

**Alaska Department of Environmental Conservation**

**Division of Spill Prevention and Response**

**Industry Preparedness and Pipeline Program**

**Valdez Marine Terminal**

**Oil Discharge Prevention and Contingency Plan**

**Final Findings Document**

**April 10, 2003**

## INTRODUCTION

### **What is this Document?**

This document presents the final findings of the Alaska Department of Environmental Conservation (ADEC) concerning the contents of the Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (plan), dated June 25, 2002 with additional information and edits submitted January 20, 2003, March 7, 2003, March 19, 2003 and April 9, 2003. The contingency plan addresses activities related to prevention, containment, and cleanup of oil discharges from the operation of the Valdez Marine Terminal (VMT).

These findings were written as a result of an extensive review of the plan and consideration of public comment. They are presented to assist the interested public and participating reviewers in understanding the analysis of priority issues by which the Department has arrived at its decision to approve the plan.

This document also contains the Department's response to written and oral comments received during the extended public comment period. The public comment period began on August 20, 2002 and because of the volume of additional information reviewed, was extended through March 24, 2003. The Department has considered all comments received by the deadline. This document does not respond to all of the individual comments, but rather it is a response to the most substantive issues raised by plan review participants. Individuals that may desire to understand the Department's review of a particular comment not mentioned here may request further information by contacting the Department at 411 West 4<sup>th</sup> Avenue, Suite 2, Anchorage, Alaska 99501 or by calling (907) 257-1374.

### **What Has Been the Process to Approve the Plan?**

This review is the required triennial renewal of the 2000 approved VMT plan. The review process began with the submittal of a draft plan on July 3, 2002. The plan was found sufficient for public review on July 10, 2002. After consultation with the plan holder to allow sufficient time for distribution of the plan, the 30-day public review began on August 20, 2002. On September 10 & 12, 2002, the Department held public hearings in Valdez and Anchorage to take testimony regarding the plan. On September 13, 2003 the Department suspended the public review period and determined that additional information was needed before the plan could be found to be complete.

On October 23, 2002 the Department issued a lengthy Request for Additional Information (RFAI) to Alyeska, the majority of which had to do with inadequate plan updates and minor clarifications. At Alyeska's request, the Department extended the deadline for responses until December 23, 2002. Subsequently, the Department found Alyeska's responses to be insufficient and requested a number of modifications to the responses prior to restarting the public review. On January 23, 2003, the Department found the modified RFAI responses sufficient for public

review, and the public review period was re-started on January 27, 2003. Ten days were added to the five remaining from the initial public review period to allow the public sufficient time to review the responses to the RFAI and provide final comments on the plan. The deadline for public comments was set for February 10, 2003. Following the close of the public review period, and with the Department's agreement, Alyeska submitted further plan edits. The Department re-opened the public review period for ten days, from March 14, 2003 through March 24, 2003, and found the plan to be complete. Finally, after extensive review of the plan and consideration of the public comments, the Department found that the plan met the criteria for plan approval as specified in Alaska law.

Although the Department is responsible for conducting the review of this contingency plan, many of the analyses in this document represent the combined efforts of the participating agencies of the Joint Pipeline Office (JPO), a consortium of eleven state and federal agencies. In addition to the involvement of the JPO's Oil Spill Preparedness, Prevention and Response Team, the Department utilized the expertise of JPO's technical staff for certain issues.

### **What Does it Mean When a Contingency Plan is Approved?**

A plan is approved when a plan holder has demonstrated in the plan that a level of prevention and readiness has been accomplished to prevent a spill, or if a spill should occur, to effectively respond. The Department does not make its decision to approve a plan based on the operator proving everything in the plan, but rather upon the reasonableness of assertions and evidence that certain essential resources and practices are secured. Therefore, the Department's work does not end once the contingency plan is approved. The contingency plan approval is only a portion, although a major one, of the entire program of spill prevention and response. Many follow-up field tasks are done to proof the plan and assure that persons assigned response and prevention duties are trained and ready to respond if need be. The tasks range from both planned and unannounced inspections and oil spill exercises, regular surveillance of field operations, training audits, third party engineering inspections for checking structural integrity of tanks and piping and applying lessons learned from actual incident responses. In some cases the plan holder is not required to fully document how they will implement oil spill prevention and response requirements in the contingency plan. Nonetheless, the plan holder is required to fully implement all oil spill prevention and response programs required by State statute and regulation even if those programs are not documented in the approved contingency plan.

### **What does it mean when actions are included in the Compliance Section?**

Part 2, Section 2.7 of this plan is called the Compliance Section. This section allows the plan holder to make specific commitments to address areas of the plan that may not currently be in full compliance with State law. By including commitments in the Compliance Section that are satisfactory to the Department, the plan holder establishes its own compliance schedule. In most cases, if the issues were not incorporated into the Compliance Section, the Department would have to assure plan compliance by some other means, such as a Conditional Approval or a Compliance Order by Consent. The plan holder is responsible to implement the compliance

schedules as written in the plan, and the Department has the authority to enforce those commitments.

### **Changes in this Contingency Plan**

There have been several changes in the operation and management of the Valdez Marine Terminal by the plan holder, Alyeska Pipeline Service Company, since the last plan approval in 2000. Crude oil throughput has continued to decline, and although they are still present, Berths 1 and 3 are not currently utilized for crude oil loading and dirty ballast water offloading. Additionally, the company underwent a comprehensive management and staff realignment process in 2002, which resulted in the reorganization of management units at the Terminal. These changes have contributed, in part, to changes in the contingency plan.

Several significant improvements have been made to the 2003 renewal plan, primarily as a result of completing Conditions of Approval from the 2000 plan. Improvements have been made to the strategies for protection of the Solomon Gulch Hatchery and Valdez Duck Flats, two environmentally sensitive areas prioritized in the contingency plan. Additionally, the oil spill response scenarios were re-evaluated and reconfigured to more clearly demonstrate response strategies. As part of the scenario re-evaluation, Alyeska conducted a study to model the potential impact of hazardous vapors on oil spill response at the VMT. These findings were incorporated into the plan scenarios and into the Realistic Maximum Response Operating Level (RMROL) section of the plan. Alyeska's Settlement Pond Tactical Guide was completed and now functions as an operational tool for managing spills to land and for limiting the amount of oil that might reach Port Valdez. Another significant improvement arising out of the 2000 plan approval was the completion of a Prevention Risk Assessment. The plan now includes a summary of this risk assessment and a brief description of steps taken to reduce the highest level risks present at the VMT.

### **Format for This Document:**

The issues identified in this document have come about as a result of the Department's step by step analysis of the submitted plan, additional information provided by the plan holder and careful consideration of written and oral comments from the public. Issues in these Findings are listed in the general order and format as listed in the state regulations governing contingency plan contents; Title 18, Chapter 75 of the Alaska Administrative Code.

This document uses the following format to address each of the selected topics:

- (1) Statement of Issue
- (2) Findings
- (3) Regulatory Authority

#### (4) Response to Comments and Basis for Decision

It should be noted that two public reviewers adopted all or most of the comments submitted by the Prince William Sound Regional Citizens' Advisory Council (PWS RCAC). Rather than repeating this adoption throughout, it should be noted that the Alaska Forum for Environmental Responsibility (AFER) specifically noted they supported the September 12, 2002 PWS RCAC comments and requests for additional information. Similarly, Mr. Tom Lakosh submitted both oral and written comments, and specifically adopted PWS RCAC's February 5, 2003 comments and requests for additional information, except for their comments on protection of environmentally sensitive areas, the 2001 Spill Prevention Risk Assessment, and Best Available Technology (BAT).

The Department has benefited from and appreciates the contribution of many individuals and organizations made during the public process of reviewing and approving this plan. Any questions concerning these findings may be directed to Becky Lewis at (907) 257-1374.

## Table of Contents

|  |    |
|--|----|
| ACRONYMS.....  | 7  |
| Issue No. 1: Contingency Plan Maintenance & Incorporating Lessons Learned Into the Contingency Plan..... | 8  |
| Issue No. 2: References to Standard Operating Procedures and Operating Manuals.....                      | 10 |
| Issue No. 3: Response Strategies .....   | 14 |
| Issue No. 4: Protecting Environmentally Sensitive Areas.....   | 18 |
| Issue No. 5: Waste Management .....  | 20 |
| Issue No. 6: Tank Prevention Program.....  | 22 |
| Issue No. 7: Secondary Containment Maintenance.....  | 25 |
| Issue No. 8: Risk Mitigation.....  | 27 |
| Issue No. 9: Training Programs .....   | 30 |
| Issue No. 10: Best Available Technology .....  | 32 |
| Other Comments Received.....   | 36 |

**ACRONYMS**

|          |  |
|----------|--|
| AAC      | Alaska Administrative Code                                       |
| ADEC     | Alaska Department of Environmental Conservation                  |
| ADNR     | Alaska Department of Natural Resources                           |
| ADF&G    | Alaska Department of Fish and Game                               |
| ANS      | Alaska North Slope   |
| APSC     | Alyeska Pipeline Service Company                                 |
| AS       | Alaska Statute   |
| BAT      | Best Available Technology  |
| BLM      | Bureau of Land Management (U. S. Dept. of the Interior)          |
| BWT      | Ballast Water Treatment  |
| C-Plan   | Contingency Plan (Oil Discharge Prevention and Contingency Plan) |
| ESA      | Environmentally Sensitive Area                                   |
| JPO      | Joint Pipeline Office  |
| ICS      | Incident Command System  |
| OCC      | Operations Control Center  |
| OMS      | Oil Movements and Storage  |
| PM       | Preventive Maintenance   |
| PWS      | Prince William Sound   |
| PWS RCAC | Prince William Sound Regional Citizens' Advisory Council         |
| RFAI     | Request for Additional Information                               |
| RMROL    | Realistic Maximum Response Operating Limitations                 |
| RPS      | Response Planning Standard                                       |
| SID      | Supplemental Information Document                                |
| TAPS     | Trans-Alaska Pipeline System                                     |
| VMT      | Valdez Marine Terminal   |

## **Issue No. 1: Contingency Plan Maintenance & Incorporating Lessons Learned Into the Contingency Plan**

### **Statement of Issue**

Has the plan been maintained and updated, and does it contain current information, analyses, supporting data, and documentation that demonstrate the plan holder's ability to meet the requirements of AS 46.04.030 and 18 AAC 75.400 – 18 AAC 75.495? Is the information, analyses, supporting data and documentation in the plan reflective of the present operational status of the facility?

### **Findings**

The Department finds that the plan contains sufficiently updated information, analyses, supporting data, and documentation to demonstrate Alyeska's ability to meet the requirements of AS 46.04.030 and 18 AAC 75.400 – 18 AAC 75/495. The Department also finds that the information in the plan reflects the present operation of the Valdez Marine Terminal facility.

### **Statutory and Regulatory Authority**

The regulations under 18 AAC 75.425(a) state:

An oil discharge prevention and contingency plan submitted for approval under 18 AAC 75.400 – 18 AAC 75.495 must be in a form that is usable as a working plan for oil discharge prevention, control, containment, cleanup, and disposal. A plan must contain enough information, analyses, supporting data, and documentation to demonstrate the plan holder's ability to meet the requirements of AS 46.04.030 and 18 AAC 75.400 – 18 AAC 75.495.

Changes and updates to the contingency plan are required to follow processes outlined in 18 AAC 75.415, including the following:

(a) Subject to (b) of this section, before a change to an oil discharge prevention and contingency plan that has been approved under 18 AAC 75.400 – 18 AAC 75.495 may take effect, the plan holder must obtain approval from the department for an amendment to the plan. An application for approval of an amendment must be submitted to the appropriate regional office on a form supplied by the department, accompanied by the number of amended plans or plan amendments determined under 18 AAC 75.405(a). The department will use the procedures set out at 18 AAC 75.455 to review a plan amendment, unless it is a routine plan update under (b) of this section, adds a vessel under (c) of this section, or otherwise does not diminish the plan holder's ability to respond to an oil discharge.

(b) A routine plan update must be submitted to the department and to the applicable resource agencies within five days after the date of the proposed change.

Routine plan updates include

- (1) deletions to the list of vessels operating under the approved plan;
- (2) revisions to the list of names, addresses, or telephone numbers of spill command and response personnel; and

(3) revisions to training procedures or course work requirements that do not reduce the quality of training required by this chapter.

### **Response to Comments and Basis for Decision**

PWS RCAC provided numerous comments related to the lack of current information and lack of plan maintenance in the plan submitted for public review. The Department agrees that the plan as submitted in July 2002 was not adequately updated, and in many instances information in the plan was not current and did not accurately reflect current operations at the Terminal, which can negatively impact implementation of prevention and response measures. The review demonstrated that Alyeska had not sufficiently maintained the plan for the Terminal.

PWS RCAC commented that the plan should contain additional specific procedures that Alyeska would follow to ensure that the plan is properly maintained in the future. The Department believes that the processes included in the plan, including the VMT C-Plan Coordination Group and the internal Alyeska management processes assigned to plan maintenance are sufficient as long as they are utilized to their fullest extent. First and foremost, it is the plan holder's responsibility to maintain a current and updated plan. However, the Department recognizes its responsibility to provide greater oversight and to hold Alyeska to stricter accountability for plan maintenance. The Department intends to work with Alyeska to ensure that routine updates are made to the plan as needed and that operational changes are reflected in the plan in accordance with amendment review procedures outlined in 18 AAC 75.415 and 18 AAC 75.455 as appropriate.

A second comment from PWS RCAC related to plan maintenance had to do with creating an effective feedback loop and lessons learned process to enhance prevention training and to identify improvements in response strategies identified during drills and exercises. The prevention related examples provided by PWS RCAC (incomplete Risk Assessment and Risk Analysis discussions) were addressed in Alyeska's responses to the Department's RFAI. The follow-up actions to the prevention Risk Assessment completed in 2001 are now included in the plan. The high-level action items were identified and the status of the recommended risk reduction actions were described. A schedule for completion of the risk analysis required by 18 AAC 75.425(e)(2)(B) & (C) is included in the Compliance Section. Also, Alyeska has incorporated into the plan a brief description of its Passport lessons learned tracking system that it uses to identify and address lessons learned from response drills and exercises.

Finally, PWS RCAC provided comments that strongly encouraged Alyeska to continue the monthly VMT C-Plan Coordination Group that focused on plan maintenance and compliance issues as well as multi-stakeholder work groups that are created to work on specific issues related to the plan. The Department agrees strongly with PWS RCAC's observation that the Coordination Group and its various workgroups provided a productive and successful structure through which several significant plan improvements were realized. Edits to Section 1.3 of the plan describe the continuation of the Coordination Group as part of Alyeska's plan management structure. The plan edit states that the structure and scope of the group will be clarified with the Department to ensure a smooth plan renewal in the future. Alyeska states in the plan that they are willing to meet with agencies on an on-going basis to identify and resolve plan issues and that the meetings can include stakeholders as appropriate.

Additionally, in response to the Department's October 23, 2002 RFAI and subsequent discussions, Alyeska incorporated numerous required updates into the plan, including the following significant updates:

State regulations under 18 AAC 75.425(e)(1)(B) require the plan holder to conduct an analysis of all historical discharges at the facility to determine any relationships between their frequency, cause and size, and identify prevention measures to mitigate similar discharges. This historical discharge analysis was incomplete in the plan, and Alyeska has incorporated a schedule and process for its completion in the Compliance Section that the Department finds acceptable.

Alyeska has revised portions of the Prevention Plan, which now includes current preventive maintenance and inspection schedules for the regulated tanks on the Terminal as well as BWT piping. The Compliance Section has been revised to eliminate actions previously completed, and it now includes descriptions of issues that need to be resolved for the plan holder to be in compliance with contingency plan regulations.

As stated above, the Department finds the plan to be sufficiently updated and reflective of current operations at the VMT. Nonetheless, the Department recognizes that during the last plan renewal cycle the plan holder did not maintain the plan with timely routine updates nor was the plan adequately updated prior to the current renewal application. Therefore, the Department will work more closely with Alyeska to monitor whether the plan is maintained as required by regulation.

## **Issue No. 2: References to Standard Operating Procedures and Operating Manuals**

### **Statement of Issue**

Does the plan include procedures and sufficient detail to clearly guide responders in an emergency event?

Does the plan include sufficiently detailed prevention measures and policies to demonstrate that such measures and policies are adequate to mitigate identified oil discharge risks at the Valdez Marine Terminal?

### **Findings**

The Department finds that the plan does not adequately meet the requirement to contain detailed descriptions of all oil discharge prevention measures and policies employed at VMT. Likewise, the Department finds that the plan does not satisfy the requirement to provide specific procedures for response actions as detailed in 18 AAC 75.425. The Department recognizes that the plan holder has in its corporate structure specific procedures for prevention and response operations. The plan holder has resolved this issue by editing the Compliance Section of the plan to include a commitment to replace references deleted during the request for additional information (RFAI) process and to insure that the references cited are the most recent and accurate procedures

April 10, 2003

employed at the VMT. This process will be accomplished within 90 days of plan approval. The Compliance Section also states that Alyeska will create a plan for reviewing references in the VMT plan and submit it to the Department by December 5, 2003. Further, additional Compliance Section edits resolve insufficient development of source control procedures in the plan.

### Regulatory Authority

18 AAC 75.425(e)(1) states:

“The response action plan must provide in sufficient detail to clearly guide responders in an emergency event, all information necessary to guide response to a discharge of any size, up to and including a discharge that is equal to the applicable response planning standard....the response action plan must include the following information....

(D)...a description of field communications procedures....

(E)(i)...procedures for the transport of equipment, personnel and other resources to the spill site, including plans for alternative methods in adverse weather conditions....

(F)(i)...procedures to stop the discharge at its source and prevent its further spread...

(iv)...procedures and methods for real-time surveillance and tracking of the discharged oil on open water and forecasting of its expected points of shoreline contact...

(v)...procedures and methods to exclude oil from environmentally sensitive areas and areas of public concern....

(viii)...procedures for lightering, transfer, and storage of oil from damaged tanks or from undamaged tanks that might be at risk of discharging additional oil....

(ix)...procedures and plans for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil....

(x)...plans, procedures and locations for temporary storage and ultimate disposal of oil contaminated materials, oily wastes, and sanitary and solid wastes, including plans for obtaining any required permits or authorizations for temporary storage or ultimate disposal...

18 AAC 75.425(e)(2) “...the prevention plan must include a detailed description of all oil discharge prevention measures and policies employed at the facility, vessel, or operation, with reference to the risks involved....

18 AAC 75.425(e)(3)(A)(v)...a description of the normal procedures for the loading or transfer of oil from or to a pipeline, facility, tank vessel, oil barge, or storage tank....

(F)(vii)...the 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....

(G)(ii)....dispersant, with procedures for storage, maintenance, and deployment....

### Response to Comments and Basis for Decision

PWS RCAC commented that references to Standard Operating Procedures (SOPs) and Operating Manuals should be required for all significant operational procedures, be updated on a routine basis, become part of the plan record and be available for public review. PWS RCAC argued that removing procedures from the plan and not referencing the detailed SOPs or manuals that contained the procedures could "...interfere with the ability to implement a timely response and carry out oil spill prevention measures...especially in the case of new staff, staff turnover or unfamiliarity with the plan."<sup>1</sup> Examples of SOP references that have been removed from the plan include:

- Operations Manuals containing source control procedures and information (*BE-20, Berth Operating Manual; TM-22, Terminal Crude Oil Movement & Metering Operations Manual; BW-19, Ballast Water Treatment Facility Operating Manual; TF-21, AMT Fuel Handling and Distribution Operating Manual; and DO-14, TAPS Controller Operating Manual*)
- Tank Inspection procedures (*MP-166, System Integrity Monitoring Program Procedures; TM-188, Trans-Alaska Pipeline System Tank Manual*)
- Safe Operating Procedures for water draw operations (*TL-9305, Oil Movements Safe Operating Procedures Manual*)
- Secondary Containment Integrity Maintenance procedures (Alyeska Directives OMS-10 & BWT-12 found in manual TL-9301; Procedures OMS-3.11a and OMS-3.11a; OMS-11, Oil Cleanup within Secondary Containment; BWT-9.10; T-SIP-C-007)

PWS RCAC accurately states that the plan holder informed the Department and the PWS RCAC that the plan would be edited to remove references to outdated manuals, and instead, the plan would reference the specific SOP for the appropriate prevention or response operation. Alyeska responded to the Department's request to validate their procedural references by removing most references specifically questioned by the Department. Alyeska has discussed with the Department their intention to have the plan be a "stand-alone" document that does not require references to operational procedures. In places where references have been eliminated, Alyeska has retained only standardized actions that would guide an operation. For example, the source control procedures retained in the plan would apply equally to a terminal facility of any size. The plan holder also informed the Department they intended to remove other references through routine plan amendments following plan approval.

State regulations clearly state that detailed descriptions and procedures for certain prevention measures and for response strategies must be included in the plan. However, the Department recognizes that the plan holder is responsible for a complex facility that is part of the larger

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<sup>1</sup> PWS RCAC Comments on Final Edits to the 2003 Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, March 24, 2003, p. 1.

Trans-Alaska Pipeline System and that Alyeska utilizes numerous SOPs to facilitate facility maintenance and response preparedness. Therefore, in the past, the Department has allowed Alyeska to reference key detailed procedural documents in lieu of including the specific procedures in the plan as is required by regulation. The Department believes that this is a reasonable approach that allows Alyeska the flexibility of modifying operational procedures as needed without undergoing unnecessary plan revisions and amendments.

For example, in the 2000 VMT plan approval Findings Document, the Department found inclusion of only "a few points of the transfer procedure" to be inadequate to meet the regulatory requirement for a "detailed description of all oil discharge prevention measures and policies employed at the facility."<sup>2</sup> Alyeska resolved this deficiency by submitting a matrix identifying the manuals or documents where the detailed transfer procedures were located, the titles of the procedure, the locations at the VMT that were affected by the procedures and what prevention actions identified in the regulations were addressed by the procedures. A combination of references to procedure documents, along with enhanced text that more clearly described the key elements of the procedures, allowed the Department to find the plan adequate.

A second example from the 2000 plan review involves response equipment maintenance procedures. The Department's review of the initial plan application found that the description of the response equipment maintenance system was not adequate. In response, Alyeska modified the plan and the Department found that "...the edits to Part 3, SID 1, Section 1.3...and the documents referenced therein, adequately describes the procedures for storage, maintenance and inspection of spill response equipment, and meets the requirements of 18 AAC 75.425(e)(3)(F)(vii)."<sup>3</sup> The document referenced in the plan was the APSC Maintenance System Manual MP-167 that includes a detailed description of the response equipment maintenance program for the pipeline and the Terminal.

Alyeska has expressed concern that the Department is inconsistent with its application of requirements for including procedures in approved contingency plans throughout the State of Alaska, and that the VMT plan is held to a higher standard than other comparable facilities in the State. However, there is no comparable oil terminal to the VMT in the State of Alaska. The VMT is a unique and complex facility that necessarily utilizes complex and detailed procedures to conduct both prevention and response operations. The Department believes that it would be cumbersome to include all of the detailed procedures required by State regulation within the plan text. In addition, the Department recognizes that it would create an unnecessary burden for updating the plan whenever a routine or minor change was made to operational procedures. Therefore, the Department supports its past findings that Alyeska may meet regulatory requirements by referencing certain detailed standard operating procedures, company directives or operating manuals in the plan. The deletion of references in the proposed renewal plan would be a shift from the Department's current practice in regard to TAPS plans. This shift would result in only very general descriptions of procedures to reside in the plan, and would not be adequate to meet the regulations.

<sup>2</sup> Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (VMT ODPCP), Final Findings Document and Response to Comments, April 11, 2000, p. 18

<sup>3</sup> VMT ODCP Final Findings, April 11, 2000, p. 29

Alyeska has provided the following Compliance Section edit that satisfies regulatory requirements:

**2.7.5.6 References to standard operating procedures and manuals**

Alyeska has agreed to replace references deleted in the request for additional information (RAI) process. The replacement will be accomplished by reviewing the deleted reference(s) is (are) cited in the relevant plan section. This will be completed in 90 days from plan approval and submitted as an amendment in accordance with the ADEC regulations.

As a continuing part of plan streamlining and improvement, Alyeska will submit a plan for reviewing references in the VMT C-Plan. Recognizing that the review may result in the removal or replacement of references, thereby providing clarity to potential users, the plan will include a process to assure changes are managed during this multi-year review. The proposed changes will be presented to the VMT C-Plan Coordination Group for discussion as part of the review process. The plan for reference streamlining will be submitted to ADEC by December 5, 2003.

Procedures to stop the discharge (source control) have been addressed separately under a second Compliance Section edit and are discussed in the next section of this Findings Document under the Response Strategies Issue.

The Department does not find merit in PWS RCAC's second comment that all Alyeska SOPs and operating manuals referenced in the plan should be made available for public review. Referencing SOPs and operating manuals that describe highly detailed prevention operations in the plan is not the same as incorporating those documents into the plan, and they do not become subject to public review by being referenced within the plan. However, the Department is willing to consider requests for review of documents on a case-by-case basis. For example, the Settlement Pond Tactical Guide underwent public review as a result of a Condition of Approval from the 2000 plan approval. While this document is not incorporated into the plan, the Department has required Alyeska to provide copies of it for the public during this review period. The Department will not, however, require Alyeska to make available for public review operational procedures or documents that could pose a safety or security risk or procedures that might contain proprietary information.

### **Issue No. 3: Response Strategies**

#### **Statement of Issue**

Has the plan holder provided a description of the actions to be taken to contain and control the spilled oil?

Are the strategies sufficient to meet the applicable response planning standard?

**Findings**

The Department finds the plan holder has in place adequate procedures to contain and control spilled oil, and the Department has verified that these procedures are in place. However, the Department also finds that the plan does not include those procedures as required by regulation. The plan holder has resolved this issue by editing the Compliance Section of the plan to include a process and schedule for developing scenario specific source control procedures that is acceptable to the Department

Additionally, the Department finds that the response strategies in the plan were improved in several ways: the oil spill scenarios were completely re-worked; the on-land strategies and tactics were clarified; and the initial response actions were revised to more clearly identify source control priority and actions.

**Statutory and Regulatory Authority**

The regulations under 18 AAC 75.425(e)(1)(F) Response Strategies require:

...a description of the discharge containment, control and cleanup actions to be taken, which clearly demonstrate the strategies and procedures adopted to conduct and maintain an effective response; this information must be presented in the form of a response scenario to a discharge of the applicable response planning standard volume and must be usable as a general guide for a discharge of any size; response strategies must include

- (i) procedures to stop the discharge at its source and prevent its further spread; and
- (vi) a description of the actions to be taken to control the spilled oil, including, as applicable, boom deployment strategies, construction of temporary berms, and other methods;

Review and approval criteria for oil discharge prevention and contingency plan response strategies are identified in 18 AAC 75.445 (d):

The response strategies must take into account the type of product discharged and must demonstrate that

- (1) procedures and in place to stop the discharge at its source within the shortest possible time...
- (5) plan strategies are sufficient to meet the applicable response planning standard established under 18 AAC 75.430 – 18 AAC 75.442 for containment, control, recovery, transfer, storage, and cleanup within the specified time and under environmental conditions that might reasonably be expected to occur at the discharge site;

**Response to Comments and Basis for Decision**

PWS RCAC commented in support of the newly identified Task Force Leader positions for Source Control and Fire Suppression activities and Alyeska's inclusion of general source control procedures in the spill response scenarios. Although supportive of those plan changes, PWS RCAC commented that it is unclear whether Alyeska has assigned sufficient personnel to effectively perform source control duties. PWS RCAC also commented that removing

references to specific source control procedures required for the Terminal does not adequately demonstrate that facility specific source control procedures are in place. Finally, RCAC commented that Alyeska needs to ensure that ICS charts and scenarios are updated to reflect the new Task Force Leader positions and associated support staff.

As discussed previously, State regulations clearly require procedures for certain response strategies to be included in the plan. The Department recognizes that the VMT is a complex facility and that Alyeska utilizes multiple standard operating procedures (SOPs), operating manuals and other directives to facilitate response preparedness at the facility. For this reason, the Department believes it is reasonable to allow the plan holder to reference key procedural documents in lieu of including the detailed procedures in the plan, and in the past the Department has agreed that this method satisfactorily addressed inclusion of source control procedures for the Terminal. However, the Department believes 18 AAC 75.425(e)(1)(F)(i) more strongly supports the development of appropriate and distinct source control procedures for the plan scenarios. Alyeska has provided the following Compliance Section edit that satisfies regulatory requirements:

**Part 2, Section 2.7.5.7, Procedures to Stop the Discharge - 18 AAC 75.425(e)(1)(F)(i)**

Scenario specific source control procedures will be developed for scenarios one through five in Part 3, SID 4, Section 1, "Oil Spill Scenarios," of the plan. The source control procedures will be appropriate and distinct to each scenario. Alyeska will recommend that the VMT C-Plan Coordination Group establish a workgroup to assist in the development of the scenario specific source control procedures. Alyeska will submit a plan amendment with the proposed scenario and Part 1, Section 5, "Deployment and Response Strategies," Section 5.9, "Procedures to Stop the Discharge," revisions no later than December 15, 2003. The Department will process the proposed amendment in accordance with their regulations.

The Department also recognizes that procedures to stop an oil discharge will be utilized as appropriate to respond to specific events and that source control procedures may not be implemented in the exact manner represented in the new scenario revisions. Operations personnel at the VMT are expected to use their judgment and training to apply specific source control procedures in the most effective manner for any discharge event.

The Department concurs that response organization charts in the plan should be maintained to reflect the plan holder's response structure and organization, and the Department will require that Alyeska submit a routine plan amendment in the future to ensure the charts are reflective of the source control structure outlined in the plan.

Tom Lakosh commented that response strategies for spill containment, control and recovery had not been properly designed to accommodate the high content of volatile natural gas liquids carried in the oil. Mr. Lakosh commented that response strategies and the physical plant should be addressed to account for the limits placed on response operations from the high vapor content of oil and potential burning spills. The Department addressed in detail similar comments on vapor hazards from Mr. Lakosh in the Findings Document for the April 11, 2000 plan approval, and concluded that the response strategies in the plan were adequate to address the vapor risks

associated with the volatility of the Alaska North Slope Crude oil handled at the Terminal.<sup>4</sup> Additionally, since the last plan approval, Alyeska hired a consultant to develop a vapor model for an RPS volume discharge at the Terminal, based on Scenario 5 of the plan. This vapor model was brought to the scenarios work group and led to changes in the on-land response assumptions for the RPS volume discharge. A 12-hour delay was worked into the scenario to account for an average expected time in which vapor hazards would preclude many elements of the planned on-land response.

The response strategies in the plan were significantly improved by including newly re-worked oil spill response scenarios. The scenarios were developed through a multi-stakeholder work group, and now they much more clearly demonstrate Alyeska's ability to respond to an RPS volume discharge as well as additional specific discharge risks. A source control section was added to each scenario, and although this section contains only general source control guidelines, it represents an improvement. The scenarios in the plan now provide an effective general guide for a discharge of any size and demonstrate implementation of response strategies required by 18 AAC 75.425(e)(1)(F).

The response strategies in the plan were further improved by the continued development of Alyeska's Settlement Pond Tactical Guide through another multi-stakeholder work group process. This guide provides a description of strategies and tactics for on-land response to Terminal discharges. The guide also describes the network of settlement ponds, their available holding capacities, and means by which responders can manage those capacities to contain the maximum amount of discharged oil on-land, thereby minimizing the amount that reaches Port Valdez. The key portions of Parts I and II of the guide were incorporated into the plan.

The final improvement to response strategies in the plan was the result of increased delineation of source control prioritization and responsibility. Checklists for the Source Control Task Force Leader and Fire Suppression Task Force Leader were added to the Initial Response Actions section, and a modification to the Operations Section Chief Checklist places source control resource and response strategies in a higher priority position. The Source Control Task Force Lead position was also specified in the plan to receive the training designated for the Initial Response Incident Command position (Part 3, SID 2, Section 5, Table 5-3, Spill response field operations training matrix).

In response to the Department's October 23, 2002 RFAI requesting clarification on the quantity and response time for nightshift initial responders, the plan holder elected to remove five (5) day-shift only equipment operators from Table 6-1, Personnel Available to Initiate Response Activities for Land Spills. The explanation provided was that this would avoid confusion as to the number of personnel available for day and/or night shift response. Alyeska has assured the Department that there has been no reduction in response personnel or capability. Table 6-1 now states, "Equipment operators can be available, if needed." The Department will require the plan holder to demonstrate, through drills, exercises, records inspections or other means, that at least 5 equipment operators are available during the dayshift and that there has been no reduction in on-

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<sup>4</sup> Alaska Department of Environmental Conservation, Division of Spill Prevention and Response, Industry Preparedness and Pipeline Program, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan Final Findings Document And Response to Comments, April 11, 2000, pp. 13 - 15.

land response capability. If the Department discovers, through routine inspections or by monitoring Alyeska's exercise program, that there are less than 5 equipment operators available for on-land response, the Department will require Alyeska to return to approved response personnel levels or to demonstrate conclusively that fewer operators are needed to maintain an effective on-land response.

Alyeska and the Department have agreed to validate the on-water recovery calculations for an RPS volume spill through a workgroup established by the VMT C-Plan Coordination Group. This commitment is included in the Compliance Section of the plan.

Based on the issues discussed above and with the addition of Compliance Section 2.7.5.6, the Department found that the plan's response strategies are sufficient to plan to respond to an RPS volume spill. Response strategies will continue to be subject to verification by the Department through drills, exercises, and inspections.

#### **Issue No. 4: Protecting Environmentally Sensitive Areas**

##### **Statement of Issue**

Does the plan provide for sufficient oil discharge response equipment, personnel and other resources to protect environmentally sensitive areas or areas of public concern before oil reaches them?

Does the plan demonstrate enhanced protection equipment and strategies for the Solomon Gulch Hatchery and Valdez Duck Flats as required by Condition of Approval No. 6 of the VMT C-Plan Approval dated April 11, 2000?

##### **Findings**

The Department finds that the plan provides for sufficient oil discharge response equipment, personnel and other resources to protect environmentally sensitive areas and areas of public concern before oil reaches them.

The Department also finds that the plan reflects enhancements in protection of the Solomon Gulch Hatchery and the Valdez Duck Flats required by Condition of Approval No. 6 of the April 11, 2000 VMT C-Plan approval.

##### **Regulatory Authority**

The regulations under 18 AAC 75.425(e)(1)(F)(v) require: "...for a stationary facility or operation...procedures and methods to exclude oil from environmentally sensitive areas and areas of public concern identified under (3)(J) of this subsection, including for a land-based facility, protection of ground water and public water supplies;..."

The regulation under 18 AAC 75.445(d) states "...Response Strategies. The response strategies must take into account the type of product discharged and must demonstrate that ...(4) sufficient oil discharge response equipment, personnel, and other resources are maintained and available for the specific purpose of preventing discharged oil from entering an environmentally sensitive

area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 – 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval.”

AS 46.04.030(e) states that the Department “...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas....”

### **Response to Comments and Basis for Decision**

PWS RCAC requested clarification regarding deployment times and verification that the protection strategies for the Valdez Duck Flats and Solomon Gulch Hatchery reflected the protection enhancements demonstrated in an unannounced February 19, 2002 exercise. Enhanced protection strategies were developed by Alyeska and refined through discussions with agency representatives and stakeholders in the VMT C-Plan Coordination Group during the last plan renewal cycle. The strategies were subsequently tested by the Department in July 2001, reworked, and tested again in February 2002. Following the test in February 2002, Alyeska developed plan amendments that the Department determined were sufficient for public review as part of the current renewal application. The plan submitted for public review did not contain all of the deployment times that had been validated in February 2002 drill. However, Alyeska's RFAI response corrected the identified discrepancies and added language specifying that the deployments would be conducted simultaneously. In order to meet regulatory requirements for protection of environmentally sensitive areas before oil reaches them, Alyeska must be capable of deploying the Duck Flats and Hatchery protective strategies simultaneously while maintaining a full response to the leading edge of an RPS volume oil spill.

PWS RCAC also commented that the Department should require a plan amendment stating that Alyeska would commit to implementing Prince William Sound (PWS) Geographic Response Strategies (GRSs) for any sites threatened by a VMT release and that the GRS sites outside of Port Valdez would be included in the prioritization process for protection of environmentally sensitive areas. The RPS Scenario does not plan for oil to exit Port Valdez as a result of an RPS volume discharge, and Alyeska is therefore not required to specifically plan for response outside of the RPS volume impact area. Nonetheless, the Department recognizes that spilled oil could impact PWS beyond Port Valdez. The PWS GRSs are in the process of being prepared for incorporation into the next revision of the PWS Subarea Plan. Once housed there, they will be part of the overall response plan for the region. Additionally, the Department, Alyeska, and local citizens are familiar with the GRSs developed for PWS and have participated in the site selection and testing of the strategies developed. Until the GRSs are incorporated into the Subarea Plan, this familiarization will ensure that GRS sites are properly considered in the event of a discharge that would impact marine and nearshore areas outside of Port Valdez.

Tom Lakosh commented that there needs to be immediately deployable pre-positioned response equipment at sensitive areas in Port Valdez such as rapid boom deployment skids with mooring and guide lines that can quickly attach to pre-positioned off-shore anchors. However, Mr.

Lakosh does not provide compelling reason to support that Alyeska is incapable of protecting sensitive areas and areas of public concern that would likely be impacted if an RPS volume spill occurred from the Valdez Marine Terminal. The Department's statutes and regulations do not support requiring the plan holder to acquire equipment and other resources beyond those needed to demonstrate the ability to protect sensitive areas and areas of public concern before oil reaches those sites and control the further spread of the discharged oil.

With the additional enhanced protection strategies for the Valdez Duck Flats and Solomon Gulch Hatchery in this plan renewal application, the plan now demonstrates Alyeska's ability to protect environmentally sensitive areas in Port Valdez while retaining the capability to control and contain the leading edge of an RPS volume spill.

## **Issue No. 5: Waste Management**

### **Statement of Issue**

Does the plan demonstrate that adequate temporary storage and removal capacity for recovered oil and oily wastes will be available at or near the site of the spill to keep up with the skimming and recovery operations and to meet the applicable planning standard and that plans for temporary storage and ultimate disposal include specific actions to be taken to obtain all necessary permits and approvals?

### **Findings**

Although the revised waste management section in the plan includes several important improvements, the Department finds that the plan does not demonstrate adequate temporary storage and removal capacity for recovered oil and oily wastes to keep up with skimming and recovery operations and to meet the applicable planning standard for control, containment, and cleanup.

Alyeska has modified the contingency plan Compliance Section to include a commitment to work with the Department, agencies of the Joint Pipeline Office, and external stakeholders to develop scenario-specific waste management plans, including a waste management plan for the RPS oil spill scenario. The Compliance Section states that Alyeska will submit waste management plan amendments to the Department no later than the fourth quarter 2004.

### **Regulatory Authority**

AS 46.04.030(k) states:

...the holder of an approved contingency plan required under this section shall maintain, or have available under contract, in its region of operation or in another region of operation approved by the department, singly or in conjunction with other operators, sufficient oil discharge containment, storage, transfer, and cleanup equipment, personnel, and resources to meet ...response planning standards...

Regulations further specify the plan approval criteria, including the following under 18 AAC 75.445(d):

The response strategies must take into account the type of product discharged and must demonstrate that...

(7) adequate temporary storage and removal capacity for recovered oil and oily wastes will be available at or near the site of the spill to keep up with the skimming and recovery operations and to meet the applicable planning standard established under 18 AAC 75.430 – 18 AAC 75.442 for control, containment, and cleanup; plans for temporary storage and ultimate disposal must include specific actions to be taken to obtain all necessary permits and approvals.

Supporting the approval criteria are contingency plan content requirements found in 18 AAC 75.425(e)(1)(F):

- (ix) procedures and plans for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil;
- (x) plans, procedures, and locations for temporary storage and ultimate disposal of oil contaminated materials, oily wastes, and sanitary and solid wastes, including plans for obtaining any required permits or authorizations for temporary storage or ultimate disposal.

#### **Response to Comments and Basis for Decision**

PWS RCAC agreed with the Department and with Alyeska that the Waste Management section in the current plan needs to be significantly improved, and they agreed that the revised section in the renewal plan contains several important improvements. The Waste Management section now includes more realistic processing capacity and operating parameters for the BWT facility and an entirely new decision-tree structure for developing incident specific waste management plans. The Department supports this approach and believes that it will provide Alyeska with a greater ability to design effective incident specific waste management plans.

However, PWS RCAC also provided numerous detailed comments, questions and recommendations for further revisions to the new section. Their primary concern was that the plan did not clearly demonstrate how Alyeska would respond to an RPS volume discharge for both on-land and on-water waste management. Their comments pointed out that the RPS oil spill scenario requires Alyeska to process 390,000 barrels of oil spilled on-land and temporary storage capacities remained undefined and that numerous processes (pumping, transfer, solid/liquid separation, oil/water separation) were not clear. For on-water waste management, PWS RCAC identifies specific concerns for temporary storage of recovered oil and oil/water mixtures as well as raises questions about the processes that would be used to manage on-water waste concurrent with on-land operations.

The Department agrees that there are many outstanding questions and that the waste management section does not, as presently written, adequately demonstrate Alyeska's capability to provide waste management for an RPS volume oil discharge. The work group identified in the plan's Compliance Section will be tasked with addressing compliance related issues as it develops an RPS scenario specific waste management plan. The Department will request the

PWS RCAC provide a representative to be part of the waste management work group. The detailed comments provided will be an excellent resource for the work group and will assist in providing a framework for developing an effective waste management plan.

The Alaska Forum for Environmental Responsibility (AFER) also submitted comments on the Waste Management section. Their comments focused on concerns about unrealistic expectations for utilizing the Ballast Water Treatment facility (BWTF) to process oily water and on lack of detail for temporary storage and transfer of recovered oily liquid waste. AFER also commented that the Ballast Water Treatment facility operates under an NPDES permit that limits the type and quantity of hazardous waste that Alyeska can plan to introduce to the system. The concerns expressed by AFER had been previously identified by Alyeska as a result of drills, exercises and internal operational reviews during the plan renewal period, and Alyeska had discussed these issues with the Department. AFER's concerns about the description of the use of the BWTF in the waste management plan were largely answered in response to the Department's RFAI submitted by Alyeska on January 20, 2003. The Department believes that the remaining concerns identified by AFER will be addressed in the waste management work group.

Alyeska's commitment in the Compliance Section of the plan to utilizing a work group process to develop scenario specific waste management plans and to testing the revised waste management section through annual drills ensures that the improvements made to the waste management section will be fully developed on a schedule acceptable to the Department.

While the new waste management section is being further developed as outlined in the plan, the Department will require Alyeska to maintain all of its current waste management capabilities. When the revised waste management section is submitted by Alyeska in the fourth quarter of 2004, the Department will review it as a plan amendment in accordance with review procedures outlined in 18 AAC 75.

The plan identifies utilizing a tanker of opportunity (TOO) as an option for temporary storage of recovered oil. However, in the past Alyeska was not signatory to a TOO Memorandum of Understanding (MOU) with the shippers that transport crude oil from the VMT. The Department supports the use of a TOO as a temporary storage option, but the Department cannot accept it as a planning option for Alyeska's Waste Management Plan unless a signed MOU is in place that specifically authorizes the use of a TOO for VMT spill response. Alyeska is currently finalizing a TOO MOU with the shippers.

## **Issue No. 6: Tank Prevention Program**

### **Statement of Issue**

Does the plan holder maintain and inspect the regulated oil storage tanks at the VMT in accordance with the requirements of API Standard 653, First Edition, 1991, and Supplement 1, January 1992, or API Recommended Practice 12R1, Fourth Edition, 1991?

Does the plan include a description and schedule of regular tank inspection and maintenance programs in use at the VMT?

**Findings**

The Department finds that Alyeska is maintaining and inspecting the regulated oil storage tanks at the VMT in accordance with API 653 as described in regulation. Likewise, the plan includes a description and schedule of regular tank inspection and maintenance programs at the VMT, and these programs reflect consistency with API 653 requirements.

**Regulatory Authority**

18 AAC 75.425(e)(2) describes the requirements for the Prevention Plan portion of the C-Plan. 18 AAC 75.425(e)(2)(A) states that the plan must contain "...a description and schedule of regular pollution prevention, inspection, and maintenance programs in place at the facility or operation...."

Oil storage tank requirements are found in 18 AAC 75.065. The portions of the regulation that guide the tank inspection program at the VMT include the following:

- (a) The owner or operator of an oil terminal...shall maintain and inspect oil storage and surge tanks consistent with the requirements of API Standard 653, First Edition, 1991, and Supplement 1, January 1992, or API Recommended Practice 12R1, Fourth Edition, 1991, as appropriate, unless a more stringent requirement is set out in this section.
- (b) The owner or operator shall inspect oil storage tanks for structural integrity at least every ten years unless a shorter or longer inspection interval is prescribed by API Standard 653, First Edition, 1991, and Supplement 1, January 1992, or API RP 12R1, Fourth Edition, 1991. The department will, in its discretion, require a more frequent schedule
  - 1) for tanks older than 30 years;
  - 2) for riveted or bolted tanks;
  - 3) for tanks with demonstrated corrosion or foundation problems; or
  - 4) after a significant seismic event....

**Response to Comments and Basis for Decision**

PWS RCAC provided several comments on the tank prevention programs in place at the VMT. Initially, PWS RCAC requested that the plan be updated to reflect the current status of tank inspections and scheduled maintenance. In response to the Department's October 23, 2002 RFAI, Alyeska updated the information on Table 2-6, APSC Valdez Terminal Tankage Database Report, in the Prevention Plan. This table provides information on use, sensitive gauging system, cathodic protection, size and capacity, and inspection schedules for each regulated tank at the VMT. During the course of the plan review, the Department reviewed summary reports from the last API 653 internal inspections conducted for each crude oil storage tank at the VMT. The summary reports were provided to PWS RCAC for their review. The Department, Alyeska, and PWS RCAC have agreed that their technical personnel will meet in the near future to ensure mutual understanding of the summary reports and clarify any outstanding technical questions. One of PWS RCAC's comments was that the Department should review the API 653 tank inspection data for the BWT tanks as well. The Department intends to review the summary reports for all regulated tanks at the VMT, and detailed inspection data as warranted, as part of

its normal oversight and monitoring program. This on-going review will include the summary reports of the BWT tank inspections.

PWS RCAC also commented that tank inspections should be conducted in compliance with API 653 requirements and by certified API 653 inspectors. The Department notes that the codified version of API 653 (First Edition, 1991, and Supplement 1, January 1992, or API Recommended Practice 12R1, Fourth Edition, 1991) does not explicitly require inspection by a certified inspector. Nonetheless, the Department agrees that this is a good recommendation and standard industry practice. Also, we understand that it is Alyeska's practice to use certified inspectors for all API 653 internal tank inspections.

Seismic evaluations were not included in the API 653 inspection summary reports, and PWS RCAC questioned whether they had been conducted for each tank and noted specific seismic concerns due to their estimated annular ring wall loss for Tanks 9, 13, and 2. PWS RCAC cited Section 2.3.8 of API 653, which requires a seismic analysis to be conducted under certain circumstances. The subsection cited discusses determination of a tank's suitability for continued service. There are two events that can trigger the suitability for continued service analysis: a change in service or a change from the original physical condition. Corrosion might be considered a change in physical condition. However, API 653 supports the Department's understanding that isolated pitting will not affect the integrity of the annular plate, and only widespread significant wall loss is of concern. The determination of what is considered to be significant wall loss is based on the inspection data and the judgment of the operator. After reviewing the summary API 653 reports, the Department does not find any reports of significant wall loss, nor did it find apparent integrity issues with the crude oil storage tank annular rings, including Tanks 9 and 13. However, we did note the same concerns as PWS RCAC noted with the corrosion data for plate A14 in Tank 2, and we have already advised Alyeska of our interest in that particular plate. The API 653 internal inspection for Tank 2 will be conducted this year, one year ahead of its originally scheduled inspection date.

If a seismic evaluation is triggered by a change in physical condition, the appropriate standard is API 650, Appendix E, which has been used as a seismic analysis tool for most of the regulated tanks in the State. The Department recognizes that this is a construction code, however, and it is not generally applied retroactively. Since the VMT tanks have a large diameter relative to the fill height and thick first shell course, the Department believes that the tanks' current condition satisfies the seismic requirement of Appendix E. Nevertheless, the Department recognizes the merit of PWS RCAC's comment. We will inquire about past seismic analysis and will suggest seismic consideration for future API 653 internal inspections.

Finally, PWS RCAC recommended that the tank bottoms for all of the crude oil storage tanks in the West Tank Farm be replaced. The Department does not require tank bottoms to be replaced as long as they can be repaired in accordance with API 653 standards. Whether repairs or replacements are made is dependent upon the findings of the inspection. The plan holder is responsible for making sound decisions regarding repairs and/or replacements following internal tank inspections. The Department will continue to work with Alyeska to ensure that appropriate repairs or replacements are made to maintain tank integrity.

From 1994 through 2002, Alyeska inspected and replaced the tank bottoms on each of the crude oil storage tanks in the East Tank Farm. Associated to the decision to replace the tank bottoms was the decision to install tank specific cathodic protection systems in the East Tank Farm. The plan identifies the next internal inspection for each of these tanks at ten years following the floor replacement.

West Tank Farm tanks that were inspected during the same period did not receive new tank bottoms, and tank-specific cathodic protection systems were not installed. In a joint Department/JPO letter to Alyeska on January 23, 2003, the Department approved revised inspection schedules for Tanks 15, 17, and 18 in the West Tank Farm based on Alyeska's API 653 calculations. The Department calculated slightly different intervals than Alyeska, and will meet with Alyeska's corrosion engineers to discuss the calculations in detail. The Department will work closely with Alyeska's engineers to monitor that the calculations and resulting inspection intervals are in compliance with 18 AAC 75.065.

## **Issue No. 7: Secondary Containment Maintenance**

### **Statement of Issue**

Does the plan provide a description of the secondary containment maintenance program and a schedule for its implementation at the VMT?

Does the secondary containment maintenance program in place at the VMT assure that secondary containment meets the requirements of 18 AAC 75.075?

### **Findings**

The Department finds that the plan provides an adequate description of the secondary containment maintenance program at the VMT. Also, the Department finds that the secondary containment maintenance program at the VMT is sufficient to identify problems and provide for their repair. However, there are outstanding repairs to components of the secondary containment system that must be made in order for the plan holder to be in compliance with 18 AAC 75.075.

Alyeska addresses maintenance of the tank secondary containment areas in the Compliance Section of the plan. Alyeska has committed to conduct continued investigation and repair of the CBA and geomembrane liners. The Department finds that the work plans and schedules in the Compliance Section will fulfill Alyeska's obligation to maintain sufficiently impermeable secondary containment.

### **Regulatory Authority**

Secondary containment requirements for storage tanks and surge tanks are located in 18 AAC 75.075. The regulations specify the minimum requirements, which include:

- (1) berms, dikes, or retaining walls that are constructed to prevent the release of spilled oil from within the containment area;

- (2) with the exception of the area under a tank, components constructed of, or lined with, materials that are
  - (A) adequately resistant to damage by the products stored to maintain sufficient impermeability;
  - (B) resistant to damage from prevailing weather conditions; and
  - (C) sufficiently impermeable; and
- (3) checking for the presence of oil leaks or spills
  - (A) daily at a manned facility; or ....

18 AAC 75.075(g)(3) states that the secondary containment must “be maintained free of debris or other materials or conditions that might interfere with the effectiveness of the system, including excessive accumulated rainwater....”

### **Response to Comments and Basis for Decision**

PWS RCAC provided comments recommending a modification to Alyeska’s secondary containment maintenance and inspection programs because they believed that the regular visual inspections were insufficient to verify continued impermeability of the system.

The VMT utilizes catalytically blown asphalt (CBA) as the secondary containment liner for the horizontal secondary containment areas of the crude oil tanks (Tanks 1 – 18) and Ballast Water Treatment tanks (Tanks 92 – 94). The sides of the secondary containment are lined with a geomembrane material that overlaps and is bonded to the CBA. During the course of the plan review, Alyeska submitted a revised Secondary Containment Integrity Maintenance Program (Section 2.1.7.2) that clarifies that inspection of the CBA liner is conducted in conjunction with tank project work. The revised section also clarifies that the geomembrane liner is inspected according to an annual visual inspection program as well as being inspected in conjunction with tank farm projects. Because of the annual inspection of the geomembrane and opportunistic inspection of the CBA, in conjunction with other elements of the secondary containment integrity program, the Department finds that the inspection program is sufficient to identify potential problems with the secondary containment.

PWS RCAC also questioned why results of the inspections conducted in conjunction with tank bottom replacements were not included in the contingency plan. While the Department requires repairs to be made whenever secondary containment damage is identified, state regulations do not require inclusion of the full repair history in the plan. The Department will, however, require Alyeska to report on the completion of the investigation and repairs that are described in the Compliance Section of the plan as these have been identified as problem areas requiring corrective action.

The work included in the Compliance Section of the plan is based on project-related CBA and geomembrane liner inspections conducted in the fall of 2002 that revealed damage to the secondary containment in the East Tank Farm. During the course of removing old monitoring equipment that penetrated the liner in the East Tank Farm, Alyeska discovered random damage to the CBA, rips and tears in the geomembrane, and an area where the CBA and geomembrane interfaces were unbonded. Most repairs were made immediately, but some repairs could not be made in the area where the CBA and geomembrane were unbonded.

Alyeska has outlined its work plan and schedule for continued investigation and repair of the damaged secondary containment in the Compliance Section. The investigation will include inspection and repair of the liner at all old test boring locations in the East and West Tank Farms that breached the geomembrane liner and were not part of the 2002 project. The work plan and schedule are acceptable to the Department and reflect on-going adherence to the Secondary Containment Integrity Maintenance Program outlined in the plan.

## **Issue No. 8: Risk Mitigation**

### **Statement of Issue**

Has the plan holder identified conditions at the VMT that might increase the risk of a spill and measures that have been taken to reduce that risk?

### **Findings**

The Department finds that Alyeska has identified conditions at the VMT that might increase the risk of a spill and that there are measures in place to reduce those risks. Alyeska meets the prevention requirements in part by including a work plan and schedule for outstanding Slope Stability maintenance in the Compliance Section of the plan. The Department also finds that the seismic design basis evaluation and corrective action plans, required and overseen by the JPO, are adequate to identify technical and operational changes necessary to mitigate seismic risks in a timely manner.

### **Regulatory Authority**

In 18 AAC 75.425(e)(2), the regulations require the Prevention Plan to include:

(D) a description of any conditions specific to the facility or operation that might increase the risk of a discharge, including physical or navigation hazards, traffic patterns, or other site-specific factors, and any measures that have been taken to reduce the risk of a discharge attributable to these conditions....

### **Response to Comments and Basis for Decision**

There are numerous risks associated with the VMT. However, this section will focus only on the specific risk areas that were highlighted in public comment or that the Department found to be of concern during the plan review.

PWS RCAC provided numerous comments related to seismic risk at the VMT. In their comments, PWS RCAC assumed that the terminal was at risk from a seismic disturbance beyond its original design basis because the magnitude scale number assigned to the 1964 earthquake had been elevated to a magnitude of 9.2 from its original designation of 8.5 Richter magnitude. Based on that assumption, PWS RCAC recommended that the Department adjust the RPS for the VMT to include the total storage capacity at the terminal rather than basing the RPS on the volume of the largest tank.<sup>5</sup> As well, PWS RCAC asked that the Department require the plan

<sup>5</sup> Response Planning Standards for oil terminals are determined by state regulation in 18 AAC 75.432(b): "The response planning standard volume for a crude or noncrude oil terminal facility is equal to the capacity of the largest

holder to insert a statement into the plan to provide assurance that Alyeska has maintained the VMT to withstand an earthquake of the same magnitude as the 1964 event.

The plan states that establishing the RPS level to be equal to the capacity of the largest storage tank at the VMT is justified, in part, because the facility was designed to withstand an 8.5 Richter scale seismic event. Also, the plan identifies earthquakes as a condition that might increase the risk of discharge from the VMT. The single measure identified in the plan to reduce that risk was the original facility design to withstand an 8.5 Richter scale seismic event. Because seismicity presents an on-going condition that could increase the risk of an oil discharge at the terminal, both the risk level and the implementation and adequacy of risk reduction measures must be evaluated from time to time. In response to PWS RCAC's comments, the Department requested additional information from Alyeska to more fully demonstrate that the seismic risk present at the VMT had been evaluated since original construction and to demonstrate whether the identified prevention measure (8.5 Richter scale design basis) provided for sufficient risk reduction.

Alyeska's response included a list of projects conducted since the mid-1990s that were designed to validate the seismic design basis and provide seismic engineering reviews of portions of the VMT. Part 3, SID 1, Section 10.6.1 of the plan has been amended to elaborate on the risk reduction measures by including the project list.

Additionally, Alyeska responded that the Richter scale was "not used directly in the design of TAPS facilities...but rather was used only as a naming convention in the identification of TAPS seismic zones along the TAPS route and the associated seismic design criteria."<sup>6</sup> The RFAI response went on to state that design parameters for TAPS, including the VMT, were made related to ground acceleration of recorded earthquakes through the early 1970s. Shifting from a Richter magnitude scale to a Moment magnitude scale, they explained, did not change the actual ground motion parameters associated with the design, but rather reflect the use of a more useful scale.

The Department found that this explanation, while helpful, was insufficient for determining whether the risk of a discharge associated with the seismic risk at the VMT was high enough to require recalculation of the RPS. Because the Department is affiliated with the State/Federal Joint Pipeline Office (JPO), we reviewed selected JPO reports and the Final Environmental Impact Statement for TAPS Renewal (TAPS EIS) for information on the seismic risk at the VMT.<sup>7</sup> The JPO is comprised of numerous agencies, each with some individual oversight responsibility of TAPS. JPO agencies have significant oversight responsibilities over the seismic issues addressed in this section of the Department's findings. Under the federal and state right-of-way agreements for TAPS, the Bureau of Land Management and the Alaska Department of

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oil storage tank at the facility covered by the plan, unless there are specific natural or man-made conditions outside the facility which could place the facility at an increased risk of an oil discharge affecting one or more storage tanks; (c) For an increased risk described in (b) of this section, the response planning standard volume is equal to the capacity of all the potentially affected oil storage tanks at the facility. The plan must set out the basis for selecting the storage tanks and the volume of oil planned for in the response...."

<sup>6</sup> Alyeska Pipeline Service Company RFAI Response No. 36 for the VMT C-Plan, January 20, 2003.

<sup>7</sup> Final Environmental Impact Statement: Renewal of the Federal Grant for the Trans-Alaska Pipeline system Right-of-Way (TAPS EIS), U. S. Department of Interior, Bureau of Land Management, November 2002.

April 10, 2003

Natural Resources have clear responsibilities for assuring the safe operation and maintenance of the pipeline and terminal. For these issues, the Department does not delegate or waive its duties to implement laws enacted by the Alaska Legislature. However, the approach reflected below is to rely on the combined work efforts of the JPO on topical issues where there is common authority.

A significant amount of work was done by the JPO from 1995 through the present to review and verify the design basis for TAPS, including the seismic design for the VMT. JPO Engineering Report No. ANC-02-E-002 compared the original design basis for TAPS, including the VMT, with current state of the art seismic hazard evaluation criteria based on the USGS 1999 Probabilistic Seismic Hazard Maps of Alaska.<sup>8</sup> The report found that "A comparison between the USGS 1999 Probabilistic Seismic Hazard Maps of Alaska, and the TAPS criteria, finds that TAPS Seismic Criteria are in alignment with or more stringent than the values shown in the Peak Ground Acceleration Map for a 10% probability of occurrence in the next 50 years..." and concluded that "... TAPS design basis ground motions are in alignment with current seismic engineering understanding of ground motions likely to occur along the Pipeline route from Pump Station 1 to the Valdez Marine Terminal..."<sup>9</sup> Similarly, the TAPS EIS evaluated TAPS seismic design criteria against the USGS 1999 Probabilistic Hazard Assessment for a 2% probability of occurrence in the next 50 years. The conclusion of the TAPS EIS was also that the "...originally specified TAPS seismic design criteria met the seismic zoning criteria proposed by the USGS..." in their 1999 seismic hazard analysis for Alaska.<sup>10</sup>

JPO's Report No. ANC-02-E-002 also discusses the process the JPO used to conduct seismic design verification for the VMT operating systems. This process led to several deficiency reports and developed drawings for necessary retrofits. The report states that a "...sample of this work...was field verified and the Audit Items were closed."<sup>11</sup>

Based on the findings of recent JPO reports and the TAPS EIS, it is the Department's understanding that the VMT is designed to withstand an 8.5 Richter scale earthquake and that this represents appropriate design criteria, based on modern understanding of probabilistic seismic hazard risk analysis. Therefore, the Department is not requiring the plan holder to include additional statements regarding the VMT's ability to withstand an equivalent seismic event to the 1964 earthquake to be added to the plan. Likewise the Department is not requiring further seismic re-engineering studies for the VMT. However, the Department will continue to work collaboratively with the JPO to review and follow-up on any work designed to improve Alyeska's ability to mitigate potential oil spill risks at the VMT associated with earthquakes.

Another condition at the VMT that the plan identifies as potentially increasing risk of an oil spill is slope stability. Public review comments did not specifically address slope stability. The prevention measure identified to reduce the risk caused by potentially unstable slopes is

<sup>8</sup> Engineering Report ANC-02-E-02, TAPS Technical Report, Agreement and Grand of Right-of-Way and Right-of-Way Lease Stipulation 3.4, Earthquakes and Fault Displacements, February 26, 2002, referencing USGS Report, "Probabilistic Seismic Hazard Maps of Alaska," Open-File Report 99-36, 1999, pp 9-10.

<sup>9</sup> Engineering Report ANC-02-E-02, pp. 9-10.

<sup>10</sup> TAPS EIS, pp. 3.4-3 - 3.4-4

<sup>11</sup> Engineering Report ANC-02-E-02, p. 14.

Alyeska's Slope Stability Program. As part of its oversight responsibility, the Department tracks the implementation of components of this program. In Part 2, Section 2.1.7.7, the plan describes monitoring and inspection activities for five rock cut slopes at the VMT. One of the techniques Alyeska uses to reinforce the stability of rock cuts is the application of fiber-reinforced shotcrete. In 2000, Alyeska committed to re-apply shotcrete in areas where it had been degraded. Because of difficulties with obtaining a local aggregate that is suitable for making shotcrete, the application was not completed. Alyeska investigated other potential alternative measures, but did not identify one that would be as effective as shotcrete in preventing slope deterioration. In the Compliance Section of the plan, Alyeska has committed to apply fiber-reinforced shotcrete to the fault zones and surrounding rock in the BWT and Power Vapor cuts during 2003 and 2004. The Department is satisfied that including this commitment and schedule in the Compliance Section satisfies plan requirements for identifying and conducting prevention measures for reducing the slope stability risk at the VMT.

Please note that the Department has responded to another comment related specifically to whether seismic calculations are required for API 653 internal tank inspections for regulated tanks at the VMT. See Issue No. 5, Tank Prevention Program.

## **Issue No. 9: Training Programs**

### **Statement of Issue**

Does the plan demonstrate that in addition to maintaining continuous compliance with other applicable state and federal training requirements, designated oil spill response personnel are trained and kept current in the specifics of plan implementation? Specifically, are response personnel trained in the deployment of containment boom, operation of skimmers and lightering equipment, and organization and mobilization of personnel and resources?

Does Alyeska comply with pollution prevention training and documentation requirements described in 18 AAC 75.007(d)?

### **Findings**

The Department finds that the Part 3, SID 2, Section 5 of the plan contains sufficient information on response training to meet the plan approval criteria found in 18 AAC 75.445(j).

The Department also finds that the Prevention Plan (Part 2) includes an adequate description of the plan holder's pollution prevention training scheme, in part by referencing a more detailed program that Alyeska uses to ensure and document that all technicians and controllers working on the VMT are qualified for their work assignments.

### **Regulatory Authority**

18 AAC 75.07(d) requires that "the owner or operator shall ensure that all personnel are appropriately and regularly trained regarding company and state pollution prevention measures that are applicable to each person's duties. After completing a training course or program, each participant shall sign and date a statement that lists the course content."

18 AAC 75.425(e)(3)(I) requires the plan to contain "...a detailed description of the training programs for discharge response personnel."

Approval criteria are established by 18 AAC 75.445(j):

"Training. In addition to maintaining continuous compliance with other applicable state and federal training requirements, the plan holder shall demonstrate that designated oil spill response personnel are trained and kept current in the specifics of plan implementation, including deployment of containment boom, operation of skimmers and lightering equipment, and organization and mobilization of personnel and resources. The plan holder shall ensure that proof of training is maintained for three years and is made available to the department upon request."

#### **Response to Comments and Basis for Decision**

PWS RCAC commented that the prevention training description and table contained in Part 2 of the plan should be significantly revised to include greater detail regarding training contents for specific prevention programs and to identify any required certifications for personnel conducting prevention operations. Specifically, PWS RCAC recommended that a prevention and response training matrix be developed based on the one designed for the PWS Tanker C-Plan. In subsequent meetings, Alyeska staff agreed that the training matrix developed for the Tanker C-Plan could be a very beneficial model for a training matrix for the VMT. However, they argued that there is no specific state regulatory requirement to provide a detailed prevention training matrix in the plan.

As noted in 18 AAC 75.445(j) above, the plan holder is required to provide information in the plan to demonstrate that they can implement the C-Plan for the VMT. The plan contains prevention training information that identifies personnel having responsibilities for oil handling at the VMT and identifies the prevention training required for each position. The plan references Alyeska's Operator Qualification (OQ) manual that ensures that all personnel working at the VMT are appropriately trained to perform their jobs. The OQ is referenced throughout Table 2-1, Terminal Oil Spill Prevention Training. It contains detailed descriptions of "core" and "covered" tasks that require specific training, and it identifies programs that Alyeska has in place to ensure qualified personnel conduct prevention related tasks at the Terminal.

The plan contains both prevention and response training program outlines and matrices that describe adequate training and qualifications for terminal personnel tasked with those duties. While the Department agrees with PWS RCAC and Alyeska that a detailed prevention training matrix like the one developed for the PWS Tanker C-Plan could be beneficial and an enhancement to this plan, the Department has no evidence to conclude that it is necessary to meet regulatory requirements. Nonetheless, the Department encourages the plan holder to take advantage of every opportunity to improve the plan and to utilize available training and tracking tools.

PWS RCAC also commented that the Department should require Alyeska to include a policy for ensuring training and transfer of information to new personnel needed during times of high volume personnel turnover. The Department recognizes that the realignment of Alyeska

personnel during 2002 led to the departure of several highly trained and experienced personnel that held key prevention and response positions at the VMT. The Department has the authority to verify that all personnel are trained as required by its regulations, but it does not have authority to require procedures to facilitate employee transitions to be included in the plan. The Department will conduct training record audits as necessary during the upcoming plan approval period to ensure that both prevention and response personnel at the VMT have received the training outlined in the plan.

## **Issue No. 10: Best Available Technology**

### **Statement of Issue**

Does the plan include required Best Available Technology (BAT) analyses and provide for their use in the plan?

### **Findings**

The Department finds that the plan holder has conducted a review of Best Available Technology as required by state regulation. The BAT review meets the Department's review criteria and identifies that the plan holder is utilizing prevention and response technologies that are currently considered to be BAT.

### **Regulatory Authority**

Best Available Technology (BAT) regulations are extensive. The BAT regulations applicable to the VMT BAT Analysis in the plan are provided below.

18 AAC 75.425(e)(4) Best Available Technology Review lists the required contents for a plan BAT Review:

....the plan must provide for the use of best available technology consistent with the applicable criteria in 18 AAC 75.445(k). In addition, the plan must:

(A) identify technologies applicable to the applicant's operation that are not subject to response planning or performance standards specified in 18 AAC 75.445(k)(1) and (2); these technologies include, at a minimum:

(i) for all contingency plans: communications described under 18 AAC 75.425(e)(1)(D); source control procedures to stop the discharge at its source and prevent its further spread described under 18 AAC 75.425(e)(1)(F)(i); trajectory analyses and forecasts described under 18 AAC 75.425(e)(1)(F)(iv); and wildlife capture, treatment, and release programs described under 18 AAC 75.425(e)(1)(F)(xi);

(ii) for a terminal, crude oil transmission pipeline, or an exploration and production contingency plan: cathodic protection or another approved corrosion control system if required by 18 AAC 75.065(h)(3); a leak detection system for each tank if required by 18 AAC 75.065(h)(4); any other prevention or control system approved by the department under 18 AAC 75.065(i)(1)(D); a means of immediately determining the liquid level of bulk storage tanks as specified in 18 AAC 75.065(j)(3) and (4); maintenance practices for buried steel piping containing oil as required by 18 AAC 75.080(b)(1)(A); and corrosion surveys required by 18 AAC 75.080(b)(2)(A);....

(B) for each applicable technology under (A) of this paragraph, identify all available technologies and include a written analysis of each technology, using the applicable criteria in 18 AAC 75.445(k)(3); and

(C) include a written justification that the technology proposed to be used is the best available for the applicant's operation.

18 AAC 75.445(k) Best Available Technology Review establishes the review criteria for approving a plan's BAT analysis:

For purposes of 18 AAC 75.425(e)(4), the department will review a plan and make a best available technology determination using the following criteria, as applicable:

(1) technology used for oil discharge containment, storage, transfer, and cleanup to satisfy a response planning standard in 18 AAC 75.430 – 18 AAC 75.442 will be considered best available technology if the technology of the applicant's oil discharge response system as a whole is appropriate and reliable for the intended use as well as the magnitude of the applicable response planning standard;

(2) technology that complies with the performance standards of 18 AAC 75.005 – 18 AAC 75.080 and that is not subject to a best available technology review under 18 AAC 75.425(e)(4)(A), will be considered best available technology;

(3) technology identified under 18 AAC 75.425(e)(4)(A) will be evaluated using the following criteria, if applicable:

(A) whether each technology is the best in use in other similar situations and is available for use by the applicant;

(B) whether each technology is transferable to the applicant's operation;

(C) whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits;

(D) the cost to the applicant of achieving best available technology, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant;

(E) the age and condition of the technology in use by the applicant;

(F) whether each technology is compatible with existing operations and technologies in use by the applicant;

(G) the practical feasibility of each technology in terms of engineering and other operational aspects; and

(H) whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits.

(I) If the department's determination under (k) of this section is that a technology proposed for use by the applicant is not the best available technology, the department will provide a written finding explaining its decision.

Additional regulations regarding the Department's review of new technologies are found in 18 AAC 75.447, and excerpts are included below:

(a) To assure that proven new technologies are considered for use in oil discharge prevention and contingency plans, the department will review and appraise technology

applied at other locations in the United States and the world that represent alternatives to the technologies used by plan holders in their oil discharge prevention and contingency plans submitted to meet response planning standards.....The department will conduct this review and appraisal by:

(1) sponsoring a technology conference at least every five years and in cooperation with persons, organizations, and groups with interests and expertise in relevant technologies; this conference will provide interested parties with an opportunity to describe the status of existing technologies in use as well as technologies that may be considered superior to those in use at that time; and

(2) engaging in studies, inquiries, surveys, or analyses the department believes appropriate to the consideration of new technologies:

(b) After its review and appraisal under (a) of this section, the department will issue written findings identifying new technologies that the department considers represent proven technological breakthroughs in oil discharge containment, control or cleanup equipment. In its findings the Department will

(1) provide an evaluation of the technologies applied at other locations based on the applicable criteria in 18 AAC 75.445(k)(3);

(2) identify the evidence that clearly and convincingly supports the determination that the equipment represents a proven technology breakthrough that could result in superior advances in the efficiency or effectiveness of oil spill response efforts; and

(3) identify specific operations, geographical locations, or physical environments where the technology could be applied.

(c) If a finding is issued under (b) of this section, the department will inform plan holders, primary response action contractors, and other interested persons of the department's findings, the availability of the new technology, and the opportunity to submit comment on the report to the department.

### **Response to Comments and Basis for Decision**

Two public reviewers, PWS RCAC and Tom Lakosh, provided comments on BAT for the VMT plan. As noted in the introduction, although Mr. Lakosh adopted most of PWS RCAC's comments, he provided separate comments on BAT.

PWS RCAC provided extensive comments on the BAT Review contained in the plan. Several concerns transcended the individual BAT analyses: indications in Alyeska's RFAI response that the BAT analysis had been conducted based on technologies used in Alaska rather than worldwide and secondly, a concern that the Prevention Plan does not adequately provide for the use of technologies determined to be BAT. PWS RCAC also stated they agreed with comments made by the Department on March 13, 2003 at the PWS RCAC Board of Directors meeting that BAT should be evaluated on a continuous basis rather than at a single point when a plan is scheduled for renewal.

The introduction to the BAT section includes statements that the plan holder has recently performed similar BAT reviews for other contingency plans for Alaska facilities and that some of the technologies from these reviews are included in their analysis for the VMT facility. The Department does not agree with PWS RCAC's conclusion that this statement implies that

Alyeska has limited its review to technologies in use in Alaska. Rather, the Department has no evidence to suggest that Alyeska has inappropriately limited their BAT review.

PWS RCAC accurately comments that the plan must provide for the use of technologies that are determined to be BAT. They further commented that the link between the BAT review and the Prevention Plan should be strengthened. The Department agrees that the technologies identified as BAT for the VMT facility should be used and are included in the Prevention Plan. However, the Department and PWS RCAC disagree on the level of detail that must be described in the Prevention Plan to demonstrate application of BAT. The Department has identified BAT as a topic for the VMT C-Plan Coordination Group to address throughout the plan renewal cycle, and Section 1.3 of the plan has been edited to reflect that Alyeska also sees BAT as an appropriate topic for that forum. The VMT C-Plan Coordination Group will also be a useful forum for discussing the specific application of prevention BAT at the facility.

PWS RCAC also provided specific comments on each of the BAT Reviews in Part 4 of the plan. Alyeska's response to the Department's RFAI on the Trajectory Analysis BAT review answered PWS RCAC's concerns, but RCAC's specific comments indicate that they believe all other BAT reviews in Part 4 remain questionable. The Department finds the BAT analyses in Part 4 of the plan are adequate to meet the regulatory criteria. Nonetheless, as indicated above, the Department will work with Alyeska to monitor on-going BAT reviews during the next plan renewal cycle.

Mr. Lakosh's comments at the public hearing and in writing focused on both the plan holder's and the Department's responsibilities for BAT review and analysis. Mr. Lakosh commented that the current plan should be extended until the end of the year, by which time the State of Alaska should have held a BAT conference and completed its determination of BAT technologies appropriate for the VMT. Mr. Lakosh further commented that he believed the Alaska Supreme Court Decision No. 5531 and Senate Bill 343 both require that the review criteria in 18 AAC 75.445(k)(3) must be applied to all response equipment. Mr. Lakosh identified a number of "breakthrough technologies" that he believed should be considered for the VMT and recommended that BAT also consider technologies that could impact the Realistic Maximum Response Operations Limits (RMROL) for the VMT. His priorities for the State BAT review are source control and technologies to limit the spread of oil.

Mr. Lakosh does not provide compelling reasons for extending the plan approval until the State completes its on-going review and appraisal of technologies. The Department does not agree with Mr. Lakosh's conclusion that the Alaska Supreme Court and Senate Bill 343 require a full BAT analysis of all response equipment. Rather the Alaska State Legislature responded to the Supreme Court decision by clarifying the intent of AS 46.04.030(e) in Senate Bill 343 by affirming the current approach to evaluating BAT. The Department is continuously seeking out and evaluating new technologies through means such as technical conferences and reviewing other contingency plans. Also, the Department is currently working toward an examination of new technology as required by 18 AAC 75.447, and Mr. Lakosh's comments suggesting specific technologies and a focus on source control and technologies to prevent the spread of oil have been provided to the staff tasked with developing the focus of the review. The Department,

however, does not have a forecasted time by which the State technology evaluation will be completed.

### Other Comments Received

Other comments submitted to the Department, but not reflecting issues requiring substantive change to the plan, are noted below.

- Two comments were provided related to fire risks. One reviewer questioned whether fire risk at the Ballast Water Treatment facility was adequately addressed in the plan and one reviewer questioned whether fire foam could safely be applied outside of secondary containment. The Department finds that the plan contains an adequate oil spill response strategy that describes the methods to prevent or control a potential fire hazard at the VMT as required by 18 AAC 75.425(e)(1)(F)(ii). The Department tracks any fire prevention issues that arise through the normal oversight and on-going monitoring efforts of the JPO and State Fire Marshall.
- Two comments were provided that questioned the Department's decision not to conduct a coordinated Alaska Coastal Management Program (ACMP) review for this plan. ACMP regulations are found in Title 6 of the Alaska Administrative Code, Chapter 50 (6 AAC 50). Based on careful consideration of the ACMP regulations as revised during this plan review, the Department found that it was not required to conduct an ACMP review for this renewal application. Nonetheless, the Department exercised its discretion and included all affected coastal districts on the distribution list for the plan review, including copies of all proposed plan amendments and Department and plan holder correspondence.
- Comments were received from one reviewer recommending that the plan contain a specific commitment to suspend operations at the VMT in the event of a spill, a fire, or an explosion hazard. The Department does not agree that it is appropriate to include this type of prescriptive commitment in the plan. Further, as discussed in other sections of this Findings Document, the Department finds that the plan adequately addresses provisions for risk mitigation required by 18 AAC 75.425(e)(2)(D) & (E). During any emergency the facility operators must make judgments based on the specific circumstances of the event. Decisions to suspend all or limited operations at the VMT must consider all of the potential impacts, including whether that decision would create or increase the risk of a spill or other hazard within the Trans-Alaska Pipeline System. While the VMT operators will be responsible for the initial decisions in response to an emergency, decisions on VMT operations during a spill response will be made with the input and approval of the Unified Command.
- One reviewer recommended that the plan should include conditions and criteria used by the plan holder to limit pipeline throughput and manage tank inventories during times of bad weather. The reviewer's concern was that Alyeska has requested and received authorization from the Department to load tankers from the VMT during times of bad

weather, and that this situation could have been avoided if Alyeska had better policies and controls to manage pipeline throughput and crude oil storage tank inventory levels. The Department agrees that Alyeska cannot plan to load tankers during unsafe conditions, including bad weather. However, the Department maintains the authority to authorize deviation from plan constraints if in its judgment a risk of discharge can be sufficiently mitigated and if it determines there would be greater potential risk to the environment. The Terminal is one component of the larger TAPS system, and actions at the Terminal can impact the risk of discharge system-wide. The Department, as well as the plan holder and federal agencies that hold joint authority, must consider this issue when authorizing any deviation from normal operations. Again, the Department finds that the plan adequately provides for risk mitigation as required by 18 AAC 75.425(e)(2)(D) & (E).

- Two reviewers commented on heightened security risks at the VMT associated with terrorism threats. The Department requested that Alyeska enhance the plan's description of security measures in place to prevent sabotage and vandalism, but noted that it would be imprudent to describe security measures in detail in this public plan. The Department found the plan's edits to be an adequate description of the VMT's sabotage and vandalism security measures as required by 18 AAC 75.425(e)(2)(D).
- One reviewer commented that the plan's technical basis for non-mechanical response alternatives was outdated. Although the Department finds that the plan holder provided a basis for non-mechanical response technologies as required by 18 AAC 75.425(e)(1)(g), the Department will work with the plan holder over the renewal period to ensure the technical bases for non-mechanical response alternatives in the plan reflect current scientific research.
- One public reviewer submitted comments specifically related to federal Right-of-Way Grant and State Lease authorities. The Department does not have regulatory authority over the Right-of-Way Grant and Lease, and therefore we have forwarded these comments to the JPO for consideration in their annual plan review.