PUBLIC COMMENT ISSUANCE DATE: JULY 10, 2013

PUBLIC COMMENT EXPIRATION DATE: AUGUST 9, 2013

TECHNICAL CONTACT:

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The U.S. Environmental Protection Agency (EPA) plans to **modify** a National Pollutant Discharge Elimination System (NPDES) permit **for** the following facility pursuant to the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq:

ALYESKA PIPELINE SERVICE CO.
VALDEZ MARINE TERMINAL (AK-002324-8)

EPA PROPOSES TO MODIFY NPDES PERMIT

EPA proposes to modify the NPDES permit issued to the facility referenced above. The draft modification proposes to modify the effluent monitoring requirements for acute and chronic whole effluent toxicity (WET) for Outfall 001. Specifically, EPA proposes the following:

- Remove the acute WET testing requirements;
- Remove the chronic toxicity trigger set forth in the Part I.H.5(a);
- Expand the chronic WET testing dilution series;
- Increase chronic WET monitoring frequency to monthly for 12 consecutive months; and
- Add a provision concerning holding times for WET samples.

In addition, EPA is proposing to make some minor modifications pursuant to 40 CFR § 122.63. The only modifications that EPA is accepting comments on are the proposed modifications to the WET testing provisions. EPA is not accepting comment on the minor modifications set forth in this Fact Sheet at Part III.

This Fact Sheet includes:

- Information on public comment, public hearing, and appeal procedures;
- A description of the WET requirements that the Region is proposing to modify;
- A map and description of the area where the Alyeska Pipeline Service Company – Valdez Marine Terminal is located;
- Technical information supporting the draft modified WET monitoring requirements; and,
- Minor modifications made to the permit, which are not subject to public comment procedures.

401 CERTIFICATION FOR FACILITIES THAT DISCHARGE TO STATE WATERS

The proposed modification to the permit is consistent with the Final Section 401 Certification received by EPA on October 29, 2012; therefore, EPA is not requesting an additional 401 certification for this modification.

PUBLIC COMMENT

EPA will consider all substantive comments on the proposed modifications within the draft NPDES permit and fact sheet before reissuing the final NPDES permit. Persons wishing to comment on, or request a public hearing for, the proposed permit action may do so in writing by the expiration date of the public notice period. A request for a public hearing must state the nature of the issues to be raised as well as the requester's name, address, and telephone number. All comments should include name, address, phone number, a concise statement of basis of comment and relevant facts upon which it is based. All written comments should be addressed to:

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After the Public Notice period has ended and the public comments have been considered, EPA Region 10's Director of the Office of Water and Watersheds will make a final decision regarding permit reissuance. If no substantive comments are received, the conditions in the proposed permit will become final and the permit will become effective upon issuance. If substantive comments are received, EPA will respond to the comments and the permit will become effective 30 days after its issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

DOCUMENTS ARE AVAILABLE FOR REVIEW

The draft NPDES permit, fact sheet and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see address below). The draft permit, fact sheet, and other information can also be found by visiting the Region 10 website at "www.epa.gov/R10earth/waterpermits.htm".

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I. FACILITY OVERVIEW

Alyeska Pipeline Service Co. ("Alyeska") is the operator of the Valdez Marine Terminal ("the facility"). The facility is located at the southern terminus of the Trans Alaska Pipeline System (Figure A-1, Appendix A). The pipeline transports crude oil produced on the North Slope to Port Valdez. Oil is temporarily stored on land prior to transfer to tankers, which moor at one of the terminal's berths. Historically, the major discharges from this facility were from ballast water carried by the tankers for added stability as they travel northwards, without cargo, to Valdez. The tankers arrived in the Port of Valdez loaded with water that was contaminated with residual oil, this water was off-loaded to the ballast water treatment plant, and the tankers were then loaded with oil for transport to refineries.

The overall purpose of the BWTF is to recover oil from ballast water and to treat facility wastewaters prior to discharge. Crude oil primarily consists of alkanes (saturated hydrocarbons, linear or branched), cycloalkanes (one or more carbon ring), and various aromatic hydrocarbons (one or more planar six-carbon rings). Aromatic hydrocarbons include benzene, toluene, ethylbenzene, and xylene (BTEX). They are among the most acutely toxic components of crude oil and among the most water soluble aromatic hydrocarbons. BTEX is the primary pollutant driving wastewater treatment at the BWTF. Aromatic hydrocarbons containing multiple rings are called polynuclear or polycyclic aromatic hydrocarbons (PAHs); they are much less water soluble as compared to BTEX, and are present in much lower concentrations in the BWTF effluent.

The most recent issuance of the permit reflects the major changes in the ballast water treatment facility (BWTF) operations and flows. As required by the Oil Pollution Act of 1990 (OPA 90), the tanker fleet has been largely converted to segregated ballast systems, which drastically reduced the amount of off-loaded ballast water requiring treatment. Additionally, reduced crude production on the North Slope has resulted in fewer vessel loadings, further reducing the average daily ballast water receipts to the facility. This reduction in ballast water flow to the facility has resulted in a significant change to the wastewater composition that is treated by BWTF, now primarily consisting of runoff from rainfall and snowmelt, crude oil storage draws, and miscellaneous site process wastewaters.

The facility operates in accordance with the U.S. Environmental Protection Agency's (EPA) NPDES permit AK-002324-8. The original NPDES permit for this facility was issued in December 1974 and became effective in January 1981. Subsequent reissuances occurred in August 1980, May 1989, May 1997, and August 2004. On January 30, 2009, Alyeska submitted a timely and complete application for renewal of the permit, which was reissued on October 30, 2012.

The facility operations include two continuous discharges into Port Valdez. The discharges are from the BWTF, which discharges through Outfall 001, and a sanitary and domestic wastewater from the sewage treatment plant (STP), which discharges through Outfall 002.

II. CAUSE FOR MODIFICATION

A. BACKGROUND

EPA reissued NPDES Permit No. AK-002324-8 ("Permit") to Alyeska for discharges from the facility on October 30, 2012. The Permit authorized wastewater discharge from Alyeska's BWTF (Outfall 001) and the STP (Outfall 002). On December 4, 2012, Alyeska filed a Petition for Review and supporting materials seeking review of the Permit by the Environmental Appeals Board ("EAB"). Alyeska sought review of the whole effluent toxicity (WET) monitoring requirements in Section I.H. of the Permit.

On December 12, 2012, pursuant to 40 CFR § 124.16, EPA sent a letter notifying Alyeska that the contested provisions in Section I.H of the Permit had been stayed.

Subsequently, EPA and Alyeska reached an agreement to stay the proceedings before the EAB to allow EPA time to modify the WET provisions in the Permit. At this time, EPA is issuing, for public comment, a draft permit modification that reflects the changes to the WET provisions that EPA agreed with Alyeska to propose for public comment. The changes being made include: removing acute WET testing, removing the lower trigger for chronic toxicity, expanding the chronic WET testing dilution series, modifying the chronic WET testing frequency, and incorporating language regarding sample holding times.

B. WATER QUALITY STANDARDS

Below is a description of Alaska's WQS for acute and chronic toxicity.

1. ACUTE WHOLE EFFLUENT TOXICITY

There is no specific narrative or numeric criterion for acute toxicity within Alaska Water Quality Standards (AWQS), 18 AAC 70. However, for waters with a designated use of aquatic life, the water quality standard for toxic and other deleterious substances states: *"there may be no concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, adverse effects on aquatic life"* (18 AAC 70.023(C)).

There is narrative language within the mixing zone provisions of the AWQS, which is applicable when an acute toxicity mixing zone is authorized: *"The mixing zone will not result in an acute or chronic toxic effect in the water column..."* (18 AAC 70.240(c)(4)(a)).

2. CHRONIC WHOLE EFFLUENT TOXICITY

There is a specific water quality criterion of 1.0 TUc within AWQS (18 AAC 70.030).

C. ACUTE TOXICITY TESTING CHANGES

Acute toxicity testing has been removed from the permit (*October 2012 Permit Parts: I.B Table 2, I.H.3, and I.H.5.b*). The decision to require either acute or chronic toxicity testing within a permit is contingent upon the authorized dilution available to the permittee (U.S. EPA, 1991). In general, acutely toxic effluents require greater dilution to meet WQS for toxicity than effluents exhibiting only chronic toxicity. In other words, discharges requiring larger dilutions (≥100:1) are likely to exhibit more acutely toxic effluents than discharges requiring smaller dilutions (<100:1). For Alyeska, ADEC determined that a dilution of 23:1 is required for acute toxicity and 56:1 for chronic toxicity. Since the acute and chronic dilutions are smaller (<100:1), EPA is choosing to follow the recommended approach in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD; U.S. EPA, 1991) and is modifying the Permit to remove acute toxicity testing and only require chronic toxicity testing.

The expanded chronic toxicity dilution series (see Section II.D.1., below) and collection of mortality data on those samples will capture the same information as the original acute WET monitoring requirements (*October 2012 Permit Part I.H.3.a.: quarterly testing frequency*). Therefore, the proposed removal of the acute WET testing monitoring requirements is not considered "backsliding" pursuant to Section 402(o) of the Clean Water Act (CWA).

D. CHRONIC TOXICITY TESTING CHANGES

1. EPA is proposing to expand chronic toxicity monitoring to also include 50%, 75% and 100% effluent and require the collection of mortality data. Collecting mortality data and testing at these higher effluent concentrations during chronic testing will provide information on the acute toxicity of the effluent (*Permit Part I.H.4*). The expanded chronic toxicity dilution series will capture the same information as the original acute toxicity monitoring requirements. Acute toxicity testing is typically conducted over 48 to 96 hours, and often only includes mortality as the measured testing end point. Chronic toxicity testing is typically conducted over a longer duration (7-days), and also includes the measurement of sub-lethal testing endpoints such as growth and reproduction, which are more sensitive indicators of toxicity than mortality alone. The longer duration and sub-lethal nature of chronic toxicity tests results in a test that is more protective and sensitive than acute testing, allowing for more information on the toxic effects of the effluent to be gathered. Furthermore, the collection of mortality data and testing the samples at higher effluent concentrations (also commonly a component of acute toxicity testing) will provide data on the acute toxicity of the effluent.

2. EPA is proposing to remove the "lower-bound" chronic toxicity trigger value that was originally tied to the Toxicity Identification Requirements (TIE) set forth in Permit Part I.H.5 (October 2012 Permit). TIE requirements will now be tied to exceedances of a toxicity trigger value that is based on the mixing zone

dilution (originally the "upper-bound" trigger). By expanding the chronic toxicity dilution series and increasing the monitoring frequency to monthly for 12 consecutive months, EPA believes that it will obtain more information regarding any toxicity concerns than what would have been obtained by keeping the lower trigger values in the permit.

3. EPA is proposing to increase monitoring frequency to monthly for 12 consecutive months. This change is consistent with EPA Guidance (Denton et al, 2010), such that "major" discharges are required to monitor monthly for WET. If there is no exceedance of the toxicity trigger value after 12 months, the monitoring frequency will be reduced to quarterly (four times per year). *Permit Part I.B. Table 2, Footnote 5 and Section I.H.*

4. Include a provision that holding times for WET samples are established at 36 hours, and must not exceed 72 hours. The permittee must document the conditions that resulted in the need to exceed the 36-hour holding time provision and the potential effect on the test results in the DMR for the month following sample collection. *Permit Part I.H.2.*

III. PERMIT MINOR MODIFICATIONS

Minor modifications to a permit may be made by EPA with the consent of a Permittee in order to correct typographical errors, change an interim compliance schedule, allow for a change in ownership, change a construction schedule, or delete an outfall. Pursuant to 40 CFR § 122.63, such minor modifications may be made without public notice and review.

EPA has made minor modifications to the Permit in order to correct typographical errors in the original permit, in accordance with 40 CFR 122.63(a). The modifications will be effective on the date the permit modification is signed.

SUMMARY OF MINOR MODIFICATIONS TO PERMIT

PERMIT SECTION	MODIFICATION	JUSTIFICATION
Part I.B.1. Table 1	Removed TAH loading limits *(mass concentration limits are unchanged)*	It was EPA's intent to remove this limit from the permit. The change is consistent with the Response to Comments (RTC) Document (*please refer to RTC #5).* The Permittee is still required to comply with the TAH mass concentration limits.
Part I.C.1. Table 3	Changed monitoring frequency for Fecal Coliform Bacteria and *Enterococci*	It was EPA's intent to change the monitoring frequency from monthly to quarterly for both Fecal Coliform Bacteria and Enterococci. These changes are consistent with the RTC Document (*please refer to RTC #15D).*
Part I.H.1.	Changed WET sample type	It was EPA's intent to allow WET testing to be conducted on grab samples (see Table 2; *please refer to RTC #11*), EPA incorrectly

		referenced "24-hour composite" in this section of the permit. This was a typographical error.
Part I.H.3. Table 4	Changed invertebrate species	It was EPA's intent to allow **either** the sand dollar fertilization test **or** the purple sea urchin fertilization test to be used to meet the requirements of the invertebrate toxicity tests. This change is consistent with Table 2 Footnote 4 and the RTC Document (*please refer to RTC #27*).
Part III.B.2.	Incorrect internal reference	It was EPA's intent to reference "III.E." This typographical error has been corrected.
Part III.H.1.b.	Incorrect Internal Reference	It was EPA's intent to reference "IV.G." This typographical error has been corrected.
Part III.H.1.c	Incorrect Internal Reference	It was EPA's intent to reference "IV.H." This typographical error has been corrected.
Part III.H.4	Incorrect Internal Reference	It was EPA's intent to reference "III.C." This typographical error has been corrected.
Part III.I.	Incorrect Internal Reference	It was EPA's intent to reference "III.C." This typographical error has been corrected.
Part IV.G.2.b.	Incorrect Internal Reference	It was EPA's intent to reference "III.H." This typographical error has been corrected.
Part IV.H.2.c.	Incorrect Internal Reference	It was EPA's intent to reference "III.H." This typographical error has been corrected.

The EPA believes that these minor modifications should address the questions posed to Erin Seyfried of the EPA by David Connor of the Alyeska Pipeline Company by e-mail on November 1, 2012 and November 13, 2012.

IV. REFERENCES

Denton D.L., Miller J.M., Stuber R.A. (2007). *EPA Regions 8, 9 and 10 Toxicity Training Tool (TTT)*. January 2010. San Francisco, CA. http://www.epa.gov/region8/water/wet/ToxTrainingTool10Jan2010.pdf

U.S. EPA. (1991). *Technical Support Document for Water Quality-Based Toxics Control.* EPA-505-2-90-001. U.S. EPA, Office of Water, Washington, D.C.

V. APPENDIX A - FACILITY INFORMATION

TABLE A-1: ALYESKA PIPELINE SERVICE CO. (VALDEZ MARINE TERMINAL)	
NPDES Permit Number	AK-002324-8
Mailing Address	P.O. Box 196660 Anchorage, Alaska 99508
Facility Background	EPA issued NPDES permit no. AK-002324-8 to Alyeska Pipeline Service Co. (Alyeska) for the Ballast Water Treatment Plant (BWTP) on December 30, 1974, and reissued the permit in August 1980, May 1989, May 1997 and June 2004. The 1989 and 1997 permits included domestic wastewater discharges from the facility. Alyeska submitted timely and complete Forms 1 and 2C to EPA Region 10 on January 30, 2009, in application for renewal of the permit.
Facility Location	The Alyeska BWTP is located near Jackson Point (a subarctic fjord) on the Prince William Sound in Valdez, Alaska. Outfall 001, which discharges treated ballast water and other operational wastes, is located at 61° 05' 23" N and 146° 23' 12" W. Outfall 002, which discharges treated domestic sewage is located at 61° 05' 10" N and 146° 23' 33" W.
FACILITY INFORMATION	
Treatment Train	Gravity Separation, Dissolved Air Flotation, Shallow Tray Air Strippers, Biological Treatment, Packed-Tower Air Strippers, Chemical Injection (for coagulation, biocide treatment and disinfection) and Oil Recovery
Design Flow	Maximum Daily = 10.1 MGD; Max Monthly Flow = 5.54 MGD
Outfall Location	The ballast water treatment plant discharges a treated wastestream through a 1,100 foot long outfall pipe (Outfall 001: 61° 05' 23" N and 146° 23' 12" W) into approximately 62 - 82 meters of water. The domestic wastewater plant discharges a treated wastestream through a single outfall pipe (Outfall 002: 61° 05' 10" N and 146° 23' 33" W) into approximately 12 meters of water.
RECEIVING WATER INFORMATION	
Receiving Water	Port Valdez (arm of Prince William Sound)
Beneficial Uses	Port Valdez is classified by the Alaska Water Quality Standards (AWQSs) as Classes II A(i)(ii)(iii), B(i)(ii), C and D for use in aquaculture, seafood processing and industrial water supply, water contact and secondary recreation, growth and propagation of fish, shellfish, aquatic life and wildlife, and harvesting for consumption of raw mollusks or other raw aquatic life.
ESA Listed Species	Kittlitz's Murrelet (*Brachyramphus brevirostris*), Humpback Whale (*Megaptera noveangliae*), Steller Sea Lion (*Eumetopias jubatus*)

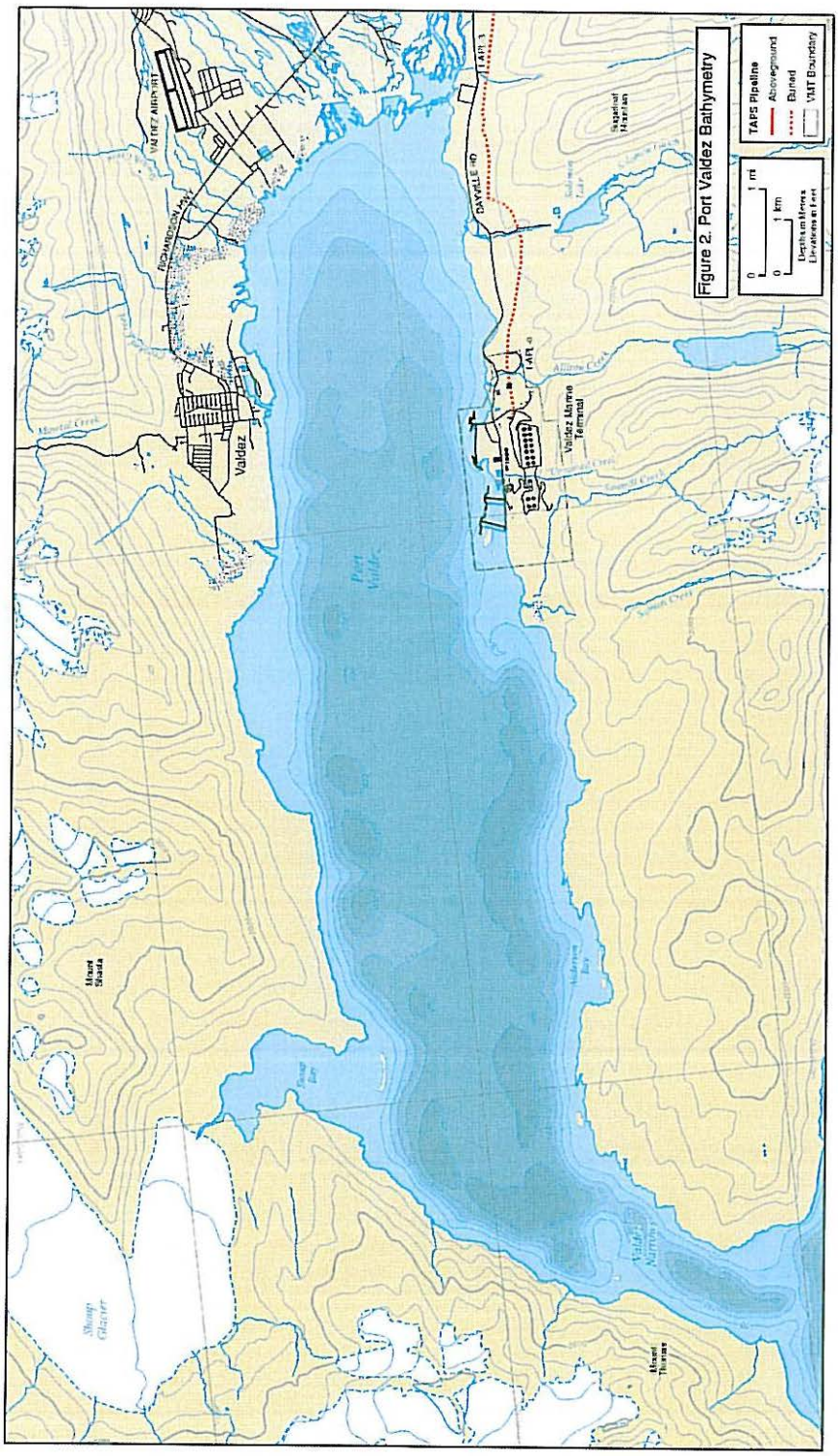

FIGURE A-1: *Location of Alyeska Pipeline Service Co. – Valdez Marine Terminal and bathymetry of Port Valdez.*