the prevention plan includes descriptions of compliance with discharge prevention requirements for aboveground oil storage tanks (subsections 2.1.9, *Aboveground Oil Storage Tanks*) and

associated secondary containment (subsection 2.1.17, *Secondary Containment Areas for Aboveground Oil Storage Tank and Loading and Unloading Areas*).

For crude oil transmission pipeline facilities that have facility piping connected or associated with the main transmission pipeline, the prevention plan includes descriptions of compliance with discharge prevention requirements for facility oil piping (subsection 2.1.18, *Requirements for Facility Oil Piping*).

Subsection 2.5.3, *Discharge Detection for Crude Oil Transmission Pipelines* describes crude oil transmission pipeline leak detection systems.

2.1.9 ABOVEGROUND OIL STORAGE TANKS [18 AAC 75.065, 066, 425(e)(3)(A)(i), AND 425(e)(3)(A)(ii)]

Aboveground oil storage tank is defined in 18 AAC 75.990(165) for the purposes of 18 AAC 75.065, 18 AAC 75.066, and 18 AAC 75.075 as a container, including a storage and surge tank, that is used to store bulk quantities of oil and that has a capacity of greater than 10,000 gallons and does not include a pressure vessel or underground storage tank.

If the facility or operation includes aboveground oil storage tanks, the plan provides general information on the tanks and descriptions of the measures in place to prevent or reduce the risk of both catastrophic and chronic spills from the tanks. The required information, described below, is often presented in tabular format and may be located in this subsection, Section 3.1, *Facility/Vessel Description and Operational Overview*, or an appendix. An example is provided in Appendix D.

Information required for tanks with capacities of 1,000 gallons and greater[1]:

1. Location;
2. Dimensions and capacity; and
3. Product stored.

Information required for tanks with capacities greater than 10,000 gallons:

1. Identification number;
2. Type (vertical, horizontal, shop-fabricated, field-constructed);
3. The date of construction;

[1] Information for tanks with capacities of 1,000 – 10,000 gallons is required per Guidance Document OPC 92-6. See Appendix E.

4. Tank design (bolted, riveted, welded, etc.);

5. Construction standard (construction standard requirements are based on the year of installation as discussed below);

6. Foundation type (concrete, gravel, native soil, elevated, skids, etc.) and a brief description of any foundation problems experienced in the past;

7. Tank inspection standard (including API 653 or API 12 R1, or equivalent standard approved by the department as appropriate);

8. Tank inspection schedules – frequency must be in accordance with API 653 or API RP 12R1 for field-constructed tanks. The department may reduce the inspection intervals for field-constructed tanks if they are more than 30 years old, riveted or bolted, have a demonstrated structural, corrosion or foundation problem, or experience a significant seismic event. Inspection intervals may not be based on similar service as specified in Section 6.4.2 of API 653, but may be based on risk-based inspection as specified in Section 6.4.3 of API 653 [18 AAC 75.065(b)(2) and (3)];

9. The means of preventing overfilling by one or more of the following:

    a. High liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer;

    b. High liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;

    c. A means of immediately determining the liquid level of each bulk storage tank, if the liquid level is closely monitored during a transfer; and

    d. A system approved by the department, which will immediately notify the operator of high liquid levels;

10. Description of overfill protection device testing as required before each transfer, or monthly, whichever is less frequent. If substituting monthly inspection and annual testing, describe how monthly testing would necessitate interrupting the operation of a system subject to continuous flow;

11. Leak detection system;

12. Cathodic protection system; and

13. A description of any other appurtenances associated with the tanks not already described.

Only certified inspectors (API, Steel Tank Institute [STI]) or other as approved by the department shall conduct or supervise the required periodic formal external and internal tank inspections. A copy of the inspector's certificate must be kept with the inspection reports and must be made available for department review upon request. Except for the routine (monthly) inspection, records and documentation of tank inspections must be maintained for the service life of the tank in a retrievable format and provided to the department upon request. Routine (monthly) inspection records must be maintained for five years.

2.1.10 FIELD-CONSTRUCTED ABOVEGROUND OIL STORAGE TANKS [18 AAC 75.065]

The definition of field-constructed aboveground oil storage tank is found in 18 AAC 75.990 (172): a welded metal aboveground oil storage tank erected on site where it will be placed in service. Regulatory requirements applicable for a specific field-constructed aboveground oil storage tank are dependent on the in service date of the tank: before May 14, 1992; on or after May 14, 1992 and before December 30, 2008; and after December 30, 2008.

2.1.11 FIELD-CONSTRUCTED ABOVEGROUND OIL STORAGE TANK INSTALLATION PLACED IN SERVICE BEFORE MAY 14, 1992

Field-constructed aboveground oil storage tanks placed in service before May 14, 1992 must have one or more of the following prevention methods:

1. A leak detection system such that an observer outside the tank can detect leaks in the bottom of the tank, such as secondary catchment under the tank bottom with leak detection sump, a sensitive gauging system, or other leak detection system approved by the department;

2. Cathodic protection in accordance with API 651;

3. A thick film liner in accordance with API R 652; or

4. Another leak detection or spill prevention system approved by the department.

Cathodic protection must be operated and maintained consistent with NACE RP0193-2001, and a corrosion expert or qualified cathodic protection tester will perform a cathodic protection survey specified under that standard.

2.1.12 FIELD-CONSTRUCTED ABOVEGROUND OIL STORAGE TANK INSTALLATION PLACED IN SERVICE ON OR AFTER MAY 14, 1992 AND BEFORE DECEMBER 30, 2008

Field-constructed aboveground oil storage tanks placed in service on or after May 14, 1992, and before December 30, 2008 must follow applicable construction standards of API 650, API Spec 12D, API Spec 12F, API Spec 12P, or another equivalent standard approved by the department. Tanks may not be of riveted or bolted construction.

Cathodic protection or another corrosion control system approved by the department must be installed to protect the bottom of each tank from external corrosion where local soil conditions warrant. In order to gain department approval, the plan holder must demonstrate that any proposed alternative provides an equivalent degree of protection to that listed (for example, another corrosion protection system may be approved if it has been certified by a professional engineer or a corrosion expert as equivalent to, or more effective than, a cathodic protection system). The operation and maintenance of the cathodic protection system must be consistent with Section 11 of NACE RP0193-2001. A corrosion expert or qualified cathodic protection tester must perform a cathodic protection survey specified under that standard.

Aboveground oil storage of this vintage must have one or more of the following leak detection systems that an observer from outside the tank can use to detect leaks in the bottom of the tank:

1. Secondary catchment under the tank bottom with a leak detection sump;

2. A sensitive gauging system; or

3. Another leak detection system approved by the department. To gain department approval, the applicant must demonstrate that any proposed alternative provides an equivalent degree of protection to that listed (for example, another leak detection system may be approved if it has been certified by a professional engineer as equivalent to, or more effective than, generally available online systems).

2.1.13 FIELD-CONSTRUCTED ABOVEGROUND OIL STORAGE TANK INSTALLATION PLACED IN SERVICE AFTER DECEMBER 30, 2008

Field-constructed aboveground oil storage tanks placed in service after December 30, 2008 must follow applicable construction standards (API 650, API Spec 12D, or another equivalent standard approved by the department). A tank may not be of riveted or bolted construction.

A cathodic protection system or another corrosion control system approved by the department must be installed to protect the bottom of each tank from external corrosion unless deemed not necessary by an evaluation conducted by a corrosion expert in accordance with API 653. Cathodic protection must be designed by a corrosion expert; installed under the supervision of a corrosion expert; and installed, operated, and maintained in accordance with NACE RP0193-2001. A corrosion expert or qualified cathodic protection tester must perform a cathodic protection survey specified under that standard.

Field-constructed aboveground oil storage tanks of this vintage must be equipped with a leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank and that is designed and installed in accordance with API 650, Appendix I, unless another leak detection system is approved by the department.

For field-constructed aboveground oil storage tanks placed in service after December 30, 2008, high liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer must be installed, even if another means of preventing overfilling is provided.

2.1.14 SHOP-FABRICATED ABOVEGROUND OIL STORAGE TANKS [18 AAC 75.066]

As discussed above in subsection 2.1.9, aboveground oil storage tank is defined in 18 AAC 75.990(165). The definition of shop-fabricated aboveground oil storage tank is found in 18 AAC 75.990(181): "…an oil storage tank that is constructed at a tank manufacturer's plant and transported to a facility for installation." This subsection describes design, construction, discharge prevention, and maintenance and inspection requirements for such tanks. Regulatory requirements applicable for a specific operations shop-fabricated aboveground oil storage tanks are dependent on the in service date of the tank; on or before December 30, 2008, or after December 30, 2008.

2.1.15 SHOP-FABRICATED OIL STORAGE TANKS PLACED IN SERVICE ON OR BEFORE DECEMBER 30, 2008

Shop-fabricated aboveground oil storage tanks placed in service on or before December 30, 2008 at an oil terminal facility, crude oil pipeline, exploration facility, or production facility must maintain and inspect the tanks in accordance with STI SP001, API 653, or another equivalent standard approved by the department.

In addition to the oil transfer requirements described in Section 2.1.4 (18 AAC 75.025), aboveground shop-fabricated oil storage tanks must be equipped with one or more of the following means of preventing discharges:

1. High liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer;

2. High liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;

3. A means of immediately determining the liquid level of each bulk storage tank, if the liquid level is closely monitored during a transfer; and/or

4. A system approved by the department which will immediately notify the operator of high liquid levels.

Each discharge prevention device for the tank must be tested before each transfer operation or monthly, whichever is less frequent. If monthly testing necessitates interrupting the operation of a system subject to continuous flow, substitution of monthly inspection and annual testing for the monthly testing of overfill protection devices is allowable.

2.1.16 SHOP-FABRICATED OIL STORAGE TANKS PLACED IN SERVICE AFTER DECEMBER 30, 2008

Aboveground shop-fabricated oil storage tanks placed in service after December 30, 2008, are subject to all requirements applicable to shop-fabricated oil storage tanks placed in service on or before December 30, 2008 described above. In addition, the following requirements apply:

1. One of the following design and construction standards is used:
   a. UL 142;
   b. API 650;
   c. API Spec 12F;
   d. STI F921-03; or
   e. UL 2085; and

2. In addition, the design of the aboveground shop-fabricated oil storage tank is certified by a registered engineer, and approved by the department as equivalent to a design if using a standard listed above.

Vaulted shop-fabricated aboveground oil storage tanks have a discrete secondary containment vault system constructed of a seamless, poured concrete that is sealed or lined, a welded carbon or stainless metal, or other impermeable material. The secondary containment holds 100 percent of the volume of the tank plus any necessary allowance for precipitation. In addition, placement of the vaulted tank must allow sufficient personnel access to conduct a full physical inspection of all sides of the tank.

Self-diked shop-fabricated aboveground oil storage tanks are installed with the following:

1. Personnel access for visual inspection for corrosion or damage to the outer shell of the storage tank and interior surfaces of the integral secondary containment dike;

2. At each tank fill connection, a fixed overfill spill containment system designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe or to divert that discharge into the secondary containment dike;

3. A system for freeing water or spilled fuel from the integral dike and regular maintenance in accordance with secondary containment requirements of 18 AAC 75.075(c) and (d);

4. An operating interstitial monitoring system that enables an observer from outside the tank to detect oil leaks from the tank bottom and water accumulation within the secondary containment area.

Double-walled shop-fabricated aboveground oil storage tanks are equipped with the following:

1. An operating interstitial monitoring system that enables an observer from outside the tank to detect oil leaks and water accumulation;

2. At each tank fill connection with a fixed overfill spill containment system designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe;

3. A system for freeing water or spilled fuel from the integral dike and regular maintenance in accordance with secondary containment requirements of 18 AAC 75.075(c) and (d).

2.1.17 SECONDARY CONTAINMENT AREAS FOR ABOVEGROUND OIL STORAGE TANK AND LOADING AND UNLOADING AREAS [18 AAC 75.075]

At a minimum, regulated aboveground oil storage tank areas must be located in secondary containment areas sized to contain the capacity of the largest tank within the area, plus enough additional capacity to allow for local precipitation. Secondary containment areas such as berms, dikes,

or retaining walls must be constructed or lined with materials that are: adequately resistant to damage by the products stored to maintain sufficient impermeability; resistant to damage from prevailing weather conditions and operations; and sufficiently impermeable. Sufficiently impermeable is defined at 18 AAC 75.990(124)] and the requirements are dependent on the installation date. This not only applies to tank areas it also applies to, secondary containment systems at rail tank car and tank truck loading areas and permanent unloading areas.

Systems designed and installed on or after May 14, 1992 have more stringent requirements:

1. With the exception of the area under a tank, the liner must meet the standards for "new"[1] installations as described in the definition for "sufficiently impermeable".

2. An impermeable, defined in 18 AAC 75.990(51[2]), liner or double bottom is required under all tanks containing viscous oils of 400 SUS (Saybolt Universal System) and less.

3. Facility operational requirements must minimize drains and other penetrations through secondary containment areas.

Offshore exploration or production facilities must incorporate secondary containment methods to prevent oil spills from entering water, where physically feasible.

Shop-fabricated aboveground oil storage tanks that are of a vaulted, self-diked or double-walled design meeting the requirements of 18 AAC 75.066(c), (d), or (e) are not required to be placed within bermed and lined secondary containment areas. However, these tanks must be equipped with catchments that positively hold any fuel overflow due to tank overfill or divert fuel into an integral secondary containment area.

The plan describes the applicant's secondary containment maintenance program. At a minimum, secondary containment areas must be maintained free of debris, vegetation, excessive accumulated water, or other material that may interfere with the effectiveness of the system.

Unless precluded by safety concerns or adverse weather conditions, operations personnel must visually check secondary containment areas for visible signs of oil leaks or spills within the system during routine operations. In addition, at a minimum of once a week, personnel must visually inspect secondary containment for debris and vegetation, proper alignment and operations of drain valves, visible signs of oil leaks or spill, and defects or failures of the system. These inspections must be

[1] 5/14/1992 is the date the regulations were promulgated identifying what is new.

[2] "Impermeable" in 990(51) is one order of magnitude different from "sufficiently impermeable" in 990(124)

documented, the record retained for at least five years, and made available to the department upon request.

When draining water accumulations from secondary containment areas that discharge directly to the waters of the state, drainage must be controlled by locally operated, positive close failsafe valves or other positive means to prevent a discharge. Prior to discharge, inspection of accumulated water by operations personnel occurs to ensure discharge of oil will not occur. Valves are kept closed and locked when not in use. Visual inspection of accumulated water is documented noting if sheen is present or not prior to discharge, and the record is kept for a minimum of five years.

Information in the plan regarding the secondary containment system includes:

1. System design, including schematic diagrams, materials used, including materials under and surrounding the tanks, configuration, size, volume, location of drains, associated piping, and valves, etc., for oil storage tank areas, docks, and rail tank car or tank truck loading and unloading areas;

2. The net volume of each secondary containment area and its relationship to the volume of the largest tank within it (subtracting the displaced volume of all smaller tanks, piping and small structures within the containment), expressed as a percentage (for example, containment volume of 22,000 gallons or 110 percent of largest tank volume);

3. Permeability of the containment area, for installation placed in service after May 14, 1992, expressed in centimeters/second if appropriate, or, for installation placed in service before May 14,1992, the method of determining that the secondary containment area is "sufficiently impermeable;"

4. As applicable, a description of lining material used, its permeability, its compatibility with the stored oil, and any other measures in place to protect groundwater; and

5. A description of measures to reduce the risk of premature movement of vehicles that are being loaded or unloaded, such as warning lights, signs, and/or physical barriers.

This subsection provides information supporting any reductions to the RPS volume for an oil terminal facility with secondary containment that meets the requirements of 18 AAC 75.432(d)(4) – (6). It is the responsibility of the applicant to demonstrate sufficient volume and impermeability of the containment system and the effectiveness of any additional enhancements such as cathodic protection, fail-safe piping, impervious containment area extending under the full area of each tank or double bottoms with leak detection, or tertiary containment.

2.1.18 REQUIREMENTS FOR FACILITY OIL PIPING [18 AAC 75.080]

Piping and valves are frequent sources of facility spills. The operator of an oil terminal, crude oil transmission pipeline, exploration facility, or production facility, must take appropriate steps to protect piping from corrosion and other hazards (for example, erosion, settling, shifting, snowplows, vehicles, etc.) and must periodically verify that pipes and valves are not damaged or leaking.

Plans with facility oil piping [defined in 18 AAC 75.990(171)] include descriptions of piping design and construction standards including installation date, standard used and a description of a corrosion control and/or a cathodic protection system inspection and maintenance programs for aboveground or buried facility oil piping as appropriate. At a minimum, the plan describes:

1. The design and construction standard including installation date. Facility oil piping placed in service after December 30, 2008 must be designed and constructed in accordance with ASME B31.3-2004, ASME B31.4-2002, ASME B31.8-2003, or another equivalent standard approved by the department;

2. That aboveground facility oil piping is supported in accordance with ASME B31.3-2004;

3. That for all piping, maintenance and inspections are conducted in accordance with API 570 or another equivalent program approved by the department;

4. A corrosion control maintenance program for metallic facility oil piping. For buried metal piping, the corrosion control program must include:

    a. Buried piping placed in service between May 14, 1992 and December 30, 2008, is of all welded construction with no clamped, threaded, or similar connections for lines larger than a one inch nominal pipe size and.is protected from corrosion by installing protective coating and cathodic protection appropriate for local soil conditions

    b. Buried piping placed in service after December 30, 2008 must be of welded construction with no clamped, threaded, or similar connection for line larger than one-inch nominal pipe size, and is protected from corrosion by installing protective coating and cathodically protected, unless constructed of a corrosion-resistant material approved by the department;

5. The operation and maintenance program of a cathodic protection system that is consistent with NACE RP0169-2002, including a cathodic protection survey by a corrosion expert or qualified cathodic protection tester, and maintenance of test lead wires in a condition that

enables electrical measurements to be taken to determine the effectiveness of a cathodic protection system;

6. The means of protecting aboveground facility oil piping (other than piping on a marine structure, or soil to air interface) from atmospheric corrosion by the application of a protective coating or by the use of a corrosion-resistant material. The department may approve another alternative if the plan holder demonstrates by test, investigation, or experience appropriate to the environment of the piping segment, that the anticipated extent of corrosion will only be a light surface oxide or not affect the safe operation of the piping before the next scheduled inspection;

7. Protection of aboveground facility oil piping located outside a sufficiently impermeable deck onboard a marine structure or at a soil-to-air interface against external corrosion through the application of a protective coating or by use of corrosion-resistant materials;

8. The maintenance, inspection, and testing schedules for all facility oil piping described in the plan whether aboveground or buried in accordance with API 570 or another program approved by the department;

9. The means of inspecting exposed buried piping in accordance with API 570 and corrective actions taken if corrosion or damage is observed;

10. An inspection and corrective action program for metallic buried piping without cathodic protection that at a minimum includes electrical inspection of piping by a corrosion expert for active corrosion at least once every three years;

11. The schedule and procedure for visual checking aboveground facility oil piping and valves for leaks or damage during routine operations or at least monthly and are appropriately protected from damage by vehicles; and

12. Methods employed for piping leak detection and frequency of monitoring.

This subsection provides information supporting any reductions to the RPS volume for an oil terminal facility with an on-line leak detection system for tanks and facility oil piping [18 AAC 75.432(d)(3)]. The plan must demonstrate, to the department's satisfaction, the effectiveness of the system. See Section 2.5, *Discharge Detection* for more information on leak detection requirements.

2.1.19 RAILROAD TANK CAR AND OPERATIONS BY RAIL [18 AAC 75.085]

Please refer to the regulations.

2.2 DISCHARGE HISTORY [18 AAC 75.425(e)(2)(B)]

The plan provides a description of all oil discharges greater than 55 gallons that have occurred at the facility and/or vessel[1]. Information on the discharge includes:

1. Date of discharge;
2. The type of oil and quantity discharged (in bbls or gallons);
3. The location of the spill;
4. The source and cause of the spill (overfill, valve failure, tank failure, collision, etc.), or its probable cause if unknown;
5. Corrective actions taken (description of response and cleanup);
6. An analysis of the relationship, if any, between the frequency, cause, and size of the spill; and
7. A description of actions that have been taken to prevent or mitigate similar spills in the future (for example, specific training, relocation of piping, more frequent inspection, increased maintenance, warning signals, etc.).

This information is typically presented in a table. Additional narrative may be necessary to address the corrective actions taken, the analysis of spill relationships, and preventative/mitigation actions.

2.3 POTENTIAL DISCHARGE ANALYSIS [18 AAC 75.425(e)(2)(C)]

The plan includes an analysis of potential oil discharges. The purpose of this analysis is to identify risk areas and focus prevention measures on those areas.

Rather than make a case for how unlikely a spill might be, the operator identifies where or how a spill would most likely occur if it did take place. This aspect of discharge analysis is far more important

[1] This includes discharges for the entire history of the facility and/or vessel, regardless of ownership changes.

than the likelihood of each type of spill – most major and/or damaging spills have a very low statistical chance (i.e., high consequence vs. low probability).

Some factors to consider include transfer procedures, valves, flanges, manifolds, piping, tanks, and other potential areas of risk. The plan contains the following information and the source or method of deriving probabilities or estimates:

1. Potential spill sources and causes;
2. Possible and probable spill locations;
3. Size of each potential spill type (catastrophic, operational, chronic);
4. Likely and worst-case time and frequency of spills; and
5. Likely and worst-case damage estimates.

A formal risk analysis is not required, provided the operator thoroughly examines the entire operation and takes appropriate steps to prevent spills from each area of risk (e.g., burst transfer lines, sabotage, overfilling, leaking tank bottoms, leaking buried pipe, etc.).

Detailed analyses (means of determining the areas of risk) may be submitted in the Supplemental Information section, provided that a summary is included in the prevention plan.

2.4 CONDITIONS THAT MIGHT INCREASE RISK OF DISCHARGE AND MITIGATING MEASURES [18 AAC 75.425(e)(2)(D)]

The plan includes a description of conditions specific to the facility, vessel, or operation that might increase the risk of discharge and measures and operational procedures implemented to eliminate or minimize these risks.

Some conditions to consider are natural hazards, such as earthquakes, floods, tsunamis, landslides or avalanches, icebergs, soil instability, erosion or permafrost. This section describes navigation hazards such as narrow channels, rocks, whirlpools, and tidal shears. Human-created hazards such as traffic patterns or potential vandalism or sabotage are included as applicable.

2.5 DISCHARGE DETECTION [18 AAC 75.425(e)(2)(E)]

The plan includes a description of discharge detection, including:

1. Surveillance schedules during transfer operations;

2. Vessel and oil barge cargo monitoring;

3. Leak detection procedures for tank bottoms and piping;

4. Other leak detection methods in use; and

5. If electronic and mechanical spill detection instrumentation is employed, information is included in the Supplemental Information section. Facility-specific leak detection requirements are presented below.

2.5.1 DISCHARGE DETECTION FOR LADEN TANK VESSELS AND LADEN OIL BARGES [18 AAC 75.027(d) AND 18 AAC 75.037(d)]

The plan describes methods that allow prompt detection of a discharge, including visual lookouts and inspections for leaking oil and measures that are effective during low visibility and darkness, such as cargo sounding after grounding (including any intended beaching of barges for transfers), collision, allision, or severe storms, or electronic leak detection systems. If electronic leak detection methods are used, the sensitivity or leak detection thresholds and limitations of equipment and procedures used must be included.

2.5.2 DISCHARGE DETECTION FOR FLOW LINES AT PRODUCTION FACILITIES [18 AAC 75.047(d)(1)]

If flow lines are equipped with a leak detection system in the interstitial space, the plan describes the leak detection system or the preventative maintenance program.

2.5.3 DISCHARGE DETECTION FOR CRUDE OIL TRANSMISSION PIPELINES [18 AAC 75.055(a)]

Prevention plans for crude oil transmission pipelines describe how the applicant meets the following leak detection requirements:

1. Continuous capability of detecting a daily discharge of one percent of the daily throughput (if technically feasible). If this level of detection is not feasible, the operator must demonstrate that the best commercially available techniques for leak detection are employed;

2. Flow verification at least once every 24 hours. This measure requires comparison of daily input to daily output, plus a description of actions taken in the event of a discrepancy including the

amount of discrepancy acted on, and the accuracy level of daily flow verification techniques; and

3. Aboveground remote sections of pipeline are inspected for leaks by air, provided flights are conducted weekly as permitted by weather and safety conditions. This provides visual verification that the leak detection system has not failed, or that a spill smaller than the leak detection threshold has not occurred.

2.5.4 DISCHARGE DETECTION FOR ABOVEGROUND OIL STORAGE TANKS [18 AAC 75.065(h)(1), 18 AAC 75.065(i)(4), AND 18 AAC 75.065(j)(4)(a)]

A field-constructed aboveground oil storage tank may be equipped with a leak detection system, depending on the installation date as described above in Section 2.1.9, *Aboveground Storage Tanks*.

The best available means of detecting leaks from a tank bottom are those that allow collection and visible detection of leaked oil from outside the tank. For tanks placed in service after December 30, 2008, this performance can be readily met if the tank foundation is built in accordance with Appendix I of API 650.

Though not recommended as a substitute for the ability to collect leaked oil for visual detection, electronic leak detection systems may be approved, provided the applicant demonstrates such instrumentation represents the BAT. Refer to Part 4 of this chapter.

2.5.5 DISCHARGE DETECTION FOR FACILITY OIL PIPING [18 AAC 75.080(n)]

The plan describes that aboveground facility oil piping is visually checked for leaks and damage at least monthly. These inspections are best conducted during a transfer or under other circumstances which allow observation at normal or higher internal pressure.

2.6 DOCUMENTATION OF WAIVERS, ALTERNATE COMPLIANCE SCHEDULES, AND CONDITIONS OF PLAN APPROVAL [18 AAC 75.425(e)(2)(F)]

Waivers granted by the department for 18 AAC 75.005 – 18 AAC 75.085, accepted alternate compliance schedules that are part of a waiver, and each condition of approval for a plan are required to be included in the plan. This means that copies of department waiver and plan approval letters that include conditions of approval, must be in Part 2 of the plan. Waiver approvals must be in the plan

during the public review process. Conditions of approval may be added as a plan edit prior to publication.

Waiver approval letters are often included in the plan by way of an amendment to this section once the waiver is approved. Some waivers are short in duration and are not included in the plan, such as single season temporary tanks used in tank cleaning operations. For waivers that last longer than a season, the applicant must submit an amendment to the plan to include the waiver and associated commitments and/or conditions of approval.

2.6.1 WAIVERS [18 AAC 75.015]

Regulations allow the department to grant waivers for prevention requirements found in 18 AAC 75.005 – 18 AAC 75.085. Waivers may only be granted for prevention requirements if the department is satisfied that an equivalent level of protection will be achieved by the proposed alternate compliance technology or procedure. The department does not have authority to grant a waiver for plan processes, content, or quality required by 18 AAC 75.400 – 18 AAC 75.496.

If the applicant wishes to request a waiver, the request should be made in writing and include detailed information to support the waiver request. The detailed information must clearly demonstrate that a proposed alternative provides the equivalent level of protection as the prevention requirements in 18 AAC 75.005 – 18 AAC 75.085. It is recommended the applicant discuss any potential waiver requests with the plan reviewer in advance of submitting the request to ensure the applicant understands the information required for review. The plan reviewer will review the request in consultation with Integrity and Engineering Unit staff. Responses to requests for waivers will be answered by formal letter from the department. Waivers are not granted verbally or by another informal method of communication. Waivers, including any alternate compliance schedules, are formal enforceable actions.

PART 3 SUPPLEMENTAL INFORMATION

TABLE 3-6: CROSS-REFERENCE OF SUPPLEMENTAL REQUIREMENTS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
PART 3 SUPPLEMENTAL INFORMATION		
Facility/Vessel Description and Operational Overview	18 AAC 75.425(e)(3)(A)	76
Aboveground Oil Storage Tank Information	18 AAC 75.425(e)(3)(A)(i) 18 AAC 75.425(e)(3)(A)(ii)	76
Vessel Routes, Vessel Plans and Diagrams, Disposal of Oily Waste for Vessels	18 AAC 75.425(e)(3)(A)(iii) 18 AAC 75.425(e)(3)(A)(v) 18 AAC 75.425(e)(3)(A)(viii)	77
Additional Information Verifying Vessel Response Capability	18 AAC 75.425(e)(3)(A)(x)	77
Railroad Facilities and Railroad Description	18 AAC 75.425(e)(3)(A)(iv) 18 AAC 75.425(e)(3)(A)(ix)	77
Transfer Procedures	18 AAC 75.425(e)(3)(A)(vi)	78
Production Facility Description	18 AAC 75.425(e)(3)(A)(vii)	78
Receiving Environment for Land-Based Facility or Operation	18 AAC 75.425(e)(3)(B) 18 AAC 75.445(e)	78
Potential Route of Discharge	18 AAC 75.425(e)(3)(B)(i)	78
Estimate of Response Planning Standard to Reach Open Water	18 AAC 75.425(e)(3)(B)(ii)	78
Command System	18 AAC 75.425(e)(3)(C)	80
Realistic Maximum Response Operating Limitations	18 AAC 75.425(e)(3)(D) 18 AAC 75.445(f)	81
General Adverse Weather Conditions	18 AAC 75.425(e)(3)(D)(i)	86
Sea States, Tides, and Currents	18 AAC 75.425(e)(3)(D)(ii)	86
Ice and Debris	18 AAC 75.425(e)(3)(D)(iii)	86
Hours of Light	18 AAC 75.425(e)(3)(D)(iii)	87
Other Known Environmental Conditions	18 AAC 75.425(e)(3)(D)(v)	87
Logistical Support	18 AAC 75.425(e)(3)(E)	87
Response Equipment	18 AAC 75.425(e)(3)(F) 18 AAC 75.445(g)	88
Location, Inventory, and Ownership of the Equipment	18 AAC 75.425(e)(3)(F)(i)	89
Timeframe for Delivery and Startup	18 AAC 75.425(e)(3)(F)(ii)	89
Manufacturer's Rated Capacities	18 AAC 75.425(e)(3)(F)(iii)	89
Vessels Designated for Oil Recovery Operations	18 AAC 75.425(e)(3)(F)(iv)	90
Additional Vessels Information	18 AAC 75.425(e)(3)(F)(v)	91
Pumping, Transfer, Temporary Storage, and Lightering Equipment	18 AAC 75.425(e)(3)(F)(vi)	91

Table 3-6: Continued

Equipment Storage and Maintenance and Inspection	18 AAC 75.425(e)(3)(F)(vii)	91
Nonmechanical Response Information	18 AAC 75.425(e)(3)(G) 18 AAC 75.445(h)	91
Oil Spill Primary Response Action Contractor Information	18 AAC 75.425(e)(3)(H) AND 18 AAC 75.445(i)	93
Training For Spill Response Personnel	18 AAC 75.425(e)(3)(I) AND 18 AAC 75.445(j)	94
Protection of Environmentally Sensitive Areas and Areas of Public Concern	18 AAC 75.425(e)(3)(J)	94
Effect of Seasonal Conditions on Sensitivity	18 AAC 75.425(e)(3)(J)(i)	94
Toxicity Effects and Persistence of Discharge in Environmentally Sensitive Areas	18 AAC 75.425(e)(3)(J)(ii)	95
Areas to be Given Priority Attention	18 AAC 75.425(e)(3)(J)(iii)	95
Additional Information	18 AAC 75.425(e)(3)(K)	96
Bibliography	18 AAC 75.425(e)(3)(L)	96

The Supplemental Information part provides a location for background information, supporting documentation, and analysis required to demonstrate adequate planning. It is intended to reduce clutter and therefore improve the usability of Parts 1 and 2. It is also intended to provide additional information on the general operations of the facility or vessel and its setting and layout relevant to spill prevention and response activities.

3.1 FACILITY/VESSEL DESCRIPTION AND OPERATIONAL OVERVIEW [18 AAC 75.425(e)(3)(A)]

This section contains a general description of the operation and any other information needed to supplement the diagrams and maps presented in Section 1.9, *Plan Response Scenario for Exploration or Production Facilities*. The information in the following sub-sections is also included as applicable.

3.1.1 ABOVEGROUND OIL STORAGE TANK INFORMATION [18 AAC 75.425(e)(3)(A)(i) AND 18 AAC 75.425(e)(3)(A)(ii)]

For oil terminals, exploration or production facilities, and crude oil pipeline facilities, the plan provides general information on the aboveground tanks as described in subsection 2.1.9, *Aboveground Oil Storage Tanks*. This information is often presented in tabular format and may be located in this section, subsection 2.1.9, or an appendix. An example is provided in Appendix D.

3.1.2 VESSEL ROUTES [18 AAC 75.425(e)(3)(A)(iii)]; VESSEL PLANS AND DIAGRAMS [18 AAC 75.425(e)(3)(A)(v)]; AND DISPOSAL OF OILY WASTE FOR VESSELS [18 AAC 75.425(e)(3)(A)(viii)]

The plan shows normally used routes used for the transportation of oil within state waters and the frequency of use for each route. Variations in the routes based on seasonal or weather related phenomena are also shown. The routes are shown on an appropriately scaled chart. Additional information might include any unusual hazards on the identified routes.

This section includes plans or diagrams that identify cargo, bunker, and ballast tanks, all tank capacities, cargo piping, ballast piping, winches, emergency towing equipment, power plant, manifold pipe size, containment structures, and equipment. This section describes methods for containing a discharge from fuel oil tank vent overflow and fill pipes.

The plan describes the methods for retention and disposal of bilge slops and oily waste such as spilled and used oil, spilled and used hydraulic fluid, or other petroleum products, and cleanup of "housekeeping" spills, including the storage and disposal of sorbents or other oil-soaked debris.

The plan also identifies pumping systems for handling bilge slops, and storage space available for oily wastes, including such containers as 55-gallon drums, tanks or other receptacles. Any plastic storage containers used must be capable of storing the oil recovered without dissolving or breaking.

3.1.3 ADDITIONAL INFORMATION VERIFYING VESSEL RESPONSE CAPABILITY [18 AAC 75.425(e)(3)(A)(x)]

Any additional background or verification information required to evaluate the response capability of a vessel is included in this section as specifically required by the department. This may include, at the department's discretion, an approved loading manual that meets applicable federal requirements.

3.1.4 RAILROAD FACILITIES AND RAILROAD DESCRIPTION [18 AAC 75.425(e)(3)(A)(iv) AND 18 AAC 75.425(e)(3)(A)(ix)]

For railroad facilities, a map in the plan shows the location of each line, siding, and yard area. This section describes tank cars and locomotives, normally in service, including type, number and capacity, general piping diagrams, locations of valves, and tank volumes.

3.1.5 TRANSFER PROCEDURES [18 AAC 75.425(e)(3)(A)(vi)]

The plan describes the normal procedures for loading or transferring oil to or from a pipeline, facility, tank vessel, oil barge, railroad tank car, or aboveground oil storage tank. For a tank vessel, the plan describes transfer procedures between individual tanks of the vessel. This requirement can be met by including a copy of the vessel oil transfer procedures in the plan. A line diagram showing transfer piping and associated valves is provided in the plan [18 AAC 75.425 (e)(3)(K)].

This information may be cross-referenced to subsection 2.1.4, *Transfer Procedures*, which refers to the spill prevention measures employed during transfers, as appropriate.

3.1.6 PRODUCTION FACILITY DESCRIPTION [18 AAC 75.425(e)(3)(A)(vii)]

The plan provides a line diagram showing the flow and gathering lines and processing facilities. See Section 1.8, *Facility, Railroad, or Vessel Diagram* for further information.

3.2 RECEIVING ENVIRONMENT FOR LAND-BASED FACILITY OR OPERATION [18 AAC 75.425(e)(3)(B) AND 18 AAC 75.445(e)]

3.2.1 POTENTIAL ROUTE OF DISCHARGE [18 AAC 75.425(e)(3)(B)(i)]

For a land-based facility or operation this section identifies the potential routes of travel to open water in the form of a drainage diagram or map, showing gradients. Potential containment sites and their geographic or geologic features are identified and described. Identification and explanation of measures that will be taken to prevent a discharge from entering open water are also described.

3.2.2 ESTIMATE OF RESPONSE PLANNING STANDARD TO REACH OPEN WATER [18 AAC 75.425(e)(3)(B)(ii)]

Based on the information presented in subsection 3.2.1, *Potential Route of Discharge,* background information to support the estimate of the percentage of the applicable RPS volume that will reach open water is included in this section.

As described in Part 5, the applicant must plan to contain, control, and clean up that portion of a spill of the adjusted RPS volume of oil that may be reasonably expected to reach open water within 72 hours of the spill. The applicant must additionally plan to contain and control the portion of the spill

that would not reach open water from land within 72 hours, and clean it up within the shortest possible time consistent with minimizing damage to the environment. This has important ramifications in determining an appropriate response in the case of land-based facilities or operations.

For water-based operations, including vessels, it is assumed for planning purposes that the entire RPS volume spill will reach open water; this section is not applicable to response planning for those classes of regulated operations. In the event of an actual spill from a water-based operation that reaches shore, however, the "on-land" response becomes subject to the "shortest possible time" requirement in order to minimize damage to shorelines and other areas or resources which might result from excessively rapid cleanup attempts.

To determine compliance with the law, land-based operators first determine the applicable RPS volume (as described in Part 5), and then estimate the portion of that volume which is subject to the 72-hour "open water" standard (the "open-water RPS").

1. Open-water RPS: "Open water" is defined in 18 AAC 75.990(79) as "marine waters below mean low-low water and freshwaters of the state, excluding wetlands and the wetland or shoreline perimeter of lakes, rivers and streams;" the open-water RPS volume for a land-based facility is that portion of the RPS volume that can be reasonably expected to enter open water; the plan demonstrates sufficient equipment and resources to contain or control, and clean up within 72 hours, the open-water RPS volume;
2. On-land RPS: The on-land RPS volume for a land-based facility is that portion of the RPS volume that enters a receiving environment other than open water; the time requirement for cleanup of any portion of a spill which enters a receiving environment other than open water may, in the department's discretion, be within the shortest possible time consistent with minimizing damage to the environment; the Shoreline Cleanup Plan required by Section 1.6.12, and any procedures described for on-land containment, control, and cleanup of a spill, demonstrate compliance with this planning standard.

3.2.3 DETERMINING THE "OPEN-WATER" RPS FOR LAND-BASED OPERATIONS

Surrounding topography, distance to water from the facility, the location of all potential spills, the prevention measures in place to deal with each scenario, and the type of oil stored are taken into account in estimating the "open water" portion of the RPS volume (i.e., the percentage of the adjusted RPS volume that may reasonably be expected to reach open water in the event of a spill of up to the entire RPS volume. It is important to note that the "open water" portion of the RPS volume is based on conditions outside secondary containment only.

3.3 COMMAND SYSTEM [18 AAC 75.425(e)(3)(C)]

The information in this section supplements Part 1 relating to call-out of spill response personnel from within and outside of the organization, and describes each person's role in the spill response.

The overall command system to be used in response to a discharge follows the Incident Command System (ICS) model, as appropriate to the size of the operation, and a diagram of the command system is included. Examples of flow charts can be found in the *Alaska Incident Management System (AIMS) Guide* (see Chapter 5). Integration and liaison with other government and private entities is described in this section, including as applicable:

1. The department's State On-Scene Coordinator;
2. USCG Federal On-Scene Coordinator;
3. USEPA Federal On-Scene Coordinator;
4. Local On-Scene Coordinator;
5. Appropriate municipality or village authorities;
6. Private parties whose property may be affected by the discharge; and
7. Any other parties identified by the Alaska State Emergency Response Commission as having an interest in or the resources to assist in the response (contact the department for details).

The command system identifies key personnel and their alternates as appropriate, including individuals under contract and those lead personnel in command, fiscal, operations, planning, and logistics areas. Information on personnel includes the position or title, address, telephone number, and affiliation. Any roles designated to a response action contractor are indicated. Information can be cross-referenced to Sections 1.1, *Emergency Action Checklist*, 1.2, *Reporting and Notification*, and 1.5.2, *Response Action Contractor Mobilization* as appropriate. The total number of people available at the operation to perform the response and fill out the ICS is provided.

The five major ICS functional areas are presented in Table 3-7. More information can be found in the AIMS Guide.

TABLE 3-7: ICS FUNCTIONAL AREAS

COMMAND	Consists of the Incident Commander, Deputy Incident Commander (if applicable), Information Officer, Safety Officer, and Liaison Officer.
OPERATIONS	Consists of the Operations Chief and any other operations personnel. The Operations Section manages the actual cleanup activities.
PLANNING	Consists of the Planning Chief and any other planning personnel. This Section is responsible for determining the response strategy and objectives.
LOGISTICS	Consists of the Logistics Chief and any other logistics personnel. The Logistics Section is responsible for the supply of all support needs. 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.
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.

State law requires that where plans overlap, common terminology, organization, and procedures be used. Personnel assigned to common positions have the same qualifications to ensure effective coordination with their counterparts. It is helpful if the applicant includes an organization chart of the entire ICS structure summarized in Table 3-7. Examples of organization charts are found in the AIMS Guide (see Chapter 4).

3.4 REALISTIC MAXIMUM RESPONSE OPERATING LIMITATIONS [18 AAC 75.425(e)(3)(D) AND 18 AAC 75.445(f)]

Regulation 18 AAC 75.425(e)(3)(D) requires a description of any measures that will be taken to compensate for periods which exceed the RMROL. Compliance with the RPS requires the identification of temporary measures to be taken to reduce the risk or size of a discharge during those periods which preclude the implementation of the primary spill response strategies presented in the plan.

The purpose of this analysis is to ensure realistic expectations about when response will or will not be successful and to ensure mitigations, rather than to provide a basis for denying plan approval. Operators are obligated to consider additional spill prevention measures during periods when a response effort is not likely to succeed. The applicant must recognize the limitations of mechanical response technology and provide a realistic characterization of the inherent risks, so that operators, plan reviewers, and the public are aware of those risks.

Table 3-8 provides an example of the correct presentation of RMROL data within this section of the plan. Limitations in response capabilities that may be imposed by the environment must be

anticipated. Geographic location, seasonality, adverse weather, and changing sea state all require variations in response strategies that are addressed in the plan. Adverse conditions that are typically encountered at the facility during each season are described so that changes required for spill response operations or additional spill prevention measures that may be indicated by specific conditions can be implemented.

Once the limiting conditions are identified, an analysis is made of their expected frequency and duration. Based on the best available information, the applicant estimates the average number of days per year that the conditions exist, and the times of the year they are most likely to occur.

There are multiple sources of information that can assist with the analysis. *The United States Coast Pilot* Versions 8 and 9 contains meteorological information from a number of stations in Alaska that may be useful for analysis of adverse weather US Coast Pilot information can be found here: www.nauticalcharts.noaa.gov/nsd/cpdownload.htm). Tides and current information for some stations can be found on NOAA's tides and currents page: http://tidesandcurrents.noaa.gov. Historic weather data can be found at the National Weather Service's Forecast Office: http://pafc.arh.noaa.gov/. For *weather, sea, and ice data* see the Alaska Ocean Observing System: http://www.aoos.org/aoos-data-resources.

State or federal agencies may be able to direct the applicant to additional sources of information. In some cases the applicant may be able to draw on data which has been collected at the facility itself.

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL DAYS
ADVERSE WEATHER	Wind													
	>20													
	>30													
	Visibility<1500'													
	Precipitation													
	Temperature													
	>0 F													
	>32 F													
SEASTATE	Seastates													
	0-1 meters													
	1-2 meters													
	2-3 meters													
	>3 meters													
TIDES	Tides													
CURRENTS	Currents													
	>1 knot													
	>2 knots													
ICE	Ice-%covered													
DEBRIS	Presence													
DARKNESS	Hours of Operation													
OTHER	Other Conditions													
TOTAL DAYS														

FIGURE 3-5: REALISTIC MAXIMUM OPERATING CONDITIONS

Frequency and Duration (Days)

All mechanical recovery equipment identified for a response is evaluated to ensure it can operate within the RMROL. All other operations necessary to support the response must be capable of operating in the same conditions. Therefore, the RMROL reflects the operating threshold of the most limited component of the response. For example, a skimmer capable of operating in a 3-meter sea state may be paired with containment boom that can only function in a 1-meter sea state; the RMROL in this case would therefore reflect a threshold sea state of 1-meter.

If there are a variety of response options and equipment available to the applicant, separate determinations of the RMROL for each response strategy may be necessary. In all cases, the goal of this exercise is to arrive at an honest appraisal of risk (i.e., a reasonable representation of the percentage of time when an effective response could not occur).

After the RMROL conditions have been defined and the percentage of time they are exceeded has been estimated, the plan identifies and discusses the measures that will be taken to compensate for the inability to conduct a mechanical response. These measures may include those designed to avoid the conditions which preclude response (such as a temporary cessation of operations), or to reduce the risk or magnitude of an oil discharge (such as special operating procedures or temporary prevention systems). Nonmechanical response options may be considered if the support equipment is not limited by RMROL.

Adverse weather and environmental conditions that might reasonably be expected to occur in the region of operation are taken into account in planning the spill response. Wind, visibility, precipitation, temperature, sea states, tides, currents, ice, debris, hours of daylight, and other known environmental conditions must be considered. In general, RMROL is a greater consideration for offshore operations and vessels than for onshore facilities. For a land-based oil terminal facility, the specific RMROL conditions and thresholds may vary depending on the type of receiving environment and the percentage of a spill that can be expected to reach open water. The threshold conditions which will preclude mechanical recovery both on-land and on-water are identified for each factor as applicable to the specific operation.

TABLE 3-8: EXAMPLE LIMITS OF OPERATION

EQUIPMENT	WIND LIMIT	WAVE LIMIT	CURRENT LIMIT	ANNUAL OPERATION
MW41 Rope Mop	N/A	Non-breaking waves	Stationary	5%
Crucial disc	N/A	Protected water	< 0.5 knots	10%
Vikoma Komara 12K disc skimmer	N/A	Protected water	<0.5 knots	11%
Marco Sidewinder	N/A	Protected water	2-3 knots	10%
Aqua-Guard RPS 10/2 drum brush	N/A	1 foot	Stationary	5%
Lori HK 3-3.5	N/A	Protected water	2-3 knots	5%
Lori HK 2-2.5	N/A	Protected water	2-3 knots	5%
Harbor boom	< 20 knots	3 feet	< 1 knots	5%

3.4.1 GENERAL ADVERSE WEATHER CONDITIONS [18 AAC 75.425(e)(3)(D)(i)]

Depending on geographic location and season, adverse weather (high winds, extreme temperatures, low visibility, precipitation, etc.) can cause either mechanical or nonmechanical spill response efforts to cease.

For example, for wind conditions the plan may identify the velocity above which an on-water response would not occur (e.g., 40 knots). This may be the same limitation for aerial tactics such as overflights and dispersant application. For an on-land example, response may be limited at 40°F below zero due to pump limitations.

3.4.2 SEA STATES, TIDES AND CURRENTS [18 AAC 75.425(e)(3)(D)(ii)]

This section applies to land-based facilities with the potential for a discharge to open water as well as vessels and other water-based operations. The point at which sea state, tide, current, or a combination thereof make it unfeasible to mount the planned response is described in this section. For example, for sea states, the threshold wave height above which the mechanical recovery equipment cannot operate.

3.4.3 ICE AND DEBRIS [18 AAC 75.425(e)(3)(D)(iii)]

This section applies to land-based facilities with the potential for a discharge to open water as well as vessels and other water-based operations. The plan identifies at what point the presence of ice and/or

debris make it unfeasible to implement the planned response. For example, broken ice may prevent the use of containment boom and skimmers.

3.4.4 HOURS OF LIGHT [18 AAC 75.425(e)(3)(D)(iv)]

In many cases, darkness will terminate most oil collection and/or recovery operations. If the plan indicates that response activities will continue after dark, an explanation of how this will be accomplished is included in this section. For example, the use of floodlights may extend the number of hours a skimmer may be in operation.

3.4.5 OTHER KNOWN ENVIRONMENTAL CONDITIONS [18 AAC 75.425(e)(3)(D)(v)]

Other environmental conditions which may preclude mechanical or nonmechanical response options are described in this section.

If the operator of an exploration or production facility proposes one of the following activities during defined RMROL periods, the plan describes specific temporary actions and procedures to be taken to reduce the risk or magnitude of a discharge during those conditions:

1. Drilling into zones that are suspected to be capable of flowing oil or gas;
2. Drilling into zones suspected to be abnormally pressured; or
3. Engaging in any work that may increase the risk of a discharge on a well that does not have a blowout prevention device installed and operating.

The department may require a formal well blowout risk assessment, incorporating failure probabilities, failure consequence analysis, and a risk reduction program, and specific additional temporary actions and procedures, and may request an evaluation of the risk assessment and prevention measures by AOGCC, DNR, or another agency.

3.5 LOGISTICAL SUPPORT [18 AAC 75.425(e)(3)(E)]

Transportation Equipment Inventory - The plan identifies the ownership and availability of transportation equipment, including aircraft, vessels, and ground vehicles, that may be used to transport equipment and personnel during a response. The plan demonstrates that all necessary transportation equipment would be available and adequate to fulfill the operations, logistics, and planning functions of the response. Resources not under contract are identified, such as additional aircraft support services which may be procured if necessary.

Coordination Procedures - The plan identifies logistical support for each spill scenario and addresses appropriate secondary transportation needs and describes options for satisfying those needs. The plan includes provisions for ensuring that vessel and aircraft movements are fully coordinated with state and federal response actions and meet all applicable USCG and FAA regulations.

Maintenance Procedures - The plan describes procedures for maintaining and repairing transportation and logistical support equipment as necessary to maintain readiness and ability to continue operations for the duration of the response. Maintenance schedules for major pieces of logistical support equipment are included in subsection 3.6.7, *Equipment Storage and Maintenance and Inspection*.

3.6 RESPONSE EQUIPMENT [18 AAC 75.425(e)(3)(F), AND 18 AAC 75.445(g)]

The plan provides a complete list of containment, control, cleanup, storage, transfer, lightering, and related response equipment to meet the applicable RPS volume and to protect ESAs and AOPCs that may be reasonably expected to suffer an impact from an RPS spill as described in the scenario(s) and strategies in Part 1 of the plan (in other words, contain/control/cleanup equipment to meet the RPS volume PLUS the equipment needed to protect ESAs in the scenario.). The response equipment must be appropriate and compatible to the type of oil for which it will be used.

Spreadsheets may be useful for listing equipment, by category, with information on the storage location, ownership, rated capacity, etc. Table 3-9 provides an example equipment list.

TABLE 3-9: EXAMPLE EQUIPMENT LIST

Type of Equipment	Amount	Location/Owner	Delivery Time	Startup Time	Manufacturer's Rated Capacity	Derated Capacity (20%)
Delta Boom	750-feet	Regional Warehouse/ PRAC	1 hour	1 hour	N/A	N/A
Lori Skimmers	2	Warehouse/ Plan holder	1.5 hours	1 hour	230 bbl/hr	117 bbl/hr (approved by the department)
Bay Boat	1	Dock/ Plan holder	0.5 hour	0.5 hour		
Fold-a-Tank	1	Warehouse/ Plan holder	2 hours	1 hour	450 bbls	N/A

bbl/hr – barrels per hour
bbls – barrels
N/A – not applicable

3.6.1 LOCATION, INVENTORY, AND OWNERSHIP OF THE EQUIPMENT [18 AAC 75.425(e)(3)(F)(i)]

This section lists all containment, control, cleanup, recovery, storage, transfer, lightering, disposal, safety, and related response equipment, owned or under contract, which is necessary for the planned response. This includes listing the PRAC's equipment[1]. The list includes such items as sorbents, vehicles, pumps, skimmers, chemicals, portable lighting equipment, igniters, storage containers, hoses, lines, earthmoving equipment, hand tools (such as shovels, rakes, axes, hoes), wildlife cleaning supplies, sanitary facilities, temporary structures, personal protection gear, emergency kits and contents, field communications equipment, decontamination materials, and other equipment intended for response operations. If applicable, containment boom, skimmers and pumps are categorized by type and quantity.

3.6.2 TIMEFRAME FOR DELIVERY AND STARTUP [18 AAC 75.425(e)(3)(F)(ii)]

This section describes procedures for bringing response equipment and trained personnel located outside the facility or operation's primary region of operation, and equipment listed in a plan to meet the out-of-region (beyond 72 hours) RPS for a crude oil tank vessel or barge, to the spill site. The applicant plans to deploy and operate this equipment in such a manner to meet the applicable RPS within the required timeframes.

The plan notes whether equipment is "dedicated" or "shared." If equipment is shared, the plan identifies alternative sources of similar equipment along with its mobilization time. "Mutual aid" agreements to share response resources must comply with the requirements of 18 AAC 75.445(i) (see Section 3.8, *Oil Spill Primary Response Action Contractor Information*).

3.6.3 MANUFACTURER'S RATED CAPACITIES AND SPECIFICATIONS [18 AAC 75.425(e)(3)(F)(iii)]

The equipment list or spreadsheets in Section 3.6.1 include the name, model numbers, manufacturer's rated capacities (nameplate capacities), limitations, and operational specifications for each item of oil recovery equipment, including components of containment boom and anchoring systems, skimming systems, pumping systems, powerpacks, and recovered oil storage. Oil recovery equipment must be suitable and compatible with other response equipment. Boom, boom connectors, and anchoring

[1] If the plan holder relies on the equipment of a PRAC, the plan may reference the information in the PRAC's manual if it's clearly indicated in the manual what equipment is available to the plan holder.

devices must be appropriate for the particular product and environmental conditions and the boom must be of sufficient size and length to mount an effective response.

The World Catalog of Oil Spill Response Products (http://www.oilspillequipment.com/) is used by department reviewers as one reference source for evaluating the suitability of identified equipment for its intended purpose. Other sources of information, such as test data or results, may be supplied by the applicant to document claims of equipment performance. Such documentation must be certified by an accredited testing institution using nationally recognized methods of measurement (e.g., American National Standards Institute).

The maximum mechanical recovery capability of skimmers and pumps is calculated assuming an efficiency of 20 percent of the manufacturer's rated throughput capacity over a 24-hour period, unless analysis accepted by the department demonstrates a different efficiency. (See the department's letter dated September 11, 2009 in Appendix F.)

The mechanical recovery capability must be sufficient to meet the appropriate RPS volume set forth in Part 5, Section 5.4, *RPS for Each Facility Type*. Procedures to calculate this capability are provided in Appendix B.

Another method to calculate the mechanical recovery capability is to use a spreadsheet illustrating the time-series of recovered oil during the response starting with the initial detection, through mobilization and up to the:

1. 48-hour RPS volume determination for railroad car tanks, and noncrude oil tank vessels; or

2. 72-hour RPS volume determination for oil terminals, exploration, production, or refinery facilities, crude oil pipelines, crude oil tank vessels and barges.

Such a spreadsheet can model the effects of "cascading in" additional recovery equipment or reduced recovery rate caused by maintenance and insufficient storage capacity.

Additional information on recovery strategies is included in Section 1.6.7, *Recovery Strategies*.

3.6.4 VESSELS DESIGNATED FOR OIL RECOVERY OPERATIONS [18 AAC 75.425(e)(3)(F)(iv)]

The plan lists all vessels that are designated for containment and oil recovery operations, including vessels for towing and deploying boom and skimmers or for protecting ESAs.

3.6.5 ADDITIONAL VESSELS INFORMATION [18 AAC 75.425(e)(3)(F)(v)]

This section, identifies additional vessels that may be used in a response, such as those that are in a nearby fishing fleet. If applicable, describe call-out arrangements and vessel functions. Include information on the size, type, and horsepower of each additional vessel. Describe procedures for inventorying, training personnel, and equipping such vessels and skiffs.

3.6.6 PUMPING, TRANSFER, TEMPORARY STORAGE AND LIGHTERING EQUIPMENT [18 AAC 75.425(e)(3)(F)(vi)]

The plan must list pumping, transfer and temporary storage, and lightering spill response equipment. Pump and hose fittings must be compatible with those on the proposed transfer equipment.

3.6.7 EQUIPMENT STORAGE AND MAINTENANCE AND INSPECTION [18 AAC 75.425(e)(3)(F)(vii)]

The plan includes procedures for storage, maintenance, and inspection of spill response equipment under the immediate control of the operator when not in use, including procedures for periodic testing and maintenance of response equipment. For example, which equipment must be kept in warm storage, plugged into a heating device, or can be in cold storage in winter and meet effective mobilizations time to meet the RPS.

The plan lists the storage areas for all equipment and that the equipment is stored securely under cover in buildings or holding areas which are clearly identified to ensure that all equipment will be accessible and available when a spill occurs.

A regular equipment and maintenance program must be described for response equipment to ensure that equipment that is in storage is operable when it is needed for response. The inspection and maintenance program must describe routine schedules for conducting inventories of response equipment in storage. The record must document maintenance conducted and inspections of equipment for wear and deterioration.

3.7 NONMECHANICAL RESPONSE INFORMATION [18 AAC 75.425(e)(3)(G) AND 18 AAC 75.445(h)]

Nonmechanical response options, such as the use of dispersants or in situ burning, are typically considered when mechanical response is reduced due to adverse weather or otherwise deemed ineffective. If nonmechanical methods are proposed as a response option, basic information on

initiating the response is provided in Section 1.7[1]. This section describes the basis of a decision to use nonmechanical responses including a discussion of appropriate environmental conditions and physical circumstances and the quantity, location, application method, and timeframe envisioned for its use. In addition to describing the efficiency and effectiveness of the nonmechanical response option, this section includes the following information:

1. The methods used to evaluate potential effects on the environment, including fate and transport and toxicity;

2. Nonmechanical response equipment inventory;

3. The required permits, approvals, and authorizations, which may vary according to the type of nonmechanical response proposed (Alaska Response Permits Tool: http://dec.alaska.gov/spar/PPR/permits/index.htm); prior to initiating in situ burning, a plan holder is required to obtain approval from the ARRT (for spills to water), authorization from the state and federal on-scene coordinators, and an open burn permit approval from the department;

4. If in situ burning is proposed, describe procedures for the recovery of tarry residue[2];

5. Procedures to protect ESAs, AOPC, and the public from adverse effect of the nonmechanical response;

6. A description of the Special Monitoring of Applied Response Technologies (SMART[3]) protocol which provides procedures for monitoring the effectiveness of the nonmechanical response. They do not provide a mechanism to assess the environmental consequences or provide methods for continuous monitoring of the environmental effects of that option.

[1] This section is not needed for all plans but there should be a note stating that nonmechanical options are not included in the plan.

[2] The plan must include a completed application if in situ burning is proposed. This serves as an example for a hypothetical discharge and is not intended to be a one-size-fits-all application to be used during an actual event. The application is found in the 2008 ISB Guidelines on the department's website: http://dec.alaska.gov/spar/PPR/docs/ISB-Rev1(Final-August%202008).pdf.

[3] The Office of Response and Restoration has SMART information on-line here: http://response.restoration.noaa.gov/smart

3.8 OIL SPILL PRIMARY RESPONSE ACTION CONTRACTOR INFORMATION [18 AAC 75.425(e)(3)(H), AND 18 AAC 75.445(i)]

If the applicant relies on the services of a PRAC to meet all or part of the applicable RPS volume, a contract that meets the requirements of 18 AAC 75.445(i) is required. A copy of the contract is not required to be in the plan; however, a current statement of contractual terms (SOCT) which attests to the department that the contract exists and meets the requirements of 18 AAC 75.445(i)(1) – (2) is included in this section for each contract with a PRAC. PRACs must be registered in accordance with 18 AAC 75.500-580. Regulations at 18 AAC 75.500 define who is required to register as a PRAC.

The plan identifies PRACs, or other parties or resources under contract, as functional components and/or full members of the response team, with obligations to be accessible to department representatives for site visits and to participate in spill drills. Almost all plans have a PRAC under contract to respond to a spill, and some may have an additional PRAC to provide IMT support. A company that provides only ancillary services or equipment not for the specific purpose of containing, controlling, or cleaning up an oil discharge is not required to be a PRAC. A contractor retained to control a well blowout is not required to be a PRAC.

The plan lists the full name, address and phone number (24 hr) of each PRAC under contract, and a contact person and alternates. The plan clearly indicates what services will be provided by the PRAC.

Registration as a PRAC does not constitute an assurance by the department of the qualifications or abilities of the PRAC or that they will adequately respond to a release or threatened release of oil. Verification of the ability of each PRAC to perform these services, through the existence of adequate resources and levels of training and experience, is demonstrated and confirmed through exercises and inspections upon the plan holder.

The plan reviewer is responsible for confirming that the:

1. PRAC is registered;
2. Plan they are reviewing is listed in the PRAC's registration or annual report;
3. Plan holder provided a copy of the plan to the PRAC; and
4. PRAC's resources that are represented in the plan are available as described.

More information about PRACs can be found on the department's website: http://dec.alaska.gov/spar/ppr/fr/primary-response-action-contractors.htm.

3.9 TRAINING FOR SPILL RESPONSE PERSONNEL [18 AAC 75.425(e)(3)(I) AND 18 AAC 75.445(j)]

This section provides a detailed description of the training program for spill response personnel, including the frequency of training. The training program must be tailored to the size of the facility or vessel and the types of oil produced, transported, stored or in use. Company training requirements for all response personnel must be described. A training table listing each response position with the required training and frequency of training is recommended. The plan should include a summary of the content of each training listed and the method of delivery. Training records must be kept in accordance with the requirements of 18 AAC 75.020(e).

3.10 PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS AND AREAS OF PUBLIC CONCERN [18 AAC 75.425(e)(3)(J)]

This section of the plan supplements the procedures presented in subsection 1.6.4, *Protection of Environmentally Sensitive Areas and Areas of Public Concern*. Information on sensitive areas aids both the responsible party and the agencies involved in the response. This section describes environmental constraints for clean-up, and any biologically or culturally sensitive[1] areas which merit priority protection. The applicant should have lists of the appropriate maps, charts, and reference materials of these areas that are in the proximity of the operation for reference in the event of a spill. Geographic Response Strategies (GRS) may be useful information regarding these can be found in Chapter 4, Section 1.

The plan demonstrates that sufficient resources to prevent discharged oil from entering sensitive areas are available to the applicant and dedicated to this specific purpose. Procedures and methods for deploying these resources focus on preventing spilled oil from impacting these areas. In some cases, the pre-positioning of equipment and/or installation of permanent boom mooring buoys or studs may be warranted to ensure timely protection of critical areas. The following considerations must be addressed.

3.10.1 EFFECT OF SEASONAL CONDITIONS ON SENSITIVITY [18 AAC 75.425(e)(3)(J)(i)]

Seasonal effects on the sensitivity of certain areas may play an important factor in the selection of response strategies. Examples might include bird migrations through an area which result in large

[1] Cultural information is often not available to include in the plan due to the confidentiality of the information. During a response this information is made available by state and/or federal partners.

concentrations of wildlife at certain times of the year, or improved accessibility and lower environmental risk when tundra marshes are frozen over in mid-winter. This section discusses the effects of seasonality on the sensitive areas that may be at risk from the regulated operation and provides a rationale for alternative response strategies that consider these seasonal fluctuations.

3.10.2 TOXICITY EFFECTS AND PERSISTENCE OF DISCHARGE IN ENVIRONMENTALLY SENSITIVE AREAS [18 AAC 75.425(e)(3)(J)(ii)]

All forms of plant and animal life are susceptible to either lethal or sublethal damage when exposed to oil spills. Taking into account the type(s) of oil which may be spilled, this section describes the potential toxicity effects and persistence of those effects.

This section discusses the bathymetry of any sensitive area that could be affected by an oil discharge, and potential effects. For example, silty and sediment-laden waters may cause sinking of oil due to the increased density of silt-laden slicks.

3.10.3 AREAS TO BE GIVEN PRIORITY ATTENTION [18 AAC 75.425(e)(3)(J)(iii)]

Areas which will receive immediate priority attention are identified in subsection 1.6.4, *Protection of Environmentally Sensitive Areas and Areas of Public Concern*. This section prioritizes the sensitive areas that may be impacted by a discharge of the RPS volume, and provides sufficient background information to justify their selection and ranking, and describes the priority attention they will be given if a discharge occurs. Examples of areas to be considered in this analysis include:

1. Low Energy Beaches / Sheltered Areas: These areas may require special attention since natural oil degradation rates may be slower;
2. Estuaries and Rivers: The presence of river currents, discharges, tidal current interactions, density gradients, and temperature gradients may affect the dispersion and containment of oil; and
3. Marshes, Tundra, and Permafrost Areas: Seasonality (Section 3.10.1) may play an important part in the sensitivity of these areas. Vehicle traffic across these areas may be possible in winter, which may help logistical efforts at that time of year.

3.11 ADDITIONAL INFORMATION [18 AAC 75.425(e)(3)(K)]

This section of the plan is reserved for additional information that the department determines is necessary to provide a background for any of the strategies or procedures presented in the plan, or to verify any of the claims or assumptions that have been made in designing the response[1].

3.12 BIBLIOGRAPHY [18 AAC 75.425(e)(3)(L)]

A list of data and information sources used to develop the plan is included in this section.

[1] This section of the plan is not always necessary and may not contain information.

PART 4 BEST AVAILABLE TECHNOLOGY

AS 46.04.030(e) states, in part, that a plan "must provide for the use by the applicant of the best technology that was available at the time the plan was submitted or renewed. The department shall identify the prevention and response technologies that are subject to a BAT determination. The department may find that any technology meeting the RPS in AS 46.04.030(k) or a prevention performance standard established under AS 46.04.070 is the BAT. The department may prepare findings and maintain a list of those technologies that are considered the best available."

The technologies requiring a BAT analysis are identified in 18 AAC 75.425(e)(4). Applicants are required to perform a BAT analysis that takes into account eight specific criteria [18 AAC 75.445(k)]. A plan approval from the department does not mean that an applicant will not have to conduct a separate BAT analysis if prevention technologies (e.g., leak detection) are significantly upgraded or changed. Part 4 of the plan includes:

1. An identification of the technologies applicable to the applicant's operation that are subject to an individual BAT review under 18 AAC 75.425(e)(4)(A);

2. A description of the available options for each technology subject to an individual BAT review under 18 AAC 75.425(e)(4)(A);

3. A detailed review and analysis of the options for each technology identified in 18 AAC 75.425(e)(4)(A) and subject to the criteria in 18 AAC 75.445(k)(3); and

4. A determination of BAT for each technology area and an analysis justifying that the applicant's proposed technology represents BAT for the applicant's operation.

Table 3-12 defines the criteria used in BAT analyses. These eight categories correspond to those described in 18 AAC 75.445(k)(3)(A)-(H). These are not necessarily listed in order of priority. Each criterion is evaluated separately and no one criterion is assigned more weight than another. Any one criterion could have a greater significance than any others, depending on the specific operation.

An example BAT analysis table, Table 3-13, provides one way to present the evaluation criteria and the alternative options for a specific technology. The evaluation includes identification of alternative technologies with sufficient detail to enable the department to evaluate the rationale presented. The intent is to provide condensed descriptions with sufficient supporting information.

TABLE 3-12: BAT EVALUATION CRITERIA DEFINITIONS

(A) AVAILABILITY	i) Is the technology the best in use in other similar situations; ii) Is the technology available for use by the applicant
(B) TRANSFERABILITY	i) Can the technology be applied to the applicant's operation
(C) EFFECTIVENESS	i) Is there a reasonable expectation that the technology will provide increased spill prevention or other environmental benefits
(D) COST	i) Cost of achieving BAT; ii) Consideration of cost in relation to remaining years of service of current technology in use by applicant
(E) AGE AND CONDITION	i) Age and condition of existing technology at the facility Consider: Relative to similar equipment in current or past use under similar circumstances.
(F) COMPATIBILITY	i) Is the technology compatible with existing operations and technologies used by the applicant?
(G) FEASIBILITY	i) From an engineering and operational view is the technology practical and feasible?
(H) ENVIRONMENTAL IMPACTS	i) Do the environmental impacts of this technology, such as air, land, water pollution and energy requirements offset the technology's benefits?

TABLE 3-13: EXAMPLE BAT ANALYSIS TABLE

Name of Technology BAT Criteria	Technology A: Current Technology	Technology B: Alternate Technology	Technology C: Alternate Technology
AVAILABILITY	Available and currently in use	Available; has not been tested in Alaska	Available; has been used in similar operations
TRANSFERABILITY	Currently in use	Transferable with minimal modifications	Not transferable; will not operate in temperatures under 50 degrees F
EFFECTIVENESS	Currently in use and proven effective at this facility	Effective in similar operations	Not effective for use in cold environments
COST	Currently in use, maintenance costs are approximately $2000/year	Approximately $10,000/year	Estimated to be $500,000 for installation and $8,000/year to maintain
AGE AND CONDITION	Currently in use, was new when installed in 2001	Would be new if installed	Would be new if installed
COMPATIBILITY	Currently in use	Likely compatible, has not been tested in Alaska	Probably not compatible; not effective in cold environments
FEASIBILITY	Currently in use	Likely feasible, has not been tested in Alaska	Probably not feasible; not effective in cold environments
ENVIRONMENTAL IMPACTS	Technology has been proven effective in reducing spills and does not increase air emissions.	Technology has reduced oil spills where installed and does not increase air emissions.	Technology has reduced oil spills, but increased air emissions where it has been installed.

PART 5 RESPONSE PLANNING STANDARD

TABLE 3-14: CROSS-REFERENCE OF RPSS AND ASSOCIATED REGULATIONS

REQUIREMENT	ASSOCIATED REGULATION	PAGE
General Information	AS 46.04.030(k) 18 AAC 75.430 – 18 AAC 75.442	100
Initial RPS Calculation	18 AAC 75.425(e)(5) 18 AAC 75.445(n)	101
Application of RPS Reductions	18 AAC 75.430(c)	101
RPS for Each Facility Type		102
RPS for Oil Terminal Facility	18 AAC 75.432	102
RPS for Railroad Tank Cars	18 AAC 75.433	104
RPS for Exploration and Production Facilities	18 AAC 75.434	104
RPS for Crude Oil Pipelines	18 AAC 75.436	107
RPS for Crude Oil Tank Vessels and Barges	18 AAC 75.438	108
RPS for Noncrude Oil Tank Vessels and Barges	18 AAC 75.440	109
RPS for Multiple Operations	18 AAC 75.442	109
Example RPS Calculation		109

5.1 GENERAL INFORMATION

The State of Alaska has established certain spill volumes and specified timeframes applicable to response planning for each class of regulated operation. These volumes and timeframes are collectively known as RPS. To comply with state law, applicants demonstrate that they have planned to respond to the appropriate RPS volume (i.e., to a spill of the appropriate volume within the specified timeframe applicable to that facility, vessel or operation). AS 46.04.030(k) and 18 AAC 75.430 – 18 AAC 75.442 set forth the RPS for each type of regulated facility and vessel. It is important to note that for planning purposes, it is assumed that the RPS volume leaves secondary containment.

The RPS volume is an important benchmark for measuring the adequacy of a plan. Those portions of the plan dealing with response strategies and equipment reflect the availability of sufficient resources to mechanically contain, control and clean up the specified volume within the specified timeframe (i.e., to meet the RPS volume applicable to that operation). The array of equipment, personnel, and resources available to the applicant is evaluated by the plan reviewer on the basis of its adequacy for this task. The plan identifies the initial (unadjusted) RPS volume for the facility, vessel, or operation(s) covered by the plan and any reductions to the RPS volume and provides the calculation for the final (adjusted) RPS volume. These terms are explained below. An example calculation is presented at the end of this part.

The RPS is a planning, not a performance, standard, designed to ensure that a specified minimum level of response preparedness has been achieved on the part of the operator. An actual spill is not likely to be of the same size or match precisely any of the scenarios in the plan. However, the plan must demonstrate that the operator has access to sufficient resources to respond to a spill of any size up to and including one equal to the RPS volume, under a reasonable set of circumstances. Development of a plan that meets the applicable RPS is therefore dependent on several assumptions regarding equipment performance, response timing, personnel resources, etc. The following sections provide further discussion on these assumptions.

Evaporation of spilled oil is not considered in establishing the minimum RPS volumes (i.e., the RPS volume represents the amount of oil spilled, and reduction for potential evaporation and increase caused by emulsification are not included).

Mechanical methods (i.e., containment, skimming, pumping, etc.) must be used to demonstrate the ability of the applicant to meet the RPS. Nonmechanical response methods are not considered in determining if the plan holder can meet the RPS.

5.2 INITIAL RPS CALCULATION [18 AAC 75.425(e)(5) AND 18 AAC 75.445(n)]

Section 5.4 and its subsections present the factors used to determine the initial RPS volume for each facility or vessel type, and the variables used in these calculations. Detailed background information and supporting documentation used to determine the RPS volume is located in other appropriate sections of the plan, as indicated below.

5.3 APPLICATION OF RPS REDUCTIONS (PREVENTION CREDITS)

For some classes of operation the initial RPS volume may be reduced for specific oil spill prevention measures in place at the facility or operation. Many potential prevention measures have been evaluated by the state in setting the initial RPS volume and assigning the reductions specified in the regulations for each class of operation. These prevention measures, and the amount of reduction granted for each, are provided for each facility type in Section 5.4, *RPS for Each Facility Type.*

Details on the documentation of prevention credits are cross-referenced to their locations elsewhere in the plan, typically in Part 2. Appropriate background information supporting the credits claimed must be included in that part. Operators must ensure that each measure proposed for consideration to reduce the RPS volume meets all applicable requirements of Articles 1 and 4.

18 AAC 75.430(c) describes the method of calculating multiple reductions (see "Example Calculation" in Section 5.5), and limits the adjusted RPS volume to 15 percent of the initial RPS volume for most facilities and to 30 percent for the out-of-region RPS volume for crude oil tank vessels and barges. Reductions below this percentage will not be granted. Additionally, reductions are not permitted for the RPS volume for noncrude vessels or the in-region RPS volume for crude tank vessels and barges.

In addition to specific prevention measures listed in this section, 18 AAC 75.430(b) allows the department to consider other measures and provide modifications to the RPS volume for additional prevention measures not included in the regulations if they can be demonstrated to significantly reduce the potential size or risk of an oil discharge from the facility or operation.

Additional prevention measures are highly encouraged, but only those with demonstrated effectiveness in reducing the frequency or degree of catastrophic spills by 5 percent or more will be considered eligible for a reduction in RPS volume. It is the applicant's responsibility to demonstrate such effectiveness to the department's satisfaction.

5.4 RPS FOR EACH FACILITY TYPE

5.4.1 RPS FOR OIL TERMINAL FACILITIES [18 AAC 75.432]

The RPS volume for an oil terminal facility is defined in 18 AAC 75.432 as the volume of the largest tank at the facility, or, in the case of specific natural or man-made conditions that might place the facility at a higher risk of a discharge, the combined volume of all potentially affected tanks. Specific risk conditions might include location within an avalanche zone, location over an active fault, or other factors that can be shown to raise the level of risk above that generally present in the area. This is referred to as the "initial" RPS volume, to distinguish it from the "adjusted" or final RPS volume. Reductions in spill planning volume may be made to the initial RPS volume for specific prevention measures in place at the facility, resulting in the adjusted RPS volume. The adjusted RPS volume is the planning standard against which the applicant's response is evaluated.

It is important to note that tank capacity has been chosen as a starting point for the calculation of the RPS volume based on an assessment of the overall risk of spills from a facility. The capacity of the largest tank (or that of all tanks at risk) is used to determine the volume of the RPS, and should not be confused with the specific scenario of tank failure (which is only one of many scenarios that may apply to the facility). For example, the argument that a spill from the complete failure of the largest tank would be completely contained does not relieve the operator for planning to respond to a spill of the appropriate volume from any source, up to and including the applicable RPS volume. A tank

failure is one of many possible scenarios to be considered in determining the appropriate volume for each type of spill at the facility.

The specific prevention measures, and the maximum spill planning volume reduction that will be granted for each measure, are presented in 18 AAC 75.432(d)(1) – (6). Each percentage given represents the factor by which the RPS volume will be reduced.

These prevention measures and the reduction to the initial RPS volume allowed for each measure are as follows:

1. Alcohol and drug testing of key personnel - 5 percent;
2. Operations training program with professional organization or federal certification/licensing - 5 percent;
3. Online leak detection systems for tanks and piping - 5 percent;
4. Sufficiently impermeable secondary containment area with a dike capable of holding the content of the largest tanks, or potentially all affected tanks (in the case of increased risk), plus precipitation - 60 percent;
5. If secondary containment has the following enhancements, additional reduction for one of the following
    a. Cathodic protection - 10 percent
    b. Fail-safe valve piping systems - 15 percent or
    c. Impervious containment area extending under the full area of each storage tank or double bottoms with leak detection - 25 percent; and
6. Containment outside secondary containment (tertiary containment) - 10 percent.

The "open-water" RPS volume is estimated as described in Section 3.2.2. The applicant must plan to contain, control and clean up within 72 hours that portion of an adjusted RPS volume spill that may reasonably expected to reach open water. The applicant must plan to contain and control the remaining portion of the spill within 72 hours, and clean it up within the shortest possible time consistent with minimizing damage to the environment.

5.4.2 RPS FOR RAILROAD TANK CARS [18 AAC 75.433]

The applicant must maintain, or have available under contract within the applicant's region of operation or another approved location, sufficient oil discharge containment, storage, transfer, and

cleanup equipment, personnel, and other resources to contain and control 15 percent of the maximum oil capacity of the train within 48 hours after a spill. The applicant must clean up the discharge within the shortest possible time consistent with minimizing damage to the environment.

5.4.3 RPS FOR EXPLORATION AND PRODUCTION FACILITIES [18 AAC 75.434]

The key points to consider when calculating the RPS volume for an exploration or production facility are:

1. A theoretical volume of discharged oil from an uncontrolled well is the basis of the RPS volume. This volume determines the amount of oil discharge containment, storage, transfer, and cleanup equipment, personnel, and resources needed to contain or control, and clean up the RPS volume within the timeframe as discussed below;
2. The number of days used to calculate the RPS volume depends on whether the well is an exploration or production well, and if a production well, whether it flows assisted or unassisted;
3. The theoretical volume of discharged oil from an uncontrolled well is based on the expected or known flow rate of the well. Flow rate information is provided by the applicant and verified by AOGCC. AOGCC is the state agency that has statutory authority to collect, analyze, and hold flow rate data; and
4. RPS volume is "realistic maximum oil discharge" (RMOD) for exploration or production facilities.

Exploration Facility

The RPS volume for an exploration facility is 16,500 bbls and an additional 5,500 bbls for each of 12 days beyond 72 hours, or 5,500 bbls per day times 15 days (82,500 bbls).

An applicant may propose a lower RPS volume; however, the applicant must provide relevant well data, exploration data, and other supporting technical documentation to the department and to AOGCC that demonstrates to the department's satisfaction that the lower RPS volume is appropriate.

Production Facility

The RPS volume for a production facility is three times the annual average daily oil production volume for the maximum producing well at the facility for wells with assisted lift. For wells without assisted lift, the RPS volume includes an additional volume equal to the annual average daily oil production

volume for the maximum producing well at the facility for each of 12 days beyond 72 hours, for a total of 15 days.

A production facility applicant submits existing well data, analyses, and supporting documentation relating to the annual average daily oil production volume of the wells at the facility, if such data is available. This information is not required to be part of the plan, but should be submitted at the same time, or during the pre-application consultation period.

If the department determines that the existing well data, analyses, and supporting documentation are adequate to determine the highest annual average daily flow rate of the wells at the facility, the RPS volume of a production facility with only *assisted lift* wells is set at three times the annual average daily oil production volume of the maximum producing well at the facility; the RPS volume of a production facility with *unassisted lift* wells is set at 15 times the annual average daily oil production volume of the maximum producing well at the facility.

If the department determines that the data is inadequate to determine the highest annual average daily oil production volume of the wells at the facility, the RPS volume of the facility is set at 82,500 bbls which is 5,500 bbls per day over a period of 15 days. The department may make a request to AOGCC to evaluate the submitted data.

What period of time is used to determine "annual average daily oil production volume"?

The "annual average daily oil production volume" is defined at 18 AAC 75.990(162) as

> "… the average oil production volume from a common reservoir to a common production facility based on the highest annual volume produced by a well at the facility during the previous calendar year divided by the number of days in the year, expressed as bbls per day;"

For the first year of production, the RPS volume calculation uses a combination of flow test results and estimated production to determine the annual average daily oil production. Once a year's worth of production data is accumulated, then the annual average daily oil production is based on historical data.

Is produced water included in the RPS volume calculation?

No. While produced water does contain some percentage of oil (generally ~1 percent), the amount of oil in the produced water is significantly less than the oil production for any given well.

What is AOGCC's role in determining the RPS volume?

A significant factor in the equation of a blowout RPS volume is the flow rate of the well. AOGCC is the state agency with the mandate and capability to independently determine the flow rate of a producing well.

If an exploration applicant proposes an RPS volume lower than the "default" rate of 5,500 bbls/day, department personnel will consult with AOGCC to verify the proposed RPS volume. Correspondence and/or e-mail communication regarding this consultation will be part of the record for the plan review, except for information described in 18 AAC 75.434(i).

Department personnel will consult with AOGCC to determine or verify the flow rates of the highest producing well in a field as part of the plan review process under 18 AAC 75.445. Once an AOGCC determination of flow rates from the highest producing well at a production facility has been provided to the plan reviewer, that rate will be used as the RPS volume for the plan. AOGCC provides production data (including GOR) for Alaska at the AOGCC website: http://doa.alaska.gov/ogc/.

The maximum RPS volume reduction (15 percent of the initial RPS volume) is presented in 18 AAC 75.430(c). For exploration and production facilities, only prevention measures in place at the facility beyond those measures imposed by AOGCC or another agency are considered for reducing the RPS volume.

For land-based facilities, the "open-water" RPS volume is estimated as described in Section 3.2.2. The applicant must plan to contain, control and clean up within 72 hours that portion of an adjusted RPS volume spill that may reasonably expected to reach open water. The applicant must plan to contain and control the remaining portion of the spill within 72 hours, and clean it up within the shortest possible time consistent with minimizing damage to the environment.

5.4.4 RPS FOR CRUDE OIL PIPELINES [18 AAC 75.436]

The RPS volume for a crude oil pipeline facility is the volume of oil that results from the following formula:

RPS = (Lpl – Hpl) * Cpl + FRpl * (TDpl + TSDpl)
Where:
Lpl = pipeline length between pumping or receiving stations or valves
Hpl = pipeline hydraulic characteristics due to terrain profile
Cpl = pipeline capacity in bbls per linear measure

FRpl = pipeline flow rate in bbls per time period
TDpl = estimated time to detect a spill event
TSDpl = time needed to shut down the pipeline pump or system

Each segment of the pipeline (Lpl) is evaluated using the RPS calculation. The pipeline segment with the highest calculated RPS will be used for the facility RPS. The location of the RPS scenario will generally be established using that pipeline segment. The specific prevention measures, and the maximum spill planning volume reduction that will be granted for each measure, are presented in 18 AAC 75.436(c)(1) – (5). Each percentage given represents the factor by which the RPS volume will be reduced.

These prevention measures and the reduction to the initial RPS volume allowed for each measure are as follows:

1. Alcohol and drug testing of key personnel - 5 percent;
2. Operations training program with professional organization or federal certification/licensing - 5 percent;
3. Online leak detection systems - 5 percent;
4. For corrosion control, one of the following reductions can be used:
    a. Ultrasonic thickness meters - 15 percent
    b. Instrumented in-line cleaning and diagnostic equipment ("smart pigs") - 15 percent or
    c. One of the above methods, and triennial cathodic-profile inspection - 30 percent; and
5. Underwater pipeline cathodic- and burial-profile inspection - 5 percent.

For land-based pipelines, the "open-water" RPS volume is estimated as described in Section 3.2.2. The applicant must plan to contain, control and clean up within 72 hours that portion of an adjusted RPS volume spill that may reasonably be expected to reach open water. The applicant must plan to contain and control the remaining portion of the spill within 72 hours, and clean it up within the shortest possible time consistent with minimizing damage to the environment.

5.4.5 RPS FOR CRUDE OIL TANK VESSELS AND BARGES [18 AAC 75.438]

There are two separate response planning standards for crude oil tank vessels and barges as detailed in 18 AAC 75.438.

1. The in-region RPS volume for a tank vessel or barge carrying crude oil as bulk cargo is based on the total cargo volume of the tank vessel or barge. The in-region RPS may not be adjusted below 50,000 bbls if it has a cargo volume of less than 500,000 bbls or 300,000 bbls, if the cargo volume is 500,000 bbls or more. These are excluded from 18 AAC 75.430(b).

   The applicant must contain, control, and clean up that portion of the RPS volume that may reasonably be expected to reach open water within 72 hours of the spill and contain and control the remaining portion of the RPS volume within 72 hours and clean it up within the shortest possible time consistent with minimizing damage to the environment. However, it is assumed that the entire adjusted RPS volume will reach open water for planning purposes.

2. The out-of-region RPS volume is 60 percent of the total cargo volume of the tank vessel or barge. The applicant must plan to have, additional equipment and resources sufficient to contain, control, and clean up. The RPS volume deployed and operating within 72 hours of the spill. This additional equipment and resources may be located either within or outside of the applicant's region of operations.

Prevention measures can be used to reduce the out-of-region RPS volume. The specific prevention measures, and the maximum spill planning volume reduction that will be granted for each measure, are presented in 18 AAC 75.438(d)(1) – (4). Each percentage given represents the factor by which the RPS volume will be reduced.

These prevention measures and the reduction to the initial RPS volume allowed for each measure are as follows:

1. Hydrostatic loading - 20 percent;
2. Double hulls and bottoms - 30 percent;
3. Double bottoms – 25 percent;
4. Emergency response vessels and procedures including all of the following:
   a. Vessel escort during entire vessel transit in port area;
   b. Escort vessels capable of providing steering and propulsion assistance with the ability to attach towing cables in a timely fashion under the weather conditions of transit, and capable of exerting sufficient force to change or maintain the escorted vessel's course;
   c. Limits on the escorted vessel's speed in order to match escort vessel's ability to render assistance, and

d. Escort vessels have on-board oil discharge response equipment – 11 percent.

5.4.6 RPS FOR NONCRUDE OIL TANK VESSELS AND BARGES [18 AAC 75.440]

The RPS volume for a tank vessel or barge carrying noncrude oil as bulk cargo is 15 percent of the total cargo capacity of the tank vessel or barge.

The applicant must plan to contain and control within 48 hours of the spill, and clean up within the shortest possible time, that portion of the RPS volume that may reasonably expected to reach open water; the applicant must plan to contain, control and clean up the remaining portion of the RPS volume within the shortest possible time consistent with minimizing damage to the environment. It is assumed that the entire RPS volume will reach open water for planning purposes.

5.4.7 RPS FOR MULTIPLE OPERATIONS [18 AAC 75.442]

Applicants with operations that consist of more than one category of regulated facility or vessel must demonstrate compliance with the RPS applicable to each separate category of operation as described above.

5.5 EXAMPLE RPS CALCULATION

An example calculation of a land-based oil terminal RPS is presented below. For the example, the volume of the largest tank at the terminal is 50,000 bbls, and no specific natural or man-made conditions outside the facility are present which place the terminal at an increased risk. The terminal has a fully lined, impervious containment area which extends under the full area of each storage tank, and cathodic protection for tanks and piping.

Largest tank volume

50,000 bbls

Sufficiently impermeable secondary containment: (60% reduction)

50,000 x 60% = 30,000 bbls reduction; therefore 50,000 bbls - 30,000 bbls = 20,000 bbls

Cathodic protection: (10% reduction)

20,000 x 10% = 2,000 bbls reduction; therefore 20,000 bbls - 2,000 bbls = 18,000 bbls

Impervious containment under tanks: (25% reduction)

18,000 x 25% = 4,500 bbls reduction; therefore 18,000 bbls - 4,500 bbls = 13,500 bbls

The adjusted (final) RPS volume is 13,500 bbls. Note that each reduction is calculated based on the result of applying the previous reduction [18 AAC 75.430(c)]. Since multiplication is commutative, the reductions can be applied in any order with the same final result.

Because this is a land-based facility, the "open-water" portion of the adjusted RPS volume must also be determined. The applicant has demonstrated (through charts, diagrams and other appropriate information – see Sections 1.8, *Facility, Railroad, or Vessel Diagram* and 3.2.2, *Estimate of Response Planning Standard to Reach Open Water*) that approximately 60% of a spill of the adjusted RPS volume from the facility can reasonably be expected to be contained on land, leaving 40% with the potential to discharge into a water way. Therefore:

13,500 bbls x .40 = 5,400 bbls = "Open-water" RPS volume

The plan must demonstrate the ability of the applicant to contain, control and clean up 5,400 bbls on-water within 72 hours, and the remaining 8,100 bbls within the shortest possible time consistent with minimizing damage to the environment.

NOTE: The adjusted RPS volume (13,500 bbls) in this example is 27% of the initial RPS (50,000 bbls). Reductions will not be granted below 15% of the initial RPS [18 AAC 75.430(d)(1)]. The minimum threshold RPS for this facility is 7,500 bbls (15% of 50,000). If additional prevention measures had been included, in no case would the adjusted RPS be reduced below 7,500 bbls.

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CHAPTER 4 PLAN DEVELOPMENT RESOURCES

SECTION 1 GEOGRAPHIC RESPONSE STRATEGIES

The GRS are oil spill response plans created to identify and protect sensitive coastal environments from impacts following a spill along the Alaska coastline. These response plans are map-based strategies that can save time during the critical first few hours of an oil spill response. They show responders where sensitive areas are located and where to place oil spill protection resources. The GRS can be a starting point when planning to protect sensitive areas located near a facility or vessel route. However, they may not be adequate to meet the requirement for including site-specific strategies for the protection of environmentally sensitive areas and areas of public concern in the plan. The strategies serve as guidelines for the federal and state on-scene coordinators during an oil spill in the area covered by the GRS. The GRS are a great tool in preplanning for a spill response and can provide excellent guidance during a spill response, but are not a mandate for specific action at the time of a spill. As part of the subarea contingency plans, they have been approved by the USCG Marine Safety Office, the department, and the USEPA.

GRS supplements the *Subarea Contingency Plans for Oil and Hazardous Substances Spills and Releases*. For the purposes of oil spill planning, Alaska is divided into 10 regions, or subareas. Workgroups, formed under the governing subarea committee, developed GRS for each subarea. GRS workgroup participants include state and federal resource trustee agencies and local spill response experts. Public involvement is essential to ensure the sites selected and the strategies developed reflect the environmental protection priorities of local communities, stakeholders, and resource users.

Flexibility of GRS allows the spill responders to modify them, as necessary, to fit the prevailing conditions at the time of a spill. Seasonal constraints, such as ice or weather, may preclude implementation of some of the strategies in the winter months. It is not intended that all sites be automatically protected at the beginning of a spill, but rather those that are in the projected path of the spill. The strategies developed for the selected sites were completed with a focus on minimizing environmental damage, utilizing as small a footprint as possible to support the response operations, and selecting sites for equipment deployment that will not cause more damage than the spilled oil.

At present, the Interior Alaska subarea is the only region that does not have a developed GRS. A map of the boundaries for regional master discharge prevention and contingency plans (subarea regions) is included as Figure 4-1 in Chapter 4 of this document.

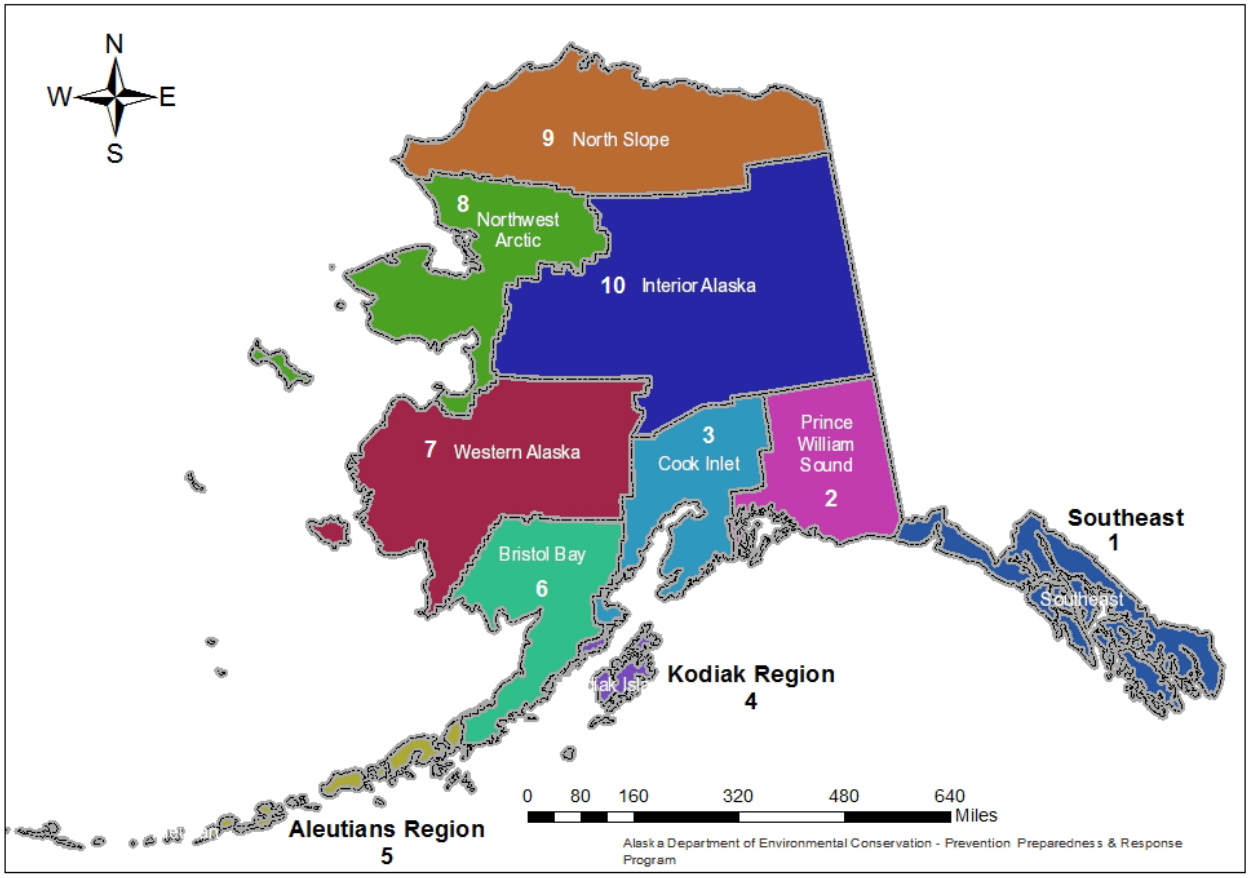

FIGURE 4-1: REGIONAL PLAN MASTER DISCHARGE PREVENTION AND CONTINGENCY PLAN BOUNDARIES [18 AAC 75.495]

1. Southeast Alaska Region: that area of the state east of 142ø W. longitude and south of a line just west of Icy Bay that connects the U.S.-Canadian border with the Gulf of Alaska, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
2. Prince William Sound Region: that area south of 63ø30' N. latitude, west of the region described in (1) of this subsection, and east of the region described in (3) of this subsection, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
3. Cook Inlet Region: that area encompassed by the boundaries of the Kenai Peninsula Borough, the Municipality of Anchorage, and the Matanuska-Susitna Borough, including adjacent

shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.

4. Kodiak Island Region: that area encompassed by the boundaries of the Kodiak Island Borough, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
5. Aleutian Region: those areas encompassed by the boundaries of the Aleutians East Borough, the Aleutians West Coastal Resource Service Area, and the Pribilof Islands, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
6. Bristol Bay Region: that area encompassed by the boundaries of the Bristol Bay Coastal Resource Service Area, the Bristol Bay Borough, and the Lake and Peninsula Borough, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
7. Western Alaska Region: that area north of the area described in (6) of this subsection, encompassed by the boundaries of the southernmost boundary of the Bering Straits Regional Corporation, and Iditarod and Kuspuk Regional Educational Attendance Areas, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
8. Northwest Arctic Region: that area encompassed by the Northwest Arctic Borough and the Bering Straits Regional Corporation, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
9. North Slope Region: that area encompassed by the boundaries of the North Slope Borough, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.
10. Interior Alaska Region: that area of the state not included in (1) - (9) of this subsection.

Each GRS document is available for download from the Subarea homepage on the department website at http://www.dec.state.ak.us/spar/perp/grs/home.htm and can be printed on 11" x 17" paper. The GRS documents are similar in format and contain the following parts:

5. Part 1. Introduction includes instructions on how to use the document, contact information, and site selection criteria;
6. Part 2. General Protection/Collection Tactics includes vessel classification system and detailed descriptions and drawing of tactics;
7. Part 3. Site-specific GRS includes maps, descriptions, photos, shoreline and sensitive resource descriptions, and site-specific logistical information; and
8. Part 4. References.

GRS and other useful map documents are available at the DNR Geospatial Data Center, Prevention and Emergency Response Subarea Plan Maps.

SECTION 2 STAR MANUAL

The STAR manual provides standardized oil spill response tactics specific to the State of Alaska and is intended to be a standard tactical reference for oil spill planning and response activities. It is available for use by the spill response community, including federal, state, local, industry, and spill response organizations throughout Alaska. The STAR manual and a smaller "field guide" version are available to download on the department website at http://dec.alaska.gov/spar/ppr/star/docs.htm.

The information in the manual bridges the gap between oil spill contingency planning and response by providing standard tactics and terminology that can be easily transferred from a plan to an Incident Action Plan. The standardization facilitates mutual aid among response organizations and may improve resource ordering and allocation during a response. The manual also has value as a field guide and training aid for oil spill responders.

The STAR manual includes non-prescriptive guidance on meeting the RPS for plans. The definitions and descriptions contained in this manual provide a clear, consistent, statewide standard for oil spill tactics and response resource classification.

The STAR manual provides a companion to GRS discussed in Section 1. The tactics described in the manual are used to develop GRS. The STAR Manual also complements the *AIMS Guide for Oil and Hazardous Substance Response*, as well as other response guides developed for spill response discussed in Section 3.

The tactics and equipment described in this manual specifically address the uniquely challenging and diverse operating environments that exist across the State of Alaska. Because the information in this manual reflects the response priorities and concerns of both planners and responders, it has the potential to increase the spill response efficiency of spill response organizations by providing guidance on the resources and capabilities required to accomplish the specific tasking likely to come from the incident management team (IMT) during a response.

The tactics described in this manual primarily include those activities that occur during the emergency response phase (Phase I) of an oil spill. The tactics are not prescriptive or exclusive; plan holders and spill response organizations are free to develop and utilize other tactics, or modify these tactics to meet their needs. These tactics are also intended to be flexible; spill responders should adjust or modify these tactics to meet the prevailing conditions encountered in the field.

SECTION 3 ALASKA INCIDENT MANAGEMENT SYSTEM GUIDE

The information and organizational approach depicted in the AIMS Guide for Oil and Hazardous Substance Response is meant for use for Alaskan responses. A copy can be found on-line: http://dec.alaska.gov/spar/ppr/docs/AIMS_Guide-Complete(Nov02).pdf. Nothing in the guide is mandatory for response plan holders or regulatory in nature. The federal and state on-scene coordinators will work with a response organization established by the responsible party that effectively addresses the functions and concepts described in this guide.

The purpose of the AIMS Guide is to provide background information on concepts of operation for responding to oil and hazardous material releases statewide as applied to spill incidents, regardless of nature, severity, or location. Concepts in the guide are meant to be flexible in the ability to control, organize, and manage incident response operations. The concepts contained in this document provide for all necessary actions to protect the public, environment, and private personnel and assets.

The AIMS Guide was developed for use by public and private agencies to fully coordinate response efforts during a significant oil or hazardous materials release. While the roles of the government organizations may vary from directing the response, augmenting the response, or providing regulatory oversight, the intent of this document is to foster a common understanding of the roles and responsibilities of all responding agencies to ensure a safe, effective response.

SUMMARY OF MAJOR FEATURES

The AIMS Guide models some aspects of incident and crisis responses after the ICS management system. The ICS is designed to enable effective and efficient domestic incident management by

integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. The ICS principles provide for flexibility in near-term and long-term field level operations from small to complex incidents.

The AIMS guide details three basic levels for a response to a major spill incident: response in the field; follow-on incident management; and upper level crisis management support. Three functional teams exist that collectively constitute the incident response organization.

1. *Field Response Team (FRT).* A field response team develops and implements tactics to carry out strategies and priorities developed by the incident management team (if activated) for emergency response operations;
2. *Incident Management Team (IMT).* An incident management team determines strategic objectives and priorities to deal with the incident, approves tactics, and provides overall support to the FRT; and
3. *Crisis Management Team (CMT).* A CMT, in turn, is activated to directly support the IMT and manage the organization's crisis response operations.

APPENDIX A ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPILL NOTIFICATION FORM

See Following Page

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

OIL & HAZARDOUS SUBSTANCES SPILL NOTIFICATION FORM

ADEC USE ONLY

ADEC SPILL #:	ADEC FILE #:	ADEC LC:

PERSON REPORTING:	PHONE NUMBER:	REPORTED HOW? (ADEC USE ONLY) ☐ Phone ☐ Fax ☐ PERS ☐ E-mail
DATE/TIME OF SPILL:	DATE/TIME DISCOVERED:	DATE/TIME REPORTED TO ADEC:

INCIDENT LOCATION/ADDRESS:	DATUM: ☐ NAD27 ☐ NAD83 ☐ WGS84 ☐ Other _____ LAT. LONG.	PRODUCT SPILLED:

QUANTITY SPILLED: ☐ gallons ☐ pounds	QUANTITY CONTAINED: ☐ gallons ☐ pounds	QUANTITY RECOVERED: ☐ gallons ☐ pounds	QUANTITY DISPOSED: ☐ gallons ☐ pounds

	POTENTIAL RESPONSIBLE PARTY:	OTHER PRP, IF ANY:	VESSEL NAME:
Name/Business:			
Mailing Address:			VESSEL NUMBER:
Contact Name:			> 400 GROSS TON VESSEL: ☐ Yes ☐ No
Contact Number:			

SOURCE OF SPILL:	CAUSE CLASSIFICATION:
CAUSE OF SPILL: ☐ Under Investigation	☐ Accident ☐ Human Factors ☐ Structural/Mechanical ☐ Other

CLEANUP ACTIONS:

DISPOSAL METHODS AND LOCATION:

AFFECTED AREA SIZE:	SURFACE TYPE: *(gravel, asphalt, name of river etc.)*	RESOURCES AFFECTED/THREATENED: *(Water sources, wildlife, wells, etc.)*

COMMENTS:

ADEC USE ONLY

SPILL NAME:	NAME OF DEC STAFF RESPONDING:	C-PLAN MGR NOTIFIED? ☐ Yes ☐ No

DEC RESPONSE: ☐ Phone follow-up ☐ Field visit ☐ Took Report	CASELOAD CODE: ☐ First and Final ☐ Open/No LC ☐ LC Assigned	CLEANUP CLOSURE ACTION: ☐ NFA ☐ Monitoring ☐ Transferred to CS or STP

COMMENTS:

Status of Case: ☐ Open ☐ Closed DATE CASE CLOSED:

REPORT PREPARED BY:	DATE:

APPENDIX B DETERMINING THE ADEQUACY OF MECHANICAL RECOVERY CAPABILITY

DETERMINING THE ADEQUACY OF MECHANICAL RECOVERY CAPABILITY

A formula is used to approximate the recovery capability of each piece of recovery equipment. Compliance with the RPS is attained by designing a response capability that is equal to or greater than the volume of oil established by the RPS. The formula to be used to determine the mechanical recovery capability for the RPS can be described as follows:

Mechanical Recovery Capability Formula

Mechanical Recovery Capability = (Equipment Nameplate Capacity) X (Oil Recovery Efficiency Factor) X (Hours of Operation). Each variable in this formula is further explained below. Note: for this formula, the encounter rate is assumed adequate.

Mechanical Recovery Capability

The volume of oil or oily emulsion recovered is expressed in bbls. If emulsion is formed, its volume must be discounted by employing an emulsification factor to convert the volume of recovered emulsion into bbls of recovered oil. That portion of the spill that remains on land must be recovered within the shortest possible time consistent with minimizing damage to the environment. The formula must demonstrate a reasonable period for complete recovery with an immediate mobilization of response efforts. That portion of the spill that reaches open water must be recovered within 72 hours, except for noncrude vessels; use of the formula must demonstrate that the capacity and hours of operation are sufficient to recover the entire on-water spill volume within that time.

Equipment Nameplate Capacity

The equipment nameplate capacity is the manufacturers' rated recovery performance expressed in bbls/hour (42 gallons = 1 barrel of oil). This is the total liquid volume that can be recovered by the equipment under assumed conditions, and is frequently derived from the rated capacity of the pump or pumps on the recovery device. Since the total liquid volume recovered will include free oil, emulsion and free water, it is modified by the efficiency factor (see below). The World Catalog of Oil Spill Response Products (latest edition) will be used as a reference source for the rated capacities of most types of recovery equipment if no other information is available.

Oil Recovery Efficiency Factor

The oil recovery efficiency factor is the ratio, expressed as a percentage, of the volume of oil recovered to the volume of total liquids recovered. This factor is taken from ASTM F631-80 and is assumed to be 20% for each piece of recovery equipment, unless sufficient information is submitted to demonstrate that a higher number is warranted. Similarly, a lower factor may be assigned if available data or equipment performance suggests that 20% efficiency cannot be attained.

The 20% oil recovery efficiency factor takes into account those conditions that limit the actual performance of mechanical response equipment. Variations in the total volume of oil and water recovered, and in the ratio of water-to-oil, are two examples of such limiting conditions.

Hours of Operation

Hours of operation must be established for each piece of recovery equipment based on the planned startup time on-scene. Startup of operations is affected by the time needed for transport and deployment of the response personnel and equipment.

Nighttime hours can be counted only if the plan demonstrates that response strategy, oil spill tracking capability, and other logistical support capabilities are in place to allow around-the-clock operations. This capability, once demonstrated in the plan, is subject to further verification through spill drills. Allowance must be made in counting the actual hours of operation for necessary maintenance and servicing (normal equipment down-time).

An example calculation is presented below. In this example, a Transrec 350 on-water skimmer will be used and the theoretical volume of oil recovered at 72 hours will be calculated for comparison against a 72 hour RPS.

Using Transrec 350:

1. Determine equipment nameplate capacity.

   The Transrec 350 is rated by the manufacturer at 1540 Gal./Min. capacity. This may be converted into bbls-per-hour:

   1540/42 = 36.66 bbls x 60 = 2200 bbls/hr. of total liquid recovery capability.

2. Determine oil recovery efficiency factor.

   The 20% efficiency factor will be used.

3. Determine total hours of operation (within the first 72 hours).

For this example, the ability to operate the equipment round-the-clock will be assumed. Therefore:

Total available time in hours	72
Less: 4 hours deployment/setup time	- 4
4 hours downtime each 8 hours for decanting/transfer	-20
Total hours of operation	48

4. Calculate the mechanical recovery capability.

Mechanical Recovery Capability = Equipment Nameplate Capacity x Oil Recovery Efficiency Factor x Hours of Operation

Mechanical Recovery Capability = 2200 bbls/hr x .20 x 48 hr = 440 x 48 = 21,120 bbls.

Therefore, one Transrec 350 has a derated mechanical recovery capability of 21,120 bbls of oil and oily emulsion during the first 72 hours of the response. This number is compared to the 72 hour RPS appropriate to this particular operation and a determination made whether the plan holder has access to sufficient recovery capability within their region of operation.

Assumptions

The following assumptions are made in conjunction with this methodology:

1. For a stationary facility, the scenario for determining compliance with the RPS shall be at the most likely location of a spill of the entire RPS volume.
2. Deployment and response strategies, containment and control methods and transfer and storage requirements are sufficient to sustain the recovery rates without interruption (except those assumed in calculating the hours of operation).
3. Realistic operating conditions are assumed; e.g., mid-range sea state conditions for the range of sea states in which on-water equipment is capable of operating. (Realistic operating conditions are established based on the most limited component of the response capability.)
4. All equipment is operating within any limits or conditions set by the manufacturer, including the type of oil for which the equipment is designed.
5. Operational support and spill tracking capability is sufficient to ensure optimum positioning and operation of the equipment to recover oil.

Note that when calculating the total response mechanical recovery capability, the recovery capabilities of pieces of equipment that must be used in series may not be added together. For example, if an oleophilic skimmer has a derated recovery capability of 20 bbl/hr, and the pump attached to the skimmer to draw off captured oil has a derated recovery capability of 60 bbl/hr, the total recovery capability of the two pieces of equipment together is 20 bbl/hr because it is limited by the skimmer.

APPENDIX C DETERMINING THE ADEQUACY OF TRANSFER AND STORAGE CAPABILITY

DETERMINING THE ADEQUACY OF TRANSFER AND STORAGE CAPABILITY

Transfer and storage must be adequate to accommodate the total volume of liquids that will be collected to meet the RPS within the desired timeframe. In addition to the amount of oil and oily waste that will be recovered on land, this capability must accommodate the additional volume of water or other materials recovered due to emulsification or the inefficiencies of any on-water recovery equipment. If the storage capacity is insufficient to meet this requirement, the recovery rate must be reduced to match the available storage capacity.

In on-water recovery operations, an additional volume of water will exist as both an oil-water emulsion and as "free water" (water that readily separates from the oil by gravity under quiescent conditions).

Emulsification is the process by which tiny drops of one nonsoluble liquid are dispersed into and remain suspended in another. Emulsions can be "oil-in-water" or "water-in-oil." Oil-in-water emulsion is normally formed in rough seas and consists of small oil particles mixed in the water column. Water-in-oil emulsion is often referred to as "mousse" and may contain as much as 80% water. Emulsions are not permanently stable, and the liquids may separate from each other with time. In an on-water response, emulsification, encounter rates, and water uptake generally increase with time, resulting in further loss of equipment efficiency and taxing recovered oil storage capacity.

Additional amounts of water will be recovered with the oil and the oil/water emulsion. This additional amount of "free water" depends on the efficiency of the recovery device and the condition of the oil. High capacity/low efficiency systems, such as weir skimmers, recover more water than those with lower capacity but higher efficiency, such as belt skimmers or rope mops.

The total volume of liquids recovered during on-water operations is equal to the actual pumping capacity of the on-water equipment multiplied by the hours of operation. In other words:

On-Water Recovery Volume =Nameplate Capacity X Hours of Operation

But on-water and on land recovery volume can be constrained by available storage capacity. An estimate of the total required storage capacity is found as follows:

Total Storage Capacity = On-Land Recovery Volume + On-Water Recovery Volume

APPENDIX D ABOVEGROUND OIL STORAGE TANK TABLE EXAMPLE

TABLE D-1: TABLE OF ADEC REGULATED ABOVEGROUND OIL STORAGE TANKS

Tank ID	Contents	Full Physical Tank Volume (bbl)	Const. Date	Const. Standard	Foundation	Leak Detection/ Corrosion Protection	Elevated/ On-Grade	Overfill Protection	External Inspection Schedule, Last; Next	Internal Inspection Schedule, Last; Next
Tank 1	Diesel	2,951	1979	API 650	Platform on pilings in gravel	DM	E	CLI/MS	2005; 2010	2005; 2015
Tank 2	Diesel	2,951	1979	API 650	Platform on pilings in gravel	DM	E	CLI/MS	2008; 2013	2008; 2018
Tank 3	Crude	55,000	1986	API 650	Gravel	DM Cathodic protection	O	CLI	2005; 2010	2005; 2015
Tank 4	Gasoline	5,000	1985	API 650	Gravel	DM Cathodic protection	O	CLI	2008; 2013	2003; 2013
Tank 5	Diesel	2,000	1984	API 650	Platform on pilings in gravel	DM	E	CLI	2006; 2011	2006; 2016
Tank 6	Ideal plus lube oil	476	1984	API 650	Platform on pilings in gravel	DM	E	MS	2005; 2010	2005; 2015
Tank 7	Seawater or produced water	5,238	1984	API 650	Platform on pilings in gravel	DM Cathodic	E	CLI	2008; 2013	2003; 2013

Acronyms:
BBL = barrels
CLI = Constant Level Indicator
DM = Daily Monitoring
MS = Manual Strapping

APPENDIX E GUIDANCE NO. OPC 92-6

See Following Page

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE

SPILL PREVENTION, PLANNING AND MANAGEMENT
PROGRAM GUIDANCE

Guidance No. OPC 92-6 April 16, 1992 Page 1 of 1 pages

PURPOSE: To clarify what size oil storage tanks should be; 1) included in the review of Oil Discharge Prevention and Contingency Plans and 2) used in determining the oil storage capacity of a facility for contingency planning purposes.

BACKGROUND: For the purposes of this guidance a military installation or base will be considered a facility. There has been a series of discussions concerning what size oil storage tanks should be included in determining the storage capacity of a facility. There have also been some questions concerning the information about these tanks that is required to be included in the contingency plan.

APPLICABILITY: This guidance applies to all SPPM regional and district personnel involved in reviewing Oil Discharge Prevention and Contingency Plans under AS 46.04 and 18 AAC 75.

DISCUSSION: For the purposes of the contingency plan regulations a military base or installation is considered to be a "facility". The effective storage capacity of a facility is the sum of all the storage tanks at the facility as listed below. The following is a break down of tanks by size and what is to be included in the contingency plan:

Above 10,000 gallons - included in determining the storage capacity of the facility. All information in 18AAC 75.425(e)(3)(A) should be included in the contingency plan.

1,000 - 10,000 gallons - included in determining storage capacity of the facility. The following information should be included in the contingency plan - location, size, type of product, and a generic description of loading procedures. Format and manner for submission of this information is at the reviewer's discretion.

Below 1,000 gallons - not included in determining storage capacity of the facility. No further information required.

Lynn J. Tomich Kent

Lynn J. Tomich Kent, Chief
Spill Prevention, Planning and
Management Program

APPENDIX F DEPARTMENT LETTER, SEPTEMBER 11, 2009 OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN SKIMMER AND PUMP RECOVERY RATES

See Following Pages

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
INDUSTRY PREPAREDNESS PROGRAM

555 Cordova Street
Anchorage, AK 99501
PHONE: (907) 269-3094
FAX: (907) 269-7687
http://www.dec.state.ak.us

September 11, 2009

OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN
SKIMMER AND PUMP RECOVERY RATES

Subject: **Contingency planning assumptions regarding recovery rates for skimmers and pumps.**

Dear Plan Holder/PRAC:

The Alaska Department of Environmental Conservation (Department) has been reviewing its regulations and policies regarding skimmer and pump recovery rates used for oil spill response planning and has clarified its guidelines for considering approval of recovery rates above those stipulated in Alaska regulations. The applicable regulation, found at 18 AAC 75.445(g) (5), states:

> ....the number and size of skimmers and pumps to be used must be appropriate and adequate for recovery of the response planning standard volume of the type of oil discharged within the response planning standard time frame for cleanup established under 18 AAC 75.430 - 18 AAC 75.442, using an effective oil recovery capacity of 20 percent of the equipment manufacturer's rated throughput capacity over a 24-hour period, unless an analysis demonstrates to the satisfaction of the department that another effective daily oil recovery capacity is appropriate....

This regulation requires a recovery rate of 20 percent of the equipment manufacturer's rated throughput capacity unless proven to be greater. Some oil discharge prevention and contingency plan (Plan) holders, relying on their primary response action contractors' (PRAC) technical manuals, have incorporated skimmers and pumps into their Plans with recovery rates higher than 20 percent of the equipment manufacturer's rated throughput capacity and have used those ratings to calculate their predicted oil recovery rates when determining if their Plans will meet their response planning standard (RPS) volume as described in the regulations. In some cases, these recovery rates have been incorporated without the Plan holders providing the Department adequate justification supporting the higher recovery rates for the oil types and operating environments included in the Plan. The Department has determined that this practice does not meet the intent of the regulation.

The above cited regulation clearly requires that skimmer and pump recovery rates be specific to individual Plans and, therefore, that any deviation from the regulatory recovery rate of 20 percent of the equipment manufacturer's rated throughput capacity must be justified by each Plan holder and in consideration of the specific conditions of the Plan. These conditions include, but are not limited to, the oil type, viscosity and other characteristics and the operating environment in which the skimmer is used (e.g., ocean, river, closed containment area, etc.). The Department believes that various situations exist where skimmers and pumps will be capable of achieving greater than 20 percent efficiency, but that an increased recovery rate for a piece of equipment cannot be arbitrarily used across Plans.

The Department has decided that, from this point forward and in accordance with Alaska regulations, the following practices will be followed:

1. Any request for a recovery rate greater than 20 percent must be made by a Plan holder and be specific to one Plan or one operating area.
2. All requests for recovery rates greater than 20 percent must be supported by an analysis which includes factors such as oil type(s) and characteristics, operating environment(s), response times, support for the response (boom type, size, amount, etc.), and any other applicable aspects of the response.
3. The Department will review the above analyses in reference to the individual Plan and will make a determination about recovery rates which is applicable only to the referenced Plan.

The Department suggests that all PRACs list the recovery rate capacities of all skimmers and pumps as 20 percent of the equipment manufacturer's rated throughput capacity to assist Plan holders with calculating RPS requirements.

Plans which have a current approval at the time of this letter will be allowed to maintain the recovery rates listed in the Plan, but only until the Plan is resubmitted for approval. At that time, the above conditions must be met for any skimmer or pump recovery rates greater than 20 percent of the equipment manufacturer's rated throughput capacity included in the Plan.

Please contact an Industry Preparedness Program plan reviewer with any questions.

Sincerely,

Betty Schorr

Betty Schorr
Program Manager

Electronic cc:
John Kotula, ADEC
Eric Breitenberger, ADEC

APPENDIX G APPLICATION FORMS

APPLICATION FORMS

The forms listed below are available on the department's website under "Facility and Vessel Contingency Plans" at: http://dec.alaska.gov/spar/guidance.htm

1. Contingency Plan Application – This contains the application form and instructions for approval of new plans, renewals, and amendments;
2. Statement of Contractual Terms;
3. Contingency Plan Verification Log;
4. Primary Response Action Contractor Application;
5. Change of Ownership Supplemental Form; and
6. Facility Location Data Sheet.

APPENDIX H GLOSSARY OF SELECT TERMS FROM 18 AAC 75.990

The definitions in this appendix is a small sub-set of the definitions that exist in the regulations. Please note that the definitions in 75.990 are listed alphabetically when they are adopted. As new definitions are adopted, they are placed in their own alphabetical order at the end of the existing list.

"Application package" means an application form supplied by the department, a copy of the plan or amendment to the plan as applicable; and supporting documentation as requested by the department. The application form and instructions are included in Section 5, and are available on the department's website at http://dec.alaska.gov/spar/guidance.htm

(2) "approval" means written approval by the department;

(3) "approved" means approved in writing by the department;

(5) "area of public concern" means a geographic area that, in the department's judgment, deserves special protection from an oil discharge, including

(A) an area of unique cultural value, historical significance, or scenic importance;

(B) an area of substantial residential or public recreational value or opportunity;

(C) an area where fish hatcheries or other facilities primarily dependent upon the use of potentially affected water are located;

(D) an area significantly used for commercial, sport, or subsistence hunting, fishing, and gathering; and

(E) an area where concentrations of terrestrial or marine mammals or bird populations primarily dependent on the marine environment are located;

(7) "barge" means oil barge;

(8) "barrel" has the meaning given in AS 46.04.900; that is, (1) "barrel" is a measure of capacity equal to the space occupied by 42 U.S. gallons at 60 degrees Fahrenheit;

(9) "best available technology" means the best proven technology that satisfies the provisions of 18 AAC 75.425(e)(4) and 18 AAC 75.445(k);

(11) "capacity" means storage capacity;

(17) "cleanup" means efforts to mitigate environmental damage or a threat to human health, safety, or welfare resulting from a hazardous substance, and includes removal of a hazardous substance from the environment, restoration, and other measures that are necessary to mitigate or avoid further threat to human health, safety, or welfare, or to the environment;

(20) "contain" means to surround a discharge or release of a hazardous substance with booms, berms, dikes, or other barriers to prevent the further spread of the discharge or release;

(27) "demonstrate" means to prove through documentation or other evidence to the department's satisfaction;

(29) "department" means the Department of Environmental Conservation;

(32) "discharge" has the meaning given in AS 46.04.900, except that, as used in this chapter, "discharge" applies only to an unpermitted discharge into the environment;

(33) "dispersant" means a chemical agent used to enhance the breakup of discharged oil into droplets, promoting mixing of oil into the water column and accelerating dilution and degradation rates;

(40) "exploration facility" has the meaning given in AS 46.04.900; that is, (8) "exploration facility" means a platform, vessel, or other facility used to explore for hydrocarbons in or on the waters of the state or in or on land in the state; the term does not include platforms or vessels used for stratigraphic drilling or other operations that are not authorized or intended to drill to a producing formation;

(42) "facility" or "facility or operation" means any offshore or onshore structure, improvement, vessel, vehicle, land, enterprise, endeavor, or act; "facility" or "facility or operation" includes an oil terminal facility, tank vessel, oil barge, pipeline, railroad tank car, railroad, and exploration or production facility;

(51) "impermeable" means using a layer of material that is of sufficient thickness, density, and composition to produce a maximum permeability for the substance being contained of 1×10^{-7} centimeters per second at the maximum anticipated hydrostatic pressure, and that is sufficient to contain a discharge or release until it is detected and cleaned up;

(57) "lightering" means the pumping or transferring of oil from the cargo compartment of a vessel, barge, storage tank, or container to another vessel, barge, storage tank, or container;

(64) "mechanical response method" means the use of containment booms, skimmers, and other apparatus and equipment required for mechanical containment and removal of a discharge or release;

(71) "noncrude oil" means a petroleum product derived from crude oil;

(72) "oil" has the meaning given in AS 46.04.900; that is, (13) "oil" means oil of any kind and in any form, whether crude, refined, or a petroleum by-product, including but not limited to petroleum, fuel oil, gasoline, lubricating oils, oily sludge, oil refuse, oil mixed with other wastes, crude oils, liquefied natural gas, propane, butane, or other liquid hydrocarbons regardless of specific gravity;

(73) "oil barge" has the meaning given in AS 46.04.900; that is, (14) "oil barge" means a vessel which is not self-propelled and which is constructed or converted to carry oil as cargo in bulk;

(74) "oil spill primary response action contractor," for purposes of 18 AAC 75.425 and 18 AAC 75.445, has the meaning given in 18 AAC 75.500(a); that is, (a) "oil spill primary response action contractor" means a person who is or intends to be obligated under contract to the holder of an approved oil discharge prevention and contingency plan issued under AS 46.04.030 to provide resources or equipment to contain, control, or clean up an oil discharge. "Oil spill primary response action contractor" does not include

(1) a person who provides only ancillary services or equipment not for the specific purpose of containing, controlling, or cleaning up an oil discharge; or

(2) an approved oil discharge prevention and contingency plan holder who provides to another plan holder resources or equipment to contain, control, or clean up an oil discharge;

(76) "oil terminal facility" has the meaning given in AS 46.04.900 and includes vessels classified as oil terminal facilities under 18 AAC 75.280; that is (15) "oil terminal facility" means an onshore or offshore facility of any kind, and related appurtenances, including but not limited to a deepwater port, bulk storage facility, or marina, located in, on, or under the surface of the land or waters of the state, including tide and submerged land, that is used for the purpose of transferring, processing, refining, or storing oil; a vessel, other than a nontank vessel, is considered an oil terminal facility only when it is used to make ship-to-ship transfer of oil, and when it is traveling between the place of the ship-to-ship transfer of oil and an oil terminal facility;

(77) "oily waste" means any material, including water, that has been contaminated by or mixed with petroleum in other than naturally occurring circumstances;

(79) "open water" means marine waters below mean low low water and freshwaters of the state, excluding wetlands and the wetland or shoreline perimeter of lakes, rivers, and streams;

(80) "operator" has the meaning given in AS 46.04.900; that is, (16) "operator" means the person who, through contract, lease, sublease, or otherwise, exerts general supervision and control of activities at the facility; the term includes, by way of example and not limitation, a prime or general contractor, the master of a vessel and the master's employer, or any other person who, personally or through an agent or contractor, undertakes the general functioning of the facility;

(81) "owner or operator" means the owner or operator of a facility or operation that is subject to the requirements of AS 46.04.030, 46.04.040, 46.04.055, or this chapter;

(83) "persistence" means the length of time that a compound, once introduced into the environment, remains in the environment in a similar function or structure;

(84) "persistent product" has the meaning given in AS 46.04.900 ; that is, (17) "persistent product" has the meaning given to "persistent oil" in 33 C.F.R. 155.1020; that is "persistent oil" means a petroleum based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this subpart, persistent oils are further classified based on specific gravity as follows:

(1) Group II—specific gravity of less than .85.

(2) Group III—specific gravity equal to or greater than .85 and less than .95.

(3) Group IV—specific gravity equal to or greater than .95 and less than or equal to 1.0.

(4) Group V—specific gravity greater than 1.0

(85) "person" has the meaning given in AS 46.04.900; that is (18) "person" means an individual, public or private corporation, political subdivision, government agency, municipality, industry, partnership, association, firm, trust, estate, or any other entity;

(88) "pipeline" has the meaning given in AS 46.04.900; that is, (19) "pipeline" means the facilities, including piping, compressors, pump stations, and storage tanks, used to transport crude oil and associated hydrocarbons between production facilities or from one or more production facilities to marine vessels;

(89) "plan" means an oil discharge prevention and contingency plan approved under this chapter; this paragraph does not apply to 18 AAC 75.300 – 18 AAC 75.396;

(90) "plan holder" means an applicant who has received department approval for an oil discharge prevention and contingency plan or nontank vessel plan and who is responsible for compliance with the plan as approved;

(91) "plume" means a visible or measurable discharge or release of a hazardous substance from a given point of origin;

(98) "production facility" has the meaning given in AS 46.04.900; that is, (20) "production facility" means a drilling rig, drill site, flow station, gathering center, pump station, storage tank, well, and related appurtenances on other facilities to produce, gather, clean , dehydrate, condition, or store crude oil and associated hydrocarbons in or on the water of the state or on land in the state, and gathering and flow lines used to transport crude oil and associated hydrocarbons to the inlet of a pipeline system for delivery to a marine facility, refinery, or other production facility;

(101) "realistic maximum response operating limitation" means the upper limit of a combination of environmental factors that might occur at a facility or operation beyond which an operator would be unable to mount a mechanical response to a discharge event;

(104) "release" has the meaning given in AS 46.03.826; that is, (9) "release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance, but excluding

(A) any release that results in exposure to persons solely within a workplace, with respect to a claim that those persons may assert against the persons' employer; and

(B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, or vessel;

(107) "response planning standard" means a planning standard against which the department evaluates the adequacy of an oil discharge prevention and contingency plan or nontank vessel plan as described in 18 AAC 75.400 – 18 AAC 75.496; a "response planning standard" does not mean a cleanup level that a plan holder is required to achieve under 18 AAC 75.300 – 18 AAC 75.396;

(115) "site" means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership;

(120) "state waters" means waters of the state; meaning lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, straits, passages, canals, the Pacific Ocean, Gulf of Alaska, Bering Sea and Arctic ocean, in the territorial limits of the state, and all

other bodies of surface or underground water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially in or bordering the state or under the jurisdiction of the state as given in AS 46.04.900(30);

(121) "storage capacity" means,

(A) for a tank vessel or oil barge, either

(i) the maximum amount of oil that the vessel can legally carry as cargo while in state waters;

(ii) the amount certified by the American Bureau of Shipping, by the United States Coast Guard under a Certificate of Inspection, or by an equivalent-society or agency in a foreign country; or

(iii) a lesser amount than the amount in (i) or (ii) of this subparagraph, upon proof and verification to the department's satisfaction;

(B) for an oil storage tank, the full physical volume of the tank;

(C) for a facility, the full physical volume of the oil storage tanks with storage capacities of 1,000 gallons and greater and the piping at that facility;

(D) for a nontank vessel, the full physical volume of all fuel tanks, lube oil tanks, hydraulic oil tanks, day tanks, slop/sludge tanks, waste oil tanks, and bilge tanks on the vessel; and

(E) for a train, the totally physical volume of all railroad tank cars in the train;

(F) for piping, the full physical volume of the piping.

(124) "sufficiently impermeable" means, for a secondary containment system, that its design and construction has the impermeability necessary to protect groundwater from contamination and to contain a discharge or release until it can be detected and cleaned up; for design purposes for a new installation, "sufficiently impermeable" means using a layer of natural or manufactured material of sufficient thickness, density, and composition to produce a maximum permeability for the substance being contained of 1×10^{-6} cm per second at a maximum anticipated hydrostatic pressure, unless the department determines that an alternate design standard protects groundwater from contamination and contains a discharge or release until detection and cleanup;

(129) "tank vessel" has the meaning given in AS 46.04.900; that is, (26) "tank vessel" means a self-propelled waterborne vessel that is constructed or converted to carry liquid bulk cargo in tanks and includes tankers, tankships, and combination carriers when carrying oil; the term does not include vessels carrying oil in drums, barrels, or other packages, or vessels carrying oil as fuel or stores for that vessel;

(130) "technology" means equipment, supplies, other resources, and related practices;

(134) "transmission pipeline" means a pipeline through which crude oil moves in transportation, including line pipe, valves, and other appurtenances connected to line pipe, pumping units, and fabricated assemblies associated with pumping units; "transmission pipeline" does not include gathering lines, flow lines, or facility oil piping;

(137) "vessel" has the meaning given in AS 46.04.900; that is, (28) "vessel" includes tank vessels, oil barges, and nontank vessels;

(142) "nontank vessel" has the meaning given in AS 46.04.900; as used in the definition of "nontank vessel" in AS 46.04.900, "gross registered tons" means "applicable gross tons" or "gross tonnage" as determined by the United States Coast Guard under 33 C.F.R. 138.30;

(144) "railroad tank car" has the meaning given in AS 46.04.900; that is, (22) "railroad tank car" means rolling stock used to transport oil in bulk as cargo by rail;

(145) "train" has the meaning given in AS 46.04.900; that is, (27) "train" means connected rolling stock operated as a single moving vehicle on rails; for purposes of this paragraph, "connected rolling stock" includes railroad tank cars;

(146) "working day" means a day other than Saturday, Sunday, or a state holiday;

(156) "region of operation" means, with respect to

(A) an oil discharge prevention and contingency plan other than a nontank vessel plan, a region established under 18 AAC 75.495; and

(B) a nontank vessel plan, a region established under 18 AAC 75.496;

(162) "annual average daily oil production volume" means the average oil production volume from a common reservoir to a common production facility based on the highest annual volume product by a well at the facility during the previous calendar year divided by the number of days in the year, expressed as barrels per day;

(163) "blowout contingency plan" means a written, site-specific description of the procedures, methods, equipment, personnel, logistics, and activities that will be employed to regain control of an uncontrolled flow of oil, gas, drilling mud, and other substances from an exploration or production well;

(165) "aboveground oil storage tank" for the purposes of 18 AAC 75.065, 18 AAC 75.066, and 18 AAC 75.075, means a container, including a storage and surge tank, that is used to store bulk quantities of oil and that has a capacity greater than 10,000 gallons; with the exception of a field-constructed underground storage tank, "aboveground oil storage tank" does not include a process pressure vessel or underground storage tank within the meaning of AS 46.03.450;

(167) "cathodic protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell through the application of either galvanic anodes or impressed current;

(168) "corrosion" means the deterioration of metal from the loss of positive charged metal ions from the metal surface into an electrolyte;

(169) "corrosion expert" means a person who

(A) by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired through a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried metal piping and metal tanks, and

(B) is accredited or certified as being qualified by NACE International as a corrosion specialist, cathodic protection specialist, or is a registered engineer with education and experience in corrosion control of buried metal piping systems and metal tanks;

(171) "facility oil piping" means piping and associated fittings, including all valves, elbows, joints, flanges, pumps, and flexible connectors, originating from or terminating at

(A) an aboveground oil storage tank regulated under 18 AAC 75.065 or 18 AAC 75.066 up to the

(i) union of the piping with a fuel dispensing system;

(ii) marine header;

(iii) fill cap or fill valve;

(iv) forwarding pump used to transfer oil between facilities , between adjacent pump stations, or between a pressure pump station and a terminal or breakout tank; or

(v) first flange or connection within a tank truck loading area or within a loading rack containment area; or

(B) an exploration or production well, up to the:

(i) choke or valve interconnection with a flowline: or

(ii) first valve or flange inside a processing unit boundary;

(174) "installation" means an aboveground oil storage tank and associated operational appurtenances, including secondary containment systems, integral piping, overfill protection devices, and associated leak detection equipment;

(177) "pipe" or "piping" means any hollow cylinder or tube used to convey oil;

(178) "placed in service" means commencement of operational use, either after initial construction or installation or

(A) for field-constructed aboveground oil storage tanks, after the date of return to service after reconstruction as defined by the American Petroleum Institute's (API) Tank Inspection, Repair, Alteration, and Reconstruction, Third Edition, December 2001, and Addendum 1, September 2003 (API 653), adopted by reference, or after the date of return to service after being removed from service in accordance with 18 AAC 75.065(o); or

(B) for facility oil piping, after the date of return to service after being removed from service in accordance with 18 AAC 75.080(o); or

(C) for flow lines, after the date of return to service after being removed from service in accordance with 18 AAC 75.047(f);

(179) "qualified cathodic protection tester" means a person who is accredited for certified as being qualified as, at a minimum, CP1-CP Tester by NACE international;

(181) "shop-fabricated aboveground oil storage tank" means an above ground oil storage tank that is constructed at a tank manufacturer's plan and transported to a facility for installation.

(190) "application package" means the documents required by 18 AAC 75.408(a)(1)-(3) to be included in the application submittal;

(191) "application package is complete" means that the applicant has provided the information necessary for the department to review and evaluate the plan using the criteria established under 18 AAC 75.445 for oil discharge prevention and contingency plans and established under 18 AAC 75.446 for nontank vessel equivalent plans;

(192) "major amendment" means a proposed change to a plan that the department has determined will be reviewed under 18 AAC 75.455 after considering the factors under 18 AAC 75.415(a);

(193) "minor amendment" means a proposed change to a plan that the department has determined will not be reviewed under 18 AAC 75.455 after considering the factors under 18 AAC 75.415(a) and that is not a routine plan update under 18 AAC 75.415(b);

(194) "request for additional information" means a request to an applicant by the department for additional information necessary for an application package to be complete;

(195) "sufficient for review" means that the application package contains the information necessary to begin the public review of the plan including the information identified in

(A) 18 AAC 75.408,

(B) 18 AAC 75.425(e)(1)-(5) for oil discharge prevention and contingency plans or 18 AAC 75.427(b)(1)-(3) for nontank vessel equivalent plans; and

(C) supporting documentation as requested by the department.

Appendix I SITE SAFETY PLAN

See Following Pages

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Spill Prevention and Response
Prevention, Preparedness, and Response Program

SITE-SPECIFIC SAFETY AND HEALTH PLAN

Minimum Standards Template
29 CFR 1910.120
8 AAC 61.1010-1015

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1. AUTHORIZATIONS

I hereby certify that the enclosed Site Safety and Health Plan, shown and marked in this submittal, has been prepared in accordance with OSHA 29 CFR 1910. The safety procedures detailed herein will be incorporated as routine practices during all site activities.

DATE PREPARED	TIME PREPARED

PLAN PREPARER

SIGNATURE	PRINT NAME/TITLE	PHONE NUMBER

SITE SAFETY OFFICER

SIGNATURE	PRINT NAME/TITLE	PHONE NUMBER

ON SCENE COORDINATOR

SIGNATURE	PRINT NAME/TITLE	PHONE NUMBER

Contents

2. POLICY STATEMENT

The safety and well-being of on-site personnel is a number one priority and we are committed to providing a safe and healthful work environment. The objective of this document is to establish a plan for implementing the safety program at the project site. This plan is intended to aid in the development of effective control of anticipated safety and health hazards, to meet regulatory compliance requirements, and to implement site safety regulations. All work practices and procedures implemented on site must be designed to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal health and safety regulations [29 CFR 1910 and 1926].

This plan addresses minimum standards for site-specific safety and health plans identified in 29 CFR Part 1910, Occupational Safety and Health Standards Subpart H, *Hazardous Materials* (1910.120), *Hazardous waste operations and emergency response, Site-specific safety and health plan part of the program.* These requirements are adopted by reference as the safety and health codes in Alaska by the Alaska Department of Labor & Workforce Development in regulations found in Sections 1010 to 1015 of the Alaska Administrative Code Title 8 Chapter 61, *Occupational Safety and Health* (8 AAC 61.1010-1015). This site safety plan template is intended to be used as a basis to develop an incident-specific safety plan that guides response to a spill [18 AAC 75.425(e)(1)(C)]. Consistent with 1910.120(b)(4)(i), the site safety and health plan, must be kept on site, address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection.

3. SITE BACKGROUND AND SCOPE OF WORK

The site location, incident information, and scope of work are detailed below.

SITE LOCATION	
FACILITY NAME	
FACILITY STREET ADDRESS, CITY, STATE, ZIP	
FACILITY PHONE NUMBER	
SITE DESCRIPTION	
FACILITY COORDINATES (LAT/LONG)	
SURROUNDING AREA	
OWNER/OPERATOR	
QUALIFIED INDIVIDUAL	
CURRENT OPERATIONS	

PROJECT/INCIDENT INFORMATION	
PROJECT/INCIDENT NAME	
PROJECT/INCIDENT DURATION	
PROJECT/INCIDENT BACKGROUND	
SCOPE OF WORK (CURRENT AND PLANNED ACTIONS, STRATEGIES, AND TACTICS)*	

*Scope of work may be attached.

SITE BACKGROUND AND SCOPE OF WORK ATTACHMENTS

ATTACHMENT(S) Mark all that apply	DESCRIPTION of ATTACHMENTS
☐	**Scope of work**
☐	
☐	
☐	

4. PRE-ENTRY BRIEFING

[29 CFR 1910.120(b)(4)(iii)]

All personnel, employees, contractors, and subcontractors shall be provided with an initial site safety briefing to communicate the location and approximate size of the site; description of the response activities; specifics of tasks to be performed; duration of the activities; site topography and accessibility; nature, level, and degree of hazardous substances expected on site; pathways for hazardous substance dispersion; status and capabilities of emergency response teams that provide assistance to on-site employees in the event of an emergency; and the emergency response plan.

Prior to the commencement of work activities, personnel will be briefed on anticipated health hazards including any information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site that is available to the employer and relevant to the duties an employee is expected to perform. Health risks that may be considered include but are not limited to exposures exceeding the permissible exposure limits and published exposure levels, Immediately Dangerous to Life or Health (IDLH) concentrations, potential skin absorption and irritation sources, potential eye irritation sources, explosion sensitivity and flammability ranges, and oxygen deficiency. Shift briefings may also include information regarding general situational awareness. For example, a weather forecast or incident conditions.

Personnel will also receive regular briefings before and after each shift, before making a personal protective equipment (PPE) Level A/B hot zone entry, and when significant changes are made in the work procedures or safety plans. These site safety meetings/briefings shall be held by the Site Supervisor. At a minimum these meetings will describe the work to be accomplished, discuss safety procedure changes, and note any items which need to be passed to other crews. General safety training topics should also be covered based on points raised in previous meetings and the site safety plan attachments. Site safety briefings will be held at other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed.

Daily objectives may include site surveys, mechanical cleaning, oil recovery, booming, dispersant application, wildlife rehabilitation/hazing, and related activities. Detailed objectives shall be developed daily, and shall be described during shift safety briefings.

PRE-ENTRY BRIEFING ATTACHMENTS

ATTACHMENT(S) Mark all included	DESCRIPTION
☐	**Briefing log**
☐	
☐	

5. ORGANIZATIONAL STRUCTURE

[29 CFR 1910.120(b)(2)]

A unified response organization is to be used during emergency spill response operations in Alaska. The use of the Incident Command System (ICS) is described in detail in the *Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases (*Unified Plan*)* and further detailed in the *Alaska Incident Management System (AIMS) Guide for Oil and Hazardous Substance Response.* The AIMS Guide organization structure, provided in the diagram below, may be expanded and contracted to facilitate incident-specific needs.

OIL AND HAZARDOUS SUBSTANCE RESPONSE
INCIDENT COMMAND SYSTEM (ICS) STRUCTURE

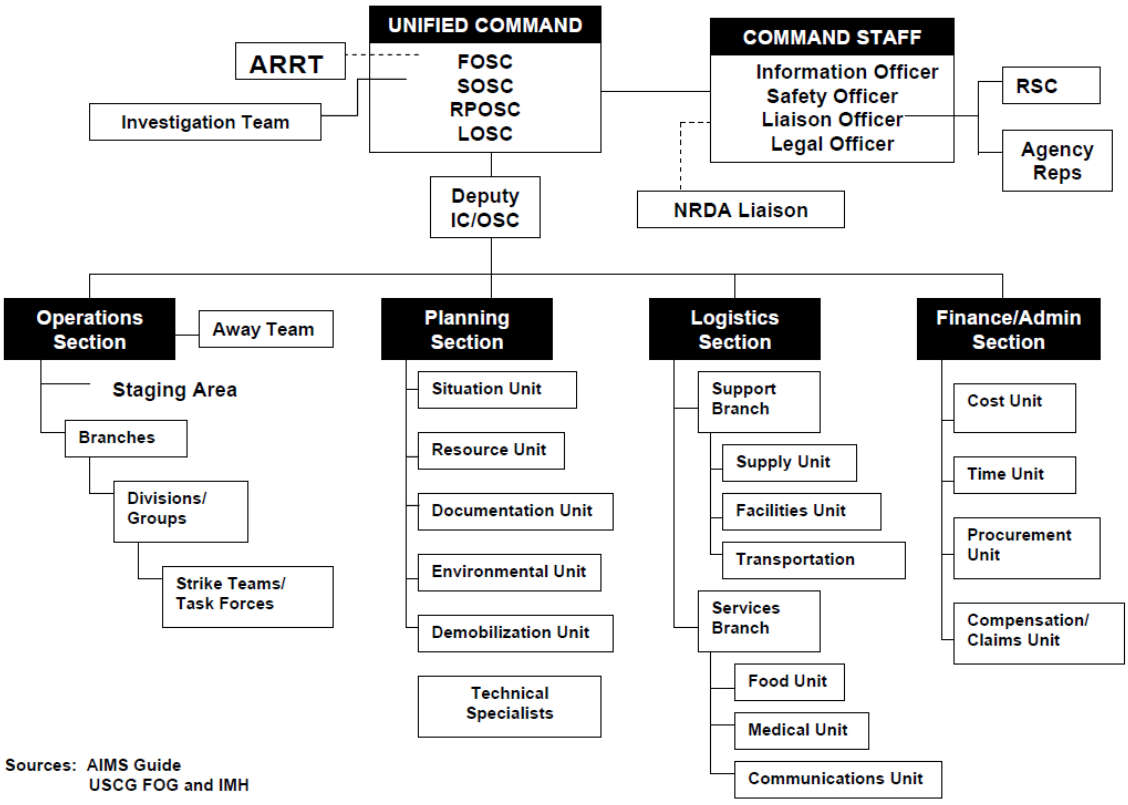

Figure 1: Definitions and Responsibilities of Supervisors and Employees

The On-Scene Coordinator (OSC) is the pre-designated Federal, State, Local, or Responsible Party official responsible for incident management in accordance with the Unified Plan, Volume I. When activated, the OSC's designated rep serves as the on-site supervisor for response personnel.

The Site Safety and Health Officer (SSHO), often referred to simply as the Site Safety Officer, is the single individual responsible for developing and implementing the OSC's site-specific site safety and health plan.

Site Safety and Health Supervisor(s) (SSHP) is a mandatory position under 29 CFR 1910.120. The SSHP, often referred to simply as the Site Safety Supervisor, is the individual(s) in the field responsible for enforcing the SSHO's site-specific safety and health plan. A SSHP is to be available on-site, while the SSHO may be co-located with the OSC in the Command Post or at another location. Reference additional information available in the Unified Plan or AIMS Guide.

The following table provides contact information for key ICS functional roles. At a minimum, this plan must identify the SSHO and SSHP, providing contact information for each position. In lieu of the table provided below, cross-reference to or attachment of the ICS forms (Forms ICS 203, ICS 205, and ICS 207), as long as key functional roles and contact information is clearly provided.

FUNCTION	NAME	PHONE
SITE SAFETY AND HEALTH OFFICER		
SITE SAFETY AND HEALTH SUPERVISOR(S)		
INCIDENT COMMANDER / RPOSC		
FOSC		
SOSC		
LOSC		
ON-SITE OCS REPS/SUPERVISOR		
FOSC REP		
SOSC REP		
LOSC REP		
RPOSC REP		
PUBLIC AFFAIRS OFFICER		
SCIENTIFIC SUPPORT COORDINATOR		

FUNCTION	NAME	PHONE
OPERATIONS SECTION CHIEF		
OTHER FED/STATE/LOCAL REPS		

ORGANIZATIONAL STRUCTURE PART OF THE SITE PROGRAM ATTACHMENTS

ATTACHMENT(S) Mark all included	DESCRIPTION
☐	**ICS Forms 203, 205 and 207**
☐	
☐	

6. ELEMENTS OF THE SITE SAFETY PLAN
6A. HUMAN SAFETY AND HEALTH RISKS AND HAZARD ANALYSIS

[29 CFR 1910.120(b)(4)(ii)(A)]

HAZARDS	POSSIBLE ROUTES OF EXPOSURE	SEVERITY OF POTENTIAL INJURY	PROBABILITY OF INJURY	RISK REDUCTION MEASURE
FLAMMABLE	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	
EXPLOSIVE	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	
TOXIC	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	
CORROSIVE	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	
REACTIVE	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	
CARCINOGEN	Inhalation Ingestion Dermal N/A	Minor Serious Major	Unlikely Possible Probable Certain	

PHYSICAL (ENERGY SOURCES INVOLVED)	POSSIBLE ROUTES OF EXPOSURE	SEVERITY OF POTENTIAL INJURY	PROBABILITY OF INJURY	RISK REDUCTION MEASURE
ELECTRICAL	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
PRESSURE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
MOMENTUM / GRAVITY	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
RESIDUAL / STORED ENERGY	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
SPECIAL	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
HIGH TEMPERATURE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
ENERGY ISOLATION AND CONTROL	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
VIBRATION	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
NOISE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
HEAT OR COLD STRESS	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	

BIOLOGICAL	POSSIBLE ROUTES OF EXPOSURE	SEVERITY OF POTENTIAL INJURY	PROBABILITY OF INJURY	RISK REDUCTION MEASURE
BLOOD BORNE PATHOGENS	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
WILDLIFE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
SPECIAL HEALTH / MEDICAL ISSUES	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Minor ☐ Serious ☐ Major ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	

SPECIAL	SEVERITY OF POTENTIAL INJURY	PROBABILITY OF INJURY	RISK REDUCTION MEASURE
CONFINED SPACE ENTRY	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
ELEVATED AREA	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
LIMITED ACCESS	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
BELOW GRADE (PIT, TRENCH)	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
OFFSHORE STRUCTURE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
LAND STRUCTURE	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	
	Inhalation ☐ Ingestion ☐ Dermal ☐ N/A ☐	Unlikely ☐ Possible ☐ Probable ☐ Certain ☐	

Chemical Hazards

Check appropriate category of oil, attach generic information sheet, and attach specific SDS when available.

PRESENT?	OIL TYPE	ATTACHMENT Check all included
YES ☐ NO ☐	Containing benzene and/or other high vapor pressure chemicals	☐
YES ☐ NO ☐	Not containing benzene and/or other high vapor pressure chemicals	☐
YES ☐ NO ☐	Hydrogen sulfide from sour crude oil or anaerobic decay of organic materials	☐

Exposure/Risk Assessment Monitoring for Chemical and Physical Hazards

The following monitoring shall be conducted with monitoring equipment calibrated and maintained in accordance with the manufacturer's instructions (electronic equipment shall be calibrated before each day's use). Additional hazards may be encountered on site and shall (along with any other applicable hazards found during the site survey) be marked on the attached maps.

HAZARDS TO MONITOR	FREQUENCY (Mark "X" to indication required frequency)							
COMBUSTIBLE GAS	CONTINUOUS		HOURLY		DAILY		OTHER	
OXYGEN	CONTINUOUS		HOURLY		DAILY		OTHER	
H2S DOSIMETER	CONTINUOUS		HOURLY		DAILY		OTHER	
H2S METER	CONTINUOUS		HOURLY		DAILY		OTHER	
HNU	CONTINUOUS		HOURLY		DAILY		OTHER	
OVA	CONTINUOUS		HOURLY		DAILY		OTHER	
WBGT	CONTINUOUS		HOURLY		DAILY		OTHER	
NOISE	CONTINUOUS		HOURLY		DAILY		OTHER	
ORGANIC VAPOR	CONTINUOUS		HOURLY		DAILY		OTHER	
MONITORS	CONTINUOUS		HOURLY		DAILY		OTHER	
OTHER								
	CONTINUOUS		HOURLY		DAILY		OTHER	
	CONTINUOUS		HOURLY		DAILY		OTHER	
	CONTINUOUS		HOURLY		DAILY		OTHER	

A. HUMAN SAFETY AND HEALTH RISKS AND HAZARD ANALYSIS ATTACHMENTS

ATTACHMENT(S) Mark all included	DESCRIPTION
☐	**Environmental pathways for hazardous substance dispersion**
☐	**Site safety map**
☐	**Procedures for handling drums, containers, and spill containment**
☐	**Dispersant applications**
☐	**Bioremediation applications**
☐	
☐	

6B. EMPLOYEE TRAINING ASSIGNMENTS

[29 CFR 1910.120(b)(4)(ii)(B) and 29 CFR 1910.120(e)]

All personnel on site and exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site shall be trained adequately to perform their assigned tasks safely in accordance with 29 CFR 1910.120(e). The general site worker (e.g. equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site and a minimum of three days actual field experience under the direct supervision of a trained experienced supervisor. Personnel not engaged in fieldwork, engaged in occasional fieldwork, engaged in fieldwork in areas without health hazards, or stationed off-site who are not exposed to hazardous substances shall be instructed at the appropriate levels as per 29 CFR 1910.120(e)(3)(i)-(e)(3)(iv) and (e)(4). Training levels according to duty station and assigned tasks are listed below.

Training Levels

LEVEL	DESCRIPTION
i	General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.
ii	Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geophysical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
iii	Workers regularly on site who work in areas which have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
iv	Workers with 24 hours of training who are covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this section, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training specified in paragraph (e)(3)(i).

Additional personnel can be recorded on the blank forms included in Appendix A.

JOB DESCRIPTION	TRAINING LEVEL
FIELD PERSONNEL POSITIONS	**i** ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
MANAGEMENT AND SUPERVISORY POSITIONS	**i** ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐
	i ☐ **ii** ☐ **iii** ☐ **iv** ☐

B. EMPLOYEE TRAINING ASSIGNMENTS ATTACHMENTS

ATTACHMENT(S) Mark all included.	DESCRIPTION
☐	**Guidelines for assessment of training/qualification requirements as per 29 CFR 1910.120(e)(5)**
☐	
☐	

6C. PERSONAL PROTECTIVE EQUIPMENT

[29 CFR 1910.120(b)(4)(ii)(C) and 29 CFR 1910.120(g)(5)]

PERSONAL PROTECTIVE EQUIPMENT SELECTION BASED UPON SITE HAZARDS

Personal protective equipment (PPE) shall be provided and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation.

If a positive-pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration shall be carried by employees during initial site entry.

If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site an ensemble providing equivalent to Level A PPE shall be provided as minimum protection, and direct reading instruments shall be used as appropriate for identifying conditions.

Levels of Protection

LEVEL	DESCRIPTION
A	Provides the highest level of respiratory, skin, and eye protection. Level A ensembles include vapor protective suits, pressure-demand full-face SCBA, inner chemical-resistant gloves, chemical-resistant safety boots. This level is used when the chemicals have been identified and have high level of hazards to respiratory system, skin, and eyes. Also used when operations must be conducted in confined or poorly ventilated areas.
B	Offers the highest level of respiratory protection, but a lesser level of skin protection. Level B ensembles include liquid splash-protective suit, pressure-demand, full-facepiece SCBA, inner chemical-resistant gloves, chemical-resistant safety boots, and hard hat. This level is used when the chemicals have been identified but do not require a high level of skin protection. The primary hazards associated with site entry are from liquid and not vapor contact.
C	Is used when concentrations and types of airborne substances are known and the criteria for using air-purifying respirators are met. Level C ensembles include support function protective garment, full-facepiece, air-purifying, canister-equipped respirator, chemical resistant gloves and safety boots, and hard hat. This level is used when contact with site chemicals will not affect the skin. Air contaminants have been identified and measured. A canister is available which can remove the contaminant.
D	Should be worn as a work uniform and not on any site with respiratory or minor skin hazards. Level D PPE provides minimal skin protection from contact or splashes of oil or minor chemical hazards. Level D ensembles include coveralls, safety boots/shoes, safety glasses, or chemical splash goggles. This level is used when the atmosphere contains no known hazard. Work functions preclude splashes, immersion, potential for inhalation, or direct contact with hazard chemicals.

*PPE Equipment T*ypes

TYPE	EQUIPMENT
RESPIRATORS	Dust respirators, self-contained breathing apparatus (SCBA), positive-pressure supplied-air respirator with escape SCBA, full-face or half-mask air-purifying respirators with appropriate cartridges
SKIN PROTECTION	Totally encapsulating chemical-protective suit with vapor barrier; coveralls; long underwear; gloves, outer, chemical resistant; gloves, inner, chemical resistant; boots, chemical resistant, steel toe and shank; boot covers, outer, chemical resistant, disposable; hooded chemical-resistant clothing (overalls and long-sleeved jacket coveralls, one- or two-piece chemical splash suit, disposable chemical-resistant overalls)
EYE PROTECTION	Safety glasses, chemical splash goggles, face shield, escape mask. Face and eye protection equipment purchased after July 5, 1994 shall comply with ANSI Z87.1-1989, *American National Standard Practice for Occupational and Educational Eye and Face Protection.*
HEAD PROTECTION	Class G (General Hazards), E (Electrical Hazards), or C (Conductive) hard hat. Head protection must meet American National Standards Institute (ANSI) Z89.1-2009, *American National Standard for Industrial Head Protection.*
PROTECTION FROM THE ELEMENTS	Cold weather gear, including steel-toed footwear or arctic boots. Foot protection must meet ANSI standards and be tested in accordance with the American Society for testing and Materials (ASTM) F-2412-2005, *Standard Test Methods for Foot Protection* and ASTM F-2413-2005, *Standard Specification for Performance Requirements for Protective Footwear.*
HEARING PROTECTION	Disposable or reusable (e.g. cotton, foam, or elastic) earplugs; earmuffs

PPE USE AND LIMITATIONS OF THE EQUIPMENT

Respiratory

An air purifying respirator approved by the National Institute for Occupational Safety and Health (NIOSH) with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed permissible exposure limits. According to 29 CFR 1910.120(c), if sufficient information is not available as a result of initial site evaluation and characterization, OSHA mandates the use of Level A protection (self-contained breathing apparatus – SCBA) along with direct-reading monitoring equipment for site entry. All employees need to be fit tested for the particular brand and model they will be expected to use. A Respiratory Protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin

The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation, absorption, and skin damage. Depending on conditions the use of aprons and or arm covers may be necessary.

GLOVE MATERIAL	USE AND LIMITATIONS
BUTYL	Offers the highest resistance to permeation by most gases and water vapor. Especially suitable for use with esters and ketones. Poor for aliphatic, aromatic hydrocarbons, halogenated hydrocarbons, and gasoline. Resist abrasion and remain flexible at low temperatures.
NEOPRENE	Good for acids and bases, peroxides, fuels, hydrocarbons, alcohols, phenols. Poor for halogenated and aromatic hydrocarbons. Good pliability, finger dexterity, high density, and tear resistance.
NITRILE	Excellent general duty glove. Provides protection from a wide variety of solvents, oils, petroleum products, and some corrosives. Excellent resistance to cuts, snags, punctures, and abrasions. Intended for jobs requiring dexterity and sensitivity, yet stand up to heavy use even after prolonged exposure that cause other gloves to deteriorate.
NATURAL LATEX OR RUBBER	Good for very dilute acids and bases. Poor for organics. Comfortable wear and pliability along with their protective qualities make them a popular general purpose glove.

Eye/Face

Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions the use of a face shield over safety glasses or goggles may be necessary. Face shields do not protect employees from impact hazards.

Head protection

Class G hard hats are used for general service (e.g. mining, construction, shipbuilding). They provide good impact protection but limited voltage protection. Class E hard hats are used for electrical work. They protect against high-voltage shock and burns and falling objects. Class C hard hats are designed for comfort. They protect against bumps to fixed objects, but do not protect against falling objects or electrical shock.

Protective clothing

It is recommended that protective clothing (e.g. Tyvek, Saranex, Dupont level B) be worn whenever the wearer faces potential hazards arising from chemical exposure. Level A protective clothing must resist permeation by the chemical or mixtures present. Ensemble items must allow integration without loss of performance. Level B protective clothing items must resist penetration by the chemicals or mixtures present. Ensemble items must allow integration without loss of performance. Level C protective clothing items must resist penetration by the chemical or mixtures present. Chemical airborne concentration must be less than IDLH levels. The atmosphere must contain at least 19.5% oxygen. Level D should not be worn in the Hot Zone. The atmosphere must contain at least 19.5% oxygen.

WORK MISSION DURATION

Before personnel commence work in appropriate PPE ensembles, the anticipated duration of the work mission will be established. Length of on-site shift may be limited by consumption of air supply (SCBA use), suit/ensemble permeation and penetration rates, ambient temperature and weather conditions (heat or cold stress), and capacity of personnel to work in PPE.

PPE MAINTENANCE AND STORAGE

Maintaining PPE

The manufacturer's maintenance schedule (including recommended replacement periods and shelf lives) will always be followed. Before each use PPE will be inspected for breaks, tears, visible signs of stress or damage. Maintenance will be performed as necessary and may include cleaning, examination, replacement, repair, and testing. Damaged equipment will be removed from service until trained personnel or a manufacturer's representative can certify the equipment for use.

Storing PPE

Adequate storage facilities for PPE will be available for equipment not in use. Storage areas will be clearly marked to indicate where items are stored. All PPE will be stored in a clean and sanitary condition ready for use. Accommodation may be simple (e.g. pegs for waterproof clothing or safety helmets, and it need not be fixed in place). Storage will be adequate to protect the PPE from contamination, loss, damage, water or sunlight. Proper storage requires a dry and clean place that is not subject to temperature extremes. All protective clothing will be folded or hung in accordance with manufacturers' directions. Contaminated reusable items will be stored separately from clean items. Damaged or unserviceable items will be immediately repaired or disposed of.

Respirators – Maintenance

All respirators will be inspected before each use and during the cleaning and disinfecting process. Defective or failed respirators shall be taken out of service until repaired or discarded. Repair of respiratory equipment shall be done by persons trained to do so using NIOSH-approved parts. Cleaning and disinfecting will consist of taking the respirator apart, washing it, disinfecting it, thoroughly rinsing it, and putting it back together when it is dry. Respirators will be cleaned as often as necessary to prevent them from becoming unsanitary. Respirators worn by more than one user must be cleaned and disinfected before being worn by a different user.

Respirators – Storage

It is important for respirators to be stored properly to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators will be stored in a way that prevents deforming the facepiece or exhalation valve. Improper storage could crush it and cause the facepiece to be bent out of shape, preventing the respirator from sealing tightly to the face.

PPE DECONTAMINATION AND DISPOSAL

General Decontamination Protocols

Decontamination is conducted to prevent the migration of contaminants off of a site and protect personnel that work within the contaminated zone. The decontamination area at a site must be isolated from other areas using ropes, flags, signs, flagging tape, etc. It must have equipment to adequately contain and control runoff (if wet decontamination methods are used) and access must be limited. In general, dry decontamination methods are preferred when possible.

Refer to the appropriate SDS when selecting a decontamination agent. Use the least hazardous decontamination solution available (e.g., soap and water). Ensure the decontamination agent used is compatible with the PPE being decontaminated and the primary contaminant. Water will in many situations be the primary decontamination agent. Common detergent/soap may also be used. Spent

solutions and wash water must be collected and disposed of according to federal and state regulations.

When PPE is exposed to toxic chemical vapors, ventilation and positive air pressure may be preferable to water (to reduce runoff and especially in extremely cold weather). PPE that cannot be decontaminated immediately shall be collected, placed in sealed containers, and labeled. Ensure all contaminated items are stored separately, storage areas are marked with hazard signs, and security is provided.

PPE Disposal

Some PPE items such as disposable coveralls will require disposal rather than decontamination. However, the appropriate disposal facility may not be available so temporary storage may be necessary. Placing disposable PPE items in plastic bags and sealing them may suffice until appropriate disposal can be accomplished.

Transport of Contaminated PPE

Consideration of potential hazards should be given when transporting contaminated PPE to a location away from the hazardous site.

1. If toxic vapors are expected, an overpack drum/container that can be sealed (airtight) must be used to transport contaminated PPE.
2. Drivers, pilots and/or boat captains shall be informed of the type of contamination and the hazards associated with it.
3. Appropriate shipping documents (CFR 49 or International Civil Aviation Organization/International Air Transport Association [ICAO/IATA]) must be prepared for contaminated shipments.
4. Personnel will not be allowed to ride in the same cargo area as the contaminated items.
5. Commercial laundry facilities tasked with cleaning contaminated clothing must be informed of the type of contamination. The appropriate SDS must be provided to the cleaner.

PPE TRAINING AND PROPER FITTING

Proper Fit and Use of PPE

The SSHO will ensure that all personnel required to wear PPE ensembles receive training on purpose and necessity of PPE items; proper fitting; donning and doffing procedures; limitations and capabilities; as well as care, maintenance, useful life, and disposal of PPE. Personnel will demonstrate understanding of the training and the training form. Training will be repeated when alterations in the workplace make previous training obsolete, when work assignments change, when equipment is used improperly, when new PPE items are required.

Respirators - Training

Personnel who are required to use respirators will be provided with training prior to use. Retraining will be performed annually and when changes occur in the workplace or type of respirator needed or when personnel demonstrate inadequate knowledge. Personnel must be able to demonstrate knowledge of why the respirator is necessary and how improper fit can compromise protection; limitations and capabilities of the respirator; recognition of medical signs that may prevent effective

use; how to inspect, wear, and check the seals; effective use in emergency situations; and maintenance and storage.

Respirators – Proper Fitting

Before a worker uses any respirator with a negative or positive pressure tight-fitting facepiece, personnel must be fit tested. Individuals using tight-fitting facepiece respirators must pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT). The fit test must be administered using an OSHA-accepted QLFT or QNFT protocol. Fit testing must be repeated whenever the worker reports or the employer makes visual observations of changes in the individual's physical condition that could affect respirator fit.

PPE DONNING AND DOFFING PROCEDURES

Donning and doffing procedures will be covered in mandatory training and refresher courses. These procedures will follow the manufacturer's recommendations as well as Environmental Protection Agency (EPA), OSHA, and National Institute for Occupational Safety and Health (NIOSH) publications.

PPE INSPECTION PROCEDURES PRIOR TO, DURING, AND AFTER USE

Inspection Procedures

PPE must be inspected upon receipt, before use, after use, and periodically in accordance with manufacturer recommendations. All inspections must be documented on tags/stickers physically attached to and/or accompanying the equipment or by other suitable means such as electronic files. Inspection documentation will be maintained for one year after the last annotated inspection. The following table summarizes the objectives of each inspection.

INSPECTION TIMEFRAME	PROCEDURE
UPON RECEIPT	Before accepting PPE from the manufacturer and/or vendor, an inspection of the equipment must be made by a department employee familiar with the item(s). Do not accept any equipment that appears to be defective.
PRIOR TO USE	Inspect all PPE before use. PPE found to be defective will not be used unless repairs can be made that meet inspection criteria.
DURING USE	Use the "buddy" system, constantly monitoring each person's PPE for serviceability. The inspection frequency will depend on the amount of use and the site or atmospheric conditions. Some respirator cartridges (e.g., mercury) are equipped with indicators which turn color when saturation has been reached.
AFTER USE INSPECTIONS	Inspect all PPE after cleaning and performing preventive maintenance. Place serviceable items in storage. Mark items requiring repair. Do not store serviceable items with items requiring repair.

Respirators - Inspection

All respirators will be inspected before each use. Defective or failed respirators shall be taken out of service until repaired or discarded. Repair of respiratory equipment shall be done by persons trained to do so using NIOSH-approved parts.

EVALUATION OF THE EFFECTIVENESS OF THE RESPIRATORY PROTECTION PROGRAM

The effectiveness of the respiratory protection program will be evaluated through the documentation of lessons learned by personnel that participate in facility visits, inspections, and responses to a hazardous material incident requiring respirator use**.** Every incident response should be critiqued with written observations. Personnel must be critical in their observations, with the sole objective of improving worker safety.

LIMITATIONS DURING TEMPERATURE EXTREMES, HEAT STRESS, AND OTHER APPROPRIATE MEDICAL CONSIDERATIONS

The burden of PPE required for hazardous waste operations in a temperature extreme condition increases the potential for worker disorders or conditions that can result in injury or illness. Disorders or conditions associated with work conducted in temperature extreme conditions can be controlled through proper planning and effective monitoring of personnel. Factors that could affect an individual's ability to function in extreme temperatures include, but are not limited to: physical fitness, acclimatization, age, obesity, alcohol consumption, drug use, infections, and disease. The employer will implement a temperature extreme disorders prevention program adhering to NIOSH standards for heat stress described in *Criteria for a Recommended Standard, Occupational Exposure to Heat and Hot Environments Revised Criteria 2016* and techniques for managing temperature extremes described in Chapter 8, *Personal Protective Equipment (PPE)* of the NIOSH, OSHA, USCG, EPA publication, *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.*

THE FOLLOWING PPE ENSEMBLES SHALL BE USED WHILE ON SITE

LOCATION	TASK	PPE LEVEL (Circle appropriate)
HOT ZONE	Monitors/Supervisors	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Shoreline cleanup crew	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Vacuum truck crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	High pressure wash crew	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Abrasive cleaning crew	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Hot water wash crew	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Boat drivers	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Boat crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Skimmer crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Boom crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Sampling teams	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Survey teams	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Product pumping	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Dispersants crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Bioremediation crews	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Bird/Mammal capture	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Bird/Mammal hazing	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Bird/Mammal transport	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Other Response Personnel	**A** ☐ **B** ☐ **C** ☐ **D** ☐
	Visitors	**A** ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
WARM ZONE		**A** ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
COLD ZONE		**A** ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐
		A ☐ **B** ☐ **C** ☐ **D** ☐

C. PERSONAL PROTECTIVE EQUIPMENT ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
☐	**PPE ensemble descriptions**
☐	
☐	

6D. MEDICAL SURVEILLANCE REQUIREMENTS

29 CFR 1910.120(b)(4)(ii)(D) and 1910.120(f)]

Personnel engaged in hazardous waste cleanup operations shall be medically monitored through a program instituted by the employer in accordance with 29 CFR 1910.120(f). Covered employees may include those who are or may be exposed to hazardous substances or health hazards at or above the established permissible exposure limit, without regard to the use of respirators, for 30 days or more a year; those who wear a respirator for 30 days or more a year; those who are injured, become ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and members of HAZMAT teams.

D. MEDICAL SURVEILLANCE REQUIREMENTS ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
☐	**Medical surveillance plan**
☐	
☐	
☐	

6E. FREQUENCY AND TYPES OF AIR MONITORING, PERSONNEL MONITORING, AND ENVIRONMENTAL SAMPLING TECHNIQUES AND INSTRUMENTATION TO BE USED INCLUDING METHODS OF MAINTENANCE AND CALIBRATION OF MONITORING AND SAMPLING EQUIPMENT TO BE USED

[29 CFR 1910.120(b)(4)(ii)(E)]

Personnel exposure monitoring, air monitoring, and leak detection will be conducted in accordance with the methods and standards described in Chapter 7, *Air Monitoring* in the NIOSH, OSHA, USCG, EPA publication, *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.*

E. FREQUENCY AND TYPES OF AIR MONITORING ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
☐	
☐	
☐	

6F. SITE CONTROL MEASURES

[29 CFR 1910.120(b)(4)(ii)(F) and 1910.120(d)]

SITE MAP

The site safety map includes the location of items such as: zone boundaries, decontamination station, washing, toilet/hygiene facilities, first aid equipment, fire extinguishers, command posts, equipment staging/storage, eating/rest areas, animal rehab/hazing stations, and locations of identified hazards.

SITE WORK ZONES

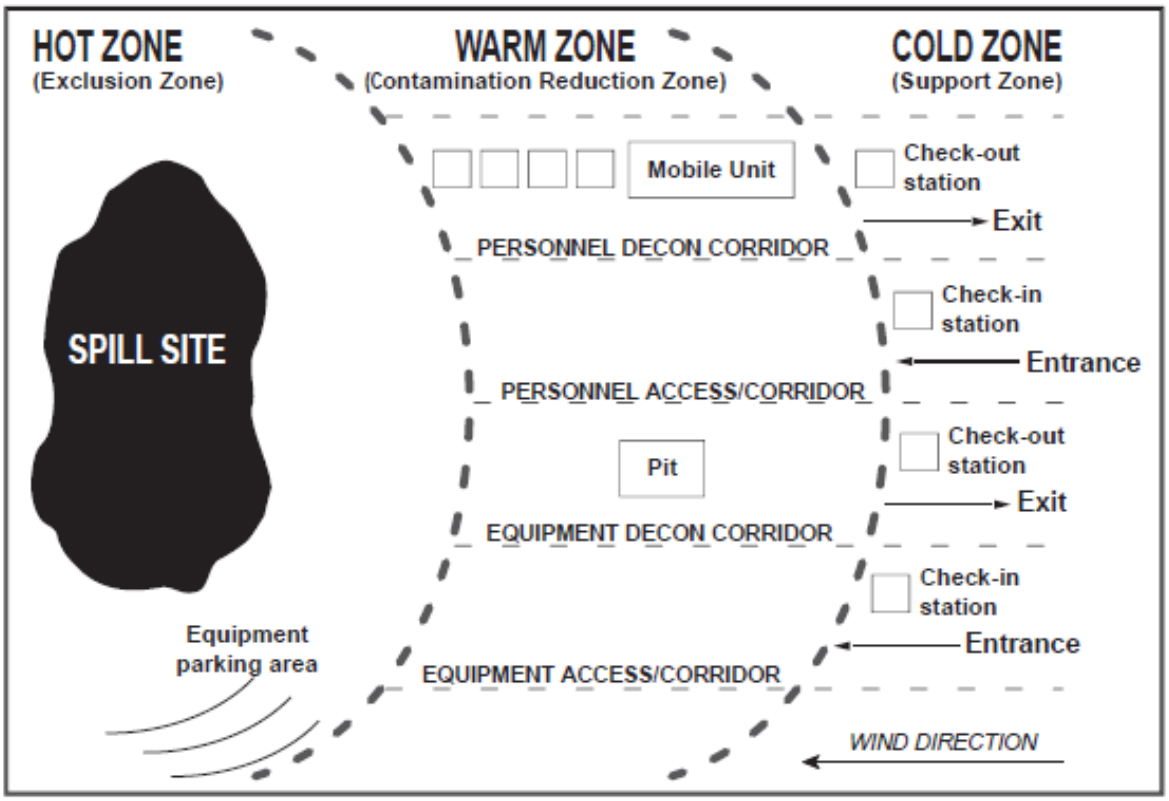

Figure 2: Site Control Boundaries for On-Land Response

SITE BOUNDARIES: Control boundaries have been established in the site safety map according to the zones identified in the following table.

ZONE NAME	CHARACTERISTICS
HOT ZONE (EXCLUSION ZONE)	This is the area where contamination or product hazards are expected.
WARM ZONE (CONTAMINATION REDUCTION ZONE)	This is a transition area between the hot zone and the cold zone. It is the area where decontamination is conducted for personnel and equipment leaving the hot zone.
COLD ZONE (SUPPORT ZONE)	This is an area adjacent to the warm zone that is intended to remain safe and as free of contamination as possible. Field decontamination of injured workers is essential prior to transport to a medical facility. Hospital decontamination stations have not been established within the State of Alaska to support patients contaminated during oil or hazardous substance response operations.

BUDDY SYSTEM

The buddy system is mandatory for everyone on site. The buddy system shall be observed inside the Work Area (exclusion and contamination reduction zones). Personnel must work within sight of their assigned partner at all times. A partner shall be assigned by the site safety supervisor as personnel check in. Personnel shall use whistles to indicate that they need assistance in areas where personnel may be obscured from supervisors (e.g. high grass, boulders, or warehouse areas) as noted on the Project Map.

SITE COMMUNICATIONS

General Signals

SIGNAL	MEANING
THUMBS UP	I'm okay/I agree
THUMBS DOWN	I'm not okay/I don't agree
HANDS ACROSS THROAT	I'm out of air/Having trouble breathing
GRAB HAND/ARM	Come with me
HANDS ON HEAD	I need assistance
BOTH HANDS ON WAIST	Leave area immediately

Radio Communications

CATEGORY	FREQUENCY	CHANNEL	TYPE
WORKING			VHF ☐ UHF ☐ CB ☐ OTHER ☐
			VHF ☐ UHF ☐ CB ☐ OTHER ☐
			VHF ☐ UHF ☐ CB ☐ OTHER ☐
EMERGENCY			VHF ☐ UHF ☐ CB ☐ OTHER ☐
			VHF ☐ UHF ☐ CB ☐ OTHER ☐
			VHF ☐ UHF ☐ CB ☐ OTHER ☐
			VHF ☐ UHF ☐ CB ☐ OTHER ☐
OTHER			VHF ☐ UHF ☐ CB ☐ OTHER ☐

Phone Communications

NAME/TITLE	CONTACT NUMBER	TYPE
ON-SCENE COORDINATOR		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
INCIDENT COMMANDER		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
SITE SAFETY AND HEALTH OFFICER		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
AGENCY FOR TOXIC SUBSTANCE AND DISEASE REGISTRY (ATSDR)		
CASE OFFICER		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
POLICE		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
FIRE		
		CELLULAR ☐ HOME ☐ OFFICE ☐ FAX ☐
AMBULANCE/EMT/HOSPITAL		

NAME/TITLE	CONTACT NUMBER	TYPE
OTHER		
		VOICE ☐ FAX ☐ CELLULAR ☐ HOME ☐
		VOICE ☐ FAX ☐ CELLULAR ☐ HOME ☐
		VOICE ☐ FAX ☐ CELLULAR ☐ HOME ☐
		VOICE ☐ FAX ☐ CELLULAR ☐ HOME ☐

SAFE WORK PRACTICES

The following safe work practices shall be adhered to while on site. Anyone entering or departing a work area, shall report to the site supervisor or designated representative. No person shall enter a site without subscribing to this or another appropriate Site Safety and Health plan. All personnel entering the site shall be fully informed about applicable hazards and procedures on site. See the Pre-Entry Briefing section for the content and schedule of site safety briefings.

Fires

Each restriction zone and associated contamination reduction zone shall have at least one each of the following:

1. a fully charged Class A fire extinguisher for ordinary fires;
2. a fully charged Class B fire extinguisher for liquid fires; and
3. a hand held fog horn to alert personnel.

The above items shall be maintained in a readily accessible location, clearly labeled in red, and with the location noted on the project map. An ABC or AB fire extinguisher can be substituted for an A or B fire extinguisher.

Lighting

Fixed or portable lighting shall be maintained for dark areas or work after sunset to ensure that sufficient illumination is provided. (See TABLE H-120.1, *Minimum Illumination Intensities in Foot-Candles* in 29 CFR 1910.120(m)).

Slippery Rocks and Surfaces

All personnel in the work area shall wear chemical resistant safety boots with steel toe/shank and textured bottoms (neoprene is a common material that is fairly resistant to many oils). Boat operators may substitute clean deck shoes with textured soles kept free of oil on cloth/leather uppers.

Slip-Trip-Fall Hazards

In addition to proper footwear, personnel will be briefed to be wary of tripping hazards. Safety belts and lifelines will also be worn when working at heights. Proper safety precautions will be taken when working with ladders.

Work Near Water

All personnel working in boats, on docks, or generally within 10 feet of water deeper than 3 feet, shall wear Coast Guard approved personal flotation devices (PFDs) or work vests.

Heat Stress

The site safety and health supervisor shall generally be guided by the American Conference of Governmental Industrial Hygienists (ACGIH) guidelines in determining work/rest periods. Fluids shall be available at all times and encouraged during rest periods.

Cold Stress
The site safety and health supervisor shall generally be guided by the ACGIH guidelines in determining work/rest periods. Workers shall be provided with adequate warm clothing, rest opportunities, exposure protection, warm and/or sweet fluids shall also be available during rest periods. For prolonged water temperatures below 59 degrees F, or a combined water and air temperature less than 120 degrees F, exposure suits shall be worn by personnel working/traveling in small boats, and immersion suits shall be available for vessel operations other than small boats.

High Noise Levels
Hearing protection shall be used in high noise areas (exceeding 84 dBA--generally where noise levels require personnel to raise their voices to be heard) designated by the site safety supervisor.

Electrical Hazards
Electrical hazards are designated on the site map, and shall be marked with suitable placards, barricades, or warning tape as necessary.

Trap Hazards
Open manholes, pits, trenches, or similar hazards are noted on the site map. The site safety supervisor shall ensure that these locations are periodically checked during the day.

Mud
Dangerous mud flats posing a trap hazard shall be designated on the site safety map as areas off limits to personnel. Mark these locations with banner tape, barricades, or other marking equipment.

Carbon Monoxide
Equipment operators shall ensure that personnel do not linger or work near exhaust pipes.

UV Light Exposure
Sunscreens of protection factor 15 (or greater), and UV tinted safety glasses shall be made available for response personnel as needed.

Helicopter Operations
Pilots shall provide safety briefing for all passengers.

Motor Vehicles
Drivers shall maintain a safe speed at all times, and shall not be allowed to operate vehicles in a reckless manner.

All-Terrain Vehicles (ATVs)
Drivers shall maintain a safe speed at all times, and shall not be allowed to operate vehicles in a reckless manner. ATV drivers shall not operate ATVs outside of areas and lanes specified by the site safety supervisor.

Drum Handling and Spill Containment

Drums and containers must be handled in accordance with 29 CFR 1910.120(j). Containers must be labeled and constructed in accordance with EPA (40 CFR 264-265, and 300), and DOT (49 CFR 171-178) regulations.

Temporary holding/staging areas for drums and containers containing waste materials shall be constructed to contain spillage, run-off, or accidental releases of materials.

Manual lifting and handling of drums and containers shall be kept to a minimum. To the extent possible, mechanical devices, drum slings or other mechanical assisting devices designed for that purpose shall be used.

Confined Spaces

Confined spaces will not normally be entered by response personnel during oil spill response operations. If a confined space must be entered or hot work conducted on a confined space, a specific confined space entry work plan and confined space work authorization checklist will be developed for that operation.

Poisonous/Infectious Insects, Bites, Stings, Plants

Personnel should be provided with long sleeved clothing and insect repellant. Personnel should inspect each other for ticks, if applicable, or signs of infected mosquito bites during breaks when working in designated areas.

Personnel with allergies to bee stings or insect bites may suffer a medical emergency if bitten. Supervisors on site should be prepared to deal with these medical emergencies. Personnel with severe allergies must work in areas away from known/suspected hazards. Personnel with allergies to bee stings or other insect bites should notify their supervisors and the site safety supervisor when reporting on this site.

AGENT	POTENTIAL MEDICAL CONSEQUENCE
BEE, HORNET, OR WASP BITES	Allergic reaction including hives, rash, difficulty breathing, wheezing, swelling in mouth and throat
SPIDERS	Irritation, pain, swelling, redness, allergic reactions
TICKS	Rocky Mountain spotted fever, Lyme disease
ANIMAL BITES	Bacterial infection, rabies
MARINE STINGS AND PUNCTURES	Wounds with risk of infection; allergic reaction including difficulty breathing, difficulty remaining conscious, chest pain, vomiting, shock, severe bleeding
POISONOUS PLANTS	Rash, blisters, swelling, itching

Bear Safety/Use of Firearms

Confrontation with bears exhibiting aggressive behavior can be life-threatening for employees engaged in field work at remote sites. State regulations allow taking of bears in defense of life after other measures fail. Personal safety is the foremost consideration in bear encounters, but all reasonable alternative methods of deterring an aggressive bear shall be employed. These include retreat, noise making, chemical repellents, and detonation of flares, if feasible.

Proper training of personnel should cover the following at a minimum:

1. Avoiding bear encounters.
2. Interpreting bear behaviors.
3. Dealing with close encounters.
4. Handling, maintaining, and using non-lethal repellents.
5. Handling, maintaining, and using firearms.
6. Requirements of the State of Alaska Taking game in defense of life or property regulations (5 AAC 92.410).

NEAREST MEDICAL ASSISTANCE

The closest hospital for regular emergencies is:

HOSPITAL NAME	PHONE NUMBER

The closest hospital for chemical exposure emergencies is:

HOSPITAL NAME	PHONE NUMBER

F. SITE CONTROL PROGRAM ATTACHMENTS

ATTACHMENT(S)	SECTION TITLE	DESCRIPTION
☐	**SITE SAFETY MAP**	
☐	**HEAT STRESS**	**Guidelines for preventing heat stress**
☐	**COLD STRESS**	**Guidelines for preventing cold stress**
☐	**HELICOPTER OPERATIONS**	**Helicopter procedures**
☐	**MOTOR VEHICLES**	**Vehicle safety briefing**
☐	**DRUM HANDLING**	**Safe lifting procedures**
☐		**Drum handling procedures**
☐	**CONFINED SPACES**	**Confined space work plan**
☐		**Confined space work authorization checklist**
☐	**BEAR SAFETY/USE OF FIREARMS**	**Bear safety/firearms handling procedures**
☐	**PREVENTION MEASURES**	**Guidelines for personnel briefings**
☐	**POISONOUS/INFECTIOUS INSECTS, BITES, STINGS, PLANTS**	**Procedures for treating bites, stings, or poisonous animals**
☐		
☐		

6G. DECONTAMINATION PROCEDURES

[29 CFR 1910.120(b)(4)(ii)(G) and 1910.120(k)]

In accordance with 29 CFR 1910.120(k), personnel leaving a hot zone shall be appropriately decontaminated; all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated. PPE decontamination is covered in section 6C of this plan. Decontamination procedures shall be monitored by the site safety and health supervisor to determine their effectiveness. Decontamination stations, decontamination equipment, and decontamination methods noted in the written decontamination plan will be on site and decontamination protocols communicated to site staff during pre-entry and shift briefings before any personnel or equipment may enter hot zones.

In emergency situations the level of decontamination prior to medical treatment depends on the type and severity of medical condition and nature of contaminant/exposure. For an oil spill, life-saving procedures may be administered without decontamination. Decontamination should proceed once the victim is stabilized. Medical responders should be informed of the accident details, contaminants present, and decontamination performed.

G. DECONTAMINATION PROCEDURES ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
☐	**Site Map showing location of the Site Work Zones and Decontamination Stations.**
☐	**Decontamination Plan**
☐	

6H. EMERGENCY RESPONSE PLAN

[29 CFR 1910.120(b)(4)(ii))(H)]

PRE-EMERGENCY PLANNING

Local Police, Fire, Hospitals, and emergency services will be informed of the emergency response plan and copies of the plan and all revisions shall be submitted on an annual basis or as the plan is amended. Meetings will be held with personnel from these authorities on an annual basis when no operations are occurring and as needed during ongoing cleanup operations. The site safety and health supervisor shall be responsible for scheduling annual meetings and recording minutes. These procedures will be documented in a written emergency response plan that will be available on-site for inspection and copying by employees, their representatives, and OSHA personnel as per CFR 1910.38(a).

TOWN	SERVICE	ADDRESS	PHONE
	POLICE DEPARTMENT		
	FIRE DEPARTMENT		
	EMERGENCY SERVICES		
	HOSPITALS		

PERSONNEL ROLES, LINES OF AUTHORITY, TRAINING, AND COMMUNICATION

Personnel Roles and Lines of Authority

The chain of command is delineated in the oil and hazardous response incident command system structure Figure 1: *Definitions and Responsibilities of Supervisors and Employees*. The number of people involved and the roles of each will vary depending upon the type and nature of the emergency.

Training

Once an incident has been determined to require an emergency response by an appropriately trained individual (i.e. first responder awareness level or above) the incident should not be investigated further without the coordinated effort of trained emergency responders. However, if untrained individuals report an incident to their supervisor, and the supervisor is trained to at least the first responder awareness level, the supervisor may investigate the incident, limiting his/her actions to those for which he/she has been appropriately trained. A template that may be used to establish the training course outline for each of the various levels of emergency responder, the required refresher training schedule, and refresher course content is included as an attachment. Training certifications should be renewed based upon employee duties and functions.

Communication

In the event of an emergency, initial communication channels should be directed to the on-scene incident commander. Although first responder awareness level respondents may be expected to inform their supervisors (as opposed to the on-scene incident commander or hazmat response team) in the event of an emergency, the supervisor will inform the emergency response personnel.
An alarm system that alerts all employees to an emergency situation will be in place prior to start-up operations. The alarms must be distinct; producing a signal that can be perceived by all employees as signaling a designated emergency action or evacuation. The emergency message shall have priority over all other messages. All manually operated warning systems used to supplement the alarm must be unobstructed, conspicuous and readily accessible for use. The employer shall assure that all components of the alarm system are approved for the work area and operating properly. After use, for testing or alarm, the system must be returned to normal operation as soon as possible.

EMERGENCY RECOGNITION AND PREVENTION

The following table contains an inventory of the hazardous substances found on site, the manner in which they are stored, and the consequences of an uncontrolled release.

HAZARDOUS SUBSTANCE	MANNER OF STORAGE	CONSEQUENCES OF RELEASE

The scenarios or circumstances that trigger activation of the emergency response plan for the various hazardous substances stored or present on site that have the potential to cause an emergency are listed below.

LEVEL - DESCRIPTION	DEFINING CRITERIA
I – CONTROLLED EMERGENCY CONDITION	**Minor spills**, including incipient spills that are quickly controlled, contained and cleaned up using local (onsite or immediately available) equipment and personnel resources. A Level I spill would typically be resolved within a few hours or days. These events do not require evacuation, except for the structure or affected facility; are limited to a confined geographic area; pose no immediate threat to life, health, or property; and involve material of known properties.
II – LIMITED EMERGENCY CONDITION	**Moderate spills** requiring activation of significant regional oil spill response resources. A Level II spill response may continue for several days or weeks. These incidents pose a potential threat to life, health, or property; have an expanded geographic scope; require limited evacuation of nearby residents or facilities; involve two or three jurisdictions; require limited participation or mutual aid from agencies that do not routinely respond to emergency incidents in the area; require specialists or technical team to be called to the scene (e.g. DEC, HazMat, Spill Responders); and require combined emergency operations such as firefighting and evacuation or containment and emergency medical care. Level II trained firefighters may assist in the handling of such incidents. Determination of appropriate assistance shall be made in concert with the incident commander and available fire personnel.
III – FULL EMERGENCY CONDITION	**Major spills** requiring activation of large quantities and multiple types of response resources including those from out of the region, and possibly international sources. A Level III spill response may continue for many weeks or months. These incidents pose a serious hazard or severe threat to life, health, and property; have a large geographic impact; require major community evacuation; require multi-jurisdictional involvement; require state and federal involvement; require specialists and technical teams; require extensive resource management and allocation; and require multiple emergency operations. Level II trained firefighters may assist in the handling of such incidents. Determination of appropriate assistance shall be made in concert with the incident commander and available fire personnel.

SAFE DISTANCES AND PLACES OF REFUGE

A site map with safe places of refuge identified for each section of the facility is attached. The map contains the location of all buildings, structures, equipment, emergency apparatus, first aid station, routes of entry and exit, emergency exit routes, staging areas, and safe places of refuge. The safe places of refuge are the areas in which accounting of all employees will be performed. This is important for identification of individuals that did not get out and estimating where they may be in the facility. Safe distances will be determined by the On-Scene Incident Commander if the hazardous materials incident is a transportation incident or at a fixed site facility. In the event that large numbers of individuals must be evacuated notification will be made to the American Red Cross.

SITE SECURITY AND CONTROL

During the initial ramp up of the response, the On-Scene Commander would identify a site security and control officer as needed, which could include but not be limited to the Alaska State Troopers, Local Police, or other responsible person or persons to perform site security and control.

EVACUATION ROUTES AND PROCEDURES

In the event that the evacuation of residents of the area surrounding the emergency scene is necessary, the evacuation order will be issued by the Incident Commander unless a State of Emergency has been declared, in which case the order shall be issued by the Local Chief Executive. Notification to the public will be made using radio and television broadcasts, mobile public address systems, and door to door canvassing as appropriate. Evacuation routes shall be selected to avoid exposure to the hazardous material.

EVACUATION PROCEDURE	METHODS
EVACUATION AND FIRE SIGNAL(S)	
PRIMARY EVACUATION ROUTE	
SECONDARY EVACUATION ROUTE	

EVACUATION PROCEDURE	METHODS
ASSEMBLY POINT	

EMERGENCY MEDICAL TREATMENT AND FIRST AID

1. Contact designated EMT (see the posted organization/work plan).
2. Do not attempt to move seriously injured personnel, call for an ambulance to come to the injured person.
3. For bites, stings, or poisonous animals/plants follow the procedures provided in the poisonous/infectious insects, bites, stings, plants attachment.
4. Contact the Agency for Toxic Substances and Disease Registry (ATSDR) (800) 232-4636 for chemical incidents and CDC Emergency Response for state and local health department assistance (770) 488-7100.

EMERGENCY ALERTING AND RESPONSE PROCEDURES

In all cases when an onsite emergency occurs, immediate notification will be made via the quickest means available. Personnel shall not reenter the work area or restart work until:

1. Conditions resulting in the emergency have been investigated by supervisory personnel, and have been corrected;
2. Hazards have been reassessed;
3. Site personnel have been briefed on any changes in the operation and site safety plan;
4. Hospitals listed under communications section have been contacted (chemical emergency hospital agrees to take patients from site);
5. Fire departments listed under communications section have been contacted;
6. Ambulance services listed under communications section have been contacted (note: those which will take chemical emergencies);
7. ATSDR has been notified of site operations; and
8. Police forces listed under communications section have been notified.

PPE AND EMERGENCY EQUIPMENT

The purpose of PPE is to shield or isolate individuals from the chemical, physical, and biologic hazards that may be encountered. Careful selection and use of adequate PPE should protect the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. No single combination of protective equipment and clothing is capable of protecting against all hazards. Thus PPE should be used in conjunction with other protective methods. The use of PPE can itself create significant worker hazards, such as heat stress, physical and psychological stress, and impaired vision, mobility, and communication. In general, the greater the level of PPE protection, the greater are the associated risks. For any given situation, equipment and clothing should be selected that provide an adequate level of protection. Overprotection as well as under-protection can be hazardous and should be avoided. Based on hazardous substances and/or conditions present, the individual in charge of the ICS shall assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing fire-fighting operations beyond the incipient stage for any incident or site.

PROCEDURES FOR HANDLING EMERGENCY INCIDENTS

Emergency Fire Procedures

1. **DO NOT** attempt to fight fires other than small fires. A small fire is generally considered to be a fire in the early stages of development, which can readily be extinguished with personnel and equipment in the immediate area in a few minutes time.
2. **DO NOT** take extraordinary measures to fight fires.
3. **YOU MUST** sound the appropriate fire signal if fire cannot be put out quickly.
4. Alert nearby personnel to call fire department.
5. Notify supervisor.
6. When the fire alarm is sounded, personnel shall immediately leave the work area **WITH THEIR ASSIGNED BUDDY**, to the predesignated assembly point by the designated evacuation route (see evacuation routes and assembly point below).
7. The Site Supervisor or the Fire Department shall ensure that the fire is extinguished and a temporary fire watch has been posted **BEFORE** restarting work.

SITE TOPOGRAPHY, LAYOUT, AND PREVAILING WEATHER CONDITIONS

FEATURE	TYPE
TOPOGRAPHY	ROCKY ☐ VEGETATED ☐ BEACH ☐ DOCKS ☐ CLIFFS ☐ MARSHES ☐ OTHER ☐
SURROUNDING POPULATION	INDUSTRIAL ☐ RESIDENTIAL ☐ RURAL ☐ UNPOPULATED ☐ OTHER ☐
PREVAILING WEATHER CONDITIONS	

Site layout information is available in the Site Map attachment mentioned in Section F, *Site Control Measures.*

PROCEDURES FOR REPORTING INJURIES TO LOCAL, STATE, AND FEDERAL GOVERNMENTAL AGENCIES

In the instance of an on-the-job death or injury resulting in an overnight hospitalization employers are required by 29 CFR 1904.39 to notify OSHA. Alaska Statute 18.60.058 requires employers to report these occurrences to the nearest office of the Division of Labor Standards and safety, Alaska Occupational Safety and Health. A fatality must be reported within eight (8) hours. An in-patient hospitalization, amputation, or eye loss must be reported within 24 hours.

INCIDENT TYPE	WHO TO CONTACT	TIMEFRAME	CONTACT INFORMATION
Work-related injury Work-related fatality	Occupational Safety and Health (OSHA)	**Fatality** – within 8 hours **In-patient hospitalization, amputation, or eye loss** – within 24 hours	24-hour hotline **1-800-321-6742** Or online at https://www.osha.gov/pls/ser/serform.html
Work-related injury Work-related fatality	Nearest office of Alaska State Division of Labor Standards and Safety – Alaska OSHA	**Fatality** – within 8 hours **In-patient hospitalization to one or more employees** – no later than 24 hours	**1-800-770-4940** or **(907) 269-4940** (8 am to 5 pm M-F; AK time) **1-800-321-6742** (After 5 pm or on weekends and holiday)
Level III Emergency	American Red Cross of Alaska	**In the event of large-scale evacuation**	235 East 8th Avenue, Suite 200 Anchorage, AK 99501 **(907) 646-5400**

H. EMERGENCY RESPONSE PLAN ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
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6I. CONFINED SPACE ENTRY PROCEDURES

[29 CFR 1910.120(b)(4)(ii)(I)]

The purpose of confined-space entry procedures are to ensure that entry into any confined space is planned and documented as required in order to identify and control hazards. Entry procedures cover the entry method selection, planning, and documentation of entry into non-permit required confined spaces and permit-required confined spaces as defined in 29 CFR 1910.146. The facility operator must evaluate the workplace to determine if confined spaces exist, to classify confined spaces then create a confined space inventory.

Definitions

A confined space is defined in 29 CFR 1910.146 as "a space that: (1) is large enough and so configured that an employee can bodily enter and perform assigned work; and (2) has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and (3) is not designed for continuous employee occupancy." A permit-required confined space is "a confined space that has one or more of these characteristics: (1) contains or has a potential to contain a hazardous atmosphere; (2) contains a material that has the potential for engulfing an entrant; (3) has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or (4) contains any other recognized serious safety or health hazard."

The following confined space entry method selection procedures, entry procedures for non-permit required confined space, and entry procedures for permit-required confined space are suggested methods. Should the facility operator decide to modify protocols, the below procedures may be modified.

Confined Space Entry Method Selection Procedure

STEP	PERSON	ACTION
1	**Confined Space Entry Supervisor**	**If the confined space is identified with a posting:** uses identifying information to check the confined space inventory for profile information. **If the space is listed in the inventory but not posted:** contact the listed confined space owner to request that a posting with identifying information is put in place. **If the work space is not posted and not listed:** determines if this is a new confined space, contacts the confined space program manager accordingly.
2	**Confined Space Entry Supervisor**	**Determines or confirms applicable entry method.** **If the listed classification is non-permit required and no new hazards are identified in the space or from the work to be performed:** the entry procedures for non-permit required confined spaces apply. If new hazards associated with the space are identified, contact the confined space program manager to reclassify the space. **If the listed classification is a permit-required confined space and the hazards are atmospheric only and it can be controlled by forced air ventilation:** the entry procedures for permit-required confined spaces apply. **If the listed classification is a permit-required confined space and hazards other than atmospheric are present, determines if a temporary declassification applies**. If so, the entry procedures for permit-required confined spaces apply. **If none of the above apply:** the entry procedures for permit-required confined spaces apply.
3	**Confined Space Program Manager**	Updates confined space inventory when new confined spaces or hazards are reported.
4	**Confined Space Owner**	Ensures that identifying information is available at the confined space location as described in 29 CFR 1910.146(c)(2).

Entry Procedure for Non-Permit-Required Confined Space

STEP	PERSON	ACTION
1	**Entrant/Attendant**	Establishes that the confined space still qualifies as non-permit required and that no hazardous work[1] will be performed. Completes Confined space: Non-permit-required Confined Space Entry Form (or equivalent).
2	**Confined Space Entry Supervisor. Confined Space Program Manager**	Before any confined space work is started, confirms appropriate entry procedure or determines that another entry method applies.
3	**Entrant/Attendant**	**Takes precautions, as necessary:** installs vehicular and pedestrian traffic controls as needed, posts warning signs and any required permit at the work location, takes measures to prevent hazards near the confined space, and dons any required PPE.
4	**Entrant/Attendant**	**Performs authorized work.** One person must remain outside the confined space. If a hazardous condition is encountered, evacuates immediately and reports to supervisor.
5	**Entrant/Attendant**	At the completion of work, sends Confined space: Non-permit-required Confined Space Entry Form (or equivalent) to confined space program manager.
6	**Confined Space Program Manager**	Reviews form, updates confined space inventory as necessary, and keeps form on file for a minimum of one year.

[1] Hazardous work includes painting, cleaning with acids or solvents, welding, brazing, torch cutting, sanding with power tools, sandblasting, breaking utility lines, using cryogenic gases, conducting work that involves reduction-oxidation reactions, or operating valves capable of releasing material, such as water or gas, in a quantity sufficient to engulf a person or cause a hazardous atmosphere.

Entry Procedure for Permit-Required Confined Space

STEP	PERSON	ACTION
		PLANNING
1	**Confined Space Entry Supervisor**	**Determines if non-entry rescue can be performed.** If it cannot, entry is prohibited; contact the confined space program manager.
2	**Confined Space Entry Supervisor**	**Determines control measures for hazards associated with the confined space entry.**
3	**Confined Space Entry Supervisor**	**Verifies that all required equipment, attendants, and entrants are available.**
		PRE-ENTRY
4	**Confined Space Entry Supervisor**	**Documents the pre-entry process with the Confined Space: Entry Permit (or equivalent)**
5	**Confined Space Entry Supervisor**	**Ensures that the confined space's atmosphere is ventilated as necessary and tested prior to entry using properly calibrated monitoring equipment.** Results for the following must be recorded on the permit: oxygen, flammability, hydrogen sulfide, carbon monoxide, any other suspected or known atmospheric hazard. If at any time the oxygen concentration falls below 19.5 percent, the cause of the deficiency must be determined and controls must be in place before entry is allowed. If entry is necessary to correct the deficiency, self-contained breathing apparatus must be worn.
6	**Confined Space Entry Supervisor**	**Secures the work site as appropriate.** Installs barriers and/or controls vehicular and pedestrian traffic as needed. Posts warning signs and any required permit(s) at the work location. Takes measures to prevent hazards near the confined space.
7	**Confined Space Entry Supervisor**	**Conducts pre-entry briefing for all personnel involved in the entry** that includes at minimum these topics: work to be performed, anticipated hazards, including signs, symptoms and consequences of exposure; hazard control measures; prohibited conditions; non-entry rescue procedures (generally these involve using a full-body harness with a retrieval line attached to a mechanical device or fixed point).
8	**Confined Space Entry Supervisor**	Verifies that: all control measures, procedures, and equipment specified by the permit are in place; entry conditions are acceptable.
9	**Confined Space Entry Supervisor**	Signs the pre-entry certification section of the permit.

STEP	PERSON	ACTION
CONFINED SPACE ENTRY		
10	**Entrant**	**Enters the permit-required confined space only if**: listed on the permit, entry conditions are acceptable, all control measures and specified non-entry rescue provisions are implemented.
11	**Confined Space Entry Supervisor**	Verifies that acceptable entry conditions are maintained and that entry operations remain consistent with terms of the permit and the hazards associated with the planned work.
12	**Attendant**	**Maintains communication with the entrant(s) and performs no other duties that might interfere with his or her ability to observe and protect the entrant(s).** Controls entry by remaining at the work site and keeping an accurate accounting of entrants on the permit. Does not become an entrant unless he/she is both listed as an entrant and has been replaced by a qualified attendant.
13	**Entrant**	**Maintains communication with the attendant**. Maintains readiness to exit if ordered by attendant.
14	**Attendant**	**Orders entrant(s) to evacuate the space if one or more of the following occurs**: detects a prohibited condition, observes any behavioral effects of exposure to any hazard, identifies a nearby situation that may endanger the entrant(s), becomes unable to effectively and safely perform all required duties.
POST-ENTRY/DOCUMENTATION		
15	**Confined Space Entry Supervisor**	Conducts a post-entry debriefing with entrants and attendants.
16	**Confined Space Entry Supervisor**	Closes the permit by signing the permit closure section of the permit as warranted: at the completion of the job, at the end of the work shift, when a change occurs in work conditions or methods that requires additional controls, when a change occurs that affects acceptable entry conditions. If the permit is closed due to a new hazardous condition, a new permit is required.
17	**Confined Space Entry Supervisor**	Forwards the permit to the confined space program manager.
18	**Confined Space Program Manager**	Reviews the closed permit, updates the confined space inventory if necessary, and maintains permits for at least one year from date of entry.

I. CONFINED SPACE ENTRY PROCEDURES ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
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6J. SPILL CONTAINMENT PROGRAM

[29 CFR 1910.120(b)(4)(ii)(J)]

Non-Mechanical Response

Personnel will adhere to the approaches detailed in the *Safe Work Practices* section. Safety concerns for the following non-mechanical response methods are listed in the following table.

RESPONSE METHOD	SAFETY CONCERNS
AIR OPERATIONS	For application and monitoring of dispersants, both fixed-wing and helicopters can be used. For ignition of in-situ-burning, a helicopter can be used. All air operations are under the control of the Air Operations Branch in the Operations Section.
BURNING OPERATIONS	In-situ burning will be closely monitored and will be conducted only by trained vessel crews and when local conditions allow its use. Safety concerns for the crews include the presence of smoke and fire, as well as handling gelled fuel.
VAPOR LEVELS	Because non-mechanical response may be on-scene in the vicinity of the source there is a potential for high vapor levels at the spill location. Site characterization will be conducted to ensure the safety of the responders before the response operations are conducted from vessels.

On-Land Response

Personnel will adhere to the approaches detailed in the *Safe Work Practices* section. Safety concerns for the following non-mechanical response methods are listed in the following table.

RESPONSE METHOD	SAFETY CONCERNS
TERRAIN	Slips, trips, and falls may be prevented through wearing appropriate footwear, and caution if terrain is slippery
WILDLIFE	All personnel will receive wildlife training, cleanup crews may be provided with bear guards
CLIMATE	Hypothermia or hyperthermia may be prevented with appropriate clothing and other methods as outlined in the section titled, *Limitations during temperature extremes, heat stress, and other appropriate medical considerations*
VAPOR LEVELS	Site characterization and monitoring of the vapor levels will be conducted to ensure the safety of the responders.

J. SPILL CONTAINMENT PROGRAM ATTACHMENTS

ATTACHMENT(S)	DESCRIPTION
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Appendix A

JOB DESCRIPTION	TRAINING LEVEL
FIELD PERSONNEL POSITIONS	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
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	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐

JOB DESCRIPTION	TRAINING LEVEL
MANAGEMENT AND SUPERVISORY POSITIONS	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
	i ☐ ii ☐ iii ☐ iv ☐
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