Consent Agenda Briefing for PWSRCAC Board of Directors – January 2026

ACTION ITEM

Sponsor: Robbin Capers, Donna Schantz, Joe Lally, and the TOEM Committee

Project number and name or topic: 5595 - Review of VMT Cathodic Protection System Testing

1. **Description of agenda item:** The Board is being asked to approve a budget modification adding $25,000 to project 5595 - Review of Valdez Marine Terminal (VMT) Cathodic Protection System Testing and authorize a contract increase with Dr. Kevin Garrity of the Mears Group for a new total not to exceed $59,000.

This project is in the approved FY2026 budget for a total of $34,000. The Mears Group has been reviewing documentation that Alyeska previously provided to PWSRCAC related to the VMT East Tank Farm crude oil storage tank cathodic protection (CP) systems and testing, as well as past PWSRCAC contractor reports on the same subject.

This project deals with one of the most important oil spill prevention systems at the VMT. Because prior PWSRCAC advice and recommendations regarding Alyeska's CP systems and testing do not appear to have been addressed, the TOEM Committee recommended retaining Dr. Garrity of the Mears Group beginning in FY2025 to review past PWSRCAC contractor reports as well as Alyeska's protocols and data collection procedures to provide another expert opinion. The requested increase for this project is largely due to additional information necessary to complete the work.

The justification for the requested budget modification is due largely to an increase in the amount of documentation beyond what was originally envisioned to complete this work. See below under Summary of Policy, Issues, Support, or Opposition for more information on the justification for this request.

2. **Why is this item important to PWSRCAC:** The CP systems at the VMT are designed to prevent corrosion of metal, namely the floors and annular plate of the large crude oil storage tanks. CP works by turning a metal structure into the cathode of an electrochemical cell, preventing it from corroding by forcing it to receive electrons, rather than give them up. This is achieved by connecting the structure to a more reactive metal (a sacrificial anode like zinc) or an external power source, which corrodes preferentially, providing a continuous flow of electrons (impressed current) to protect the target metal in an electrolyte like soil or water. It is an important oil spill prevention measure, as an effective CP system is a key factor in determining the schedule for the next internal tank inspection (i.e., ensuring the tanks are inspected before possible corrosion could cause damage resulting in an oil leak).

To ensure the CP system is working effectively, a soil-to-structure potential test is conducted to verify that an adequate film of negatively-charged ions is forming across the tank bottom. This test verifies there is enough current by measuring the potential of the tank's steel against a standard reference electrode. If the data collected from these tests is not accurate or is not

interpreted correctly, it could lead to an improper determination of how long the tank can remain in service before a leak occurs due to corrosion.

Prior PWSRCAC consultants have raised some concerns regarding the design of the CP systems at the VMT, as well as the data being utilized for these tests. While Alyeska has made some improvements to their new CP systems, such as the use of monitoring tubes beneath the annular plate, concerns remain. Some key concerns that remain are that the CP design calculations for the annual plate do not address anode crowding. Additional concerns are that Alyeska's testing and/or monitoring procedure includes using the historical collection of polarized potentials that are more negative than one can expect to experience, and are widely recognized as abnormal conditions.

Because prior PWSRCAC advice and recommendations regarding Alyeska's CP systems and testing do not appear to have been addressed, the TOEM Committee recommended retaining Dr. Garrity of the Mears Group to review past PWSRCAC contractor reports as well as Alyeska's protocols and data collection procedures to provide another expert opinion. Dr. Garrity is a respected expert in CP, with over 50 years of experience in corrosion engineering and material science, and the application of cathodic protection to buried pipelines and tanks, among other structures. He has been an active member of the National Association of Corrosion Engineers (NACE) International for over 45 years and has served as the chair of many NACE technical committees, and among other accomplishments, Dr. Garrity received the NACE Distinguished Service Award in 2010, and the Colonel George C. Cox award for outstanding contributions to corrosion science and fundamentals.

3. **Previous actions taken by the Board on this item:** PWSRCAC has a long history of reviewing Alyeska's cathodic protection systems and testing. The following includes only those actions related to the current project.

Meeting	Date	Action
Board	5/2/24	The Board approved the FY25 budget that included $34,000 for project 5595 Review of VMT Cathodic Protection System Testing.
Board	5/1/25	The Board approved the FY26 budget that included the unspent $34,000 from FY25 for project 5595 Review of VMT Cathodic Protection System Testing (no new funds were added).

4. **Summary of policy, issues, support, or opposition:**

On May 30, 2025, PWSRCAC sent a letter (Attachment A) to Alyeska requesting a meeting between our contractor, Dr. Garrity, and Alyeska's CP experts, and included a list of proposed questions for Alyeska to consider answering. On September 3, 2025, Alyeska responded (Attachment B) stating that "Alyeska has provided extensive data and procedures on the cathodic protection systems at the VMT. These previous transmittals should be sufficient to resolve your consultant's questions. Please provide this information to your consultant in lieu of holding a meeting."

Based on Alyeska's response, PWSRCAC staff compiled a list of 41 documents from our document management system dealing with the CP system and testing, and provided that list to Dr. Garrity. Some of these documents were hundreds of pages long, but we provided them in full to ensure Dr. Garrity had access to any information that might address his questions.. The requested increase for this project is largely due to the additional information necessary to

complete the work. However, Dr. Garrity said that all of the documentation provided was useful.

Dr. Garrity has stated that in addition to the original scope of work for this project, he will provide a detailed chronology of the documents reviewed in order to establish a history in terms of the analytics. This chronology will be incorporated into his final report. It is believed that if Alyeska had agreed to meet with Dr. Garrity to answer the questions outlined in our May 30, 2025 submittal, the additional cost and scope would not have been necessary. However, the chronology that Dr. Garrity will provide is expected to be a useful reference tool for the organization in our ongoing efforts to provide advice and recommendations to Alyeska and regulators regarding this important oil spill prevention system.

5. **Committee Recommendation:** The TOEM Committee unanimously supported the requested action via email poll dated December 12, 2025.

6. **Relationship to LRP and Budget:** Project 5595 was originally funded in FY2025 for $34,000, and these funds were carried over into FY2026. No new funds have been added. This project ranked 12 out of 28 projects in the Board approved 2024 Long Range Plan. No funds have been expended to date, although the contractor will not be able to complete the project without the requested additional funds.

7. **Action Requested of the Board of Directors:** Approve a FY2026 budget modification transferring $25,000 from the contingency fund to project 5595 - Review of VMT Cathodic Protection System Testing and authorize the Executive Director to carry out a corresponding change order to increase contract 5595.26.01 with Dr. Kevin Garrity of the Mears Group in an amount not to exceed $59,000.

8. **Alternatives:** Direct staff to work with the TOEM Committee and Dr. Garrity to reduce the cost of the requested increased budget and scope of work for this project, recognizing that important components of the review may be lost. This alternative is not recommended as this project deals with one of the most important oil spill prevention systems at the VMT.

9. **Attachments:**
   A) May 30, 2025 letter from PWSRCAC to Alyeska subject: Request for meeting with Alyeska Pipeline Service Company cathodic protection experts.
   B) September 3, 2025 response from Alyeska subject: RFI for Cathodic Protection (CP) data at the Valdez Marine Terminal (VMT) .

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PRINCE WILLIAM SOUND
RCAC
REGIONAL CITIZENS' ADVISORY COUNCIL

www.pwsrcac.org

Citizens promoting the environmentally safe operation of the Alyeska terminal and associated tankers.

Members:

Alaska State Chamber of Commerce
Chugach Alaska Corporation
City of Cordova
City of Homer
City of Kodiak
City of Seldovia
City of Seward
City of Valdez
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Cordova District Fishermen United
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Kodiak Island Borough
Kodiak Village Mayors Association
Oil Spill Region Environmental Coalition
Oil Spill Region Recreational Coalition
Port Graham Corporation
Prince William Sound Aquaculture Corporation

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May 30, 2025

Andres Morales
Alyeska Pipeline Service Company
P.O. Box 196660
Anchorage, AK 99519-6660

SUBJECT: Request for meeting with Alyeska Pipeline Service Company cathodic protection experts

Dear Mr. Morales,

As discussed at the May 19, 2025, meeting between Prince William Sound Regional Citizens' Advisory Council (PWSRCAC or Council) and Alyeska Pipeline Service Company (Alyeska), this letter transmits the Council's formal request for a discussion between our contractor, Kevin Garrity of Mears Group Inc., and Alyeska's cathodic protection experts to inform the Council project titled "Review of VMT Cathodic Protection System Testing Protocols." The goal of this project is to review the current status of Alyeska's cathodic protection (CP) system and provide recommendations for improvement in order to mitigate the risk of a potential oil spill.

PWSRCAC respectfully requests a virtual meeting between Mr. Garrity and Alyeska's cathodic protection experts any time after June 16, 2025, from 9 a.m. to 5 p.m. AKST, with the preference that PWSRCAC staff be able to join the conversation. Meeting with Mr. Garrity before he begins his review would provide an opportunity for him to better understand Alyeska's protocols and procedures.

At Alyeska's request, and to be cognizant of time efficiency, Mr. Garrity has offered the attached questions and requests in advance of the meeting. It is our hope that this preliminary meeting would facilitate a streamlined collaborative process to inform Mr. Garrity's review.

Mr. Garrity is a respected expert in CP, with over 50 years of experience in corrosion engineering and material science and the application of cathodic protection to buried pipelines and tanks, among other structures. He has been an active member of the National Association for Corrosion Engineers (NACE) International for 45 years and has served as the chair of many NACE technical committees. He has served three terms on the NACE International Board of Directors as Director of Public Affairs, Director-at Large and Director of Member Activities. He served on the NACE Executive Committee for four years and is a Past President of NACE International 2012-2013 and the NACE Institute which serves as the credentialling authority for over 50,000 corrosion and materials professionals. He is a Lead Instructor for NACE CP-1, CP- 2 and CP-2 Maritime courses and a Certified CP

Specialist. He was honored as the NACE Plenary Lecturer in 1996 and was awarded a NACE Fellow in 2015. He received the NACE Distinguished Service Award in 2010 and the Colonel George C. Cox award for outstanding contributions to corrosion science and fundamentals. In Alaska, Mr. Garrity also lent his experience in developing one of the first corrosion prediction models for assessment of external corrosion on the Trans Alaska Pipeline System in 1992. The Council believes that, with Alyeska's support, Mr. Garrity is well equipped to review and provide valuable recommendations for Alyeska's current CP program.

Thank you in advance for your collaboration and support on this project. Please let me know if you have any questions or need additional information.

Sincerely,

Donna Schantz
Executive Director

Attachments: Proposed Questions for Meeting Discussion

cc: Klint VanWingerden, Alyeska
Thomas Marchesani, Alyeska
Lindsey Vorachek, Alyeska
Alyssa Sweet, Alyeska
Kristen Shake, Alyeska

Proposed Questions for Meeting Discussion

1. Are there plans and specifications available for each of the 14 East Tank Farm crude oil storage tanks and 2 remaining ballast water storage tanks at Valdez Marine Terminal? Specifically looking to review and discuss:
    a. Tank design
    b. Foundation/padding design
    c. Secondary containment design
    d. CP design
    e. CP Monitoring equipment
    f. Tank shell/floor to ring wall (chine) sealing to prevent water migration

2. Are Annual surveys of corrosion control effectiveness performed?
    a. Each of the 14 Tanks
    b. Methodology for Data Collection and interpretation

3. Is tank product level observed and considered during annual CP surveys? If so, how?

4. Are bimonthly rectifier readings obtained?
    a. Through remote monitoring units (RMUs)
    b. Methodology for data collection and interpretation
    c. Operational duty cycle

5. Is rectifier influence data obtained?
    a. Methodology to determine possible interaction of discrete Impressed Current Cathodic Protections (ICCP) systems throughout the Valdez Marine Terminal

6. Are all CP sources interrupted simultaneously during tank annual surveys?

7. Which CP criterion or combination of criteria is used to determine CP effectiveness for the East Tank Farm crude oil storage tanks?

8. Which CP criterion or combination of criteria is used to determine CP effectiveness for the ballast water storage tanks?

9. If the 100 mV polarization criterion is employed, how is the level of polarization decay or formation measured?
    a. Data logging/recording decay or formation
    b. Polarization decay or formation time period used to judge the efficacy of the CP through the 100mV polarization criterion

10. If historical depolarization data are used to evaluate the satisfaction of the 100 mV polarization criterion, how are changes in environmental factors, tank product levels, influence from nearby CP sources, and applied CP current density evaluated and considered in judging CP effectiveness?

11. Is corrosion growth rate data obtained and evaluated?
    a. Is such data used to validate CP effectiveness in controlling corrosion?
    b. Methodology employed

12. What methodology is used to evaluate CP effectiveness across the tank bottom and in particular, in the area of the ring wall, sketch plates, annular ring?
    a. Monitoring tubes for reference electrode insertion
    b. Stationary reference electrodes
    c. Corrosion rate electrical resistance (ER) probes.

13. Is diagnostic testing/analysis routinely performed during annual surveys when anomalous conditions are observed?
    a. CP levels not satisfying criteria
    b. Instant “off” potential values more electronegative than -1200 mV/Copper-copper sulfate reference electrode

14. Are CP system output adjustments made to optimize CP system performance and corrosion control effectiveness during annual surveys?

15. Are system life expectancies evaluated during annual surveys?

16. Are annual survey reports prepared and submitted including recommendations for system upgrades/modifications to enhance performance and corrosion control effectiveness?

17. Are annual survey results compared to API 653 inspection results (when available) to validate corrosion control effectiveness?

Alyeska pipeline SERVICE COMPANY

P.O. Box 109 VALDEZ, ALASKA 99686 TELEPHONE (907) 834-6480

Government Letter No. 57701
September 3, 2025 APSC File No. 7.14.02

Donna Schantz
Executive Director
Prince William Sound Regional Citizens' Advisory Council
130 S. Meals, Ste. 202
Valdez, AK 99686

Subject: **RFI for Cathodic Protection (CP) data at the Valdez Marine Terminal (VMT)**

Dear Ms. Schantz,

Thank you for your recent questions concerning the cathodic protection system at the Valdez Marine Terminal (VMT). We have reviewed the list of questions provided to us by your organization. In response to several recent PWSRCAC requests, Alyeska has provided extensive data and procedures on the cathodic protection systems at the VMT. These previous transmittals should be sufficient to resolve your consultant's questions. Please provide this information to your consultant in lieu of holding a meeting.

We appreciate your understanding. If you have any questions or comments regarding this information, please contact Andres Morales at (907) 787-8303.

Please address all responses to:

Andres Morales
Emergency Preparedness & Response
Alyeska Pipeline Service Company
P.O. Box 196660, MS 575
Anchorage, Alaska 99519

Sincerely,

Lindsey Vorachek
System Integrity & Risk Director

Donna Schantz, Executive Director
RFI for CP data at the VMT

Government Letter No. 57701
APSC File No. 7.14.02
June 19, 2025

cc:

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Klint VanWingerden, APSC
Andres Morales, APSC
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