



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

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MEMBERS

February 25, 2021

Alaska State
Chamber of Commerce

Mr. Seth Robinson
Alaska Department of Environmental Conservation
610 University Ave.
Fairbanks, AK 99709
dec.cpr@alaska.gov

Chugach Alaska
Corporation

City of Cordova

Subject: Comments on Notice of Proposed Changes to Oil Pollution
Prevention Requirements in the Regulations of Alaska
Department of Environmental Conservation (ADEC),
Aboveground Oil Storage Tank Standards

City of Homer

City of Kodiak

City of Seldovia

Dear Mr. Robinson,

City of Seward

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC or Council) is an independent non-profit corporation whose mission is to promote environmentally safe operation of the Valdez Marine Terminal and associated tankers. Our work is guided by the Oil Pollution Act of 1990, and our contract with Alyeska Pipeline Service Company. PWSRCAC's 18 member organizations are communities in the region affected by the 1989 Exxon Valdez oil spill, as well as commercial fishing, aquaculture, Native, recreation and environmental groups.

City of Valdez

City of Whittier

Community of
Chenega

Community of
Tatitlek

Cordova District
Fishermen United

Kenai Peninsula
Borough

Kodiak Island
Borough

PWSRCAC provides these comments in regards to ADEC's proposed changes to 18 AAC 75.065, 18 AAC 75.066, and 18 AAC 75.990 pertaining to field-constructed and shop-fabricated oil storage tanks dated January 26, 2021. Assistance on these comments has been provided by technical experts and address any changes that could increase the risk of a spill from the large crude oil storage tanks at the Valdez Marine Terminal. The Council believes the recommendations contained in these comments can lead to regulatory solutions that resolve many of our Valdez Marine Terminal specific concerns.

Kodiak Village Mayors
Association

These comments are organized by the specific section, subsection, paragraph, subparagraph, or sub-subparagraph of regulations that ADEC has proposed changing.

Oil Spill Region
Environmental
Coalition

Specific Comments

Port Graham
Corporation

1. 18 AAC 75.065(a)(1) and (2) amendment

Comment: The updated edition of API 653 allows for extended initial inspection intervals beyond 10 years for added safeguards such as fiberglass liners, coating systems, and cathodic protection systems. API 653 requires that these systems be properly designed and installed with a high degree of quality control in order to eliminate corrosion mechanisms. The

Prince William Sound
Aquaculture
Corporation

effectiveness of these safeguards cannot be assessed until after the tank has been put into long term operation, then taken out of service, and inspected through non-destructive examination.

PWSRCAC does not support allowance of an initial inspection interval beyond 10 years as it poses increased risk for leaks due to the inability to assess the corrosion rates and integrity of the tank floor from topside and/or soil side corrosion.

2. 18 AAC 75.065(b)(2) repeal and re-adoption

Comment: PWSRCAC is concerned about the proposed changes to 18 AAC 75.065(b)(2). The current codified edition of API 653 (3rd Edition, Addendum 1, (2003)) requires a maximum initial inspection interval of 10 years after a tank has been placed into service or when corrosion rates are not known. This interval also applies to tanks with newly installed bottoms. The proposed changes will allow an initial inspection interval to be 20 years with additional “safeguards” and up to 30 years with a Release Prevention Barrier.

18 AAC 75.065(b)(2)(A) - Table 6.1 of API 653 (5th Edition, Addendum 1 (2018)) provides a list of tank safeguards with increased inspection intervals that were not permitted in the codified edition of API 653. For reference, this table is included below.

Table 6.1—Tank Safeguard

Tank Safeguard	Add to Initial Interval
i. Fiberglass-reinforced lining of the product-side of the tank bottom installed per API RP 652.	5 yrs
ii. Installation of an internal thin-film coating as installed per API RP 652.	2 yrs
iii. Cathodic protection of the soil-side of the tank bottom installed, maintained, and inspected per API RP 651.	5 yrs
iv. Release prevention barrier installed per API 650, Annex I.	10 yrs
v. Bottom corrosion allowance greater than 0.150 in.	(Actual corrosion allowance -150 mils)/corrosion rate*
vi. Bottom constructed from stainless steel material that meets requirements of API 650, Annex SC, and either Annex S or Annex X; and internal and external environments have been determined by a qualified corrosion specialist to present very low risk of cracking or corrosion failure.	10 yrs

* Corrosion rate to be 15 mpy, or as determined from Annex H, Similar Service.

The effectiveness of these safeguards to minimize or eliminate corrosion and prevent a spill is entirely dependent on proper design elements and quality control factors. The effectiveness of these safeguards cannot be determined until the initial internal inspection has been completed after the tank has been in service. These factors include:

- the cleanliness of the floor prior to coating;
- quality control during application of coating systems or liners;
- tank floor cathodic protection (CP) system effectiveness and installation quality control.

- Housekeeping: The safeguard allowances for an increased inspection interval do not take into account housekeeping factors during the tank erection or floor replacement process. There have been instances in which welding rods, tools, and other debris were found beneath a tank floor during the initial inspection after a 10-year service interval. The inspections identified accelerated corrosion at these locations that would have resulted in a release if the initial inspection interval was extended beyond 10 years.
- Fiberglass-reinforced Lining or Thin-film Coatings: The coating system only mitigates corrosion if it is properly applied. An incorrectly applied coating system can trap moisture against the tank plates which contributes to a corrosive environment. Often, a tank erection or reconstruction contract is awarded to the lowest bidder. Quality control factors such as cleanliness, proper surface preparation, material storage, proper cure times, and environmental conditions may be neglected by a contractor that is trying to manage costs and schedule. Neglect of these application requirements results in premature failure of coating systems, the extent of which cannot be verified until after the tank has been put into service. Risk is increased by allowing a longer service interval for a safeguard that is entirely reliant on the quality control during application and performance characteristics of the coating. Coating failures lead to accelerated internal corrosion. Extending the initial service interval delays discovery of the active corrosion and could lead to loss of containment.
- Cathodic Protection (CP) Systems: The ability of a tank floor cathodic protection system to prevent corrosion is also dependent on quality control during installation and the system design, and effective operation and maintenance. The effectiveness of a CP system design cannot fully be evaluated until after it has been commissioned and in use for an extended period of time (i.e., 1-5 years). There are tanks in the Prince William Sound region that are reported as cathodically protected but are actually subject to high soil-side corrosion rates. PWSRCAC is concerned that allowing an extension of the initial inspection interval could delay discovery of active corrosion, and that could lead to loss of containment – even when a CP system is being used.
- Bottom Corrosion Allowance: Increased tank bottom corrosion allowances may not prevent a leak if the tank is subjected to accelerated corrosion due to the quality control issues discussed above.

18 AAC 75.065 (b)(2)(B) – Similar service assessments allow an operator to apply the findings of one tank to others that may exhibit other damage mechanism characteristics. These assessments also do not account for tank-specific quality control issues. An owner/operator does not know the true condition of the tank until it is formally inspected.

Within the Prince William Sound region, neighboring crude oil storage tanks within the same tank farm cell, with the same product and safeguards, have displayed corrosion rates that differ by at least a factor of 10. Extending the initial service interval delays discovery of the active corrosion and could lead to

loss of containment. Thus, PWSRCAC does not support extending an inspection interval based on similar service.

A recent case demonstrates the concerns discussed above. A crude oil storage tank within the Prince William Sound region experienced accelerated corrosion and failures of safeguards despite having an internal coating system and a cathodic protection system. All regulations, codes, and standards were followed for the construction and inspection of this tank. This tank is located next to several other tanks with the same CP system design, installed at the same time, and storing the same product. CP data on the tank suggests that it was protected from corrosion, yet it was actually experiencing accelerated floor corrosion rates. If this tank had been evaluated using a similar service assessment or had Table 6.1 of API 653 criteria been applied, the inspection interval could have been extended to the point that a release may have been likely.

PWSRCAC does not support allowing similar service or risk-based inspection to extend a tank's initial inspection interval. PWSRCAC does not support allowance of an initial inspection interval beyond 10 years as it poses increased risk for leaks due to the inability to assess the corrosion rates and integrity of the tank floor from topside and/or soil side corrosion.

4. 18 AAC 75.065(d) amendment to clarify records retention

Comment: The deletion of the requirement to provide inspection records upon request by ADEC seems to remove the ability for the ADEC to have access to important information regarding the inspections. If records are not available to ADEC, the owners/operators are trusted to inspect and repair their tanks in accordance with the regulations with little to no regulatory oversight.

PWSRCAC does not support diminishment of ADEC oversight and recommends that access to inspection records be retained. It is critical for regulators to have access to these records, and PWSRCAC advocates that regulators maintain that ability.

5. 18 AAC 75.065(d) amendment adding a new paragraph (3)

Comment: A completed Annex L API 650 Storage Tank Data Sheet of API 650 defines the specific technical information such as geometry, design loads, materials, and appurtenances, as well as an outline sketch of the tank. Additionally, the Data Sheet would detail additional safeguards such as coatings, cathodic protection, or a release prevention barrier. The Data Sheet would support the extension of the initial inspection interval to greater than 10 years if the safeguards listed were included in Table 6.1 of API 653. Although the requirement to retain a completed Storage Tank Data Sheet is recommended, as discussed previously, PWSRCAC is concerned with extending the initial inspection interval for the reasons stated above.

6. 18 AAC 75.066(f)(2) amendment

Comment: As previously discussed, the updated edition of API 653 allows for extended initial inspection intervals beyond 10 years for added safeguards such as fiberglass liners, coating systems, and cathodic protection systems. The standard requires that these systems are installed properly in order to eliminate corrosion mechanisms. The effectiveness of these safeguards cannot be assessed until after

the tank has been put into long term operation, then taken out of service, and inspected through non-destructive examination.

Allowing an initial inspection interval beyond 10 years poses increased risk for leaks due to the inability to assess the corrosion rates and integrity of the tank floor due to topside and/or soil side corrosion. PWSRCAC does not support allowance of an initial inspection interval beyond 10 years as it poses increased risk for leaks due to the inability to assess the corrosion rates and integrity of the tank floor from topside and/or soil side corrosion.

PWSRCAC appreciates the opportunity to provide input on these regulatory changes, and strongly encourages ADEC to consider these recommendations prior to making updates to 18 AAC Chapter 75. Please contact Austin Love (austin.love@pwsrcac.org) with any questions or requests for additional information regarding these comments.

Sincerely,


Donna Schantz
Executive Director

Cc: Andres Morales, Alyeska Pipeline Service Company