



Regional Citizens' Advisory Council / *"Citizens promoting environmentally safe operation of the Alyeska terminal and associated tankers."*

In Anchorage: 3709 Spenard Road / Suite 100 / Anchorage, Alaska 99503 / (907) 277-7222 / FAX (907) 277-4523
In Valdez: P.O. Box 3089 / 130 South Meals / Suite 202 / Valdez, Alaska 99686 / (907) 834-5000 / FAX (907) 835-5926

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Scott Hicks, VMT Director
Alyeska Pipeline Service Company
PO Box 300
Valdez, AK 99686

Re: 2013 Valdez Marine Terminal Oil Discharge Prevention and Contingency
Plan Renewal - PWSRCAC Recommendations for Improvement

Dear Mr. Hicks:

As you know, the Valdez Marine Terminal (VMT) Oil Spill Discharge Prevention and Contingency Plan (C-Plan), CP-35-2, is due for its five (5) year renewal in May 2013. PWSRCAC has been working with APSC and the regulatory agencies in the VMT C-Plan Coordination Workgroup to coordinate development, modification, and implementation of the VMT C-Plan. PWSRCAC appreciates the opportunity to participate in this forum working towards the goal of continuous plan improvement. It is PWSRCAC's goal to provide early input in an effort to resolve as many issues as possible through the VMT C-Plan Coordination Workgroup.

APSC has begun the process of revising the C-plan, and PWSRCAC is in the process of providing detailed suggestions for improvement to APSC's drafts as these have been made available for review and comment in the workgroup. Several key recommendations have been identified that fall into numerous central themes. The attached document summarizes our key concerns to date and provides a high-level overview of the areas where we are recommending improvements to the plan. Additional work with the joint workgroup may resolve some of these issues or identify additional areas for improvement.

We hope the attached recommendations are useful. I welcome the opportunity to meet with you and discuss these recommendations further.

Sincerely,

Mark A. Swanson
Executive Director

Attachment: 2013 Valdez Marine Terminal (VMT) C-Plan Renewal - PWSRCAC
Recommendations for Improvement

Cc: Barry Roberts, Alyeska
Deb White, Alyeska
Joe Freitag, Alyeska
Becky Spiegel, ADEC

Graham Wood, ADEC
Joe Hughes, BLM
Mike Wrabetz, BLM

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2013 Valdez Marine Terminal (VMT) C-Plan Renewal

PWSRCAC Recommendations for Improvement

Executive Summary

1. **Response Planning Standard:** Evaluate and validate whether the secondary containment prevention credit of 60% is merited or alternatively establish that it should be eliminated and establish extent to which the corresponding Response Planning Standard should be increased.
2. **Oil Spill Response Training:** Update oil spill training program description; add description of APSC's method for keeping a sufficient number of trained and qualified APSC and contract personnel in each position; add a statement that APSC will ensure that all required response training be completed prior to putting APSC staff and contractors into a response position or before removing trained personnel from existing response positions; and include a compliance reporting process to confirm that APSC is routinely examining and ensuring compliance with this requirement.
3. **Oil Spill Response Personnel Count to Meet RPS:** Add oil spill response personnel to meet the Response Planning Standard.
4. **Oil Spill Response Organization Charts:** Update oil spill response organization charts to show all required personnel.
5. **Recommendations Related to Prevention Prepared by PWSRCAC Consultants:** Develop a documented verification process that demonstrates prevention measures are being met.
6. **Prevention Plan Update:** Update the Prevention Plan (Part 2) to reflect the outcome of inspections, repairs, completed studies, compliance actions, and revise to improve the clarity of the requirement, the due date, and how APSC demonstrates compliance. Routine reporting on the status of compliance with each prevention requirement should be added to the C-plan.
7. **Prevention Training:** Revise the plan to include a comprehensive description of APSC oil spill prevention training program (including all the requirements of 18 AAC 75.020); a statement that APSC will ensure that all required prevention training be completed prior to putting staff into a prevention position or before removing trained personnel from existing positions; and a compliance reporting process to confirm that APSC is routinely examining and ensuring compliance.
8. **Risk Assessment Work:** Complete an updated oil spill prevention mitigation study to identify and address changing risks at the terminal. Add oil spill mitigation measures to the C-Plan to minimize any increased oil spill risks identified in the study.
9. **VMT Tactics Manual:** Develop a user-friendly, organized VMT Tactics Manual for field responder use.
10. **Storage Tank Inspection Intervals:** Limit oil storage tank internal inspection intervals to a maximum of 10 year intervals for the 35-year-old crude oil storage tanks.

11. **Facility Piping Inspection, Monitoring, and Repair/Replacement Programs:** Include a more thorough description of the facility piping inspection, monitoring and repair/replacement process. Describe APSC's piping repair and replacement strategy to ensure that older piping is systematically replaced to prevent a spill from occurring. Include improved piping maps showing the location, size, grade, pressure rating, and age.
12. **Best Available Technology (BAT) Assessment:** Update the plan to include new technology since 2008.
13. **Secondary Containment Inspection, Maintenance, Repair and Replacement:** Improve secondary containment integrity verification program to validate liner condition and permeability.
14. **Contaminated Sites and Spill History:** Update the plan to include any spills which occurred between 2008 and 2013, verify that the oil spill history (1977 to 2008) is complete for all spills 55 gallons and larger, and include mitigation measures to prevent similar future spills.
15. **Commitment to VMT C-Plan Coordination Workgroup:** Maintain the commitment for the VMT C-plan Coordination Workgroup to meet quarterly during the period of 2013 through 2018 in the C-Plan. List PWSRCAC as a named participant to this workgroup in the C-plan.
16. **Environmentally Sensitive Areas:** Consolidate different versions and editions of environmentally sensitive area protection tactics and strategies.
17. **Inventory Management:** Include compensating measures used to reduce the number of times tankers are loaded during periods of bad weather.
18. **Drills and Exercises:** Add a five year drill plan, including a commitment to hold drills and maintain proficiencies in adverse weather including the winter season.
19. **Response Plan Update to Include Lessons Learned:** Update the plan to reflect lessons learned from drills and exercises, changes to Incident Command System (ICS) structure, adoption of new tactics, changes to response resources, etc.
20. **Non-Mechanical Response Information:** Update non-mechanical response literature and information referenced in C-plan.
21. **Compliance Schedule and Waivers:** Strive for 100% compliance and no waivers at plan renewal. If waivers are needed, ensure all waivers are appropriate and well justified.
22. **Bibliography:** Update the C-plan bibliography.
23. **Fishing Vessel Tracking Process:** Document the fishing vessel availability tracking process.
24. **Maps and Drawings:** Update the C-plan with more detailed facility maps and drawings.

Background Supporting Recommendations for Improvement

1. Response Planning Standard

Recommendation: Determine if the Response Planning Standard (RPS) should continue to be reduced by 304,950 barrels by applying a 60% secondary containment prevention credit at the VMT, and whether there is sufficient information to verify that the secondary containment liner under the crude oil tanks is still sufficiently impermeable after 35 years of installation and use. If APSC cannot verify that the secondary containment is still sufficiently impermeable, then secondary containment prevention credit of 60% should be eliminated. Eliminating the prevention credit would cause the RPS to increase which would require a commensurate reassessment of personnel and equipment needed for a larger response.

Background: Part 5 of the VMT C-Plan includes the Response Planning Standard (RPS) calculation for the VMT. Per 18 AAC 75.432, the RPS calculation is based on the largest oil tank (535,000 bbls). Per 18 AAC 75.432 (d), ADEC has the discretion to reduce the RPS by taking into account prevention credits. A 60% reduction of the RPS can be granted if the operator has installed a “sufficiently impermeable secondary containment area with a dike capable of holding the contents of the largest tank.”

APSC has historically applied for and received an RPS reduction of 5% for on-line leak detection and an additional 60% reduction for “sufficiently impermeable” secondary containment. Taking into account these prevention credits, Part 5.1 of the currently approved VMT C-Plan reduced the RPS from 535,000 bbls to 203,300 bbls.

Under 18 AAC 75.432 (c), ADEC also has the discretion to increase the RPS for the terminal. Part 5.2 of the VMT C-Plan shows that a conservative analysis for the RPS would be 9,630,000 bbls.¹ An earthquake was identified as a potential risk that could result in the failure and simultaneous spill from more than one crude oil tank at a time.

18 AAC 75.430(d) allows ADEC to revoke or reduce a prevention credit if it finds that “the plan holder has failed to execute or has not effectively implemented the prevention measure used to determine that credit.”

2. Oil Spill Response Training

Recommendation: The C-Plan should be revised to include:

- a. an updated description of the oil spill training program requirements for APSC and contract personnel (if those requirements have changed since the VMT C-Plan Training Program was developed in 2005-2007);
- b. a description of APSC’s method for keeping a sufficient number of trained and qualified personnel in each position;
- c. a statement that APSC will ensure that all required response training be completed prior to putting APSC staff or contractors into a response position, or before removing trained personnel from existing response positions; and

¹ The 9,630,000 bbl value was computed using all 18 tanks (535,000 bbls/tank x 18 crude oil tanks). There are only 14-15 crude oil tanks still in operation, so this value would be reduced to the number of tanks that would be in service when the plan is renewed.

- d. a reporting process to confirm that APSC is routinely examining and ensuring this requirement is met.

Background: A 2010 VMT drill verified that APSC did not have sufficient personnel trained and qualified to meet the RPS. A 2012 VMT drill was completed to examine if APSC had resolved the deficiencies identified in 2010. ADEC audited the 2012 drill and verified that APSC staff were trained and qualified; however, deficiencies remained with contract staff. ADEC's authority to conduct drills is found at 18 AAC 75.485, and its authority to remedy non-compliance is found at 18 AAC 75.490.

During 2005-2007, APSC made a number of improvements in the VMT C-Plan training program, including a written training manual that describes the required training for each position. The VMT C-Plan training program manual is incorporated by reference in the VMT C-Plan. While the C-Plan provides a clear list of required training for each position, it does not document the processes that APSC uses to ensure that a sufficient number of trained and qualified APSC and contract staff are available to fill the required positions. Improved documentation is required to ensure the training program will be effectively implemented and monitored.

Additionally, as explained below in Recommendation No. 3, PWSRCAC believes that the VMT C-Plan currently underestimates the number of personnel that are required for a response. Therefore, PWSRCAC remains concerned about APSC's ability to keep a sufficient number of trained and qualified personnel in each position, especially as the personnel count is increased during the response.

3. Oil Spill Response Personnel Count to Meet RPS

Recommendation: Additional oil spill response personnel are needed to meet the RPS.

Background: The number and type of personnel required to respond to a RPS-sized spill (203,000 bbls) is insufficient compared to the number of personnel that actually respond to a spill of that size. 18 AAC 75.425 sets standards for personnel needed to meet the Response Planning Standard (RPS).

The C-plan only includes 111 people to respond to a 203,000 bbl spill. The C-plan should be revised to address the number and type of personnel for the RPS scenario based on personnel counts from actual spills and drills, and include a timeframe for training and qualifying any additional staff needed. Possible elimination of the prevention credit, as explained in Recommendation No. 1 above, will increase the size of the RPS spill, resulting in an increase in the number of personnel required to respond.

4. Oil Spill Response Organization Charts

Recommendation: Accurate oil spill response organization charts should show all required personnel needed for response.

Background: The organization charts in the C-plan do not include all the personnel needed to respond to each spill scenario. The organization charts should be revised to include a complete list of field, IMT and fishing vessel positions needed to respond to each scenario.

5. Recommendations Related to Prevention Prepared by PWSRCAC Consultants

Recommendation: Part 2 of the VMT C-Plan should be revised to address recommendations made in Harvey Consulting, LLC's *Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (CP-35-2) Part 2, Oil Spill Prevention Review* (Prevention Review) dated December 16, 2011. A documented verification process should be developed that demonstrates that prevention measures in the VMT C-Plan are being met.

Background: The C-Plan should be revised to address recommended changes and issues identified in this report prepared for PWSRCAC. As indicated in Harvey Consulting's Prevention Review, Alyeska reported significant difficulty and expenditure of time collecting prevention records requested by PWSRCAC. The delay associated with Alyeska's inability to provide information associated with implementation of the prevention measures impacted PWSRCAC's assessment on the extent to which the prevention measures had been implemented.

6. Prevention Plan Update

Recommendation: Part 2 (Prevention) of the VMT C-Plan (Part 2) should be updated to reflect the outcome of inspections, repairs, completed studies, and compliance actions on a regular basis. The Prevention Plan should also be revised to improve the clarity of the requirement, the due date, and how APSC demonstrates compliance.

Background: Prevention Plan requirements are found at 18 AAC 75.425. The VMT C-Plan Prevention Plan (Part 2) has not been amended except to include longer tank inspection intervals, waivers, or address changes required by a compliance action. PWSRCAC recommends that improvements to the prevention plan be made on a more routine basis, and include improvements to the plan rather than just waivers and inspection extension intervals. The apparent difficulty APSC had in locating records and verifying the status of prevention measure compliance during the 2011 PWSRCAC Prevention Review indicated there is a need for a more systematic method for APSC to monitor compliance and routinely report on its status. Additionally, the C-Plan should be revised to describe and document physical changes made as a result of the industrial wastewater system and manhole repairs, including any required inspection, monitoring and compliance tracking systems.

7. Prevention Training

Recommendation: The C-Plan should be revised to include:

- a. a comprehensive description of APSC's oil spill prevention training program (including all the requirements of 18 AAC 75.020);
- b. reference to existing oil spill prevention training program manuals or develop a comprehensive manual similar to the one that was developed in 2005-2006 for oil spill response training;
- c. a description of APSC's method for keeping a sufficient number of trained and qualified personnel in each position;
- d. a statement that APSC will ensure that all required prevention training be completed prior to putting staff into a prevention position, or before removing trained personnel from existing positions; and

- e. a reporting process to confirm that APSC is routinely examining and ensuring this requirement can be met.

Background: Several improvements were made to APSC's response training program after the 2003 C-Plan renewal as the result of an audit conducted during the 2003 C-Plan renewal. The response training program was improved to clearly specify training and qualifications required for each position. APSC's oil spill prevention training program does not provide a clear, concise list of the required training and qualifications for each position that performs oil spill prevention duties.

PWSRCAC has suggested a similar audit of the oil spill prevention training program be done to evaluate whether there are sufficient numbers of trained and qualified staff to carry out each of the prevention requirements in the C-plan. The training program described in the VMT C-plan is very general, and does not appear to adequately describe the required training and qualifications or APSC's procedures for ensuring there are sufficient numbers of trained personnel. Each of these prevention training documentation requirements are listed under 18 AAC 75.020

The C-plan should be revised to ensure that the training program requirements are clearly described in the C-plan in accordance with 18 AAC 75.020 as well as APSC's process for ensuring that a sufficient number of people are trained to fill each position with adequate back-up.

8. Risk Assessment Work

Recommendation: Complete an updated oil spill prevention mitigation study to identify and address changing risks at the terminal. Oil spill mitigation measures would be added to the C-Plan to minimize any increased oil spill risks identified in the study.

Background: ADEC regulations require planholders to evaluate potential oil spill risks at their facilities and to propose mitigation measures to reduce those risks (18 AAC 75.425 (e)(2)(D)). APSC hired DNV to examine increased risk that may have occurred at the VMT due to facility changes since 2008. DNV's report was completed in 2011 and recommended a complete "bottom-up" assessment of the VMT oil spill risks, noting that the last complete risk assessment was done in 2001. The additional work in 2011 only addressed incremental changes at the VMT since 2008 and did not address the risk or condition of existing aging infrastructure. For example, APSC has not addressed the increase risk associated with decreasing pipe and tank wall thickness as a result of aging infrastructure (corrosion and erosion) and how that may result in increased oil spill impacts during a seismic event or heavy snowfall. APSC reports that they do not plan to complete an updated risk assessment.

9. VMT Tactics Manual

Recommendation: Develop a user-friendly, organized VMT Tactics Manual for field responder use.

Background: PWSRCAC has been very supportive of developing a VMT Tactics Manual. The tactics contained in the VMT C-Plan would be extracted and placed in a field, user-friendly manual similar to the Tanker C-Plan Tactics Manual. APSC reports this work is underway.

10. Storage Tank Inspection Intervals

Recommendation: Oil storage tank internal inspection intervals should not be extended beyond a maximum of 10 year intervals for 35-year-old crude oil storage tanks.

Background: Inspection, maintenance, repair, and replacement of hydrocarbon storage tanks at the terminal are critical oil spill prevention measures. The C-plan currently includes a number of tanks with inspection intervals exceeding the nominal 10 year recommended inspection interval. The crude oil storage tanks are now 35-years-old and are located in an environmentally sensitive area with increased seismic risk. Internal inspection intervals should be capped at a maximum of 10 years.

ADEC relies on the API 653 inspection standard for determining storage tank inspection intervals. The API 653 inspection standard recommends a nominal 10 year inspection schedule to be adjusted based on the tank floor corrosion rate along with many other factors (e.g., external roof load, wind, seismic conditions, tank foundation conditions, operating conditions, fire systems, and other tank appurtenances, etc.).² APSC has received waivers to tank inspection intervals beyond 10 years based exclusively on tank floor corrosion rates. PWSRCAC recommends that all tank risk factors be taken into account when setting the inspection interval, not just the tank floor condition.

For example, APSC's contractor, Alaska Anvil Inc., concluded that internal tank roof corrosion coupled with heavy snow loads is a concern and a potential spill risk. Alaska Anvil Inc. states: *"The corrosion is occurring on the roof underside where uncoated plate and rafters are exposed to the crude oil vapors, humidity and blanket gas. Due to heavy snow loads, combined with other loads and internal corrosion, roof strength is a concern. Partial or cascading roof failure risks damage to the tank shell and tank integrity, including possible spillage of product."*³ Alaska Anvil Inc. also concluded that: "...snow loading at VMT imposes loading well beyond 'normal' API design criteria." Therefore, it is important that the unique conditions of the VMT, Alaska, and increased risks associated with aging tanks be considered when establishing inspection intervals and scope.

11. Facility Piping Inspection, Monitoring, and Repair/Replacement Programs

Recommendation: A more thorough description of the facility piping inspection, monitoring and repair/replacement program is needed in the C-plan. The C-plan should include APSC pipeline replacement strategy to ensure that older piping is systematically repaired or replaced to prevent a spill from occurring. Improved piping maps should be included in the C-plan and provide the following information for all piping inside the VMT:

- a. a description of each pipeline segment;
- b. its age;
- c. its design life;
- d. its location, size, and length;
- e. its material type and pressure rating;
- f. the internal and external corrosion control and monitoring methods used for each piping segment;
- g. the frequency of corrosion control and monitoring implementation for each piping segment;

² API 653, Section 4, Suitability for Service.

³ Valdez Marine Terminal Tank Roof Calculations, Alaska Anvil, Inc., APSC Project No. X052, November 1, 2002.

- h. source control methods for each piping segment;
- i. whether a cathodic protection system is installed;
- j. the type of leak detection system installed for each piping segment; and
- k. the volume that may be discharged if a leak is not detected prior to the next inspection.

This information should be provided to demonstrate that corrosion prevention systems are installed on each line segment to indicate where inspections should be completed on a routine basis, and to identify piping that should be repaired, replaced, or taken out of service to prevent a leak. The C-Plan should also include a schedule showing the frequency and type of inspections that will be completed over the next five year C-Plan period (2012-2017).

Background: The C-plan does not include sufficient detail to understand APSC's facility piping inspection, monitoring and repair replacement program. The C-plan does not include diagrams showing the location, type, and service of the piping installed at the facility. It is unclear which pipe is original and which pipe has been replaced. Most of the VMT facility piping is now 35 years old (unless it has been replaced) and some piping is difficult to inspect. Most of this piping has reached or is approaching its design life, making a repair and replacement strategy a critical prevention measure for hard-to-inspect piping sections.

Isolated corrosion wall loss of more than 70% was recently found during an inspection of aboveground, overwater crude oil berth piping at the VMT Berths. This amount of pipe wall loss poses a serious oil spill risks and warrants a more rigorous, systematic and routine inspection and monitoring program to ensure that all at-risk piping is identified, appropriately inspected, and repaired or replaced.

12. Best Available Technology (BAT) Assessment

Recommendation: Part 4 (BAT) of the C-plan should be updated to include new technology since 2008 for:

1. Prevention and Control Systems for Existing Tanks
2. Corrosion Surveys
3. Means of Immediately Determining the Liquid Level of Bulk Storage Tanks
4. Maintenance Practices for Buried Steel Piping Containing Oil and Aboveground Piping*
5. Communications
6. Source Control
7. Trajectory Analysis
8. Wildlife Capture, Treatment and Release

* While ADEC's regulations do not require a BAT assessment of aboveground piping, PWSRCAC recommends that this work be completed in light of recent aboveground, overwater crude oil berth piping found with 70% corrosion wall loss at the VMT Berths.

Background: Planholders are required to update BAT at each plan renewal (18 AAC 75.425(e)(4)). PWSRCAC has recommended that each of the BAT sections of the C-plan be examined through the workgroup following this process:

- Review current BAT approved in Part 4 of C-plan.
- Review how BAT is being implemented in Part 1/Part 2 of the C-plan and identify any discrepancies between Part 4 analysis and Part 1/Part 2 descriptions.
- Identify any gaps in implementation of BAT technology.
- Identify any potential technology improvements over current plan and proposed plan to incorporate into C-plan and terminal operations.
- Confirm existing BAT or recommend improvements.

13. Secondary Containment Inspection, Maintenance, Repair and Replacement

Recommendation: Develop an improved secondary containment inspection, maintenance, repair and replacement program. Complete destructive and non-destructive testing of the secondary containment liner system to evaluate liner condition and permeability. Testing should be completed in areas where hydrocarbon spills may have damaged the Catalytically Blown Asphalt liner (see Contaminated Sites and Spill History No. 14 below), as well as areas subject to mechanical impact and thermal stress.

Background: Asphalt liners are not currently recommended to store hydrocarbons because asphalt is not chemically compatible with petroleum. Crude oil spilled onto an asphalt liner has a high potential to damage the liner and deteriorate its ability to hold spilled product. Asphalt typically has a permeability of 1×10^{-4} cm per second, which is insufficient to meet ADEC's criteria of 1×10^{-6} cm per second.

The C-Plan currently states that secondary containment liner integrity will only be inspected when the liners have been exposed during tank project work. Waiting for maintenance activities to occur in the lined containment areas may not be consistent with actual liner degradation. A more systematic, secondary containment liner inspection program is recommended to identify areas that may warrant repair. In the past five years there have been a number of problems found in secondary containment that may have been found earlier had a systematic program been in place. Testing of the soil below the secondary containment liner should be done when the liner is breached. Testing of the Catalytically Blown Asphalt (CBA) liner in the Tank 17 and 18 area could be completed to verify the condition of the CBA liner after over 35 years of service.

14. Contaminated Sites and Spill History

Recommendation: The C-plan includes a spill history that should be updated at the time of renewal to include spills that have occurred from 2008 to 2013. Additionally, verification of the current oil spill history (1977 to 2008) is recommended to ensure it includes an inventory of existing contaminated sites and associated spill history for any spill 55 gallons and larger. It is important to understand where oil still persists in the environment, how it is being addressed, and what caused those spills so that PWSRCAC can verify that the C-Plan includes prevention measures to mitigate similar future spills.

Background: ADEC regulations require that all spills 55 gallons or larger be documented in the C-Plan (18 AAC 75.425(e)(2)(B)). In 2011, PWSRCAC learned that there appeared to be a number of contaminated sites at the terminal that may not be documented in the C-plan. Some of these sites were cleaned up and closed by the state, while others are still undergoing active remediation and monitoring. The C-plan should have a complete inventory of historical spills at the terminal for spills 55 gallons and larger. This inventory is used to identify areas for additional oil spill prevention.

15. Commitment to VMT C-Plan Coordination Workgroup

Recommendation: Maintain the commitment for the VMT C-Plan Coordination Workgroup to meet quarterly during the period of 2013 through 2018 in the C-Plan. List PWSRCAC as a named participant to this workgroup in the C-plan.

Background: PWSRCAC supports continuation of the VMT Coordination Workgroup as this workgroup process has been effective for providing a forum for APSC, regulating agencies, and PWSRCAC to work together on oil spill prevention and response issues. PWSRCAC requests that the commitment to continue the VMT Coordination Workgroup meetings to meet at least quarterly during the 2013-2018 renewal period be included in the VMT C-Plan.

16. Environmentally Sensitive Areas

Recommendation: Consolidate environmentally sensitive area protection tactics and strategies.

Background: 18 AAC 75.425(e)(1) and (e)(3) require a plan to protect sensitive areas. Protection plans for sensitive areas in PWS are currently described in two different documents: (1) SERVS Sensitive Area Tactical Guide, and (2) Geographic Response Strategies for Prince William Sound (GRS for PWS). GRS for PWS are maintained by ADEC and incorporated into the Prince William Sound Subarea Contingency Plan. These sensitive areas protection strategies should be consolidated into one complete, consistent document for spill responders. The October 24, 2007 VMT Sensitive Area Exercise demonstrated that in some cases the SERVS Sensitive Area Tactical Guide was a better document, while in other cases, the GRS for PWS provided better guidance. Combining information from these guides into a consistent, reliable document will be more efficient for spill response personnel. APSC reports that it has this work underway.

17. Inventory Management

Recommendation: Describe compensating measures used to reduce the number of times tankers are loaded during periods of bad weather. APSC has written procedures in place to address inventory management during Realistic Maximum Response Operating Limits (RMROL) conditions; these procedures should be referenced in the C-Plan as a commitment.

Background: 18 AAC 75.445 (f) requires that plan holders: 1) identify any environmental or safety conditions that would render response methods ineffective, and 2) describe the measures that would be taken to compensate for those periods when environmental conditions exceed the maximum response limit. In order to prevent tankers from loading during periods of extreme weather, the plan holders must manage their tank inventories accordingly. The RMROL section of this plan does not describe APSC's policy of reducing pipeline throughput to keep tank inventory low during times when weather may preclude or delay loading or tanker transits.

18. Drills and Exercises

Recommendation: A five year drill plan should be developed and included in the C-plan. The drill plan should include a requirement to hold drills in adverse weather including the winter season.

Background: The C-Plan should include a five year plan (2013-2018) for terminal drills and exercises describing the type and frequency of drills. Advanced planning will ensure a variety of drill types are conducted over this period. Historically, VMT drills have been conducted in summer or early fall conditions. PWSRCAC has recommended adverse weather drills, including drills during the challenging winter season; however, this recommendation has yet to be implemented. Testing spill response only during favorable weather and during summer and early fall does not examine the APSC's capability or maintain APSC's proficiency to respond at a terminal that operates year-round.

19. Response Plan Update to Include Lessons Learned

Recommendation: The Response Plan should be updated to reflect lessons learned from drills and exercises, changes to Incident Command System (ICS) structure, adoption of new tactics, changes to response resources, etc. PWSRCAC recommends that lessons learned and improvements be captured and incorporated into the plan on a routine basis.

Background: APSC captures lessons learned after each drill and exercise; however, it does not appear that those lessons learned are captured in the response plan (Part 1). During the 2008-2012 period, there were no amendments to the VMT C-plan to improve tactics or strategies. APSC should verify whether there were lessons learned during 2008-2012 that would improve the VMT C-Plan, or alternatively, APSC should revise the plan to include those improvements.

20. Non-Mechanical Response Information

Recommendation: Update non-mechanical response literature and information referenced in C-plan.

Background: During the 2008 C-Plan renewal, PWSRCAC requested that non-mechanical response information be updated in the C-Plan. There was insufficient time to complete this work and still meet the 2008 renewal date, so this work was deferred to the 2013 renewal. PWSRCAC was particularly concerned about the outdated and incorrect technical data associated with dispersants.

21. Compliance Schedule and Waivers

Recommendation: APSC should strive for 100% compliance and no waivers at plan renewal. If waivers are needed, they should be limited, appropriate, and well-justified.

Background: Part 2 of the C-Plan contains a compliance schedule and a list of waivers proposed by APSC for the next five year period. This is an area requiring close review to ensure that any waivers of oil spill prevention or response requirements are appropriate and justified.

22. Bibliography:

Recommendation: Update the C-plan bibliography.

Background: There are a number of outdated technology papers and non-mechanical response papers that do not reflect BAT listed in the C-plan. PWSRCAC requested that the bibliography be updated in the C-Plan during the 2008 renewal. There was insufficient time to complete this work and still meet the 2008 renewal date, so this work was deferred to the 2013 renewal. APSC reports that it has this work underway.

23. Fishing Vessel Tracking Process

Recommendation: Document the fishing vessel tracking process.

Background: The fishing vessel tracking process is not described in the VMT C-plan. ADEC, BLM, and PWSRCAC have all recommended that the fishing vessel tracking process be documented in the C-plan to ensure that there are sufficient fishing vessels to respond to a worst case oil spill.

24. Maps and Drawings

Recommendation: Update the C-plan with more detailed facility maps and drawings, including:

- a. A map of the facility with all equipment containing hydrocarbons well marked;
- b. A map showing name and location of all crude oil and fuel storage tanks;
- c. Process and instrument diagrams showing locations of all piping containing oil or fuel (with information on the locations of original piping, and information on where piping has been replaced);
- d. A map showing location of main shut-off valves, metering systems, and manifolds;
- e. A map of Ballast Water Treatment Facility equipment;
- f. Drawings of Berths 4 and 5 showing piping and valving;
- g. Topographic maps showing drainage routes; and
- h. Settlement pond maps and specifications.

Background: 18 AAC 75.425 (e)(1)(H) requires a plan diagram of the facility for reference in conducting emergency response operations with locations of response equipment and other features pertinent to the response plan clearly marked, including surrounding topography, roads, air transportation and other transportation access, location and bathymetry of adjacent water bodies, mooring areas, oil transfer locations, pipelines, control stations, drip pans and drainage of drip pans, and a representation of the distance and gradients to surface water for an operation located on land, by topographic map, aerial photographs, or other means. Most of this information is not currently shown in drawings and maps in the plan.