



## REQUEST FOR PROPOSALS

Title	<i>Cathodic Protection Systems Review</i>
LRFP Number	<i>5998.19.01</i>
Project Manager	<b>Austin Love</b>
Submittal Deadline	<b>August 31, 2018</b>
Award Announcement	<b>September 14, 2018</b>

Submit Proposals to:

**Austin Love, Project Manager**  
via e-mail at the following address:  
**[austin.love@pwsrcac.org](mailto:austin.love@pwsrcac.org)**

or

**Prince William Sound Regional Citizens' Advisory Council**  
**Attention Austin Love**  
**P.O. Box 3089**  
**Valdez, AK 99686**

To verify receipt of proposal, proposer must contact Austin Love before the submittal deadline.

**Proposal submission requirements:**

- a. Proposals shall be submitted in electronic form in Adobe Portable Document form (PDF) (Acrobat 7.0 or later). The PDF file for the proposal itself shall be created directly from the authoring application. It is permissible, but not preferred for appendices and other attachments to the proposal to be submitted in scanned PDF format.
- b. To assure consideration, proposals must be received by Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) by the deadline. Proposals received after the deadline may be considered, but only if they can be accommodated by PWSRCAC's review process. Additional information provided after the deadline may also be considered, but only if such information can be accommodated by the review process.

Inquiries regarding this request for proposals shall be directed to the project manager named above via email.

**REQUEST FOR PROPOSALS**

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) is inviting proposals for a project to review and analyze the operation and maintenance of the cathodic protection systems used at the Valdez Marine Terminal, in Valdez, Alaska. Cathodic protection systems are installed throughout this marine transfer facility on a number of assets including loading berths, crude oil storage tanks, as well as ballast water, fuel, and crude oil piping. The final work product of this effort is a report and presentation to the PWSRCAC Board of Directors that provide a technical overview of the cathodic protection systems used at the Valdez Marine Terminal, and recommendations regarding how the operation and maintenance of those systems could possibly be improved.

## ABOUT PWSRCAC

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

PWSRCAC was formed following the Exxon Valdez oil spill to advise Alyeska Pipeline Service Company and the public on issues related to oil spill prevention and response and mitigating the environmental impacts of terminal and tanker operations. PWSRCAC also advises oil shippers, regulatory agencies and elected officials on these issues.

PWSRCAC's membership is comprised of communities affected by the Exxon Valdez oil spill and interest groups with a stake in safe oil transportation in the region. PWSRCAC's 19 member organizations include communities and boroughs impacted by the 1989 Exxon Valdez Oil Spill, as well as Native, commercial fishing, aquaculture, recreation, tourism and environmental representatives.

PWSRCAC was chartered as a non-profit corporation by the State of Alaska on December 26, 1989. PWSRCAC is funded under a contract with Alyeska, and is certified as the alternative voluntary advisory group for Prince William Sound under the Oil Pollution Act of 1990 (OPA90).

*Please note: All of PWSRCAC's products and the products resulting from contracts are considered public information. Proposals and work plans may be distributed throughout the organization for review and comment. Proprietary information should not be submitted in any proposal. PWSRCAC will not knowingly reveal the contents of a proposal that is not subsequently accepted for contract; however, PWSRCAC accepts no liability should such contents inadvertently be revealed to third parties.*

# 1. PROJECT

## INTRODUCTION

The purpose of this project is to review and analyze the operation and maintenance of the cathodic protection systems used at the Valdez Marine Terminal to limit corrosion on metal structures, especially the crude oil storage tanks and piping at the facility. A number of different types of cathodic protection systems are used throughout the 1,000 acre Valdez Marine Terminal to protect the metal surfaces of piping and storage tanks, as well as the structures used to support those assets, such as the metal pilings for the in-service crude loading Berths 4 & 5. The ultimate goals of this project are to improve the Council's current understanding of these critical systems and identify ways their operation and maintenance might be improved, such that the risks of an oil spill from the terminal are decreased.

This project will be divided into two stages. Stage one is focused on obtaining a detailed understanding of the cathodic protection systems that are currently in use at the Valdez Marine Terminal, the procedures used to operate and maintain those systems, as well as the strategies employed and challenges faced by Alyeska Pipeline Service Company to keep these important systems operating effectively. The primary purpose of stage one is to provide the Council with a detailed, technical understanding of the cathodic protection systems in use at the terminal today and what Alyeska has, is, and plans to do to keep them in good working order. The other purpose of stage one is to gather information that could be used to inform the second stage of this project, if the second stage is deemed necessary by the Council.

Stage two of this project would be focused on reviewing the cathodic protection system testing data from the Valdez Marine Terminal. The scope of stage two may also be expanded to include other work based on the findings of stage one. The decision on whether or not to proceed with stage two of this project will depend on the outcome of stage one.

This request for proposals seeks bidders on and outlines the work pertaining solely to stage one of this project.

Winning the bid for stage one of this project does not guarantee the selected contractor will be chosen to complete stage two. Furthermore, stage two may not be carried out and is dependent on if the Council believes there is a need for such work, as well as if funding is available. If stage two does move forward it will likely be put out for bid at a later date through the Council's request for proposals process.

In order to review and analyze the operation and maintenance of the cathodic protection systems used at the Valdez Marine Terminal, PWSRCAC is seeking to hire an expert(s) in the field of cathodic protection. Working with PWSRCAC's Terminal Operations and Environmental Monitoring (TOEM) Committee, that expert(s) shall: (1) provide a summary of the various cathodic protection systems operating at the VMT including location, age/condition, operational status, and basic technical specifications; (2) review and analyze the cathodic protection operation and maintenance procedures and provide recommendations for improving said procedures; (3) review and analyze the recent Alyeska cathodic protection system annual reports and provide recommendations for improving those reports. To accomplish these tasks the contractor will conduct on-site surveys, consult with Alyeska personnel, and review relevant reports and technical documentation.

## **BACKGROUND**

There are a variety of above ground storage tanks with cathodic protection systems at the Valdez Marine Terminal including diesel, ballast water, and crude oil storage tanks. In-service storage tanks with cathodic protection systems include fourteen crude oil storage tanks, two ballast water storage tanks, and one diesel tank. Grid anode ribbon, impressed current cathodic protection systems protect the floors of those seventeen tanks from external corrosion. Additionally, galvanic anodes are installed inside the tanks at "the water interface portion of the tanks (bottom 2 or 3 feet) to provide secondary cathodic protection."<sup>1</sup>

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<sup>1</sup> Alyeska Pipeline Service Company. November 2014. *Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan Regulatory Manual*. Edition 1. Revision 0.

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Storage Tank	Cathodic Protection	Tank Diameter	Tank Height
Crude Oil Storage Tanks #1-14	Grid Anode Ribbon	250 ft.	62 ft. 3 in.
Ballast Water Tanks #93-94	Grid Anode Ribbon	250 ft.	53 ft. 6 in.
Diesel Storage Tank #56	Grid Anode Ribbon	100 ft.	31 ft. 8 in.

Cathodic protection systems covering the terminal’s storage tanks include a deep ground bed system, angle-drilled ground bed systems, grid systems, and internal galvanic anodes. The deep ground bed system is an, “impressed current system where the anodes are installed in a single vertical hole, typically several hundred feet deep.”<sup>2</sup> The angle-drilled system is an, “impressed current system where the anodes are installed in multiple angle-drilled holes.” The grid systems are, “impressed current systems where the anodes are installed directly under the tank floor.” The internal galvanic anodes, “are typically installed in the water interface portion of the tanks (bottom 2 or 3 feet) to provide secondary cathodic protection in the event of a tank-coating holiday.”

Piping at the Valdez Marine terminal includes liquid fuel, recovered crude, ballast water, and crude oil piping. Corrosion is controlled by a variety of methods including cathodic protection for all of those piping types. Cathodic protection systems applied to piping at the terminal, “are primarily impressed current with a limited amount of galvanic anode systems. The CP systems supplement a tape wrap and/or coating systems on below-ground piping.”<sup>3</sup> More specifically the following types of impressed-current cathodic protection systems are currently in use, “deep wells, surface distributed, and continuous linear (AnodeFlex™).” At locations where,

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<sup>2</sup> Alyeska Pipeline Service Company. November 2014. *Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan Regulatory Manual*. Edition 1. Revision 0.

<sup>3</sup> Ibid.

“impressed-current systems are not practical, a limited number of galvanic anode systems are installed,” to protect piping at the facility.

Additional infrastructure at the Valdez Marine Terminal also have cathodic protection systems installed. For example, the over-water loading berths at the terminal are protected by a combination of impressed current and sacrificial cathodic protection systems.<sup>4</sup>

## **DESCRIPTION OF REQUESTED WORK AND DELIVERABLES**

**Scope of Work.** The scope of work shall include, but is not limited to the following:

### **1. Information Gathering and Site Visit**

- a. Visit the Valdez Marine Terminal in Valdez, Alaska to observe the aboveground, visible portions of the cathodic protection systems at the facility and associated infrastructure (e.g. berth structures, piping, tanks, etc.) they protect.
- b. During the site visit, meet with pertinent Alyeska Pipeline Service Company staff, who are responsible for operating, maintaining and managing these systems, to discuss questions pertaining to the operation and maintenance of cathodic protection systems at the Valdez Marine Terminal.
- c. Obtain and review cathodic protection system information in the possession of PWSRCAC. For example:
  - i. Alyeska’s annual cathodic protection system and integrity management reports;
  - ii. The Valdez Marine Terminal’s oil spill contingency plan.

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<sup>4</sup> Alyeska Pipeline Service Company. 2016. *Integrity Management 2016 Annual Report Facility Integrity*.

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- d. Request and review additional cathodic protection system information from Alyeska Pipeline Service Company. For example:
  - i. As-built drawings;
  - ii. Current operation and maintenance procedures.
- e. Submit a progress report via e-mail to the PWSRCAC project manager regarding the results of the site visit and information gathering. See the General Requirements section for specific progress report content requirements.

## **2. Draft Report**

- a. At a minimum, the report should contain:
  - i. A brief primer on how cathodic protection systems work and any specific content needed for a scientifically literate audience to understand the function of cathodic protection systems in use at the terminal today;
  - ii. An overview of the cathodic protection systems being used at the Valdez Marine Terminal and the infrastructure they protect;
  - iii. A summary of the analysis of Alyeska's cathodic protection system operation and maintenance procedures;
  - iv. A summary of the analysis of Alyeska's cathodic protection system annual reports;
  - v. Recommendations that would improve the operation and maintenance procedures;
  - vi. Recommendations that would improve the annual reporting;
  - vii. Recommendations regarding the type (e.g. rectifier testing) and quantity (e.g. previous 5-years) of cathodic protection system testing data that

should potentially be reviewed in Stage 2 of this project (as described previously in the Introduction section).

- b. The report should help answer the following questions at a minimum:
- i. What types of cathodic protection systems are currently installed at the Valdez Mariner Terminal?
  - ii. What terminal assets are protected by the cathodic protection systems?
  - iii. When were the systems installed?
  - iv. How long could each of these systems be expected to last before they need to be repaired, upgraded, or replaced?
  - v. What types of tests does Alyeska conduct to ensure the systems are operating effectively?
  - vi. What are the biggest challenges Alyeska faces in regards to keeping these systems effectively operating?
  - vii. Are Alyeska's operation and maintenance procedures adequate to keep these systems working safely and effectively?
  - viii. Do Alyeska's annual reports adequately describe the current status of and work needed to keep the cathodic protection systems operating effectively?
- c. It is expected that multiple revisions of the draft report would be submitted by the contractor to the project manager and TOEM Committee for review and comment. The contractor would be expected to attend, via teleconference, TOEM Committee meetings to address questions from the TOEM Committee and incorporate their feedback into the draft report.

- d. As the draft report is written and revised, submit a progress report e-mail every two weeks to the project manager. See the General Requirements section for specific progress report content requirements.

### **3. Final Report**

- a. Work with the project manager and TOEM Committee to finalize the draft report. When the contract terms regarding the final report are met, the TOEM Committee will recommend that the final report be submitted to the PWSRCAC Board of Directors for their acceptance at the next appropriate Board meeting, likely in May 2019 in Valdez, Alaska or in September 2019 in Kenai, Alaska.

### **4. In-Person Presentation**

- a. Provide an in-person presentation to the PWSRCAC Board of Directors regarding the key findings, conclusions, and recommendations from the final report. The purpose of this presentation is to provide an opportunity to ask questions about and understand the conclusions or recommendations suggested by the contractor, and to briefly educate the audience about cathodic protection systems used at the Valdez Marine Terminal. To the greatest extent possible, the presentation should be free of technical jargon and clearly define any necessary technical terms. The audience will have a mixed background but will contain scientifically literate critical thinkers, most without expertise in corrosion processes and cathodic protection systems.
- b. This presentation would occur in either Valdez, Alaska in May 2019 or in Kenai, Alaska in September 2019.

### **Schedule and Completion Dates**

1. Proposal Submittal Deadline – Friday, August 31, 2018.
2. Contract Award Announcement – Friday, September 14, 2018
3. Site Visit and Information Gathering – November 2018

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4. Draft Report – January 2019
5. Final Report – March 2019
6. In-Person Presentation – May 2019 or September 2019

## **2. GENERAL REQUIREMENTS**

**PWSRCAC Costs.** PWSRCAC is not liable for any costs incurred by the proposer during the proposal preparation.

**Single Point of Contact.** The contractor will designate one person as the project manager and point of contact with PWSRCAC. In the case of multiple investigators, one shall be designated as the lead to serve as the project manager and point of contact.

**Subcontracts.** Proposers may subcontract minor portions of the contract. However, the proposer must have the major elements of expertise in house and demonstrate the ability to manage any subcontractors.

**Schedule.** Progress reports shall be submitted to the contract manager upon completion of each phase described in the scope of work. At a minimum, progress reports shall include:

- a. An introduction;
- b. An overview of progress to date;
- c. Identification of any difficulties encountered in accomplishing the work;
- d. A schedule for completion of the remaining tasks; and
- e. Specific recommendations concerning the matters addressed.

**Final Report.** The contractor shall submit a written final report. The final written report shall include an executive summary and be of a professional quality suitable for release.

The final report must be submitted in an electronic file in PC format in MSWord and PDF, and data in Excel or Access. Project maps, photos or other graphics shall be included as part of the digital submittal in a common graphic format. Any data or collection of information resulting from work done under the contract is the property of PWSRCAC and shall be submitted either in Microsoft Access or Excel to PWSRCAC.

**Oral Report.** The contractor shall deliver an oral presentation at a Council meeting after completing the final report.

**Final Payment.** A portion of the total payment to the contractor will be withheld until all requirements are met. No interest will be paid on any withheld payments.

### 3. REQUIRED PROPOSAL CONTENTS

Any submitted proposal shall include the following as appropriate to the requirements of the scope of work:

#### **Cover Sheet**

- Name, address, telephone number and facsimile number of proposer
- RFP Title and Number
- Name of Principal Consultant(s)
- Cost of Proposal

**Table of Contents.** May include a list of tables and figures if appropriate.

**Introduction.** This section shall include the RFP title and number, brief general discussion of the problem and the proposed project. Scientific and technical terms shall be clearly defined.

**Goals and Deliverables.** Describe how the proposer intends to address the specific goals and provide the deliverables of the work requested, as listed above.

**Materials and Methods.** Describe in detail the methods to be used and how they will produce the deliverables. Cite references and provide background information where applicable and as needed.

**Project Duration and Work Schedule.** Describe the schedule in which the proposed work will be completed. Include specific milestones, work phase completion dates and the timing of progress reports. Indicate what will be achieved by the completion of each milestone or phase of work.

**Management Scheme.** Clearly describe how the work will be managed including the role of each key individual expected to be involved in the work. Provide names and resumes of each.

This section should also include information on how the scope, time and costs of the project will be managed.

**Budget.** Include information about the total costs (cited in U.S. Dollars), professional fees, expenses and contingencies. In case of overhead rates or administrative fees, give percent of direct personnel cost. Provide a breakdown of hours per individual and rates per individual. If subcontractors are used, indicate the percentage of work to be performed by each subcontractor with respect to the entire proposed scope of work.

**Consultant/Contractual Services.** Indicate if, how, and why a subcontractor will be used for any portion of the work.

**Logistics and On-Site Visits.** Describe logistics and schedules for all travel in conjunction with the proposed work.

**Statement of Qualifications.** Describe, relevant to the proposed work, previous work experience, related technical accomplishments and educational background of each of the principal investigators and subcontractors, if used. If multiple investigators are involved, describe the role of each individual.

**References.** The names, contact persons, and telephone numbers of firms for which the respondent recently performed services shall be included. A minimum of three references is suggested.

**Conflict of Interest.** Describe all financial, business or personal ties contractor has to Alyeska Pipeline Service Company or members of the Alyeska consortium, excluding normal commercial purchases of petroleum products.

#### 4. SUBMITTAL AND EVALUATION PROCESS

**A. Evaluation Criteria.** Proposals will be evaluated based on, but not limited to, the following:

- 1) **Proposal Format.** Does the proposal follow the requested format?
- 2) **Proposed Scope of Work.** Does the proposal clearly meet the requested scope of work?
- 3) **Technical Approach.** Is the proposed approach to the scope of work technically feasible?
- 4) **Qualifications.** Does the principal investigator possess expertise and experience to assure successful completion of the scope of work?
- 5) **Management Scheme.** Will the proposed management scheme reasonably lead to successful development of the deliverables?
- 6) **Schedule.** Is the proposed schedule for completion of the scope of work in accordance with the requested project duration and schedule?
- 7) **Deliverables.** Do the proposed deliverables meet the requirements stated for deliverables in the scope of work?
- 8) **References and Conflicts of Interest.** Does a reference check indicate proposer has the potential to successfully complete the proposed scope of work? If conflicts of interest are stated, are they sufficiently relevant to preclude an offer to perform the work for PWSRCAC?
- 9) **Budget and Cost Justification.** Is the budget reasonable and adequate for the work proposed? Does the budget provide good value for the funds requested?

**B. Contract Award.** The successful proposal will be the one that, in PWSRCAC's sole opinion, best meets the needs as outlined in this RFP. In the event that PWSRCAC determines that no proposal completely meets all of the needs as outlined in the RFP, PWSRCAC shall have the option not to accept any proposal or enter into any contract whatsoever. As an alternative,

PWSRCAC may select the proposal or proposals that, in its' sole view, most nearly conform to its needs as outlined in this RFP; and then negotiate directly with that contractor to refine the proposal to achieve a contract that fully satisfies PWSRCAC's needs.

**C. Professional Services Contract.** A copy of PWSRCAC's standard professional services contract form can be found at [http://www.pwsrcac.org/wp-content/uploads/filebase/newsroom/rfps/professional\\_services\\_agreement.pdf](http://www.pwsrcac.org/wp-content/uploads/filebase/newsroom/rfps/professional_services_agreement.pdf) or can be made available upon request.

**D. PWSRCAC Information.** The following information about PWSRCAC is available upon request to the project manager:

PWSRCAC/Alyeska Contract

PWSRCAC Bylaws

PWSRCAC Observer Newsletter

PWSRCAC Brochure

PWSRCAC Annual Report