

EPA'S RESPONSE TO COMMENTS

ON THE DRAFT NPDES PERMIT MODIFICATION FOR:
ALYESKA PIPELINE SERVICE COMPANY VALDEZ MARINE TERMINAL
NPDES No.: AK-002324-8
SEPTEMBER 30, 2013

On July 10, 2013, the Environmental Protection Agency (EPA) proposed a permit modification to the National Pollutant Discharge Elimination System (NPDES) permit number AK-002324-8 for the Alyeska Pipeline Service Company (Alyeska) to discharge pollutants from the Valdez Marine Terminal in Valdez, Alaska, pursuant to provisions of the Clean Water Act (CWA). The discharge from the facility consists of treated ballast and bilge water and other operational wastes associated with oil storage and transport. Treated sanitary wastes are also discharged. The receiving water is Port Valdez. The modifications to the October 30, 2012 Permit 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.

The State of Alaska, Department of Environmental Conservation (DEC) previously issued a certification that the subject discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the CWA. A final Certification of Reasonable Assurance was issued on October 29, 2012.

The public notice for comments on the draft permit modification was published in the Anchorage and Valdez, Alaska newspapers on July 10, 2013. The comment period ended on August 9, 2013. EPA received comments on the draft NPDES permit modification from Alyeska via a letter to EPA from Mr. Carl Rutz, Senior Environmental Manager dated August 8, 2013, and the Prince William Sound Regional Citizens' Advisory Council (RCAC) via a letter to EPA from Mr. Mark Swanson, Executive Director, dated August 9, 2013. This document represents EPA's response to each of the comments received during the comment period. A portion of the comment or a summary is provided below followed by EPA's response.

COMMENTS SUBMITTED BY ALYESKA

COMMENT #1

Sections I.H.2 and I.H.3.

The whole effluent toxicity (WET) sample holding times have been extended from 36 hours to 72 hours. Although this additional hold time will be beneficial for when shipments are delayed it does not alleviate the possibility that one or more of the replenisher samples required for the Topsmelt larval growth and survival test cannot be delivered within the holding time due to weather related transportation interruptions or necessary plant shut downs.

It is common during the winter season in Valdez to have weather related transportation interruptions that would prohibit the timely delivery of the two effluent replenisher samples required to perform the Topsmelt 7 day static renewal test as required by EPA/600/R-95-136. It is also conceivable that the Ballast Water Treatment system will periodically be idled for operational or maintenance requirements thus making the collection of samples problematic. These issues, and others, as described below, present Alyeska with several potential adverse outcomes if the final permit does not provide relief.

COMMENT 1A: The Permit requires Alyeska to perform monthly chronic WET testing for 12 consecutive months and then allows for a frequency reduction to quarterly provided the trigger value of 56 TU_C is not exceeded during the 12 month period. There is a likelihood that an interruption of the 12 consecutive month period could occur because of weather related transportation interruptions or treatment plant operational conditions which would render the test invalid. This could lead to a situation where the WET test could not be completed and the monthly monitoring frequency not met. Under this scenario the 12 consecutive month requirement for reduction in monitoring frequency could conceivably not be fulfilled and Alyeska would presumably and unreasonably be required to restart the 12 month testing clock beginning with the month following the interruption. Alyeska proposes that EPA provide Permit language to allow for the reduction in monitoring frequency even if a lapse in monthly testing occurs because of events that are reasonably beyond our control.

RESPONSE #1A – *It is not EPA's intent to require the Permittee to restart 12 consecutive months of testing in the event a monthly test could not be completed due to weather related transportation issues outside of the Permittee's control. EPA has revised the final language in Section I.H. of the permit to state*

"The calculation of 12 consecutive months shall exclude any months where a valid WET test could not be completed because of weather related transportation interruptions outside of the Permittee's control. In the event a transportation interruption prevents the collection of a monthly WET test, the Permittee must: 1) provide EPA with documentation demonstrating the cause of the shipping/transportation problem, such as chain-of-custody slips and shipping receipts, and; 2) resample and retest as soon as possible, but no more than 21-days after the missed monthly test was terminated. In the event 12 consecutive months of WET monitoring data are not collected, the Permittee is still required to submit 12 months of WET monitoring data before the monitoring frequency will be reduced to quarterly, provided there is no exceedance of the 56 TU_C trigger."

EPA has reviewed Alyeska's permit file from 2008 to the present and did not find an instant where operational conditions at the treatment plant would preclude the collection of samples for WET testing.

COMMENT 1B: Section 8.5.4 of the EPA publication EPA/600/R-95-136 allows the initial WET sample to be used as a replenisher in certain instances. The manual states that *“in no case should more than 72 hours elapse between collection and first use of the sample. In static-renewal tests, the original sample may also be used to prepare test solutions for renewal at 24 h and 48 h after test initiation, if stored at 4C, with minimum headspace...”*

This language illustrates that if either of the two replenishers is unable to make it to the lab then the test would presumably have to be abandoned and we would be required to initiate a new test. This leaves Alyeska with the very real possibility that fulfilling the monthly requirement for Topsmelt larval growth and survival testing could be difficult at times.

RESPONSE #1B – *See Response #1A. Failure to produce 12 consecutive months of WET data as a result of weather related shipment/transportation issues will not require the facility to restart the 12 consecutive month testing clock. However, in the event a renewal sample does not make it to the lab in the required time frame that particular test would be declared invalid for use in the NPDES program, and the facility would have to resample and retest in accordance with the language in Response #1A.*

COMMENT 1C: Although uncommon, occasionally a WET test will be declared invalid by the testing laboratory because one of the test acceptability criteria was not met. This is also a factor that is beyond Alyeska’s control and should not be considered as a failure to comply with the consecutive sampling requirement. Alyeska requests that the permit language be modified so that such causes of invalid WET tests do not count against the completion of the 12 consecutive WET tests.

RESPONSE #1C – *EPA has no control over the performance of the Permittees’ contract laboratory. WET tests performed in accordance with EPA’s WET methods manuals are invalid for use in the NPDES program if they do not meet test acceptability criteria. A WET test which does not meet test acceptability criteria would not count towards the 12 consecutive monthly tests. EPA recommends ongoing and open dialogue between the Permittee and their contract laboratory during testing to ensure that tests not meeting—or tests which presumably won’t meet—test acceptability criteria are quickly identified so new samples can be taken and the test restarted. EPA recommends initiating monthly tests in the beginning of the month to allow for adequate time for resampling and retesting in the event of poor laboratory performance and/or a problems meeting test acceptability criteria. The final Permit will not include language as requested and no changes will be made to the final modified permit as a result of this comment.*

COMMENT 1D: EPA should address the compliance-related implications of missing a monthly WET monitoring requirement because of factors that are beyond the control of the Permittee. In light of the pending transfer of the Permit authority to the APDES program it would be useful to have continuity of regulatory expectations from EPA to ADEC regarding the likely disruption in testing caused by external events.

RESPONSE #1D – See Responses #1A, #1B, and #1C.

COMMENT 1E: Alyeska recommends adding the following sentence to Section I.H. to resolve the issues stated above: *“The calculation of the 12 consecutive months shall exclude any months where a valid test could not be completed because of weather related transportation interruptions, failures of WET test acceptability criteria, or treatment plant conditions that prevent the collection of a sample.”*

RESPONSE #1E – See Responses #1A, #1B, and #1C.

COMMENT #2

Section I.H.4.

This section requires the toxicity testing of each organism include a series of eight test dilutions (100%, 75%, 50%, 10%, 7.5%, 3.6%, 1.8%, 0.9%). EPA guidance recommends that the dilution series bracket the Instream Waste Concentration (IWC) of the effluent. The BWTF is afforded a 56:1 dilution factor for chronic toxicity, thus that additional chronic testing dilutions were added to offset the elimination of acute toxicity testing and serve to capture any information lost with the removal of acute testing. Although Alyeska understands why the three additional dilutions (100%, 75%, and 50%) were added, we do not agree that the dilution series follows EPA guidance and, therefore, could leave to results that are difficult to interpret. EPA guidance recommends that a dilution series be set at intervals of greater than or equal to 0.5 and three of the dilutions (100%, 75%, and 50%) are inconsistent with this guidance. The additional dilutions combined with mortality data (see fact sheet II.D.1.) will not provide any reliable information regarding toxicity of the effluent at the proposed acute toxicity IWC of 4.34 (23:1 dilution), and further complicate the testing protocol because the proposed eight-dilution series is inconsistent with the method guidance and other EPA publications. Alyeska proposes that EPA establish the chronic dilution series at 0.9, 1.8, 3.6, 7.2, and 14 percent effluent as this will bracket the chronic IWC of 1.8 and provide continuity with the dropped acute testing IWC of 4.34.

RESPONSE #2 – *EPA will not include the recommended change in the final modified permit. Three additional dilutions are not expected to overly complicate the testing protocol for a professional contract laboratory. The selected dilution series includes the receiving water concentration (RWC), two concentrations greater than the RWC, two concentrations below the RWC, and three concentrations representing end-of-pipe, acute-like conditions. The available WET data indicate the WET dilution allocated to the Permittee during Section 401 State Certification (56 TU_C) is significantly larger than any*

measured toxicity value reported within the historic data set. This indicates the lower dilution series associated with the RWC may not provide any measure of the effluent's toxicity, as the actual toxicity of the effluent likely occurs at concentrations closer to the end-of-pipe discharge location (i.e., 100%, 75%, 50% effluent). The higher test dilutions will capture the toxicity of the undiluted effluent and provide a measure of the effluent toxicity closer to the end-of-pipe discharge location. This data will provide valuable information regarding the amount of WET dilution required at the next permit issuance. In addition, EPA guidance states that, "Recommendations for selecting an appropriate dilution series include: considering historic WET testing information for the given effluent, using the receiving water concentration as a test concentration, bracketing the receiving water concentration with test concentrations, adding test concentrations within a given range of interest...." [EPA 821-B-00-004, 2000]. EPA believes the higher dilutions of 100%, 75%, and 50% take into consideration the historic WET testing information which indicates effluent toxicity at concentrations much larger than the allocated RWC, and will also provide important information on the toxicity of the effluent near the end-of-pipe discharge location, an effluent concentration of interest to EPA.

COMMENTS SUBMITTED BY PRINCE WILLIAM SOUND RCAC

COMMENT #3

Acute Toxicity Testing Changes

RCAC agrees with EPA that "The expanded chronic toxicity dilution series 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)

RESPONSE #3 – Thank you for the comment. No changes will be made to the final modified permit as a result of this comment.

COMMENT #4

Chronic Toxicity Testing Changes

RCAC supports expanding chronic toxicity monitoring to also include 50%, 75% and 100% effluent and require the collection of mortality data. However, RCAC does not believe that any established chronic WET test, carried out for seven days and measuring the established sub-lethal endpoints, will be sufficient to protect the aquatic life of Prince William Sound from the adverse effects described in these comments. If an appropriate chronic WET test was available and required, then RCAC would agree that collection of mortality data and testing the samples at higher effluent concentrations would provide data on the acute toxicity of the effluent.

RESPONSE #4 – The dilution series for the chronic WET monitoring includes the receiving water concentration, two dilutions above the RWC, two dilutions below the RWC, and three concentrations representing end-of-pipe, acute-like conditions. EPA believes this dilution series will provide the necessary monitoring data to adequately

assess the acute and chronic toxicity of the effluent. Regarding the appropriateness of chronic WET testing to protect the aquatic life of Prince William Sound, please see Response #6. No changes will be made to the final modified permit as a result of this comment.

COMMENT #5

Chronic Toxicity Testing Changes

RCAC agrees that it is reasonable to eliminate the lower-bound chronic toxicity trigger, and supports expanding the dilution series and testing frequency. However, RCAC is very concerned that possible delays in WET testing reporting may delay identification of needed corrective action until it is too late to protect aquatic life. The permit would allow up to three days holding of samples, seven days conducting the WET tests, and five days to report the exceedance. Assuming the sampling was done at the beginning of an unplanned toxic release which was only detected by the WET testing there could be delays of potentially 15 days before being detected.

RESPONSE #5 – *WET sample holding times and test durations are prescribed by regulation and guidance [40 CFR Part 136; EPA/600/R-95/136, 1995; Denton et. al., 2010]. These protocols are standardized for use in the NPDES program and help ensure WET tests are repeatable and reproducible. Regulations allow for the holding of samples up to 36 hours after collection in the event that there are circumstances beyond the control of the Permittee that prevent the sample from reaching the lab in a more expedient/efficient manner. EPA considers the reporting time of five days to be practical and protective. Continual monitoring of effluent toxicity is impractical from a cost and logistical standpoint, so EPA has selected a monthly monitoring frequency for 12 consecutive months, followed by quarterly testing if the toxicity trigger is not exceeded. No changes will be made to the final modified permit as a result of this comment.*

COMMENT #6

Chronic Toxicity Testing Changes

Regarding the upper-bound trigger itself, RCAC does not believe the chronic WET tests required in the modified permit will be sufficient to detect the long-term (greater than seven days) adverse effects to the aquatic life in Port Valdez from short-term (less than seven days) exposures to alkyl PAH expected to be found in the regulated VMT.

DRAFT RESPONSE #6 – *WET testing in the NPDES program measures the aggregate toxic effect of effluents on representative laboratory organisms. Due to the high cost of biological testing and monitoring, short-term chronic WET tests have been developed to assess the potential long-term (i.e., chronic) effects of effluents and receiving waters on aquatic organisms. These testing protocols are considered representative and their validity in predicting adverse ecological impacts of toxic discharges has been well established [EPA/600/8-86/005, 1986; 67 FR 69955; EPA/505/2-90/001, 1991; Waller et. al., 1996]. No changes will be made to the final modified permit as a result of this comment.*

COMMENT #7

Chronic Toxicity Testing Changes

RCAC supports the increase of WET test monitoring frequency to monthly. We do not support rolling back the frequency to quarterly after 12 months with no exceedances. As we have stated in both the last two sets of comments to EPA, and have reiterated again in these comments, RCAC finds the current data persuasive that the alkyl PAH previously detected in BWTF effluents may cause, or reasonably be expected to cause harm to aquatic life. Since these compounds are unregulated under the NPDES permit WET testing is a way to detect their adverse effects. The required WET tests should be required at the greatest frequency practicable.

***RESPONSE #7** – EPA considers the monitoring frequency in the final modified permit to be sufficiently representative of the discharge. Monthly monitoring for one year will provide data on the variability of the effluent throughout the year, and EPA believes it is practical and reasonable to reduce monitoring to quarterly if 12 months of data show no excursion above the RWC toxicity trigger. Quarterly testing will continue for the life of the permit, ensuring that toxicity data is collected on a seasonal basis. No changes will be made to the final modified permit as a result of this comment.*

COMMENT #8

RCAC thinks the modifications [to the] WET sample holding times are practical.

***RESPONSE #8** – Thank you for the comment. No changes will be made to the final modified permit as a result of this comment.*

COMMENT #9

Alkyl PAH

RCAC knows that for some time EPA has informally been considering additions to the list of regulated PAHs. We request that EPA expedite the consideration for elevation of the alkyl PAHs found in petroleum products; especially the alkyl-phenanthrenes and alkyl-dibenzothiophenes, to regulated status. We recommend that the EPA complete the appropriate evaluation of these compounds, initiate rule-making, and develop appropriate chronic WET tests, for these compounds as soon as practicable.

***RESPONSE #9** – This comment is beyond the scope of the permitting action that was available for public comment. No changes will be made to the final modified permit as a result of this comment.*

REFERENCES

- USEPA. 1986. *Validity of effluent and ambient toxicity tests for predicting biological impact, Naugatuck River, Connecticut*. Mount, D.I., T. Norberg-King, and A.E. Steen (eds.). EPA/600/8-86/005. U.S. Environmental Protection Agency, Environmental Research Laboratory, Duluth, MN.
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- Waller, T.W., L.P. Ammann, W.J. Birge, K.L. Dickson, P.B. Dorn, N.E. LeBlanc, D.I. Mount, B.R. Parkhurst, H.R. Preston, S.C. Schimmel, A. Spacie, and G.B. Thursby. 1996. *Discussion synopsis, predicting instream effects from WET tests. Chapter 9 In: Whole Effluent Toxicity Testing: An Evaluation of Methods and Prediction of Receiving System Impacts*. D.R. Grothe, K.L. Dickson, and D.K. Reed-Judkins, eds., SETAC Press, Pensacola, FL, pp. 271–286.