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December 15, 2023

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Re: PWSRCAC's Comments on Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan – 2024 Plan Renewal

Dear Ms. Woodgate, Mr. Mushovic, Mr. Raksnis, CDR Rousseau, Mr. Whittier, and Mr. Morales:

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC or the Council) submits the enclosed comments on Alyeska Pipeline Service Company's (APSC) Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (VMT C-Plan). These comments pertain to the 2024 plan renewal.

PWSRCAC is an independent, nonprofit corporation whose mission is to promote the environmentally safe operation of the Valdez Marine Terminal (VMT) and associated tankers. The Oil Pollution Act of 1990 (OPA 90) and the Council's contract with APSC guide our work, including participation in this plan review. PWSRCAC's member organizations consist of communities in the region affected by the 1989 Exxon Valdez oil spill, as well as commercial fishing, aquaculture, Alaska Native, recreation, tourism, and environmental groups.

Our enclosed comments and requests for additional information respond to:

- Proposed revisions;
- New information we have gleaned from technical analyses, exercise observations, and actual responses;

- Close attention to the ongoing secondary containment issue; and
- A handful of long-standing, critical issues on which we focus the latest regulatory requirements from ADEC.

With these comments, PWSRCAC seeks to present technically-sound information on issues that should be of concern to APSC, as well as the state and federal agencies responsible for protecting Alaska's people, communities, economies, and environment from a major oil spill from the VMT. For this reason, PWSRCAC provides these comments and associated technical reports to all federal and state agencies responsible for oil spill prevention and response oversight at the VMT to consider when formulating their own responses regarding this plan renewal or other oversight activities at the VMT. In particular, we note that ADEC, EPA, and BLM all have their own requirements regarding the need for impervious secondary containment systems at the VMT, which we address in the enclosed comments.

We have also provided here our 2019 comments. This previous documentation is included primarily as a reference supporting our comments on secondary containment in the enclosed, but also to provide in-depth context on many issues based on our decades of reviewing the VMT C-plan.

Thank you for your attention to the enclosed comments. As always, we look forward to continuing to work on these issues with APSC, and all the state and federal regulatory partners to achieve, sustain, and promote the best oil spill prevention and response preparedness possible for VMT operations.

Sincerely,



Donna Schantz
Executive Director

Cc: Klint VanWingerden, Alyeska



**Comments and Requests for Additional
Information on the
Valdez Marine Terminal Oil Discharge
Prevention and Contingency Plan
Renewal (Round 1)**

Submitted by the
Prince William Sound Regional Citizens' Advisory Council

December 15, 2023

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Introduction

The Prince William Sound Regional Citizen's Advisory Council (PWSRCAC or the Council) has reviewed the three volumes of the Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (C-Plan) that was provided for public review in November 2023. In keeping with our responsibilities under the Oil Pollution Act of 1990, we have reviewed this plan since it was first developed by Alyeska Pipeline Service Company (APSC) under the state regulations at 18 AAC 75. While we bring this deep history and understanding to the review, we focus our comments and requests for additional information (RAI) below on topics where there is new information either in the form of proposed plan revisions, or in the work we offer based on our technical studies and observations of drills and exercises, identification of some minor but practical areas for improvement, and highlighting a few issues that we find to be absolutely critical to the continued safe operation of this aging facility.

A contingency plan serves many functions, one of which is to provide an assurance to the public that the operator of a facility or vessel has in place sufficient means to prevent an oil spill and to respond if one occurs. Our comments and requests for additional information are similarly offered in the spirit of ensuring that the assurances offered in the C-Plan are adequate to protect our constituent communities and stakeholder groups from the long-term and potentially devastating impacts of a major oil spill, should one occur from this facility.

While we have organized the comments and RAI below by plan volume and section for ease of use, we highlight here our priority concern: there are crude oil storage tanks holding half a million barrels of oil sitting on a steep slope above Port Valdez within a secondary containment system with known integrity issues. Many of these tanks are only inspected internally every 20 years, even though they are all nearing 50 years old, and the inspections do not fully meet the required standard. At the same time, APSC is granted a 60% reduction in its response planning standard volume for that secondary containment system, which excuses them from having to have the resources in place to respond to a spill volume that is 306,270 barrels larger than their current RPS volume (204,180 barrels) of spilled oil in 72 hours. The prevention credit and tank inspection intervals are sections of the regulations that specifically grant the Alaska Department of Environmental Conservation (ADEC) discretion to impose stricter requirements, or to modify requirements based on changing circumstances. Our comments on Sections 2.1.6.4, Cathodic Protection, 2.1.7 Secondary Containment, 3.1.1 Storage Tanks, and 5.1, Oil Terminal Response Planning Standard speak to these related issues in more detail.

Overarching Items

Removal of Document and Section Titles

Throughout the plan, proposed edits delete the names of referenced sections or documents. This includes sections referenced within the same plan volume or other volumes, as well as APSC internal documents and, in Volume 3, Incident Command System forms. Removing the names of referenced sections and documents is unnecessary and means the reader has less information about the content of the referenced section/document. These edits should not be accepted as they detract from the utility of the document, "as a working plan" as required at 18 AA 75.448(a).

RFAI #1

PWSRCAC requests that titles of sections and documents being referenced in the C-Plan remain in the document in support of the plan's compliance with 18 AAC 75.448(a) which requires the plan to be useable as a working plan.

Documents Incorporated by Reference

Numerous documents are referenced in the C-Plan because they provide information required to demonstrate compliance with ADEC regulations. Incorporated procedures or incorporated plan content called for in the plan content regulations are parts of the plan. They are not "supporting documentation" "as requested by the department" within the meaning of 18 AAC 75.408(a)(3), but rather are actual parts of the plan within the meaning of 18 AAC 75.408(a)(2) and therefore must be part of the application package. The regulatory justification for this is 18 AAC 75.420 Procedures for Plan Renewal which references the review procedures in 18 AAC 75.455(b). 18 AAC 75.455(b) mandates ADEC's initial public review of the plan and the notification to the public of the availability of the application package on ADEC's internet website. See 18 AAC 75.408(d)(A). The term "application package" for a plan renewal is defined in 18 AAC 75.408. The new 2023 regulations clarify in 18 AAC 75.420(e) that unchanged provisions of a plan are to be reviewed under 18 AAC 75.455 as part of a renewal.

The point of public review of the plan is to ensure the public knows about and can comment on the contents of the plan which affects their interests. Moving components of required plan content to referenced company documents that the public does not have access to defeats that regulatory and public policy purpose of public review.

RFAI #2

PWSRCAC requests that APSC documents referenced in the plan which are used to demonstrate compliance with ADEC regulations be made available for public review or summarized in the plan itself as part of the plan renewal under 18 AAC 75.408(a)(2) and 18 AAC 75.455(b).

Volume 1: Regulatory Manual

Acronym List

APSC added the acronym "ACP" to the acronym list to refer to the Alaska Regional Contingency Plan. However, within those documents themselves, "ACP" is referring to the Area Contingency Plans and "RCP" to the Regional Contingency Plan. (The acronym "PWS ACP" was also added, correctly referring to the Area Contingency Plan.)

Additionally, APSC added the acronym "LNO" to the acronym list in Volume 1 of the VMT C-Plan, representing "Liaison Officer" (i.e., Volume 3; Figure B-5, B-10, B-11, etc.). However, in Section 2400 of the Prince William Sound Area Contingency Plan, Liaison Officer is represented with the acronym "LOFR."

RFAI #3

PWSRCAC recommends that APSC use acronyms consistent with their usage in the Alaska Regional Contingency Plan and PWS Area Contingency Plan for clarity.

PART 1: RESPONSE ACTION PLAN

Part 1, Section 1.2, Reporting and Notification [18 AAC 75.449(a)(2)]

Section 1.2.4, Government Reporting Requirements for Petroleum Spills

Table 1.2-5 Summary of Spill Reporting Requirements is proposed to be revised, citing alignment with a table attached to the Joint Pipeline Office's (JPO) letter, "Final Spill Reporting Table in Response to Alyeska Pipeline Service Company Government Letter 41348," dated March 9, 2020. This letter explains that the JPO and APSC worked together to revise the Summary of Spill Reporting Requirements to meet both the JPO requirements and APSC's reporting abilities. However, this final version of the Summary of Spill Reporting Requirements table agreed upon by JPO and APSC contains two items that are not included in Table 1.2-5 of the C-Plan: (1) a column on "Supplemental Instruction/Clarification," and (2) a third category of substances subject to reporting requirements, "Chemicals (non-petroleum hazardous substances other than glycol)."

18 AAC 75.448(a) states that the plan "must be usable as a working plan." Even if the C-Plan's focus is on oil discharges, it is possible that an incident could include both oil and chemicals that were left out of the table in the C-Plan. PWSRCAC does not recommend having a different version of this table in the C-Plan.

RFAI #4

PWSRCAC requests that APSC provide information in Table 1.2-5 of the C-Plan that is complete and consistent with the table included in the JPO letter dated March 9, 2020, by adding the column on "Supplemental Instruction/Clarification" information and the summary of requirements for "Chemicals (non-petroleum hazardous substances other than glycol)," to support the usefulness of the document as a working plan as required by 18 AAC 75.448(a).

Section 1.6, Response Scenarios [18 AAC 75.449(a)(6)]

Section 1.6.7.4, Transfers from Recovered Crude Oil Storage Tanks

Proposed edits revise the average estimated maximum volume of water that return pumps can pump to Tanks 93 or 94 to 330 barrels per hour (bbl/hr) from 2,500 bbl/hr. According to the record of changes, this is a correction. However, it is also a significant difference and PWSRCAC inquires of both ADEC and APSC why this number was approved as incorrect.

RFAI #5

PWSRCAC requests that ADEC and APSC provide information regarding why the water return pump rates to Tanks 93 and 94 were inaccurate.

PART 2: PREVENTION PLAN

Part 2, Section 2.1, Discharge Prevention Programs [18 AAC 75.450(b)(1)]

Plan sections throughout the document include the applicable regulatory citation in the heading or sub-heading text. However, in Section 2.1 the regulatory citations have been removed from the sub-header text. Regarding this, 18 AAC 75.450(a) requires the prevention plan to "demonstrate that the applicant meets all applicable requirements of 18 AAC 75.005 – 75.085 and must provide a detailed description of all of the oil discharge prevention measures, policies, and programs in place at the facility . . ." Without the regulatory references there is not a demonstration of compliance and their removal makes it more difficult to review.

RFAI #6

PWSRCAC recommends that the regulatory citations should not be removed from Section 2.1 or anywhere else in the plan.

Section 2.1.1, Prevention Training Programs

This section does not provide all information required to meet the requirements of 18 AAC 75.020, 18 AAC 75.450(a), 18 AAC 75.450(b)(1), or 18 AAC 75.451(j). While the C-Plan generically describes how APSC's personnel and contractors are trained and qualified, the recently

updated regulation at 18 AAC 75.450(a) requires a plan holder to meet all applicable requirements of 18 AAC 75.005 – 18 AAC 75.085. This includes the requirement at 18 AAC 75.020(a) that, “The owner or operator shall have in place personnel training programs designed to ensure that all personnel with job duties directly involving inspection, maintenance, or operation of oil storage and transfer equipment regulated under 18 AAC 75.005 - 18 AAC 75.085 are appropriately and regularly trained regarding company and state oil pollution prevention measures that are applicable to each position’s duties.”

This section does not meet the requirements at 18 AAC 75.020(a) that the training program include all those with job duties related to inspection, maintenance, or operation of oil storage and transfer equipment regulated at 18 AAC 75.005 - 18 AAC 75.085. These include:

- .007(f) Security and surveillance
- .007(e) Ensuring any person responsible for security or maintenance duties, or other duties related to spill prevention, is free from substance abuse or medical conditions
- .025 Transfer requirements
- .055 Leak detection, monitoring, and operating requirements for crude oil transmission pipelines
- .065 Field constructed aboveground oil storage tank requirements
- .066 Shop-fabricated aboveground oil storage tanks
- .075 Secondary containment requirements for aboveground oil storage tanks
- .080 Requirements for facility oil piping

The C-Plan lists “key” VMT positions: Environmental Coordinator, O/M Supervisor, Operations Technician, Maintenance Technician, Operations Control Center (OCC) Controller, Inspection Personnel, and Contractor Personnel.

This plan section appears to be incomplete, since several position descriptions mention other positions that are not listed. If those positions are overseeing personnel with responsibility for oil storage and transfer activities, then they should be listed here, and their training and qualifications delineated. The Operations and Maintenance Technicians report to the O/M Supervisor for which the only required credentials are a bachelor’s degree (or equivalent) and seven years exempt experience. That person reports to an “Area Manager” position which is not listed. Similarly, the “Inspection Personnel” report to a “Systems Integrity Director,” which sounds like a position which has direct responsibility related to the above-listed regulated activities but is not otherwise mentioned. The “Environmental Coordinator” reports to an “Environmental Manager,” which is also not listed.

The position descriptions provided vary in the detail they include, but overall do not indicate which positions have responsibilities related to the above-listed regulations, as required at 18 AAC 75.020(a).

RFAI #7a

PWSRCAC requests that all job roles directly involving inspection, maintenance, or operation of oil storage and transfer equipment regulated under 18 AAC 75.005 - 18 AAC 75.085 be identified in the plan. This list is required at 18 AAC 75.020(b)(1).

It is not clear from the information in this plan section how personnel with job duties directly involving inspection, maintenance, or operation of oil storage and transfer equipment regulated under 18 AAC 75.005 - 18 AAC 75.085 are adequately trained to conduct their jobs. The regulation at 18 AAC 75.020(b)(1) requires the list requested above, but also requires description of “the training and level of knowledge appropriate to that position.”

For those positions that are listed in the C-Plan, the information in Section 2.1.1 indicates the minimum level of education (a high school diploma or a bachelor’s degree) and, in some cases, work experience. The work experience requirements focus on an employee being “exempt” for a certain number of years, which we understand to refer to an employment term (whether one is exempt from overtime pay or not), and not an indication of technical or content knowledge. For some positions, internal documents are referenced but are not provided for public review, even in a redacted form.

Table 2.1-1 Description and Frequency of Oil Spill Prevention Training “identifies the description and frequency of oil spill prevention training” but this references only three seemingly generic environmental trainings. Two of the trainings focus on “environmental” programs, and one of these is only for Contractor Personnel. The third is the EPA-required Spill Prevention, Control, and Countermeasures (SPCC) Plan training. An SPCC Plan does not necessarily include the elements required in the ADEC regulations and is not in and of itself a training curriculum. Inspection Personnel are not included in this table.

Finally, for Technicians only, Section 2.1.1.2 describes a progression program through which Operations and Maintenance Technicians demonstrate competence to conduct their jobs. Documents are referenced but not provided, nor is the content summarized. This is also the case for the OCC Controller (where a single training and qualification document is referenced) and Inspection Personnel. Qualifications for other positions are based only on a generic academic degree (high school or a bachelor’s degree) and years of exempt-level work or are not listed at all for those positions that are missing from the list.

According to the C-Plan, no positions require licenses or certifications, even electricians.

RFAI #7b

PWSRCAC requests the following information be added to the plan:

- *The training and level of knowledge appropriate to each position identified (see RFAI #7a above) that shows how personnel are trained to meet state prevention requirements, as required at 18 AAC 75.020(b)(1).*

- *Licenses or certifications required for each position, if applicable and required in state or federal law, per 18 AAC 75.020(b)(2). If none are applicable, please explain how APSC complies with state licensing requirements with no required licenses or certifications.*
- *Training objectives, subjects, schedules, frequency, and type as required at 18 AAC 75.020(b)(3). These are not available for review if they are included in referenced documents, which are not available.*
- *How APSC ensures that contractor personnel have met the necessary requirements before beginning work at the VMT.*

18 AAC 75.020(e) requires that training records be maintained in “retrievable form to document training, inspections, tests, maintenance, and repairs required by 18 AAC 75.005 - 18 AAC 75.085. Unless specified otherwise, records must be kept for at least five years and copies shall be provided to the department upon request.” Revised text in Section 2.1.1.6 Maintenance of Training Programs now states that APSC’s learning management system is used to maintain training records for each employee and that these records are kept for five years (as required by regulations). However, while contractors “are able” to use this system and are required to provide training records for their employees, proposed plan language does not state that contractor training records are maintained for five years as required.

RFAI #7c

PWSRCAC requests that the C-Plan be revised to clearly indicate that contractor training records will be complete, kept in the learning management system, and maintained for five years as required at 18 AAC 75.020(e).

Also, in Section 2.1.1.6 Maintenance of Training, proposed text says that “people leaders and program owners are accountable to ensure employees complete the required training.” Current text specifies that a person’s supervisor has this responsibility. Accountability for ensuring that personnel are adequately trained to complete their tasks is critical but has been made less clear with the proposed edit.

RFAI #7d

PWSRCAC requests clarification regarding who the “people leaders and program owners” are and how these are different from supervisors.

Section 2.1.6, Oil Storage Tanks

Section 2.1.6.1, Prevention of Tank Overfill

APSC proposes to remove mention of the water draw operations used to drain accumulated water from a tank to ballast water treatment (BWT) for treatment. This language should be retained to comply with 18 AAC 75.450(a), which requires the prevention plan to, “provide a detailed description of all oil discharge prevention measures, policies and programs in place

at the facility." OMS 360 is a required reference of an APSC policy on how it meets the secondary containment requirements of 18 AAC 75.075.065(k) and 75.066(g).

RFAI #8a

PWSRCAC requests that short description of water draw operations and referenced procedure should remain in the C-Plan to provide the necessary information about all oil discharge prevention measures, policies, and programs at the facility as required at 18 AAC 75.450(a) and support the APSC policy on how it meets the secondary containment requirements of 18 AAC 75.075.065(k) and 75.066(g). OMS 360 should be included in section 3.12 Bibliography.

Tanks 16 and 55 are no longer in service and should be removed from the last paragraph.

RFAI #8b

PWSRCAC recommends that tanks 16 and 55 be removed from information on monthly inspections for tank overflow.

Section 2.1.6.2, Tank Maintenance and Inspection Procedures

See comments in Section 3.1.1.

Section 2.1.6.3, Leak Detection

18 AAC 75.065(h)(1) requires field-constructed, aboveground oil storage tanks to have at least one of four components in place to detect leaks from aboveground oil storage tanks. One of the measures discussed in Section 2.1.6.3 is a SCADA system. Text describing the SCADA system has been proposed for revision. The C-Plan now states that the system provides a report every 24 hours (reduced from every 30 minutes according to proposed changes). It also says alarms on tanks set while they are in static condition can detect leaks from static tanks that are a minimum of 872 bbl (36,624 gallons). Previous text was less specific regarding the sensitivity of these alarms but indicated that they could be set down to 0.01-ft, though the average used was 0.30-ft (and now all are set at 0.10-ft). While this greater specificity in the C-Plan is welcome, it is not clear why the most sensitive leak detection is not being used particularly when overall SCADA system reporting seems to be much less frequent.

RFAI #9a

PWSRCAC requests information about changes to the SCADA system description:

- *Why have reports changed from intervals of 30 minutes to 24 hours, particularly since this does not appear to have changed for the Ballast Water System, and how this will impact APSC's ability to implement prompt and effective source control?*
- *Why was the most sensitive threshold available in the current system not used?*

This section does not demonstrate how leak detection for the crude oil storage tanks meets the requirements of 18 AAC 75.065(h)(1)(A) or 18 AAC 75.450(a), which requires the prevention plan "must provide a detailed description of all oil discharge prevention measures, policies and programs in place at the facility." It is not clear how a corrosion leak, particularly to the

tank floor, would be detected in a timely manner to facilitate source control. PWSRCAC has long contended that such technology has been developed since 1976, and should be assessed for application on the crude oil tanks remaining in service, particularly in light of the established concerns about the integrity of the secondary containment system.

RFAI #9b

PWSRCAC requests that APSC explain how a spill underneath a crude oil storage tank would be detected under layers of gravel associated with the secondary containment system using visual detection methods.

Section 2.1.6.4, Cathodic Protection

One of the options in 18 AAC 75.065(h) is for each field-constructed, aboveground oil storage tank to have a cathodic protection (CP) system in place that follows the American Petroleum Institute's (API) Cathodic Protection of Aboveground Petroleum Storage Tanks (API RP 651). Section 2.1.6.4 states that this is the case for the crude oil storage tanks at the VMT. However, while this statement indicates compliance with the regulations, a study focused on Tank 8 commissioned by PWSRCAC¹ explains that the standard for testing to ensure adequate protection, as defined in API 651, is not being implemented correctly. The study reviewed 2016-2018 cathodic protection system testing data and concluded that based on the data ranges, testing was not conducted in accordance with API 651, NACE SP-0193 or APSC's internal maintenance procedures. That data indicates that there is likely a source of interference with the system that has not been identified, examined, and resolved. Therefore, the IR free (IRF) data reported by APSC is not accurate and does not adhere with testing requirements. Initial indications from PWSRCAC's ongoing expert review of cathodic protection system reports for other tanks find it appears that old depolarized data were used to determine if the 100 mV criteria for CP had been met. The API and NACE standards require that the formation or decay of polarization be measured. This necessitates that recent (current) depolarized data be used.

RFAI #10

PWSRCAC requests that APSC confirms what the source of interference is with the CP systems under some of the tanks and verify that the issue has been resolved with testing within the correct data ranges for an effective CP system. In addition, PWSRCAC requests that APSC explain why the cathodic protection system reports used old depolarized data when the API and NACE standards require that recent (current) data be used to measure polarization, and requests APSC use current depolarized data for future reports to comply with API and NACE standards.

¹ Taku Engineering, "Crude Oil Storage Tank 8 Maintenance Review," April 2021 ([available here](#)); Taku Engineering "Crude Oil Storage Tank 8 Floor and Cathodic Protection System Design Review," June 2022 ([available here](#)).

Section 2.1.7, Secondary Containment Requirements for Aboveground Oil Storage Tanks

The regulatory reference to 18 AAC 75.075 should be retained in the section title. This section is a valid reference after the 2023 amendments. 18 AAC 75.450(a) requires that the prevention plan “demonstrate that the applicant meets all applicable requirements of 18 AAC 75.005 – 75.085 and must provide a detailed description of all of the oil discharge prevention measures, policies, and programs in place at the facility . . .”

This section does not reflect the requirements of the Final Condition of Approval No. 2 (COA 2) for Secondary Containment Commitment Required Verifications imposed as part of the 2019 approval of the VMT C-Plan (Final Decision dated May 11, 2022, by SPAR Director Larson after Remand ([available here](#))).

APSC’s cover letter submitted with its Renewal Application, dated October 19, 2023, states that “[o]n September 25, 2023, APSC responded to ADEC’s May 11, 2022, letter regarding COA 2A, by identifying a preliminary selected method to evaluate the integrity of the buried CBA membrane for the VMT East Tank Farm Secondary Containment. Whereas the information for the COA is included with this Application for Renewal, it is intended to be reviewed independently.”

APSC is incorrect that COA 2 and the secondary containment requirements of 18 AAC 75.075 and 18 AAC 75.990(124) are not part of the C-Plan renewal. See 18 AAC 75.450. The VMT C-Plan needs to be updated to reflect the inspection work required by Condition 2.

Specifically, Section 2.1.7.1 Secondary Containment Integrity Maintenance Program has not been updated to include the requirements of Condition 2A. The Integrity Maintenance program discussion should be updated to reflect the requirements of Conditions 2A and 2B.

Condition 2B requires that the results of any pilot study of liner evaluation methods be submitted as part of the 2024 VMT application for renewal. PWSRCAC requests the results of the summer 2024 pilot study be provided to plan reviewers as part of the C-Plan renewal.

RFAI #11a

PWSRCAC requests additional information concerning the details of the pilot study and the vendors conducting the work. Please see the questions for APSC in PWSRCAC’s letter of November 20, 2023, ([available here](#)), commenting on APSC’s preliminary selection of Geoelectric Leak Location (GELL) as the preliminary selected method to evaluate the integrity of the buried catalytically blown asphalt (CBA) membrane for the secondary containment in the East Tank Farm at the VMT.

RFAI #11b

PWSRCAC also requests that ADEC impose a condition of approval on the renewal of the C-Plan approval requiring the implementation of the Secondary Containment Commitment Required Verifications and establishing deadlines and public review and comment on the March 1, 2025

report for final selection of the method APSC will use for inspection of the liners (Condition 2A). Such a condition is required to ensure public review and comment on this portion of the contingency plan. In order to avoid illegal phasing – the deferral of a decision on legal contingency plan requirements through a “to-be-determined” condition of approval without public review and comment – the public has to be provided an opportunity to review and comment on the future submission to ensure compliance with the secondary containment requirements.²

Section 2.1.7 does not demonstrate that the secondary containment meets the sufficiently impermeable secondary containment standard of 18 AAC 75.075 and 18 AAC 75.990(124). A sufficiently impermeable secondary containment is not in place at this time because the condition of the secondary containment has not been verified, it is over 46 years old, and prior limited testing has shown that there were substantial areas of damage in the liner. The limited visual inspections of the catalytically blown asphalt (CBA) liners in 2014-2017 demonstrated significant existing damage.

This damage is documented and analyzed in the Report, “2014-2017 CBA Liner Testing Results: White Paper,” February 2019, with attachment Geosyntec Consultants report “Secondary Containment Liner Integrity Evaluation, Valdez Marine Terminal, Valdez, Alaska,” October 2018 ([available here](#)). We are submitting with these comments, additional documents from the adjudicatory hearing proceedings on the prior C-Plan approval³ and our later sponsored report entitled “Methodologies for Evaluating Defects in the Catalytically Blown Asphalt Liner in the Secondary Containment System at the Valdez Marine Terminal,” dated November 2022 by Dr. Craig H. Benson ([available here](#)).

There is no basis to assert that the uninspected portions of the liner do not contain similar damage to that found in the 2014-2017 work on other areas of the liner. This unrepaired liner damage in the uninspected areas of the liner violates the sufficiently impermeable standard of 18 AAC 75.990(124) and therefore does not meet the prevention requirement of 18 AAC 75.075 and the prevention plan requirements of 18 AAC 75.450(a). As discussed in our comments on Section 5.1, this damage also renders the secondary containment ineligible for a prevention credit under 18 AAC 75.432(d)(4).

State and federal governments under the Stipulations for the Agreement and Grant of

² See *Thane Neighborhood Assoc. v. City and Borough of Juneau*, 922 P.2d 901, 908-909 (Alaska 1996) (*superseded by statute in DNR reviews, Sullivan v. Resisting Environmental Destruction on Indigenous Lands*, 311 P.3d 625 (Alaska 2013)); Adjudication of Prince William Sound Oil Tanker Contingency Plans Approved October 2 1995, and Consolidated Matters, Final Decision by Deciding Officer, August 14, 1998; Order Respecting Motions for Summary Judgment Relating to Phasing, Issue “P” (Docket Nos. 479 and 545), February 9, 1998.

³ Affidavit of Austin Love in Support of PWSRCAC’s Response To Alyeska Pipeline’s Request For Stay, February 11, 2022 ([available here](#)); Report “Summary of Secondary Containment Liner History at the Valdez Marine Terminal,” Harvey Consulting, November 7, 2016, at pp 10-28 (Exhibit B) ([available here](#)); Status of Contaminated Sites at VMT, Harvey Consulting (June 13, 2012) (Exhibit C) ([available here](#)).

Right-of-Way for the Trans-Alaska Pipeline also require secondary containment systems to meet a more stringent “impervious” standard:

3.11.1 Permittees shall provide oil spill containment dikes or other structures around storage tanks at pump stations and at the Valdez terminal...such structures shall be constructed to withstand failure from earthquakes in accordance with Stipulation 3.4 and shall be impervious so as to provide seepage-free storage until disposal of their contents can be affected safely without contamination of the surrounding area...⁴ [Emphasis added.]

Section 24 of the Grant and Lease includes a duty to abate any physical or mechanical procedures, event, or condition that could adversely affect the environment.⁵ Grant and Lease Stipulation 1.2.3 requires “full” compliance with the agreement and stipulations; Stipulation 3.11.1 requires impervious secondary containment systems (“seepage-free”); Stipulation 2.2 requires compliance with pollution control measures; and Stipulation 3.9.1 requires operations to be conducted to avoid or minimize environmental impact.⁶

In the past, the Council has inquired about the Bureau of Land Management’s (BLM) interpretation of its requirement for “impervious and seepage-free” secondary containment. BLM reported that “impervious and seepage-free” means no escape of hydrocarbons through porous material or small holes. BLM staff have explained the liner would be considered “impervious and seepage-free” as long as it could contain oil for the time required to clean up a spill. Past CBA liner testing (see Golder Associates report “Evaluation for Catalytically Blown Asphalt (CBA) Liner at the Valdez Marine Terminal,” April 2015 (which can be provided upon request)) in the lab has shown a thick, undamaged section of liner could hold oil for a wide range of days (the shortest duration, worst case being 3 days) before hydrocarbons would damage the liner and leak through it. Based on the 2014-2017 inspection data provided above that identifies a 23.3% through hole damage percentage, oil would leak through the liner much faster than the lab testing predicted for undamaged liner. There is no scenario in the proposed plan that demonstrates APSC can clean up the worst-case discharge spilled to a damaged secondary containment before oil would leak through it and impact the soil and ground water.

EPA regulations also require secondary containment systems to be impervious: 40 CFR 112.8 (c)(2) Construct all bulk storage tank installations (except mobile refuelers) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. [Emphasis added.]

⁴ Exhibit D Stipulations for the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline, Section 3.11 ([available here](#)).

⁵ Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline, Section 24 ([available here](#)).

⁶ Exhibit D Stipulations for the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline ([available here](#)).

Based on the 2014-2017 inspection results mentioned above, the data shows that the CBA liner installed at the VMT also does not meet the Grant of Right-of-Way and EPA secondary containment standards.

Section 2.1.7.6, Bedrock/Rockwall Groundwater Monitoring and Slope Stability

This section describes the use of piezometers to monitor groundwater at locations in the tank farm and rock-cut slopes. The report on the VMT slope stability program based on these readings is appropriately updated to refer to a 2022 report instead of the 2017 report. In changes to the text (now referring to the more recent report), it appears that the report no longer concludes that there was “no significant departure from past years’ data.” In addition, instead of saying generally that comparing current data to past data indicates “no immediate threat to slope stability, secondary containment, or tank foundations from groundwater levels,” the proposed revisions specify that “PPC and VW” data indicate this, and the statement that readings are typically consistent from year to year has been removed.

RFAI #12

PWSRCAC requests clarification regarding the proposed text changes, including whether there have been changes as compared to past years’ data, whether the “PPC and VW” data referenced include all the piezometer readings, or whether there are variations in the 2022 report that have not appeared previously.

Section 2.1.8, Requirements for Facility Oil Piping

Proposed edits to this section state that, “in general” certain piping is designed and constructed according to ASME B31.4, while other piping is constructed to meet requirements of ASME B31.3. While the proposed edits add a degree of specificity beyond the text that was there previously, which said only that piping installed after 2008 met one of the two standards, the edits do not provide sufficient information to inform the public about how APSC complies with this requirement: it is not clear which piping does *not* meet the referenced standards, nor which piping segments are subject to which standards. This illustrates the need for a segment-by-segment description of piping to illustrate which piping was constructed based on which standard and which piping pre-dates the required use of those standards.

RFAI #13a

PWSRCAC requests additional information on which piping segments are subject to which ASME standard, and which are not subject to either standard.

18 AAC 75.450(a) requires the C-Plan to demonstrate compliance with 18 AAC 75.080 requirements for facility oil piping. 18 AAC 75.080 includes facility oil piping requirements that

apply to VMT piping including crude oil piping, ballast water piping, industrial wastewater system (IWWS), recovered crude oil piping and fuel lines, and any other piping containing oil or fuel at the terminal. Requirements depend on facility piping type, installation date, and location (aboveground or buried).

To comply with 18 AAC 75.080, Section 2.1.8 should include information for the piping segments installed at the VMT that explain which segments are covered by which requirements, if any (based on year of service), how the regulations are met (including cathodic protection and protective coatings where applicable), and the condition of the pipes. This information remains missing from the C-Plan.

RFAI #13b

PWSRCAC requests that Section 2.1.8 be revised to provide each piping segment name, piping material type, installation date (age), diameter, length, buried/aboveground length, insulated/uninsulated length, inspection classification and inspection standard used (e.g., Class 1, 2, or 3 based on API 570), applied inspection methods (e.g., UT, ILL, radiographic, guided-wave), date of last inspection, date for next inspection, highest measured corrosion rate and associated inspection date (based on most recent inspection), corrosion threshold for repair or replacement, number of corrosion coupons, number of corrosion inhibitor injection locations, and type(s) of cathodic protection and/or protective coatings.

Section 2.1.9, Preventive Maintenance and Records

18 AAC 75.020(e) requires that, “the owner or operator shall prepare and maintain records in retrievable form to document training, inspections, tests, maintenance, and repairs required by 18 AAC 75.005 - 18 AAC 75.085.” Maintenance is included in the requirement at 18 AAC 75.450(b)(1) for description and schedule of regular activities related to prevention.

This section states that, “APSC maintains a preventive maintenance database for VMT equipment and facilities,” and lists examples of preventive maintenance that might be performed. However, there is no comprehensive list of routine, scheduled preventive maintenance, and the frequency or method used. This information is required by regulation. The C-Plan also states, “equipment is inspected for corrosion,” but there is no information on frequency or method. A robust preventative maintenance program is essential in preventing spills, and PWSRCAC requests a schedule of preventative maintenance be included in the C-Plan in accordance with state regulations.

RFAI #14a

PWSRCAC requests that the C-Plan be revised to include the required detailed list of preventative maintenance items completed at the terminal for oil spill prevention which specifies the equipment, frequency, methods, and what action is taken when integrity problems are found per 18 AAC 75.450(b)(1).

RFAI #14b

PWSRCAC requests that the name of the preventative maintenance database used for VMT equipment and facilities, or recordkeeping and reporting systems used to document problems found and resolution, be added to the C-Plan.

Section 2.1.11, Surveillance and Monitoring

The requirement at 18 AAC 75.450(b)(1) for description and schedule of regular activities related to prevention includes surveillance. As described in this sub-section, APSC has a surveillance program to visually inspect the facility foundation and slope stability, leaks and spills, structural damage, encroachments and vandalism, and snow load damage. The C-Plan does not provide specific information on surveillance plan methods, frequency, or what action is taken when integrity issues are found, nor does the C-Plan provide specific information on recordkeeping or reporting methods.

RFAI #15

PWSRCAC requests that the following information be added to the C-Plan to demonstrate compliance with 18 AAC 75.450(b)(1): a complete description of the surveillance and monitoring items completed at the terminal for oil spill prevention including the equipment, frequency, methods, and what action is taken when integrity issues are found.

Section 2.2, Discharge History [18 AAC 75.450(b)(2)]

Section 2.2.1, Corrective Actions [18 AAC 75.450(b)(2)(B)]

A proposed edit would remove the name of the incident reporting system without replacing it.

RFAI #16

PWSRCAC requests the name of the incident reporting system be retained in the C-Plan.

Section 2.3, Potential Discharge Analysis [18 AAC 75.450(b)(3)]

Section 2.3.1, VMT Oil Spill Risk Assessment

APSC conducted facility oil spill risk assessments in 2001, and an update 2011, with the results described in the Plan to comply with state regulations, now at 18 AAC 75.450(b)(1-2). The regulation at 18 AAC 75.450(b)(3-4) requires the potential discharge analysis to be conducted every five years on plan renewal.

Upon the 2019 C-Plan renewal, the C-Plan stated that within the five-year renewal, “risk assessments will be conducted to cover the VMT process facilities.” However, there is no information provided to indicate what “risk assessments” have been conducted and with what outcome. Furthermore, in the 2011 risk assessment update, DNV, the company that conducted that update, found that an *incremental* analysis of risk change since 2001 was insufficient to evaluate VMT risk, and that a first-principles risk assessment was needed for the entire VMT facility.⁷ ADEC did not require APSC to implement all of the recommendations from the risk assessment update, including the recommended first principles risk assessment, but did state in its 2014 Finding at the time of the VMT C-Plan renewal that it is prudent to examine risk at the VMT in light of changes, low-flow conditions, and aging infrastructure.⁸ Since that time, the first principles risk assessment recommended by DNV has not been implemented, and the outcome of further incremental risk assessments are not evident based on C-Plan contents.

RFAI #17

PWSRCAC requests APSC to establish a date by which it will conduct a first principles risk assessment of the entire VMT based on current information about the aging facility and the best available information on potential natural hazards and other aspects of the context in which the VMT operates.

Section 2.3.2, Potential Discharge Analysis of VMT Systems

Section 2.3.2.2, Storage Tanks

Discussing potential discharges and mitigations, Section 2.3.2.2 refers to the fact that work, “continues on development of an engineered solution to tank top snow removal.”

⁷ DNV, “Energy Report: VMT Oil Spill Risk Assessment Update – Phase 2,” Report No. EP016122-1 Rev 1, April 29, 2011 ([available here](#)).

⁸ Reference ADEC’s “Alyeska Pipeline Service Company Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, Plan Renewal, Final Findings Document, November 21, 2014 ([available here](#)).

RFAI #18

PWSRCAC requests an update on this effort, in light of recent issues of inadequate snow removal.

Section 2.3.3, Hazard Identification, Scenario Description, & Frequency Estimates

Section 2.3.3.1, Other Spill Sources

Proposed edits remove “firefighting chemicals” as potential substances that could be spilled. If it is possible that these chemicals could spill, they should remain on the list. Edits to Section 3.1.6 indicate that the volume of firefighting foam in mobile trailers has increased, so it could presumably still be the source of a spill.

RFAI #19

PWSRCAC requests clarification on the removal of firefighting substances from the list of “other spill sources.”

PART 3: SUPPLEMENTAL INFORMATION

Part 3, Section 3.1, Facility Description and Operational Overview [18 AAC 75.451(b)]

Section 3.1.1, Storage Tanks [18 AAC 75.451(b)(1) & (2)]

Table 3.1-1 VMT Tankage (Greater than 10,000 gal) [18 AAC 75.451(b)(1)] lists tanks and proposed inspection schedules for both internal and external inspections of tanks larger than 10,000 gallons. APSC is proposing 10-to-20-year intervals between internal tank inspections in most cases, allowing up to 20 years of use between internal inspections for seven of the tanks with greater than 500,000 bbl. capacity. Tank inspection intervals are planned according to “Tank Inspection, Repair, Alteration, and Reconstruction, Fifth Edition, November 2014, Addendum 1, April 2018, and Addendum 2, May 2020” (API 653) which is incorporated by reference at 18 AAC 75.065(1).

At the same time, ADEC regulations recognize the need to monitor older tanks more closely and specifically grant ADEC the authority to require shorter intervals between inspections than those that may be indicated by the API 653 calculations if the tanks are older than 30 years (see 18 AAC 75.065(b)(1)(A)). The tanks in question are approaching 50 years old, meaning that several of them will be almost 70 years old when their next internal inspection is conducted.

As explained in Section 2.1.6.2 Tank Maintenance and Inspection Procedures, API 653 has inspection guidelines, to ensure the integrity of the tank bottom, shell, foundation, and roof. That same section then states that APSC's spill prevention program includes only tank bottom inspections. Focusing on the tank bottom is important but may not provide an adequate picture of overall tank integrity for preventing spills, particularly given the threats from snow loads or earthquakes.

While the floors on Crude Oil Tanks 1-14 have been replaced since original construction, the shell, roof, and columns supporting the roof have not been replaced since they were originally installed in the 1970s. Basing an internal inspection interval on the newest tank component (a tank floor that has been replaced) ignores the age and condition of the older tank components. Issues have been identified and reported related to VMT tank shell and roof integrity:

- Side shell piping penetrations and roof pressure vacuum valve locations have been identified by numerous inspections as areas of potential risk. Side shell piping penetrations and most of the shell condition is not examined during a 5-year external inspection (this work is not done until the internal inspection).
- Upper shell and roof corrosion have been identified on both internal and external inspections.

In 2002, 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: *"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."* Alaska Anvil Inc. also concluded that: *"...snow loading at VMT imposes loading well beyond 'normal' API design criteria."*⁹ Since that time, we have seen the impact of unmitigated snow loads with snow either damaging or completely shearing off tank vents on 12 of the 14 crude oil storage tanks at the VMT in March 2022.

RFAI #20

PWSRCAC requests that ADEC require APSC to use all of API 653 criteria for internal inspections and when considering intervals between internal tank inspections. ADEC should use its authority at 18 AAC 75.065(b)(1)(A) to impose a maximum of 10 years between such inspections given the age of the tanks, uncertain integrity of the secondary containment liner, and sensitivity of the local environment.

⁹ "Valdez Marine Terminal Tank Roof Calculations," Alaska Anvil, Inc., APSC Project No. X052, November 1, 2002, ([available here](#)).

Section 3.1.2, Temporary Storage Tanks [18 AAC 75.451(b)(1)]

Text was added to this section from Part 2, Section 2.6 describing waivers. While text used to say that, “ADEC has approved a five-year seasonal waiver (2019-2024) for the use of seasonal temporary tanks...,” the proposed language now says “ADEC has approved the use of temporary, defined as use for limited periods of time (i.e., seasonally), storage tanks...” This change removes the time bound approval of this allowance.

RFAI #21

PWSRCAC requests an explanation of the basis for removing the timing limitations on the seasonal waiver for use of temporary tanks and documentation of this change.

Section 3.1.3, Transfer Procedures [18 AAC 75.451(b)(5)]

Section 3.1.3.11, Industrial Wastewater System

Proposed edits remove language stating that the Industrial Wastewater System (IWWS) in the East Tank Farm draws water from the bottoms of the crude oil tanks for treatment at the Ballast Water Treatment facility.

RFAI #22

PWSRCAC requests an explanation regarding whether the IWWS conveys water from the crude oil tanks, and if not, why this is not the case. If it remains true, the language should remain in the plan as this is a function in support of compliance.

Section 3.9.4, Exercises & Drills

This section describes exercises and drills conducted by APSC (also noting that state and federal agencies may call exercises as well). The following commitments remain in the Plan:

- Exercise the entire plan every three years
- At least one drill per year will be unannounced (not including Qualified Individual drills) (so presumably there will be at least one drill per year)

Proposed edits remove the commitment to hold an Incident Management Team (IMT) tabletop exercise annually and two equipment deployment exercises per year. PWSRCAC understands and appreciates that for the next three years, APSC plans to conduct its typical IMT tabletop exercise and two deployments. The plan should reflect such commitments to provide an accurate picture of the training and exercises conducted.

RFAI #23a

PWSRCAC requests APSC maintain a minimum of one IMT tabletop exercise and two deployments and to state this in the plan.

PWSRCAC has observed that contracted vessels are used for boom deployment and maintenance during actual responses in Port Valdez, yet during exercises it is typically the professional responders from SERVS who deploy sensitive area protection (SAP) tactics. To support training and make exercises as realistic as possible, contracted vessels should be involved in SAP deployment in the future.

RFAI #23b

PWSRCAC requests the plan be revised to add a commitment that contracted vessels will periodically and regularly be involved in SAP tactic deployment during field deployment exercises.

RFAI #23c

PWSRCAC appreciates the helpful references to the Regional Stakeholder Committee in the C-Plan and requests that a future IMT exercise include standing up an RSC for a hypothetical VMT spill as has been done for exercises of the Prince William Sound Tanker C-Plan.

Section 3.11, Additional Information [18 AAC 75.451(m)]

Section 3.11.7, Recovered Oil & Waste Management Assumptions, Strategies, & Options

Assumptions that would facilitate waste management planning during a response have been removed. Having these assumptions in the C-Plan would directly support the utility of the plan.

RFAI #24

PWSRCAC requests that waste management assumptions remain in the plan, as there is no reason to remove them as they enhance the utility of the plan as stated in 18 AAC 75.448(a).

Section 3.11.7.2, Oil Recovery from the Settlement Pond System

This section describes pumping oil from the water in the settlement ponds. Because oil could also leach out of the settlement ponds, which are not impermeable, this section should mention that fact and reference 3.11.9 Solid Waste, which includes recovery of land-based, oily soil.

RFAI #25

PWSRCAC requests that information be added to Section 3.11.7.2 to clarify that oil may leak out of the settlement ponds and require recovery as oily soil, as described in 3.11.9 Solid Waste.

Section 3.11.9.2, Land-Based Oily Soil, Work Accessible Areas

This section describes the collection and handling of oiled soil, including by use of a front-end loader. It would also be important to have an excavator available to retrieve oiled soils from within the settlement ponds.

RFAI #26a

PWSRCAC requests that an excavator or backhoe be added to the list of resources that may be needed for oily soil recovery on land, in addition to the front-end loader listed.

Proposed edits remove the section on land-based woody debris. This information should remain in the plan. The beach at the base of the D58 drainage, for example, collects woody debris in the winter due to its orientation. Planning for the removal of this material is prudent and should remain in the C-Plan.

RFAI #26b

PWSRCAC requests that information be kept in the plan describing the removal of oiled, woody debris. This section is relevant to a potential spill from the VMT and should not be removed.

PART 4: BEST AVAILABLE TECHNOLOGY (BAT)

Comment on comparison tables throughout section

In comparing technologies across this section, the charts all use the former eight one-word BAT evaluation criteria.¹⁰ ADEC's new regulation at 18 AAC 75.452(c)(3) replaces the eight

¹⁰ 18 AAC 75.425(e)(3) required evaluation of technology 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 operations; (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."

criteria in the previous regulations with six criteria.¹¹ The charts should be revised to use the new criteria directly from the regulations. For example, “availability” does not capture (c)(3)(A) “whether each technology is the best in use in other situations.” It is also not clear regarding “effectiveness” as (c)(3)(B) is the same as “whether there is a reasonable expectation that each technology will provide increased spill protection or other environmental benefit.” The BAT section should be revised to use the new wording from the regulations, or at minimum include cross-references to the specific criteria.

RFAI #27

PWSRCAC requests that the BAT comparison tables be revised to comply with the new regulatory language at 18 AAC 75.452(c)(3).

Section 4.2, Communications [18 AAC 75.452(a)(1)(A)]

All plans are required to discuss BAT for, “communications described in 18 AAC 75.449(a)(4)” at 18 AAC 75.452(a)(1)(A). The referenced regulation refers to, communications – a description of field communications procedures, including, if applicable, assigned radio channels or frequencies and their intended use by response personnel.”

Section 4.2 provides APSC’s BAT analysis for their communications system. Table 4.2-1 provides the BAT comparison, identifying radio (HF/VHF/UF) and telephone. It does not include a third method, stating instead, “Unaware of better system technology.” However, PWSRCAC understands that SERVS is testing a new system, called Weavix. Weavix is a “smart radio” system that includes the ability to send text messages and images, broadcast alerts, and SOS signals (<https://weavix.com>). The fact that this system is being tested already for use by SERVS in Prince William Sound indicates that it should be considered within the BAT review for the VMT.

¹¹ The six new criteria are: (3) technology identified under (a) (1)–(6) of this section 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 there is a reasonable expectation that each technology will provide increased spill protection or other environmental benefits; (C) 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; (D) the age and condition of the technology in use by the applicant; (E) the practical feasibility of each technology in terms of engineering and other operational aspects; and (F) whether other environmental impacts of each technology, including air, land, water pollutions, and energy requirements, offset anticipated environmental benefits.” (Compatibility and transferability were dropped with development of the new regulations).

RFAI #28

PWSRCAC requests that the BAT comparison in Section 4.2 be revised to include the Weavix communications system and/or other such system that APSC identifies.

Section 4.3, Source Control Procedures to Stop the Discharge and Prevent Further Spread [18 AAC 75.452(a)(1)(B)]

All plans are required to discuss BAT for, "procedures to stop the discharge at its source and prevent its further spread under 18 AAC 75.449(G)" at 18 AAC 75.452(a)(1)(B). The referenced regulation refers to, "a description of the actions to be taken to contain and control the spilled oil, including, as applicable, boom deployment strategies, construction of temporary berms, and other methods." At the VMT, this could include spills from numerous potential sources, including piping, crude oil tanks, and fuel tanks, as are discussed in Section 4.3, Source Control Procedures to Stop the Discharge and Prevent Further Spread [18 AAC 75.452(a)(1)(B)]. It should also include source control for potential spills from the Ballast Water Treatment Facility's (BWTF) gravity separation and recovered oil tanks.

RFAI #29

PWSRCAC requests that Section 4.3 be revised to include source control methods for the BWTF gravity separation and recovered oil tanks.

Table 4.3-1, BAT: Source Control Procedures for a Leak – Piping

According to the beginning of Section 4.3 of the plan, a key element of source control BAT is "*prompt detection of an oil discharge.*" However, there is no information on the BAT leak detection method for each piping segment, clarification on whether there is an automated leak detection system installed on the piping, the name of the system, and what technology is used to promptly detect a leak. There is no information on the time required to detect the leak, the sensitivity of the leak detection system, and the amount of oil or fuel that may be spilled prior to piping isolation. Since it is a crucial part of piping source control, this technical information should be included in this BAT review section.

This relates directly to PWSRCAC's concerns about the lack of information overall provided on the diverse systems of facility oil piping as discussed in Section 2.1.8. Please review requests regarding that section. Without specificity, the proposed BAT analysis provides an overly broad analysis pertaining to all piping at the terminal with no specific BAT assessment. Additional context is also available in PWSRCAC's 2019 comments on the VMT C-Plan ([available here](#)).

Table 4.3-2, BAT: Source Control Procedures for a Leak – Crude Oil Tank

Table 4.3-2 Source Control Procedures for a Leak – Crude Oil Tank includes an Alternative Method (Method 2) to add an additional crude oil transfer pump capacity of 14,860 barrels per hour which would reduce the time it would take to complete the tank-to-tank transfer from 34 hours to 18 hours. PWSRCAC recommends adding pump capacity for two reasons: (1) it would expedite source control, and (2) would provide new, redundant pump capacity to either supplement or replace pump capacity if the existing 1970 vintage pumps fail during an emergency. It is PWSRCAC's understanding that the estimated cost of installing these pumps is \$3.5 million and is compatible with existing operations. It is not clear why this BAT option was not adopted, as doing so would be in keeping with the intent of the BAT requirement in statute which states, "The contingency plan must provide for the use by the applicant of the best technology that was available at the time the contingency plan was submitted or renewed," at AS 46.04.030(e) and consistent with 18 AAC 75.452(a)(1)(B).

RFAI #30a

PWSRCAC requests that APSC add a second pump to expedite source control from a crude oil tank should a leak occur.

Method 3 in Table 4.3-2 Source Control Procedures for a Leak – Crude Oil Tank is to allow oil to continue to spill into secondary containment and clean it up from there. This method references having a secondary containment area that "meets the requirements of 18 AAC 75.075 for existing tanks." Given the uncertain integrity of the secondary containment system at this time, Method 3 should not be considered a reasonable alternative, making the addition of a second pump to expedite oil transfer via Method 2 even more important.

RFAI #30b

PWSRCAC also strongly opposes Method 3 which allows hydrocarbons to be intentionally spilled into secondary containment.¹² Given the uncertainty about the integrity of the secondary containment system at this time, this is not a reasonable alternative.

Table 4.3-2, BAT: Source Control for Procedures for a Leak – Fuel Storage Tank

Section 4.3 provides APSC's BAT review for fuel tank source control. Table 4.3-3 *Source Control Procedures for a Leak – Fuel Storage Tank* proposes two fuel tank source control methods. Method 1 involves de-inventorying the tank into another tank or tanker truck. Method 2

¹² CBA liner integrity is addressed in four reports written by Golder Associates regarding catalytically blown asphalt liner testing conducted in the East Tank Farm from 2015-2017. (Copies can be provided upon request.) In particular, the results of the visual testing show that existing damage was found in at least 18.6 percent of excavations uncovering the buried catalytically blown asphalt liner. This evidence supports the Council's hypothesis that additional damage may exist elsewhere in the liner where it has not yet been uncovered and visually examined.

involves spilling fuel into secondary containment. No other alternative methods are considered.

This BAT analysis is not specific to the equipment it addresses. For example, do each of these methods apply to all the diesel and gasoline tanks at the VMT? Without specificity, the proposed BAT analysis provides an overly broad analysis pertaining to fuel tanks at the terminal with no tank-specific BAT assessment.

PWSRCAC has concerns with Method 1. APSC ranks Method 1 as *“feasible,”* but then goes on to explain the infeasibility of Method 1 for some tanks stating: *“this may not be practical for some tanks that are remotely located where there is no spare tankage in which to discharge.”*

RFAI #31a

Specific information is needed in the plan to explain for which fuel tanks Method 1 is BAT, and for which fuel tanks this method is not feasible.

RFAI #31b

For tanks where Method 1 is not feasible, another environmentally sound method needs to be proposed as Method 2 is not acceptable due to the uncertain integrity of the secondary containment system.

Section 4.4 Trajectory Analyses & Forecasts

All plans are required to discuss BAT for, “trajectory analyses and forecasts described under 18 AAC 75.449(a)(6)(E),” at 18 AAC 75.452(a)(1)(C). The referenced regulation describes, “procedures, methods, and a description of the equipment that will be used for real-time surveillance and tracking of the discharged oil on land and on open water, and forecasting of its expected points of shoreline contact; these must be sufficient to ensure that there is proper allocation and deployment of response personnel and equipment.”

Section 4.4 Trajectory Analysis and Forecasts describes a combination of: (1) human visual surveillance and hand calculations; (2) tracking buoys; and, (3) the use of real-time surveillance data input into a computer-based predictive trajectory model. APSC is currently using the Oil Spill Model and Response System (OILMAP) for its computer-based predictive trajectory model.

Section 4.4.2.3 describes the OILMAP model. APSC lists this model as BAT, however, PWSRCAC questions whether this model is BAT for Port Valdez. Expert work completed by Dr. Merv Fingas during the VMT C-Plan 2017-1 Amendment Administrative Appeal suggests that OILMAP severely under-predicts oil spreading in Port Valdez because it (1) does not accurately model water current speed and direction near the terminal; (2) under-predicts oil spreading thus failing to accurately predict the timing and location of oil movement in Port Valdez; and,

(3) under-predicts the timing and location of oiling environmentally sensitive and economically important areas.

RFAI #32

PWSRCAC requests that ADEC work with APSC to ensure that the best possible inputs are used to inform trajectory analysis, including locally available current data.

Section 4.6, Leak Detection Systems for Each Tank [18 AAC 75.452(a)(2)(A) and/or (B)]

This section's proposed title refers to two different regulatory sections. Please clarify which tanks are subject to 18 AAC 75.452(a)(2)(B) as the other regulation is only for tanks put in place more recently than those at the VMT. The regulatory citation should be corrected in the title to avoid confusion, unless some tanks are subject to requirements referenced at 18 AAC 75.452(a)(2)(A), in which case these should be identified.

RFAI #33a

PWSRCAC requests that the applicable regulation for this section be clarified.

18 AAC 75.452(a)(2)(B) requires a BAT analysis of, "another leak detection system or spill prevention or control system approved by the department under 18 AAC 75.065(h)(1)(D)." The analysis provided has not been updated to align with the six criteria or to provide current information on potential leak detection technologies.

This regulation applies to the VMT fuel tanks. For these tanks, Section 2.1.6.3 explains that leak detection relies on daily calculations of net gains/losses which trigger an investigation if they do not line up correctly. The introductory narrative in Section 4.6.1 indicates that "tank double bottoms" were considered along with other leak detection systems, but they are not included in the BAT review because such methods are, "*not well proven in the TAPS operating environment and too disruptive for an existing installation.*" Double tank bottoms have been installed in other existing installations in Alaska. This represents just one option that warrants further analysis in the BAT section, as is required at 18 AAC 75.452(a)(2)(B).

RFAI #33b

PWSRCAC requests that the BAT section on tank leak detection systems be revised to consider double tank bottoms and other applicable technological improvements since tank installation.

PART 5: RESPONSE PLANNING STANDARD

Section 5.1, Oil Terminal Response Planning Standard [18 AAC 75.453(1) & (2)]

APSC requests a full 60% reduction in the response planning standard for the VMT because of secondary containment around the crude oil storage tanks. The standard for such a credit is in 18 AAC 75.432(d)(4): “a sufficiently impermeable secondary containment area with a dike capable of holding the contents of the largest tank . . . , and precipitation.” A prevention credit under 18 AAC 75.432(d) is discretionary: “The department, will in its discretion, reduce the [response planning standard], by a percentage up to that shown, for each of the following measures in place at the facility.” ADEC is not required to give the credit and it is not required to give the maximum credit -- “a percentage up to that shown” -- for each of the prevention measures in place at the facility. If the regulation intended a maximum prevention credit of 60%, the regulation would use the phrase “the percentage shown.” The regulation is not so written. ADEC has used its discretion already by granting a 2% prevention credit for leak detection in Section 5.1 while the regulations allow 5% under 18 AAC 75.432(d)(3). ADEC is also authorized to revoke a credit “in full or in part” under 18 AAC 75.430(d). As a result, an automatic 60% credit is not mandated if the secondary containment prevention measure is in place. The maximum prevention credit that ADEC may grant under section 18 AAC 75.432(d)(4) is 60% if the secondary containment prevention measure is in place but ADEC can – based on the facts of the situation – grant a lesser credit because of the lower effectiveness of the prevention measure in place.

The prevention measure of a sufficiently impermeable secondary containment system is not in place at this time because the condition of the secondary containment system has not been verified, it is over 46 years old, and prior limited testing has shown that there were substantial areas of damage in the liner. The limited visual inspections of the CBA liners in 2014-2017 demonstrated significant existing damage. This damage is documented and analyzed in “2014-2017 CBA Liner Testing Results: White Paper,” February 2019, with attachment Geosyntec Consultants report “Secondary Containment Liner Integrity Evaluation, Valdez Marine Terminal, Valdez, Alaska,” October 2018 ([available here](#)). With these comments, we are submitting documents we provided in the adjudicatory hearing proceedings on the prior C-Plan approval.

There is no basis to assert that the uninspected portions of the liner do not contain similar damage to that found in the 2014-2017 work on other areas of the liner. This unrepaired liner damage in the uninspected areas of the liner violates the sufficiently impermeable standard of 18 AAC 75.990(124) and renders the secondary containment ineligible for a prevention credit.

A full 60% prevention credit for the secondary containment is also not justified under 18 AAC 75.432(d)(4) and should be denied by ADEC. The existence of Condition of Approval 2 from the

2019 C-Plan renewal -- which requires verification of the condition of the CBA liners by APSC in 2025 -- demonstrates the uncertainty in the existing condition of the liners; this uncertainty renders a full 60% prevention credit to be unjustified.

RFAI #34a

PWSRCAC requests that ADEC reduce the prevention credit granted for the secondary containment system while there are established concerns being handled through the COA process.

Section 5.1 contains an incorrect cross-reference to the secondary containment discussion in the C-Plan. The reference should be to Section 2.1.7 and not Section 2.1.8.

RFAI #34b

PWSRCAC requests that the cross-reference be corrected.

APPENDICES

Appendix C.1.6, Pre-positioned Response Equipment [33 CFR 154.1125(a)(4)]

This section summarizes calculations for USCG recovery. It appears from the calculations that the nameplate pump rate for the 100-disc Crucial skimmers is different from that used by ADEC. While PWSRCAC understands that the two agencies use different derating assumptions, it is not clear why the nameplate pump rates should be different.

RFAI #35

PWSRCAC requests additional information be added to the plan to explain the nameplate pump rates and derating used for recovery calculations in compliance with both ADEC and USCG regulations.

Volume 2: Scenarios

Overarching Comment

All four response scenarios start at Hour 1900. Over the years, ADEC has required APSC to modify scenarios, so they did not all take advantage of the long daylight and typically good weather conditions in the spring, and PWSRCAC finds the shift to fall and winter scenarios a prudent planning exercise. 18 AAC 75.449(a)(6) explains the purpose of the response scenarios, which is to demonstrate, "a plan holder's ability, using the resources described in the plan, to respond to a discharge of each applicable response planning standard volume within the required time frames under 18 AAC 75.430 – 18 AAC 75.442 and under environmental conditions that might reasonably be expected to occur at the discharge site."

Response scenarios must also be “useable as a general guide for a discharge of any size,” and “consistent with ensuring the safety of personnel.” 18 AAC 75.449(a)(6)(A) then requires that time of day be included in each response scenario, indicating ADEC’s recognition of this as a relevant factor (along with time of year, which is also required) to inform response scenario development.

RFAI #36

PWSRCAC requests that the scenarios be modified to vary start times across the four scenarios.

3.0 Scenario 3 - 1,200 Barrels to Land

3.1 Scenario 3, 1,200 Barrels to Land: Day 1

Figure 3.1-1. Scenario 3, Response Diagram and Trajectory

Part of this figure is redacted. It appears that the redacted area is only over water and there is no sensitive information in that area. (The same area of water is not redacted in the corresponding figure used in Scenario 2.)

RFAI #37

PWSRCAC requests that only highly sensitive details be redacted and that the black shading be removed from this figure.

3.4 Scenario 3, Equipment and Personnel Mobilization Chart

Unlike in Scenario 2, the mobilization tables in Scenario 3 do not mention overflights and the necessary resources to conduct them. This is discussed in the response actions and tactics tables for Scenario 3 but should be added to the mobilization chart for completeness.

RFAI #38

PWSRCAC requests that the aerial overflights (TSTF 1) be added to the Equipment and Personnel Mobilization Chart for Scenario 3.

4.0 Scenario 4 - 59,000 Barrels to Open Water

4.4 Scenario 4, Equipment and Personnel Mobilization Chart

Unlike in Scenario 2, the mobilization tables in Scenario 4 do not mention overflights and the necessary resources to conduct them. This is discussed in the response actions and tactics tables for Scenario 4 but should be added to the mobilization chart for completeness.

RFAI #39

PWSRCAC requests that the aerial overflights (TSTF 1) be added to the Equipment and Personnel Mobilization Chart for Scenario 4.

5.0 Scenario 5, 204,180 Barrels Discharged with 155,000 Barrels Reaching Open Water

(Please see comments on Drainage 58, which is relevant to this scenario, under Volume 3, Section 15.4 VMT-BO-4 Drainage 58 Tactic.)

Table 5.0-1 Scenario 5, Conditions

Scenario 5 lacks information on visibility. Poor visibility (e.g., darkness, fog, low clouds) can slow response efforts and make oil tracking impossible from aircraft overflights, impede actual observations from vessels, and hinder an initial responder's ability to know where the oil is heading. It is critical to understand the visibility assumptions used in Scenario 5 to determine if recovery rate assumptions are realistic.

RFAI #40

PWSRCAC requests Scenario 5 include assumptions regarding visibility for both the scenario and summer addenda.

5.0.1 Assumptions**Use of largest tank**

18 AAC 75.449(a)(6) requires the C-Plan to include a scenario for each applicable response planning standard. Scenario 5 is offered as the RPS scenario for the "largest oil storage tank at the facility" (based on the RPS requirements for oil terminal facilities at 18 AAC 75.432(b)). According to Table 3.1-1 VMT Tankage (greater than 10,000 gallons), the largest oil storage tank at the VMT is Tank 11, with a capacity of 548,281 barrels. However, Scenario 5 uses Tank 1, which is smaller with a capacity of 546,153 barrels. While ADEC may have the discretion when determining whether plan scenarios, which are inherently hypothetical, adequately describe a response, in this case, the regulations are very clear that the scenario should be from the largest tank – not simply the largest potential volume of oil from a single tank. Showing a spill from Tank 1 instead of Tank 11 means the scenario does not have to describe a spill that goes down Drainage 51 towards and active tanker loading berth, instead showing a spill larger than the physical capacity of Tank 1 going to a more easily accessible area at the bottom of Drainage 58. PWSRCAC has long objected to this unnecessary and non-compliant artificiality of the scenario.

RFAI #41

PWSRCAC requests that a response scenario be provided that shows a spill from the largest oil storage tank at the facility (Tank 11) as required by 18 AAC 75.449(a)(6) and 18 AAC 75.432(b).

Vapor modeling

Alaska North Slope crude oil properties have changed over time and will continue to change as new fields come online. Updated modeling should be conducted and incorporated every plan renewal cycle, as this is important to both responder safety and realistic timing of response activities.

RFAI #41

PWSRCAC requests that vapor modeling be updated based on the current oil properties at each plan renewal. The details should be shared with the VMT Coordination Workgroup.

Table 5.3-3 Scenario 5, Response Planning Standard Calculation & Assumptions for On Water Recovery Capacity

In Scenario 5, it is assumed that by Hour 12, a total of 155,000 barrels of crude oil have spilled into Port Valdez and only a small fraction of that oil has been recovered. Only two skimmers are assigned to recover oil at Drainage 58 at a combined derated capacity of 1,258 barrels per hour. Table 5.3-7 Scenario 5 - Response Planning Standard Calculation and Assumption for On-Water Recover Capacity indicates skimmers start operation in three hours. By Hour 12, the skimmers would have been operating for nine hours. At a skimming capacity of 1,258 barrels per hour for nine hours, only 11,322 barrels of oil would be recovered. The remaining 143,678 barrels would therefore either escape Drainage 58 containment or be contained. Additional response capacity within or adjacent to Drainage 58 containment is critical to mitigating the spread and impact of the spill.

RFAI #42

PWSRCAC requests that additional skimming capacity be located at the base of Drainage 58 along with larger boom and a secondary booming system to better contain spilled oil.

5.4 Scenario 5, Equipment and Personnel Mobilization Chart

Unlike in Scenario 2, the mobilization tables in Scenario 5 do not mention overflights and the necessary resources to conduct them. This is discussed in the response actions and tactics tables for Scenario 5 but should be added to the mobilization chart for completeness.

RFAI #43

PWSRCAC requests that the aerial overflights (TSTF 1) be added to the Equipment and Personnel Mobilization Chart for Scenario 5.

Tables 5.1 Scenario 5 - Response Actions and Tactics and Tables 5.3 Scenario 5 - Response Planning Standard Calculation and Assumptions for On-Water Storage Capacity

The Mineral Creek barge is still referenced in Scenario 5. It was replaced with the OSRB-5 in a minor amendment 2023-1. The Mineral Creek needs to be removed from Scenario 5, including updating the corresponding updated storage volume.

RFAI #44

PWSRCAC requests use of current equipment including the OSRB-5 replacing the Mineral Creek.

Figure 5.1-5 Scenario 5, Deployment Hour 12

(Please see Volume 3, Section 15.4 VMT-BO-4, Drainage Containment Booming Tactic for comments regarding the figures used here and in that tactic.)

Figure 5.2-2 Scenario 5, 36-Hour Spill Trajectory without Containment Booming and Recovery

The trajectories showing the spill without containment and recovery in hour 36 unrealistically show a spill with little to no sheen, with thick oil hugging the southern shore and not spreading into Port Valdez. PWSRCAC finds this unrealistic as it does not appear to incorporate factors such as the assumed 2–3-foot wave conditions and multiple tide changes. This same concern applies to Hours 48 (Figure 5.2-4 Scenario 5, 48-Hour Spill Trajectory without Containment Booming and Recovery) and 60 (Figure 5.3-2. Scenario 5, 60-Hour Spill Trajectory without Containment Booming and Recovery).

RFAI #45

PWSRCAC requests the spill trajectory to be revised to address these concerns or more information be provided to justify the oil spill trajectory modeling assumptions and estimates.

5.5 Scenario 5, Resource Requirements

Personnel Count

18 AAC 75.449(a)(6)(E) requires the response scenarios to show, “procedures, methods, and a description of the equipment that will be used for real-time surveillance and tracking of the discharged oil on land and on open water, and forecasting of its expected points of shoreline

contact; these must be sufficient to ensure that there is proper allocation and deployment of response personnel and equipment.”

The 2020 VMT Oily Water Sump Spill released an estimated 34 barrels of oil.¹³ Review of ICS 209 forms from that event shows 227 personnel were involved from APSC and its contractors (not including agency representatives). This spill occurred as the COVID-19 pandemic began and PWSRCAC appreciates the efforts of all of those who worked the spill, particularly given the uncertainties and limitations that were constantly evolving in the early days of the pandemic.

By contrast, Figure 5.5-1. Scenario 5, Resource Requirements commits a total of 148 people to respond to a spill of 155,000 barrels to water (of a 204,180 bbl spill). The number of personnel in the plan has also been reduced by 38% since 2006, with no explanation regarding the reasons for this reduction without compromising the response.

RFAI #46

PWSRCAC requests Scenario 5 be revised to include sufficient personnel to effectively and efficiently respond to this oil spill and the number of people assigned be justified.

Sensitive Area Protection

18 AAC 75.449(a)(6)(F) requires the scenario to identify sensitive areas or areas of public concern and demonstrate how these will be protected with adequate personnel and equipment deployed ahead of a spreading slick trajectory. Three Sensitive Area Protection (SAP) strike teams are deployed in Scenario 5, yet Figure 5.8-1 Scenario 5, Sensitive Areas shows 10 Geographic Response Strategies within the port (as well as the Valdez Small Boat Harbor). PWSRCAC disagrees that three SAP strike teams is adequate to implement and maintain protection of these identified sensitive areas and suggests that APSC meet its regulatory obligation by increasing SAP strike teams using available vessels via SERVS.

RFAI #47

PWSRCAC requests that SAP strike teams be increased to include sufficient resources to protect all environmentally sensitive areas before oil reaches those areas.

5.9 Scenario 5, Summer Addenda

This section briefly describes a summer response to Scenario 5, assuming, based on past VMT Coordination Workgroup decisions, that the same volume of oil reaches open water. Summary text explains that, “Prioritization of sensitive areas for protection differs somewhat

¹³ 2020 VMT Sump Oily Water Spill, 6th and final SITREP, retrieved from: <https://dec.alaska.gov/spar/ppr/spill-information/response/2020/02-vmt-sump-oily-water-spill/>.

in the summer as prevailing winds and summer currents push the oil north across the Port of Valdez, rather than holding it close to the southern shore and spreading westward.” Presenting trajectory maps will provide better information about the extent of shoreline oiling that could be expected and areas of greater or lesser oiling on the water.

RFAI #48a

PWSRCAC requests that summer oil spill trajectory maps be included in the scenario to indicate the areas of anticipated shoreline impact and inform planning for spills under different conditions.

While winter wave conditions are described for Scenario 5 (2-3 feet), wave heights are not mentioned in the summer addenda. This information should be included.

RFAI #48b

PWSRCAC requests that the summer response addenda include wave heights based on realistic summer conditions.

6.0 General Provisions in the Event of a Spill Above the RPS Quantities

18 AAC 75.448(b) requires the plan to “identify the greatest possible discharge that could occur at the facility or operation, and the general procedures to respond to a discharge of that magnitude.” 18 AAC 75.449(a)(10) requires the general procedures to respond to the greatest possible discharge that could occur at a facility.

This section discusses some potential discharges that exceed the response planning standard volume (e.g., full loss of two tanks in the same secondary containment area simultaneously) and mentions some additional equipment that is available in Port Valdez and the region. However, it also refers to this equipment coming from out-of-region.

This section should provide a full list of equipment types needed and explain how the plan holders will ensure access to these resources including both in-region (Prince William Sound) and out-of-region equipment.

A spill of this magnitude would, for example, significantly benefit from convening a Regional Stakeholder Committee.

RFAI #49

PWSRCAC requests that significant additional information and assurances be provided regarding the plan holder’s ability to access adequate equipment, personnel, and out-of-region equipment, and assurances regarding the quantity of equipment, personnel, and other facilities that will be

available for a greatest possible discharge response in Prince William Sound to satisfy the requirement at 18 AAC 75.448(b) and 18 AAC 75.449(a)(10).

Volume 3: Technical Manual

Additional Tactics Needed to Document Lessons Learned

Even as we recommend improvements with our comments in this section, PWSRCAC recognizes that Volume 3 provides a significant amount of critical information that is used to build out planning assumptions and will also be important for responders whether they are local or coming from out of the region. We also observe that, as with any organization, staff turnover can result in a loss of knowledge about how things are done as this experience accumulates across numerous exercises and actual responses. PWSRCAC suggests that Volume 3 should have new tactics developed for draining dike cells, monitoring dike cells for leaks from secondary containment, and source control. Describing and, when appropriate, revising all relevant tactics in Volume 3 supports compliance with 18 AAC 75.448(a) which requires the plan to be “usable as a working plan.”

On August 11, 2022, an exercise demonstrated a tactic to drain dike cells, including pumping in seawater and deploying skimmers. If this tactic may be used in a response, it should be added to Volume 3.

RFAI #50a

PWSRCAC requests that the tactic used to drain dike cells be included in Volume 3 with all the necessary details regarding equipment and personnel requirements, safety, and other considerations.

A spill response in which the dike cell is not totally compromised could still leak oil if there are holes in the secondary containment liner. The process of monitoring for potential leaks should be described.

RFAI #50b

PWSRCAC requests that APSC describe and demonstrate how they monitor for leaks around the dike cells as would be conducted during a large spill from a tank based on Volume 2, Scenario 5.

Source control tactics should be added to the tactics as well. 18 AAC 75.449(a)(6)(C) requires the scenarios to describe procedures for stopping a spill at its source. These procedures should be documented as a resource for personnel if a spill occurs. Source control procedures should be added, and equipment listed in Volume 3.

RFAI #50c

PWSRCAC requests that Volume 3 be revised to include source control tactics and equipment.

Consistent Information for Each Tactic

Past VMT C-Plan comments have recommended a consistent dataset for each tactic. PWSRCAC recommended each tactic contain the following information:

- Purpose and description;
- Task Force Equipment and Personnel Specifications;
- Support Equipment and Personnel Specifications;
- Planning Assumptions including:
 - time required to mobilize equipment and personnel;
 - time required to deploy equipment and personnel;
 - number of task forces required to construct, implement, or recover on a per-unit basis.
- Operational Limitations and Considerations (Advantages and Disadvantages).

Some tactics contain this information although many do not. A number of the tactics do not contain any planning assumption data that can be used to estimate the number of task forces that would be required on a per unit basis.

RFAI #51

PWSRCAC requests the tactics be improved to provide complete and consistent information across tactics.

Acronym List

Proposed edits remove the acronym list from this volume entirely. If the acronym list from Volume 1 is intended to apply across volumes, this will be more cumbersome to use, and the list is not complete. Keeping a complete acronym list in this volume supports compliance with 18 AAC 75.448(a) which requires the plan to be “usable as a working plan.”

RFAI #52

PWSRCAC requests that the acronym list remains in Volume 3 as it enhances the utility of the document as a “working plan” per 18 AAC 75.448(a). While acronyms may be added at first use, for this kind of document most users are unlikely to start at the beginning but will instead turn to the tactic or other information that is relevant to their role.

Section 5.0, Nearshore Tactics

Section 5 addresses nearshore tactics. There would be a need for more nearshore task forces (NSTF) in the event of a large spill. There are more readily available personnel, equipment, and vessels than reflected in the plan. For example, in a Scenario 5 spill, a far greater nearshore response would be used, and that should be reflected in the nearshore tactics.

The NSTF described in SV-140 (Tactics Manual) as part of the Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan (PWS Tanker C-Plan) are more robust (include more people and equipment). It is not clear why the NSTFs were downsized for the terminal plan. The NSTFs already exist because they are required for the PWS Tanker C-Plan response, and if there was a Scenario 5 spill, the reality is that the NSTFs set up for the tanker spill would be used.

RFAI #53

PWSRCAC recommends a mechanism or process be developed to bring in more nearshore task forces in the event of a large spill and incorporated into Section 5 of Volume 3.

Section 7, Tracking and Surveillance Tactics

Section 7.2, VMT-TS-2, Tactical Oil Spill Trajectory Modeling

(Please see PWSRCAC's comments above on Section 4.4, Trajectory Analyses & Forecasts regarding the inputs used for OILMAP trajectories.)

Section 7.4, VMT-TS-4, Graphical Resource Database (GRD)

Edits are proposed to this section to significantly reduce the information provided regarding the Graphical Resource Database (GRD). Since this information is not otherwise available to the public as the GRD is proprietary, the data layers in the nearshore database should be kept in the document to indicate the information that will be available for use via this system during a spill. Retaining this information supports compliance with 18 AAC 75.448(a) which requires the plan to be "usable as a working plan." If the proposed edit reflects the fact that these data layers are no longer updated and available in the GRD, it is important to explain that clearly in this section and to indicate what information *is* available in more detail than the general terms now.

RFAI #54

PWSRCAC requests information about the data layers available in the GRD currently, and that this information be retained (and updated if appropriate) in the C-Plan, as it supports the utility of the document as a "working plan" per 18 AAC 75.448(a).

Section 9.0, Sensitive Area Protection Tactics

Section 9.6, VMT-SA-6, Deployment Plan for Solomon Gulch Hatchery

Proposed edits remove this statement, "Due to limited response time associated with an oil spill, all or portions of the boom will be permanently installed whenever fish fry are in the pens, from approximately March to June each year." Removal of this procedure reduces protection at the hatchery during a critical time: if response time is likely to be too short to get the booming in place, then pre-booming when fry are present is prudent.

RFAI #55

PWSRCAC requests that the commitment to pre-boom the Solomon Gulch Hatchery when fry is present should remain in the plan.

Section 10.0, Wildlife Tactics

Section 10 does not include onshore wildlife hazing of terrestrial mammals. PWSRCAC recommends this tactic be added.

VMT-W-1 though VMT-W-4 Offshore Wildlife Tactics for a typical offshore wildlife task force have substantially less resources assigned than the same type of Offshore Wildlife Tactics used in the PWS Tanker C-Plan (SV-140 Offshore Wildlife Tactics (PWS-W-1 though PWS-W-4)). For example, APSC commits one fishing vessel (compared to seven) for capture and transport of birds and otters in SV-140, two fishing vessels (compared to four) for bird and otter carcass retrieval, and two fishing vessels (compared to three) for hazing. Additionally, the number of support vessels was reduced for each tactic.

While APSC may have claimed in the past that fewer wildlife may be expected on the water near the terminal, PWSRCAC does not agree and thinks it is prudent to plan for a response similar to what is contained in the PWS Tanker C-Plan. Wildlife populations increase in the summer months with bird nesting and activity. PWSRCAC does not see any benefit of eliminating known resources from the plan when those resources would be called upon during an actual spill.

RFAI #56

PWSRCAC requests onshore wildlife hazing of terrestrial mammals be included in the plan, the wildlife tactic resources match those listed in the tanker plan, and that a mechanism or process be developed to bring in more wildlife task forces in the event of a large spill.

Section 11.0, Waste

Section 11.1.2, Waste Management Plan

Proposed edits to this section remove information about the methods used to estimate waste volumes. (Current language specifies that the electronic job aid is on the APSC intranet and includes a waste volume estimation worksheet based on assumptions derived from previous studies, which are listed.) It is important for Environmental Unit users during a response to understand both where this electronic job aid exists and the assumptions on which it is based so that the outputs can be understood in context. While removing information from the Exxon Valdez oil spill is fine, the removal of waste management assumptions developed by the workgroup is not advised unless changing conditions require such an update. If that is the case, this should be discussed again with the VMT Coordination Workgroup.

RFAI #57

PWSRCAC requests information be retained in the C-Plan describing the electronic job aid's location and assumptions on which waste management volume estimates are based. Removal of this information, in combination with the removal of related information proposed in Section 3.11.7, detracts from the quality of this as a "workable plan" as required at 18 AAC 75.448(a) and should be discussed with the VMT Coordination Workgroup.

Section 12.0, Logistics and Planning Tactics

Major Equipment List

PWSRCAC is concerned resources allocated to response (in Volume 3, Section 12) represent an artificially low subset of the resources available to APSC/SERVS in Prince William Sound. In reality, all available PWS equipment and available contract resources would be used to respond to a terminal spill. PWSRCAC sees little benefit in developing a response plan that only uses a fraction of known and available resources. The plan should reflect the response actions that would actually occur.

Table 12.4-1 VMT Major Equipment must be accurate as the equipment on this list is critical to respond to a major spill and requires specific written notification to ADEC (18 AAC 75.475) if it is taken out of service for repair, extended maintenance, or dry-dock service for more than 24 hours. This equipment includes boom, skimmers, large pumps, and power packs dedicated to vessels/barges, as well as vessels and barges identified in this section. Similarly, APSC must submit "return-to-service notifications" on this major equipment when it is brought back into service.

Table 12.4-1 does not contain all the major response equipment required by Scenario 5 (ADEC's RPS Scenario), Scenario 4 (USCG Worst-Case Discharge Scenario), and does not

appear to include all the equipment required to demonstrate response to EPA's Tier 1, 2, and 3 Contracted Volume requirements. In comparing the equipment used in Volume 2, Scenario 5 Figure 5.4-1 Scenario 5, Equipment and Personnel Mobilization Chart to Volume 3, Table 12.4-1 VMT Major Equipment, the lists do not match. For example, the nearshore and sensitive area protection equipment is not listed, nor is the wildlife equipment listed.

Additionally, PWSRCAC has made numerous recommendations for improving Scenario 5 that may require more equipment to address a larger spill volume, improve oil spill response effectiveness, and response timing. PWSRCAC recommends that these equipment improvements are added to Table 12.4-1.

RFAI #58

PWSRCAC requests Table 12.4-1 VMT Major Equipment be revised to address the concerns raised above.

Section 12.7, VMT-LP-7, Fishing Vessel Program

Section 12.7.3, Operational Considerations

Proposed edits consolidate language but lose the specificity regarding *who* is responsible for maintaining current and detailed information on the status of fishing vessels. The first paragraph should state that the Fishing Vessel Coordinator will do this, or otherwise be updated so it is clear who has this responsibility.

RFAI #59

PWSRCAC requests that the proposed edits be amended so that it is clear who is responsible for maintaining the necessary information about fishing vessel availability (as is described in that section).

Section 13.0, Vessel and Equipment Decontamination Tactics

Section 13.2, VMT-VE-2, Secondary Small Vessel Decontamination

PWSRCAC suggests that this tactic should be demonstrated, or a deadline given for its demonstration, as a condition of approval. The last time this was demonstrated in 2022, several issues were identified that indicate further testing to improve both performance and potentially add information to the tactic. These included: (1) criteria for selecting a location for small vessel decontamination operations, (2) reducing the potential for releasing free oil during small vessel decontamination operations (e.g., while moving skimmers around and not scrubbing with a brush that is rinsed off and put back into the water), (3) maneuvering the vessel being cleaned without disturbing the containment boom with the prop wash (perhaps by booming a larger area), (4) methods to remove skimmers from vessels without releasing oil back into the water, and (5) ensuring preparations are made for recovering any oil that is released from boomed areas through the decontamination process.¹⁴

RFAI #60

PWSRCAC requests that ADEC require APSC to demonstrate Tactic VMT-VE-2, including repeating it, if necessary, until successful. This could be done as a condition of plan approval with a set deadline for completion.

Section 13.3 VMT-VE-2, Large Vessel Decontamination

With a new contractor in place to conduct vessel decontamination, exercising large vessel decontamination is as important as for small vessel decontamination. This has not been done since 2017 – prior to TCC, LLC taking over responsibility for this activity – and may also result in helpful lessons learned which would provide value both for training purposes and to update the tactic if warranted.

RFAI #61

PWSRCAC requests that ADEC require APSC to demonstrate Tactic VMT-VE-3, including repeating it, if necessary, until successful. This could be done as a condition of plan approval with a set deadline for completion.

¹⁴ “Crowley Alaska Tankers Exercise, May 17-19, 2022” Roy Robertson, Prince William Sound RCAC, 2022 ([available here](#)).

Section 15.0 Berth Operations Tactics

Section 15.4 VMT-BO-4 Drainage 58 Tactic

Section 15.4 VMT-BO-4 Drainage Containment Booming Tactic shows the boom configuration APSC plans to use to capture oil moving down Drainage 58 into Port Valdez. The tactic involves booming, containing, and skimming spilled oil from the boomed area at the base of the drainage. This tactic was designed specifically to aid in the response to a Scenario 5 oil spill of 155,000 barrels to water; however, this tactic will not contain 155,000 barrels of oil.

PWSRCAC appreciates the improvement made to this tactic in 2021, including the installation of a tide slide for boom anchoring on the flat face of the Fluor dock. Based on subsequent exercise observations, this added hardware greatly improves the containment capability of the tactic.

At the same time, PWSRCAC remains concerned about a few aspects of this tactic, discussed below. If these modifications are not made to the plan, the tactic could be demonstrated again, and lessons learned incorporated in the future under a condition of approval.

Light duty, calm-water boom called for in the tactic is likely to be inadequate to contain the large volume of oil that would migrate down Drainage 58 in Scenario 5 (155,000 barrels). Higher sea states can occur in this area due to summer sea breezes or winter winds. The pre-staged CSI boom on the Fluor Dock, while lighter and easier to work with, could easily be overwhelmed because it is designed for use in protected waters. The CSI boom is not designed to handle large spill volumes and significant wave action.

RFAI #62a

PWSRCAC requests Tactic VMT-BO-4 be revised to use a larger boom with a greater buoyancy to weight ratio than currently in place to contain potentially large crude oil spill volumes (e.g., Scenario 5 volumes), to mitigate drainage and entrainment, and to handle potential wave action and overtopping.

The east side boom connection at the rock jetty will need adjustment and tending based on the tidal state to offer the best seal. A shore seal boom with a beach connection point adjacent to the rock jetty would better mitigate against tidal driven gaps.

RFAI #62b

PWSRCAC requests that a shore seal boom with a beach connection point be used adjacent to the rock jetty, ideally with a permanent anchor installed.

Tactic graphics should be updated. The boom is shown incorrectly both in Figure 14.5-1 in this section and in Scenario 5 figures. The tide slide is a permanent fixture, and boom should be drawn in such a way that it portrays the tactic when deployed in the field. The booming configuration should be depicted accurately in the figures to support compliance with requirements for the scenario to be "usable as a general guide" at 18 AAC 75.449(a)(6).

RFAI #62c

PWSRCAC requests that Figures 14.5 in Volume 3 and all relevant figures depicting trajectories and booming in Scenario 5 (Volume 2) be revised to reflect accurate tactics.

Appendix A APSC Equipment Descriptions

500-2 barge description

Figure A.1-6 shows the 500-2 barge with basic specifications next to it. The number of people that can be accommodated on the other barges is shown, but not for this barge. This is helpful information and a simple addition simply to enhance the utility of the plan, particularly for out of region responders.

RFAI #63

PWSRCAC requests that the number of berths on the 500-2 be added and kept current.